

**TEST REPORT**  
**DENEY RAPORU**

**Customer Name**  
Müşterinin Adı : Panel Elektrik San. ve Tic. Ltd. Şti.

**Customer Address**  
Müşterinin Adresi : Hacı Sabancı O.S.B. Turgut Özal Bulvarı No:39 Yakapınar / Adana / TÜRKİYE

**Description of Sample**  
Numunenin Tanımı : 36 kV 630 A 16 kA / 1 s Incoming - Outgoing Switchgear with DS and CB  
36 kV 630 A 16 kA / 1 s Gazlı Ayırıcılı ve Kesicili Giriş – Çıkış Hücresi

**Trade Mark / Type**  
Marka / Tip : Panel / MMMH36-04

**Test(s) Performed**  
Yapılan Deney(ler) : Power Frequency Voltage Tests / Şebeke Frekanslı Gerilim Deneyleri  
Lightning Impulse Voltage Tests / Yıldırım Darbe Gerilim Deneyleri

**Test Standart(s)**  
Deney Standart(lar)ı : IEC 62271-200:2011 Clause 6.2 / TS EN 62271-200:2013 Madde 6.2

**Serial Number(s)**  
Seri No(lar) : 04180082

**Reception Date of Sample**  
Numune Kabul Tarihi : 27.07.2018

**Test Date(s)**  
Deney Tarih(ler)i : 01.08.2018 – 06.08.2018

**Number of Pages of the Report**  
Raporun Sayfa Sayısı : 64

**Test(s) Result(s)**  
Deney Sonuçları : ☒ Passed / Geçti ☐ Failed / Geçmedi ☐ Other / Diğer

**HILKAR is accredited by TÜRKAK under registration number AB-0665-T for TS EN ISO IEC 17025:2012 as test laboratory.**

Deney Laboratuvarı olarak faaliyet gösteren HILKAR, TÜRKAK'tan AB-0665-T ile TS EN ISO IEC 17025:2012 standardına göre akredite edilmiştir.

**The Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for the Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.**

Türk Akreditasyon Kurumu (TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği (EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanıma antlaşması imzalamıştır.

**The test and/or measurements results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.**

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metotları, bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.



Date  
Tarih  
28.08.2018

Person in Charge of Test  
Deney Sorumlusu  
Mustafa KORKMAZ  
Laboratory Technician

Approval  
Onaylayan  
Kemal BALOĞLU  
Laboratory Manager

**1. IDENTIFICATION OF THE TEST SAMPLE / NUMUNENİN TANIMLANMASI**

|                                          |                                                                                                      |
|------------------------------------------|------------------------------------------------------------------------------------------------------|
| Product Name / Ürün Adı                  | : Incoming - Outgoing Switchgear with DS and CB<br>Gazlı Ayırıcılı ve Kesicili Giriş – Çıkış Hücresi |
| Type / Tip                               | : Panel / MMMH36-04                                                                                  |
| Serial Number / Seri Numarası            | : 04180082                                                                                           |
| Technical Drawing(s) / Teknik Çizim(ler) | : See Clause 5 / Madde 5'e bakınız.                                                                  |
| Contract No / Sözleşme No                | : FT-DNY-06.011.2018                                                                                 |
| Product Condition / Numunenin Durumu     | : New / Yeni                                                                                         |

**2. TECHNICAL CHARACTERISTICS / TEKNİK ÖZELLİKLER**

|                                                                               |                                                                                                                                                                                         |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer / Üretici                                                        | : Panel Elektrik Hidrolik Makine San. Tic. Ltd. Şti                                                                                                                                     |
| Rated Voltage / Beyan Gerilimi                                                | : 36 kV                                                                                                                                                                                 |
| Rated Current / Beyan Akımı                                                   | : 630 A                                                                                                                                                                                 |
| Rated Frequency / Beyan Frekansı                                              | : 50 Hz                                                                                                                                                                                 |
| Power Frequency Voltage / Şebeke Frekanslı Gerilim                            |                                                                                                                                                                                         |
| To Earth and Between Phases / Toprağa göre ve Fazlar Arasında                 | : 70 kV 1 minute / 70 kV 1 dakika                                                                                                                                                       |
| Across the Isolating Distance / Ayırma Aralığında                             | : 80 kV 1 minute / 80 kV 1 dakika                                                                                                                                                       |
| Lightning Impulse Voltage / Yıldırım Darbe Gerilimi                           |                                                                                                                                                                                         |
| To Earth and Between Phases / Toprağa göre ve Fazlar Arasında                 | : 170 kV peak / 170 kV tepe                                                                                                                                                             |
| Across the Isolating Distance / Ayırma Aralığında                             | : 195 kV peak / 195 kV tepe                                                                                                                                                             |
| Rated Thermal SC Current / Beyan Termal KD Akımı (lth)                        | : 16 kA / 1 s.                                                                                                                                                                          |
| Protection Degree / Koruma Derecesi                                           | : IP 3X                                                                                                                                                                                 |
| Cables and Connection Bars / Kablolar ve Diğer Bağlantı Baraları              | : 1x40x5 mm <sup>2</sup> Bare Copper / Çıplak Bakır<br>1x40x5 mm <sup>2</sup> Insulated Copper / İzoleli Bakır<br>1x40x5 mm <sup>2</sup> Insulated Flex Copper / İzoleli<br>Fleks Bakır |
| Earthing Bar / Topraklama Barası                                              | : 1x25x3 mm <sup>2</sup> Bare Copper / Çıplak Bakır                                                                                                                                     |
| Upper Part Connection Bar / Üst Bölme Bağlantı Barası                         | : 1x40x5 mm <sup>2</sup> Insulated Copper / İzoleli Bakır                                                                                                                               |
| Equipment / Ekipmanlar                                                        |                                                                                                                                                                                         |
| Disconnecter Switch / Gazlı Ayırıcısı                                         | : Ulusoy LBS-36 – 1 pc. / 1 ad.                                                                                                                                                         |
| Circuit Breaker with SF <sub>6</sub> Gas / SF <sub>6</sub> Gazlı Devre Kesici | : Ulusay USFB-36R – 1 pc. / 1 ad.                                                                                                                                                       |
| Current Transformer / Akım Trafosu                                            | : Esitaş ATB 30-10 – 3 pcs. / 3 ad.                                                                                                                                                     |
| Capacitive Insulator / Kapasitif İzolatör                                     | : Ulusoy J04-170 – 3 pcs. / 3 ad.                                                                                                                                                       |



### 3. TEST(S) PROGRAM / DENEY(LER) PROGRAMI

#### 3.1. Power Frequency Voltage Tests / Şebeke Frekanslı Gerilim Deneyleri

#### 3.2. Lightning Impulse Voltage Tests / Yıldırım Darbe Gerilim Deneyleri

**Witnessed By / Müşteri Adına Gözlemciler :** Ekrem Çiçeksayın

### 4. APPLIED TEST(S) / UYGULANAN DENEY(LER)

➤ **Test results only belong to the tested sample.**

*Deney sonuçları sadece test edilen numuneye aittir.*

➤ **The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$  which for a normal distribution corresponds to a coverage probability of approximately 95 %.**

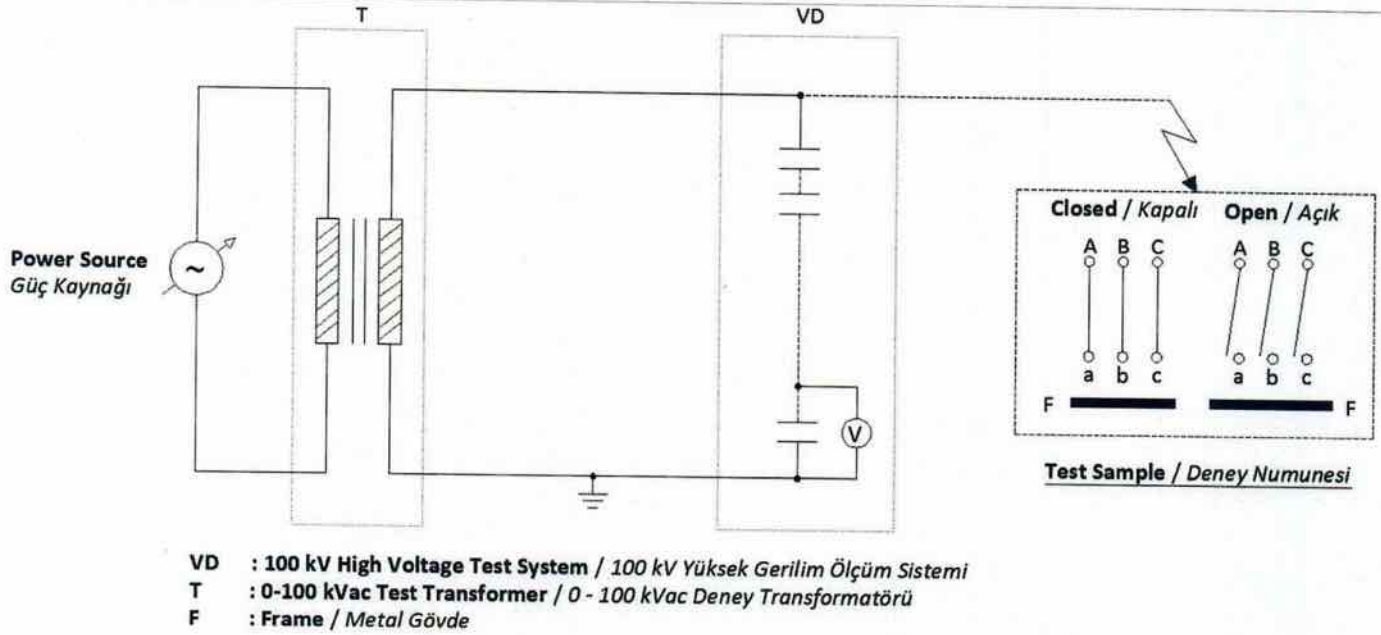
*Beyan edilen genişletilmiş ölçüm belirsizliği, standart belirsizliğin  $k=2$  olarak alınan genişletme katsayısı ile çarpımı sonucunda bulunan değerdir ve % 95 oranında güvenilirlik sağlamaktadır.*

#### 4.1. Power Frequency Voltage Test / Şebeke Frekanslı Gerilim Deneyleri

|                                                      |                                                                                                                                                                                                    |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>4.1.1. Sample Standard / Ürün Standardı</b>       | <b>IEC 62271-200:2011 Clause 6.2</b><br>TS EN 62271-200:2013 Madde 6.2                                                                                                                             |
| <b>4.1.2. Test Standards / Deney Standardı</b>       | <b>IEC 62271-1:2017 Clause 7.2 / TS EN 62271-1:2011 Madde 6.2</b><br><b>IEC 62271-200:2011 Clause 6.2 / TS EN 62271-200:2013 Madde 6.2</b>                                                         |
| <b>4.1.3. Equipment Used / Kullanılan Ekipmanlar</b> | <b>100 kV AC High Voltage Measurement System (K001)</b><br>100 kV ac Yüksek Gerilim Test Sistemi (K001)<br><b>Ambient Conditions Recording Device (K274)</b><br>Ortam Şartları Kayıt Cihazı (K274) |
| <b>4.1.4. Ambient Conditions / Çevre Şartları</b>    | <b>Ambient Temperature / Ortam Sıcaklığı</b> : 27,0 – 27,9 °C<br><b>Ambient Humidity / Ortam Nemi</b> : 64,5 – 66,1 %RH<br><b>Air Pressure / Hava Basıncı</b> : 1011,0 – 1012,4 mbar               |



**4.1.5. Test Circuit / Deney Devresi**



**4.1.6. Measurement Results / Ölçüm Sonuçları :**

| S. N. | Switching Device Position<br>Anahtarlama Cihazı Pozisyonu |                  | High Voltage Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaler | Earthed Terminals<br>Topraklanan Terminaler | Insulated Terminals<br>İzole Terminaler | Applied AC Voltage<br>Uygulanan AC Gerilim (kV) | Frequency / Frekans (Hz) | Duration / Süre (sec. / sn.) | Results<br>Sonuçlar |
|-------|-----------------------------------------------------------|------------------|-----------------------------------------------------------------------|---------------------------------------------|-----------------------------------------|-------------------------------------------------|--------------------------|------------------------------|---------------------|
|       | DS<br>Ayırıcı                                             | CB<br>Kesici     |                                                                       |                                             |                                         |                                                 |                          |                              |                     |
| 1     | Closed<br>Kapalı                                          | Closed<br>Kapalı | A,a                                                                   | B,b,C,c,F                                   | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 2     |                                                           |                  | B,b                                                                   | A,a,C,c,F                                   | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 3     |                                                           |                  | C,c                                                                   | A,a,B,b,F                                   | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 4     | Open<br>Açık                                              | Closed<br>Kapalı | A                                                                     | a,B,b,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 5     |                                                           |                  | B                                                                     | A,a,b,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 6     |                                                           |                  | C                                                                     | A,a,B,b,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 7     |                                                           |                  | a                                                                     | A,B,b,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 8     |                                                           |                  | b                                                                     | A,a,B,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 9     |                                                           |                  | c                                                                     | A,a,B,b,C,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 10    | Closed<br>Kapalı                                          | Open<br>Açık     | A                                                                     | a,B,b,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 11    |                                                           |                  | B                                                                     | A,a,b,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 12    |                                                           |                  | C                                                                     | A,a,B,b,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 13    |                                                           |                  | a                                                                     | A,B,b,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 14    |                                                           |                  | b                                                                     | A,a,B,C,c,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 15    |                                                           |                  | c                                                                     | A,a,B,b,C,F                                 | ---                                     | 70 ±1%                                          | 50                       | 60                           | ✓                   |
| 16    | Open<br>Açık                                              | Closed<br>Kapalı | A                                                                     | a                                           | B,b,C,c,F                               | 80 ±1%                                          | 50                       | 60                           | ✓                   |
| 17    |                                                           |                  | B                                                                     | b                                           | A,a,C,c,F                               | 80 ±1%                                          | 50                       | 60                           | ✓                   |
| 18    |                                                           |                  | C                                                                     | c                                           | A,a,B,b,F                               | 80 ±1%                                          | 50                       | 60                           | ✓                   |
| 19    |                                                           |                  | a                                                                     | A                                           | B,b,C,c,F                               | 80 ±1%                                          | 50                       | 60                           | ✓                   |
| 20    |                                                           |                  | b                                                                     | B                                           | A,a,C,c,F                               | 80 ±1%                                          | 50                       | 60                           | ✓                   |
| 21    |                                                           |                  | c                                                                     | C                                           | A,a,B,b,F                               | 80 ±1%                                          | 50                       | 60                           | ✓                   |

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı

**4.1.7. Remarks, Comments and Statements of Compliance / Açıklamalar, Yorumlar ve Uygunluk Beyanları:**

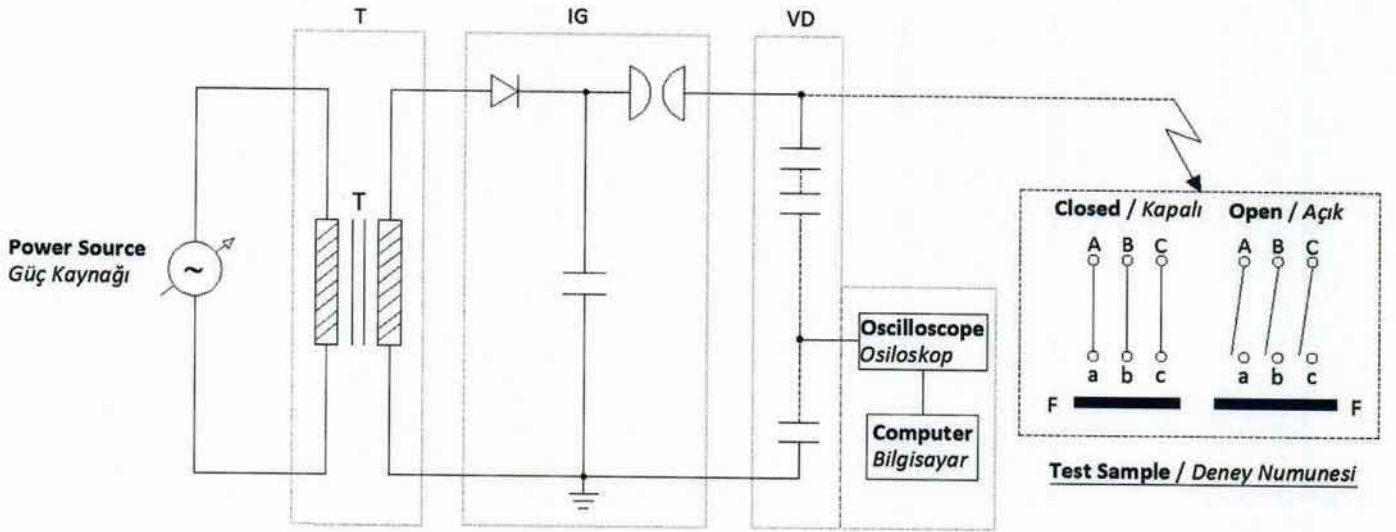
- **Test voltage, depending on the insulation level according to IEC 62271-1 clause 4.2 table 1a was applied.**  
*Deney gerilimi ürün yalıtım seviyesine bağlı olarak TS EN 62271-1 madde 4.2 çizelge 1a'ya göre uygulanmıştır.*
- **Tests were applied without considering atmospheric correction.**  
*Deneylerde atmosferik şartlara göre düzeltme uygulanmamıştır.*
- **Any disruptive discharges did not occur during the test.**  
*Deneyler sırasında herhangi bir tahrip edici boşalma olmamıştır.*
- **NEXANS" brand "YXC7V" type 1x50/16 mm<sup>2</sup> high voltage cables and "Raychem" brand 36 kV 50/16 indoor type cable termination caps were used during the test.**  
*Deneylerde "NEXANS" marka "YXC7V" model 1x50/16 mm<sup>2</sup> kablolar ve "Raychem" marka 36 kV 50/16 dahili tip kablo başlıkları kullanılmıştır.*
- **Electrical field regulators were used on incoming and outgoing of the disconnecter switch.**  
*Ayırıcının alt ve üst kutup başlarında elektriksel alan düzenleyiciler kullanılmıştır.*
- **(500x900x3) mm Insulation panel was used between disconnecter switch and current transformer.**  
*Kesici ile akım trafoları arasında (230x1090x3) mm izolasyon levha kullanılmıştır.*
- **Ø85x3 mm Insulation material was used on disconnecter switch outgoing terminals.**  
*Kesici faz çıkışlarında Ø85x2 mm izolasyon malzemesi kullanılmıştır.*
- **Absolute gas pressure inside the load break switch was measured 0,51 bar (1,51 bar atmospheric pressure) before and after the test.**  
*Deney öncesinde ve sonrasında ayırıcının bağıl gaz basıncı 0,51 bar (1,51 bar atmosfer basıncı) olarak ölçülmüştür.*
- **Gas pressure of the Circuit Breaker was declared as 0,7 bar (1,7 bar atmospheric pressure) by customer.**  
*Kesici gaz basıncı 0,7 bar (1,7 bar atmosfer basıncı) olarak müşteri tarafından beyan edilmiştir.*
- **Measurement Uncertainty / Ölçüm Belirsizliği: ±1,840%**



## 4.2. Lightning Impulse Voltage Test / Yıldırım Darbe Gerilim Deneyleri

|                                               |                                                                                                                                                                                            |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.2.1. Sample Standard / Ürün Standardı       | : IEC 62271-200:2011 Clause 6.2<br>TS EN 62271-200:2013 Madde 6.2                                                                                                                          |
| 4.2.2. Test Standards / Deney Standardı       | : IEC 62271-1:2017 Clause 7.2 / TS EN 62271-1:2011 Madde 6.2<br>IEC 62271-200:2011 Clause 6.2 / TS EN 62271-200:2013 Madde 6.2                                                             |
| 4.2.3. Equipment Used / Kullanılan Ekipmanlar | : 1000 kV Impulse High Voltage Measurement System (K003)<br>1000 kV Yıldırım Darbe Test Sistemi (K003)<br>Ambient Conditions Recording Device (K274)<br>Ortam Şartları Kayıt Cihazı (K274) |
| 4.2.4. Ambient Conditions / Çevre Şartları    | : Ambient Temperature / Ortam Sıcaklığı : 28,0 – 30,7 °C<br>Ambient Humidity / Ortam Nemi : 55,3 – 71,3 %RH<br>Air Pressure / Hava Basıncı : 1008,7 – 1011,4 mbar                          |

## 4.2.5. Test Circuit / Deney Devresi



- IG : 1000 kV Impulse Generator / 1000 kV Darbe Jeneratörü  
VD : 1000 kV Impulse High Voltage Measurement System / 1000 kV Yüksek Gerilim Darbe Ölçüm Sistemi  
T : Step-up Transformer / Yükseltici Transformatör  
F : Frame / Metal Gövde



**4.2.6. Measurement Results / Ölçüm Sonuçları :**

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayırıcı                                    | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 1     | Closed / Kapalı                                  | Closed / Kapalı | A, a                                                                      | B, b<br>C, c<br>F                            | —                                        | Positive / Pozitif  | 50-80                              | 70241                                   | 103,91                                                                       | 1,261                                                         | 53,28                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70242                                   | 101,34                                                                       | 1,282                                                         | 54,90                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70243                                   | 103,80                                                                       | 1,318                                                         | 53,46                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70244                                   | 163,07                                                                       | 1,294                                                         | 54,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70245                                   | 163,58                                                                       | 1,284                                                         | 55,48                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70246                                   | 166,05                                                                       | 1,275                                                         | 54,91                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70247                                   | 163,95                                                                       | 1,292                                                         | 54,74                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70248                                   | 165,08                                                                       | 1,295                                                         | 55,55                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70249                                   | 165,41                                                                       | 1,293                                                         | 55,74                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70250                                   | 165,37                                                                       | 1,315                                                         | 55,08                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70251                                   | 164,98                                                                       | 1,272                                                         | 55,50                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70252                                   | 163,92                                                                       | 1,327                                                         | 55,47                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70253                                   | 164,96                                                                       | 1,297                                                         | 54,81                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70254                                   | 163,13                                                                       | 1,264                                                         | 55,37                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70255                                   | 162,50                                                                       | 1,300                                                         | 56,22                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70256                                   | 163,57                                                                       | 1,260                                                         | 55,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70257                                   | 163,94                                                                       | 1,267                                                         | 55,55                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70258                                   | 162,33                                                                       | 1,243                                                         | 56,44                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,1 °C RH = 68,9 % P = 1008,7 mbar

k1 = 0,969 k2 = 1,000 kt = 0,969

Ut = 164,7  $\pm$  3% (159,72 kV < Ut < 169,59 kV)

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 1     | Closed / Kapalı                                  | Closed / Kapalı | A, a                                                                      | B, b<br>C, c<br>F                            | --                                       | Negative / Negatif  | 50-80                              | 70260                                   | -106,15                                                                      | 1,379                                                         | 51,84                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70261                                   | -102,96                                                                      | 1,312                                                         | 51,73                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70262                                   | -106,06                                                                      | 1,321                                                         | 50,46                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70263                                   | -163,34                                                                      | 1,267                                                         | 54,70                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70264                                   | -165,50                                                                      | 1,233                                                         | 53,58                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70265                                   | -161,54                                                                      | 1,247                                                         | 54,03                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70266                                   | -168,80                                                                      | 1,287                                                         | 53,38                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70267                                   | -165,41                                                                      | 1,272                                                         | 52,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70268                                   | -161,63                                                                      | 1,240                                                         | 54,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70269                                   | -162,80                                                                      | 1,248                                                         | 53,70                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70270                                   | -164,68                                                                      | 1,270                                                         | 54,25                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70271                                   | -167,97                                                                      | 1,266                                                         | 53,36                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70272                                   | -165,90                                                                      | 1,286                                                         | 54,27                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70273                                   | -168,92                                                                      | 1,319                                                         | 52,49                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70274                                   | -167,57                                                                      | 1,298                                                         | 53,86                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70275                                   | -164,08                                                                      | 1,296                                                         | 53,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70276                                   | -166,28                                                                      | 1,294                                                         | 53,22                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70277                                   | -164,17                                                                      | 1,288                                                         | 54,13                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,1 °C RH = 68,9 % P = 1008,7 mbar

k1 = 0,969 k2 = 1,000 kt = 0,969

Ut = 164,7  $\pm$  3% (159,72 kV < Ut < 169,59 kV)

✓ : Passed / Geçti

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O : Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>Izole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>U <sub>t</sub><br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>T <sub>1</sub><br>(1,2 µs ± 30%) | Time to half-value<br>Kuyruk Süresi<br>T <sub>2</sub><br>(50 µs ± 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                                       |                                                               |                                                                        |                     |
| 2     | Closed / Kapalı                                  | Closed / Kapalı | B, b                                                                      | A, a<br>C, c<br>F                            | ---                                      | Positive / Pozitif  | 50-80                              | 70279                                   | 103,64                                                                                | 1,342                                                         | 53,94                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70280                                   | 104,68                                                                                | 1,300                                                         | 53,33                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70281                                   | 104,24                                                                                | 1,331                                                         | 52,81                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70282                                   | 162,99                                                                                | 1,286                                                         | 55,76                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70283                                   | 162,86                                                                                | 1,290                                                         | 56,18                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70284                                   | 162,35                                                                                | 1,280                                                         | 56,29                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70285                                   | 164,15                                                                                | 1,289                                                         | 56,70                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70286                                   | 165,67                                                                                | 1,276                                                         | 55,22                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70287                                   | 162,21                                                                                | 1,234                                                         | 57,03                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70288                                   | 165,76                                                                                | 1,289                                                         | 56,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70289                                   | 165,71                                                                                | 1,306                                                         | 56,09                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70290                                   | 162,77                                                                                | 1,281                                                         | 56,31                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70291                                   | 163,14                                                                                | 1,257                                                         | 56,39                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70292                                   | 164,14                                                                                | 1,274                                                         | 56,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70293                                   | 165,68                                                                                | 1,312                                                         | 55,08                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70294                                   | 166,91                                                                                | 1,295                                                         | 56,32                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70295                                   | 165,39                                                                                | 1,304                                                         | 55,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70296                                   | 165,43                                                                                | 1,305                                                         | 56,47                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,1 °C RH = 68,9 % P = 1008,7 mbar

k1 = 0,969 k2 = 1,000 kt = 0,969

Ut = 164,7 ± 3% (159,72 kV < Ut < 169,59 kV)

✓ : Passed / Geçti

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O : Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 2     | Closed / Kapalı                                  | Closed / Kapalı | B, b                                                                      | A, a<br>C, c<br>F                            | ---                                      | Negative / Negatif  | 50-80                              | 70298                                   | -103,09                                                                      | 1,335                                                         | 52,97                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70299                                   | -107,37                                                                      | 1,397                                                         | 50,05                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70300                                   | -105,23                                                                      | 1,303                                                         | 51,94                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70301                                   | -163,48                                                                      | 1,277                                                         | 53,70                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70302                                   | -164,93                                                                      | 1,275                                                         | 53,40                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70303                                   | -162,62                                                                      | 1,265                                                         | 53,56                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70304                                   | -166,11                                                                      | 1,268                                                         | 53,35                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70305                                   | -168,92                                                                      | 1,331                                                         | 52,41                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70306                                   | -164,93                                                                      | 1,278                                                         | 52,98                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70307                                   | -165,72                                                                      | 1,292                                                         | 54,28                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70308                                   | -165,33                                                                      | 1,291                                                         | 52,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70309                                   | -164,00                                                                      | 1,290                                                         | 53,06                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70310                                   | -163,83                                                                      | 1,266                                                         | 53,54                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70311                                   | -166,15                                                                      | 1,275                                                         | 52,76                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70312                                   | -164,73                                                                      | 1,290                                                         | 53,84                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70313                                   | -164,63                                                                      | 1,294                                                         | 54,11                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70314                                   | -163,85                                                                      | 1,263                                                         | 54,10                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70315                                   | -165,48                                                                      | 1,282                                                         | 52,72                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,1 °C RH = 68,9 % P = 1008,7 mbar

k1 = 0,969 k2 = 1,000 kt = 0,969

Ut = 164,7  $\pm$  3% (159,72 kV < Ut < 169,59 kV)



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 3     | Closed / Kapalı                                  | Closed / Kapalı | C, c                                                                      | A, a<br>B, b<br>F                            | ---                                      | Positive / Pozitif  | 50-80                              | 70317                                   | 104,08                                                                       | 1,310                                                         | 53,09                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70318                                   | 103,19                                                                       | 1,293                                                         | 52,51                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70319                                   | 103,73                                                                       | 1,279                                                         | 52,03                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70320                                   | 162,97                                                                       | 1,281                                                         | 54,57                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70321                                   | 162,95                                                                       | 1,260                                                         | 55,44                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70322                                   | 163,76                                                                       | 1,271                                                         | 56,10                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70323                                   | 166,23                                                                       | 1,292                                                         | 55,46                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70324                                   | 163,82                                                                       | 1,263                                                         | 54,86                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70325                                   | 165,66                                                                       | 1,297                                                         | 55,22                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70326                                   | 164,46                                                                       | 1,265                                                         | 55,17                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70327                                   | 161,92                                                                       | 1,263                                                         | 56,58                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70328                                   | 166,14                                                                       | 1,276                                                         | 56,08                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70329                                   | 165,80                                                                       | 1,284                                                         | 54,46                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70330                                   | 162,35                                                                       | 1,260                                                         | 57,16                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70331                                   | 165,35                                                                       | 1,314                                                         | 55,07                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70332                                   | 164,07                                                                       | 1,287                                                         | 56,06                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70333                                   | 164,55                                                                       | 1,266                                                         | 55,43                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70334                                   | 163,80                                                                       | 1,270                                                         | 55,15                                                                  | ✓                   |

**Notes / Notlar**

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T = 28,1 °C RH = 68,9 % P = 1008,7 mbar

k1 = 0,969 k2 = 1,000 kt = 0,969

Ut = 164,7  $\pm$  3% (159,72 kV < Ut < 169,59 kV)

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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>Izole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 3     | Closed / Kapalı                                  | Closed / Kapalı | C, c                                                                      | A, a<br>B, b<br>F                            | —                                        | Negative / Negatif  | 50-80                              | 70336                                   | -102,81                                                                      | 1,331                                                         | 53,99                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70337                                   | -105,58                                                                      | 1,369                                                         | 51,14                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70338                                   | -104,98                                                                      | 1,287                                                         | 50,83                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70339                                   | -167,14                                                                      | 1,296                                                         | 53,31                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70340                                   | -164,45                                                                      | 1,289                                                         | 53,52                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70341                                   | -165,03                                                                      | 1,288                                                         | 54,19                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70342                                   | -164,35                                                                      | 1,291                                                         | 54,30                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70343                                   | -167,20                                                                      | 1,303                                                         | 52,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70344                                   | -166,32                                                                      | 1,275                                                         | 53,49                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70345                                   | -166,06                                                                      | 1,276                                                         | 53,27                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70346                                   | -165,77                                                                      | 1,290                                                         | 53,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70347                                   | -162,76                                                                      | 1,271                                                         | 54,02                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70348                                   | -164,79                                                                      | 1,269                                                         | 53,53                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70349                                   | -164,92                                                                      | 1,303                                                         | 53,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70350                                   | -164,67                                                                      | 1,257                                                         | 53,43                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70351                                   | -166,08                                                                      | 1,283                                                         | 53,53                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70352                                   | -164,60                                                                      | 1,284                                                         | 53,17                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70353                                   | -165,16                                                                      | 1,274                                                         | 53,48                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,1 °C RH = 68,9 % P = 1008,7 mbar

k1 = 0,969 k2 = 1,000 kt = 0,969

Ut = 164,7  $\pm$  3% (159,72 kV < Ut < 169,59 kV)



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 4     | Open / Açık                                      | Closed / Kapalı | A                                                                         | B, a<br>C, b<br>E, c                         | —                                        | Positive / Pozitif  | 50-80                              | 70354                                   | 96,64                                                                        | 1,187                                                         | 48,67                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70355                                   | 100,35                                                                       | 1,157                                                         | 50,41                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70356                                   | 100,50                                                                       | 1,103                                                         | 49,83                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70357                                   | 159,94                                                                       | 1,138                                                         | 50,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70358                                   | 162,78                                                                       | 1,101                                                         | 51,15                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70359                                   | 166,86                                                                       | 1,194                                                         | 50,42                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70360                                   | 164,46                                                                       | 1,144                                                         | 51,11                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70361                                   | 163,98                                                                       | 1,141                                                         | 51,08                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70362                                   | 163,20                                                                       | 1,170                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70363                                   | 165,28                                                                       | 1,204                                                         | 50,47                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70364                                   | 164,92                                                                       | 1,170                                                         | 50,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70365                                   | 166,37                                                                       | 1,205                                                         | 50,36                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70366                                   | 163,46                                                                       | 1,123                                                         | 51,41                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70367                                   | 161,79                                                                       | 1,134                                                         | 51,13                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70368                                   | 164,68                                                                       | 1,188                                                         | 50,76                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70369                                   | 164,35                                                                       | 1,160                                                         | 51,14                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70370                                   | 162,33                                                                       | 1,111                                                         | 51,43                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70371                                   | 165,70                                                                       | 1,215                                                         | 50,56                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,7 °C RH = 60,1 % P = 1009,3 mbar

k1 = 0,961 k2 = 1,000 kt = 0,961

$U_t = 163,4 \pm 3\%$  (158,51 kV <  $U_t$  < 168,31 kV)



✓ : Passed / Geçti

\* : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 4     | Open / Açık                                      | Closed / Kapalı | A                                                                         | a<br>B, b<br>C, c<br>F                       | —                                        | Negative / Negatif  | 50-80                              | 70373                                   | -100,30                                                                      | 1,174                                                         | 48,97                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70374                                   | -102,04                                                                      | 1,200                                                         | 49,06                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70375                                   | -102,62                                                                      | 1,261                                                         | 49,69                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70376                                   | -160,61                                                                      | 1,086                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70377                                   | -161,47                                                                      | 1,106                                                         | 50,82                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | <b>70378<sup>2)</sup></b>               | <b>-123,11</b>                                                               | <b>1,074</b>                                                  | <b>50,42</b>                                                           | O                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70379                                   | -160,75                                                                      | 1,052                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70380                                   | -163,61                                                                      | 1,111                                                         | 49,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70381                                   | -162,68                                                                      | 1,125                                                         | 50,60                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70382                                   | -163,85                                                                      | 1,094                                                         | 50,21                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70383                                   | -165,86                                                                      | 1,268                                                         | 51,11                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70384                                   | -162,28                                                                      | 1,217                                                         | 51,56                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70385                                   | -165,56                                                                      | 1,297                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70386                                   | -163,45                                                                      | 1,210                                                         | 51,59                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70387                                   | -162,74                                                                      | 1,224                                                         | 51,05                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70388                                   | -164,97                                                                      | 1,312                                                         | 50,50                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70389                                   | -165,21                                                                      | 1,305                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70390                                   | -163,41                                                                      | 1,242                                                         | 50,68                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70391                                   | -163,60                                                                      | 1,212                                                         | 51,60                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,7 °C RH = 60,1 % P = 1009,3 mbar

k1 = 0,961 k2 = 1,000 kt = 0,961

Ut = 163,4  $\pm$  3% (158,51 kV < Ut < 168,31 kV)

2) Applied voltage was out of limit, additional impulse was carried out instead of out of evaluation impulse.

Uygulanan gerilim limit dışındadır, değerlendirme dışı tutulan bu darbe yerine ilave darbe uygulanmıştır.

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 5     | Open / Açık                                      | Closed / Kapalı | B                                                                         | A, a<br>b<br>C, c<br>F                       | —                                        | Positive / Pozitif  | 50-80                              | 70396                                   | 99,43                                                                        | 1,213                                                         | 49,57                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70397                                   | 101,27                                                                       | 1,209                                                         | 49,23                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70398                                   | 100,89                                                                       | 1,191                                                         | 50,05                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70399                                   | 159,55                                                                       | 1,082                                                         | 51,55                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70400                                   | 163,04                                                                       | 1,085                                                         | 51,40                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70401                                   | 163,81                                                                       | 1,141                                                         | 50,71                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70402                                   | 164,26                                                                       | 1,151                                                         | 50,64                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70403                                   | 163,37                                                                       | 1,081                                                         | 51,42                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70404                                   | 162,33                                                                       | 1,093                                                         | 51,21                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70405                                   | 165,28                                                                       | 1,157                                                         | 50,76                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70406                                   | 163,75                                                                       | 1,088                                                         | 51,43                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70407                                   | 163,24                                                                       | 1,134                                                         | 50,97                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70408                                   | 163,83                                                                       | 1,153                                                         | 50,62                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70409                                   | 165,51                                                                       | 1,145                                                         | 50,88                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70410                                   | 164,81                                                                       | 1,162                                                         | 50,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70411                                   | 166,54                                                                       | 1,151                                                         | 50,90                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70412                                   | 165,26                                                                       | 1,164                                                         | 50,79                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70413                                   | 165,08                                                                       | 1,141                                                         | 51,03                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,7 °C RH = 60,1 % P = 1009,3 mbar

k1 = 0,961 k2 = 1,000 kt = 0,961

Ut = 163,4  $\pm$  3% (158,51 kV < Ut < 168,31 kV)



✓ : Passed / Geçti

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O: Out of Evaluation / Değerlendirilme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 5     | Open / Açık                                      | Closed / Kapalı | B                                                                         | A, a<br>b<br>C, c<br>F                       | —                                        | Negative / Negatif  | 50-80                              | 70415                                   | -103,44                                                                      | 1,232                                                         | 48,35                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70416                                   | -101,12                                                                      | 1,144                                                         | 47,96                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70417                                   | -100,00                                                                      | 1,140                                                         | 49,32                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70418                                   | -162,88                                                                      | 1,040                                                         | 50,91                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70419                                   | -163,96                                                                      | 1,082                                                         | 50,45                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70420                                   | -164,67                                                                      | 1,128                                                         | 50,42                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70421                                   | -165,95                                                                      | 1,090                                                         | 50,66                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70422                                   | -166,31                                                                      | 1,141                                                         | 50,48                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70423                                   | -162,86                                                                      | 1,048                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70424                                   | -163,61                                                                      | 1,055                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70425                                   | -165,08                                                                      | 1,067                                                         | 50,74                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70426                                   | -164,39                                                                      | 1,088                                                         | 50,12                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70427                                   | -163,23                                                                      | 1,036                                                         | 50,83                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70428                                   | -163,14                                                                      | 1,052                                                         | 51,21                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70429                                   | -166,02                                                                      | 1,084                                                         | 50,65                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70430                                   | -164,31                                                                      | 1,062                                                         | 50,59                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70431                                   | -164,72                                                                      | 1,113                                                         | 50,25                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70432                                   | -165,19                                                                      | 1,123                                                         | 50,57                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,7 °C RH = 60,1 % P = 1009,3 mbar

k1 = 0,961 k2 = 1,000 kt = 0,961

Ut = 163,4  $\pm$  3% (158,51 kV < Ut < 168,31 kV)



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 6     | Open / Açık                                      | Closed / Kapalı | C                                                                         | A, a<br>B, b<br>c<br>F                       | --                                       | Positive / Pozitif  | 50-80                              | 70434                                   | 100,83                                                                       | 1,173                                                         | 50,06                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70435                                   | 100,18                                                                       | 1,078                                                         | 50,58                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70436                                   | 101,60                                                                       | 1,135                                                         | 49,51                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70437                                   | 160,13                                                                       | 1,106                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70438                                   | 160,35                                                                       | 1,084                                                         | 51,56                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70439                                   | 163,72                                                                       | 1,136                                                         | 51,12                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70440                                   | 160,89                                                                       | 1,109                                                         | 51,15                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70441                                   | 163,40                                                                       | 1,113                                                         | 51,35                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70442                                   | 161,54                                                                       | 1,081                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70443                                   | 162,38                                                                       | 1,124                                                         | 51,05                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70444                                   | 162,44                                                                       | 1,084                                                         | 51,16                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70445                                   | 163,82                                                                       | 1,155                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70446                                   | 164,73                                                                       | 1,123                                                         | 51,10                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70447                                   | 162,21                                                                       | 1,055                                                         | 51,22                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70448                                   | 163,05                                                                       | 1,070                                                         | 51,25                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70449                                   | 161,87                                                                       | 1,106                                                         | 51,28                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70450                                   | 164,93                                                                       | 1,108                                                         | 51,34                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70451                                   | 163,45                                                                       | 1,111                                                         | 51,07                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,7 °C RH = 60,1 % P = 1009,3 mbar

k1 = 0,961 k2 = 1,000 kt = 0,961

Ut = 163,4  $\pm$  3% (158,51 kV < Ut < 168,31 kV)

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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 6     | Open / Açık                                      | Closed / Kapalı | C                                                                         | A, a<br>B, b<br>C, c<br>F                    | -                                        | Negative / Negatif  | 50-80                              | 70453                                   | -102,80                                                                      | 1,194                                                         | 49,42                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70454                                   | -99,35                                                                       | 1,091                                                         | 49,22                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70455                                   | -98,82                                                                       | 1,070                                                         | 49,12                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70456                                   | -167,02                                                                      | 1,123                                                         | 50,41                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70457                                   | -162,92                                                                      | 1,046                                                         | 50,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70458                                   | -166,59                                                                      | 1,130                                                         | 50,60                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70459                                   | -162,74                                                                      | 1,059                                                         | 50,68                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70460                                   | -165,85                                                                      | 1,062                                                         | 50,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70461                                   | -165,89                                                                      | 1,087                                                         | 50,64                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70462                                   | -166,64                                                                      | 1,095                                                         | 50,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70463                                   | -166,41                                                                      | 1,137                                                         | 50,39                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70464                                   | -165,04                                                                      | 1,054                                                         | 50,92                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70465                                   | -166,13                                                                      | 1,128                                                         | 50,33                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70466                                   | -163,77                                                                      | 1,096                                                         | 50,45                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70467                                   | -166,45                                                                      | 1,101                                                         | 50,58                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70468                                   | -164,80                                                                      | 1,105                                                         | 50,79                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70469                                   | -163,54                                                                      | 1,045                                                         | 50,90                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70470                                   | -163,39                                                                      | 1,063                                                         | 50,51                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,7 °C RH = 60,1 % P = 1009,3 mbar

k1 = 0,961 k2 = 1,000 kt = 0,961

Ut = 163,4  $\pm$  3% (158,51 kV < Ut < 168,31 kV)



✓ : Passed / Geçti

\* : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>Izole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 7     | Open / Açık                                      | Closed / Kapalı | a                                                                         | A<br>B, b<br>C, c<br>F                       | —                                        | Positive / Pozitif  | 50-80                              | 70545                                   | 79,28                                                                        | 1,400                                                         | 50,19                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70546                                   | 98,01                                                                        | 1,161                                                         | 51,23                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70547                                   | 97,69                                                                        | 1,212                                                         | 50,29                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70549                                   | 166,85                                                                       | 1,142                                                         | 51,33                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70550                                   | 165,91                                                                       | 1,134                                                         | 51,27                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70551                                   | 163,08                                                                       | 1,138                                                         | 51,15                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70552                                   | 163,68                                                                       | 1,093                                                         | 51,45                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70553                                   | 163,75                                                                       | 1,106                                                         | 51,63                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70554 <sup>2)</sup>                     | 167,15                                                                       | 1,180                                                         | 13,91                                                                  | ✗                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70555                                   | 164,02                                                                       | 1,115                                                         | 51,78                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70556                                   | 165,66                                                                       | 1,117                                                         | 51,66                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70557                                   | 166,49                                                                       | 1,194                                                         | 50,70                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70558                                   | 166,75                                                                       | 1,149                                                         | 51,38                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70559                                   | 167,14                                                                       | 1,190                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70560                                   | 164,58                                                                       | 1,113                                                         | 51,54                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70561                                   | 165,60                                                                       | 1,154                                                         | 51,50                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70562                                   | 167,01                                                                       | 1,169                                                         | 51,00                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70563                                   | 165,86                                                                       | 1,121                                                         | 51,53                                                                  | ✓                   |

**Notes / Notlar**

**1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.**

T = 27,6 °C    RH = 60,8 %    P = 1008,1 mbar

k1 = 0,970    k2 = 1,000    kt = 0,970

Ut = 164,9  $\pm$  3% (159,95 kV < Ut < 169,85 kV)

**2) Disruptive discharge occurred inside tested sample / Test edilen hücre içerisinde atlama oluşmuştur.**

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 7     | Open / Açık                                      | Closed / Kapalı | a                                                                         | A<br>B, b<br>C, c<br>F                       | -                                        | Negative / Negatif  | 50-80                              | 70565                                   | -99,66                                                                       | 1,183                                                         | 49,94                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70566                                   | -100,08                                                                      | 1,216                                                         | 50,09                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70567                                   | -101,24                                                                      | 1,145                                                         | 49,60                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70568                                   | -165,63                                                                      | 1,148                                                         | 50,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70569 <sup>2)</sup>                     | -164,39                                                                      | 1,140                                                         | 5,01                                                                   | ✗                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70570 <sup>2)</sup>                     | -166,41                                                                      | 1,190                                                         | 25,69                                                                  | ✗                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70571                                   | -162,93                                                                      | 1,106                                                         | 50,90                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70572                                   | -163,33                                                                      | 1,126                                                         | 50,47                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70573                                   | -164,82                                                                      | 1,183                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70574                                   | -166,51                                                                      | 1,173                                                         | 51,06                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70575                                   | -165,38                                                                      | 1,192                                                         | 50,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70576                                   | -164,33                                                                      | 1,108                                                         | 51,30                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70577                                   | -163,48                                                                      | 1,120                                                         | 50,65                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70578                                   | -166,11                                                                      | 1,174                                                         | 50,58                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70579                                   | -166,65                                                                      | 1,178                                                         | 50,64                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70580                                   | -165,68                                                                      | 1,173                                                         | 50,64                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70581                                   | -163,75                                                                      | 1,097                                                         | 51,35                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70582                                   | -165,03                                                                      | 1,125                                                         | 51,39                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,0 °C RH = 71,3 % P = 1010,1 mbar

k1 = 0,971 k2 = 1,000 kt = 0,971

Ut = 165,0  $\pm$  3% (160,06 kV < Ut < 169,96 kV)

2) Disruptive discharge occurred inside tested sample / Test edilen hücre içerisinde atlama oluşmuştur.

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 8     | Open / Açık                                      | Closed / Kapalı | b                                                                         | A, a<br>B<br>C, c<br>F                       | —                                        | Positive / Pozitif  | 50-80                              | 70584                                   | 96,56                                                                        | 1,115                                                         | 50,59                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70585                                   | 99,54                                                                        | 1,157                                                         | 50,75                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70586                                   | 100,95                                                                       | 1,199                                                         | 50,47                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | <b>70587</b> <sup>2)</sup>              | <b>166,45</b>                                                                | <b>1,180</b>                                                  | <b>2,15</b>                                                            | ✗                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70588                                   | 163,14                                                                       | 1,205                                                         | 50,91                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70589                                   | 163,99                                                                       | 1,170                                                         | 50,90                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70590                                   | 164,84                                                                       | 1,205                                                         | 50,54                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70591                                   | 165,30                                                                       | 1,144                                                         | 51,48                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70592                                   | 166,26                                                                       | 1,188                                                         | 51,12                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | <b>70593</b> <sup>2)</sup>              | <b>167,72</b>                                                                | <b>1,200</b>                                                  | <b>2,75</b>                                                            | ✗                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70594                                   | 164,41                                                                       | 1,193                                                         | 51,09                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70595                                   | 164,06                                                                       | 1,206                                                         | 50,68                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70596                                   | 165,86                                                                       | 1,174                                                         | 51,19                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70597                                   | 163,99                                                                       | 1,161                                                         | 51,06                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70598                                   | 164,03                                                                       | 1,138                                                         | 51,70                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70599                                   | 165,00                                                                       | 1,210                                                         | 50,88                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70600                                   | 165,14                                                                       | 1,126                                                         | 51,44                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70601                                   | 163,69                                                                       | 1,130                                                         | 51,40                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 27,6 °C RH = 60,8 % P = 1008,1 mbar

k1 = 0,970 k2 = 1,000 kt = 0,970

Ut = 164,9  $\pm$  3% (159,95 kV < Ut < 169,85 kV)

2) Disruptive discharge occurred inside tested sample / Test edilen hücre içerisinde atlama oluşmuştur.

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 8     | Open / Açık                                      | Closed / Kapalı | b                                                                         | A, a<br>B<br>C, c<br>F                       | -                                        | Negative / Negatif  | 50-80                              | 70603                                   | -99,51                                                                       | 1,128                                                         | 50,37                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70604                                   | -105,70                                                                      | 1,580                                                         | 46,56                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70605                                   | -98,60                                                                       | 1,112                                                         | 50,13                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70606                                   | -166,95                                                                      | 1,205                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70607                                   | -163,00                                                                      | 1,134                                                         | 50,98                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70608                                   | -164,10                                                                      | 1,113                                                         | 50,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70609                                   | -165,84                                                                      | 1,179                                                         | 50,61                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70610                                   | -165,56                                                                      | 1,124                                                         | 51,16                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70611                                   | -164,56                                                                      | 1,132                                                         | 50,97                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70612                                   | -164,87                                                                      | 1,117                                                         | 50,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70613                                   | -163,82                                                                      | 1,121                                                         | 51,05                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70614                                   | -166,60                                                                      | 1,198                                                         | 50,75                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70615                                   | -166,25                                                                      | 1,161                                                         | 50,78                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70616                                   | -167,96                                                                      | 1,167                                                         | 50,78                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70617                                   | -167,28                                                                      | 1,193                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70618                                   | -167,49                                                                      | 1,213                                                         | 50,92                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70619                                   | -165,10                                                                      | 1,155                                                         | 50,67                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70620                                   | -166,22                                                                      | 1,117                                                         | 51,29                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 27,6 °C RH = 60,8 % P = 1008,1 mbar

k1 = 0,970 k2 = 1,000 kt = 0,970

Ut = 164,9  $\pm$  3% (159,95 kV < Ut < 169,85 kV)

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>Izole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 9     | Open / Açık                                      | Closed / Kapalı | c                                                                         | A, a<br>B, b<br>C<br>F                       | —                                        | Positive / Pozitif  | 50-80                              | 70629                                   | 97,59                                                                        | 1,233                                                         | 50,08                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70630                                   | 97,00                                                                        | 1,178                                                         | 49,42                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70631                                   | 102,20                                                                       | 1,242                                                         | 50,09                                                                  |                     |
|       | Open / Açık                                      | Closed / Kapalı | c                                                                         | A, a<br>B, b<br>C<br>F                       | —                                        | Positive / Pozitif  | 100                                | 70632                                   | 165,55                                                                       | 1,177                                                         | 50,82                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70633                                   | 163,56                                                                       | 1,155                                                         | 50,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70634                                   | 164,32                                                                       | 1,128                                                         | 51,27                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70635                                   | 165,27                                                                       | 1,188                                                         | 50,58                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70636                                   | 166,10                                                                       | 1,167                                                         | 50,93                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70637                                   | 162,97                                                                       | 1,158                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70638                                   | 164,08                                                                       | 1,127                                                         | 51,44                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70639                                   | 166,25                                                                       | 1,231                                                         | 50,59                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70640                                   | 166,10                                                                       | 1,178                                                         | 51,18                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70641                                   | 164,13                                                                       | 1,134                                                         | 51,47                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70642                                   | 164,50                                                                       | 1,199                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70643                                   | 166,24                                                                       | 1,219                                                         | 50,74                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70644                                   | 164,00                                                                       | 1,133                                                         | 51,17                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70645                                   | 164,76                                                                       | 1,145                                                         | 51,29                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70646                                   | 164,33                                                                       | 1,122                                                         | 51,65                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 27,6 °C RH = 60,8 % P = 1008,1 mbar

k1 = 0,970 k2 = 1,000 kt = 0,970

Ut = 164,9  $\pm$  3% (159,95 kV < Ut < 169,85 kV)



✓ : Passed / Geçti

\* : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Bisi

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 9     | Open / Açık                                      | Closed / Kapalı | c                                                                         | A, a<br>B, b<br>C<br>F                       | —                                        | Negative / Negatif  | 50-80                              | 70648                                   | -100,55                                                                      | 1,173                                                         | 49,07                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70649                                   | -102,08                                                                      | 1,209                                                         | 49,56                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70650                                   | -101,18                                                                      | 1,186                                                         | 48,65                                                                  |                     |
|       | Open / Açık                                      | Closed / Kapalı | c                                                                         | A, a<br>B, b<br>C<br>F                       | —                                        | Negative / Negatif  | 100                                | 70651                                   | -162,56                                                                      | 1,123                                                         | 50,92                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70652                                   | -166,25                                                                      | 1,177                                                         | 50,71                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70653                                   | -166,71                                                                      | 1,176                                                         | 50,78                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70654                                   | -164,45                                                                      | 1,158                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70655                                   | -167,31                                                                      | 1,191                                                         | 50,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70656                                   | -164,57                                                                      | 1,181                                                         | 50,38                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70657                                   | -164,62                                                                      | 1,150                                                         | 50,50                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70658                                   | -163,83                                                                      | 1,157                                                         | 50,63                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70659                                   | -167,80                                                                      | 1,174                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70660                                   | -166,47                                                                      | 1,209                                                         | 50,10                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70661                                   | -164,42                                                                      | 1,124                                                         | 50,97                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70662                                   | -164,33                                                                      | 1,136                                                         | 50,51                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70663                                   | -165,86                                                                      | 1,194                                                         | 50,66                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70664                                   | -166,89                                                                      | 1,185                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70665                                   | -163,75                                                                      | 1,154                                                         | 50,63                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 27,6 °C RH = 60,8 % P = 1008,1 mbar

k1 = 0,970 k2 = 1,000 kt = 0,970

Ut = 164,9  $\pm$  3% (159,95 kV < Ut < 169,85 kV)



✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_1$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 10    | Closed / Kapalı                                  | Open / Açık  | A                                                                         | B, a<br>C, b<br>F, c                         | ---                                      | Positive / Pozitif  | 50-80                              | 70674                                   | 98,80                                                                        | 1,295                                                         | 50,13                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70675                                   | 98,71                                                                        | 1,360                                                         | 49,71                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70676                                   | 99,04                                                                        | 1,270                                                         | 50,10                                                                  |                     |
|       | Closed / Kapalı                                  | Open / Açık  | A                                                                         | B, a<br>C, b<br>F, c                         | ---                                      | Positive / Pozitif  | 100                                | 70677                                   | 162,61                                                                       | 1,293                                                         | 51,50                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70678                                   | 165,21                                                                       | 1,379                                                         | 51,19                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70679                                   | 163,44                                                                       | 1,312                                                         | 51,92                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70680                                   | 163,31                                                                       | 1,316                                                         | 52,11                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70681                                   | 164,36                                                                       | 1,367                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70682                                   | 164,20                                                                       | 1,331                                                         | 52,12                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70683                                   | 162,93                                                                       | 1,312                                                         | 51,81                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70684                                   | 164,81                                                                       | 1,351                                                         | 51,50                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70685                                   | 164,06                                                                       | 1,369                                                         | 50,79                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70686                                   | 165,15                                                                       | 1,379                                                         | 51,54                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70687                                   | 164,77                                                                       | 1,317                                                         | 52,28                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70688                                   | 163,40                                                                       | 1,301                                                         | 52,14                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70689                                   | 163,73                                                                       | 1,346                                                         | 51,20                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70690                                   | 163,61                                                                       | 1,347                                                         | 51,29                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70691                                   | 168,01                                                                       | 1,378                                                         | 51,14                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,0 °C RH = 62,7 % P = 1009,7 mbar

k1 = 0,964 k2 = 1,000 kt = 0,964

Ut = 163,9  $\pm$  3% (158,94 kV < Ut < 168,77 kV)

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 10    | Closed / Kapalı                                  | Open / Açık  | A                                                                         | a<br>B, b<br>C, c<br>F                       | -                                        | Negative / Negatif  | 50-80                              | 70693                                   | -99,24                                                                       | 1,317                                                         | 49,53                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70694                                   | -107,23                                                                      | 1,618                                                         | 47,13                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70695                                   | -98,43                                                                       | 1,289                                                         | 49,94                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70696                                   | -166,56                                                                      | 1,348                                                         | 50,93                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70697                                   | -165,67                                                                      | 1,284                                                         | 51,38                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70698                                   | -162,91                                                                      | 1,269                                                         | 51,82                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70699                                   | -163,95                                                                      | 1,314                                                         | 50,61                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70700                                   | -162,69                                                                      | 1,272                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70701                                   | -164,31                                                                      | 1,276                                                         | 51,62                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70702                                   | -163,28                                                                      | 1,281                                                         | 51,84                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70703                                   | -163,26                                                                      | 1,274                                                         | 51,69                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70704                                   | -165,54                                                                      | 1,345                                                         | 50,82                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70705                                   | -166,42                                                                      | 1,364                                                         | 51,18                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70706                                   | -164,66                                                                      | 1,314                                                         | 50,71                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70707                                   | -166,06                                                                      | 1,313                                                         | 51,61                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70708                                   | -164,06                                                                      | 1,344                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70709                                   | -163,86                                                                      | 1,308                                                         | 50,67                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70710                                   | -163,45                                                                      | 1,294                                                         | 50,71                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,0 °C RH = 62,7 % P = 1009,7 mbar

k1 = 0,964 k2 = 1,000 kt = 0,964

$U_t = 163,9 \pm 3\%$  (158,94 kV <  $U_t$  < 168,77 kV)



✓ : Passed / Geçti

✗ : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 11    | Closed / Kapalı                                  | Open / Açık  | B                                                                         | A, a<br>b<br>C, c<br>F                       | —                                        | Positive / Pozitif  | 50-80                              | 70712                                   | 101,65                                                                       | 1,290                                                         | 49,40                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70713                                   | 99,15                                                                        | 1,111                                                         | 50,48                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70714                                   | 101,17                                                                       | 1,193                                                         | 48,68                                                                  |                     |
|       | Closed / Kapalı                                  | Open / Açık  | B                                                                         | A, a<br>b<br>C, c<br>F                       | —                                        | Positive / Pozitif  | 100                                | 70715                                   | 162,43                                                                       | 1,214                                                         | 50,67                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70716                                   | 162,30                                                                       | 1,146                                                         | 51,78                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70717                                   | 161,65                                                                       | 1,134                                                         | 51,43                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70718                                   | 162,78                                                                       | 1,157                                                         | 51,31                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70719 <sup>2)</sup>                     | 164,12                                                                       | 1,160                                                         | 5,64                                                                   | ✗                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70720                                   | 163,51                                                                       | 1,146                                                         | 51,79                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70721                                   | 164,09                                                                       | 1,194                                                         | 50,65                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70722                                   | 164,23                                                                       | 1,185                                                         | 51,95                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70723                                   | 164,83                                                                       | 1,202                                                         | 51,16                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70724                                   | 162,70                                                                       | 1,133                                                         | 51,99                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70725                                   | 163,48                                                                       | 1,140                                                         | 52,08                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70726                                   | 163,12                                                                       | 1,140                                                         | 51,70                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70727                                   | 163,72                                                                       | 1,206                                                         | 51,13                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70728                                   | 165,55                                                                       | 1,220                                                         | 50,63                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70729                                   | 163,04                                                                       | 1,127                                                         | 51,63                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,0 °C RH = 62,7 % P = 1009,7 mbar

k1 = 0,964 k2 = 1,000 kt = 0,964

Ut = 163,9  $\pm$  3% (158,94 kV < Ut < 168,77 kV)

2) Disruptive discharge occurred inside tested sample / Test edilen hücre içerisinde atlama oluşmuştur.



✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 11    | Closed / Kapalı                                  | Open / Açık  | B                                                                         | A, a<br>b<br>C, c<br>F                       | --                                       | Negative / Negatif  | 50-80                              | 70731                                   | -99,12                                                                       | 1,177                                                         | 49,88                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70732                                   | -105,90                                                                      | 1,470                                                         | 46,80                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70733                                   | -100,92                                                                      | 1,165                                                         | 50,30                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70734                                   | -164,04                                                                      | 1,174                                                         | 50,27                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70735                                   | -165,47                                                                      | 1,146                                                         | 50,68                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70736                                   | -165,95                                                                      | 1,189                                                         | 50,50                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70737                                   | -161,08                                                                      | 1,091                                                         | 51,08                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70738                                   | -162,42                                                                      | 1,086                                                         | 51,15                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70739                                   | -165,87                                                                      | 1,159                                                         | 50,60                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70740                                   | -162,45                                                                      | 1,107                                                         | 50,70                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70741                                   | -165,47                                                                      | 1,176                                                         | 50,66                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70742                                   | -165,68                                                                      | 1,160                                                         | 51,01                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70743                                   | -163,78                                                                      | 1,182                                                         | 50,38                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70744                                   | -165,44                                                                      | 1,167                                                         | 50,68                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70745                                   | -165,21                                                                      | 1,125                                                         | 51,09                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70746                                   | -164,50                                                                      | 1,170                                                         | 50,41                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70747                                   | -161,91                                                                      | 1,090                                                         | 51,09                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70748                                   | -165,23                                                                      | 1,188                                                         | 50,69                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,0 °C RH = 62,7 % P = 1009,7 mbar

k1 = 0,964 k2 = 1,000 kt = 0,964

Ut = 163,9  $\pm$  3% (158,94 kV < Ut < 168,77 kV)



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>Izole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 12    | Closed / Kapalı                                  | Open / Açık  | C                                                                         | A, a<br>B, b<br>C, c<br>F                    | —                                        | Positive / Pozitif  | 50-80                              | 70750                                   | 99,27                                                                        | 1,185                                                         | 50,27                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70751                                   | 98,75                                                                        | 1,135                                                         | 50,35                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70752                                   | 100,83                                                                       | 1,256                                                         | 48,99                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70753                                   | 160,07                                                                       | 1,166                                                         | 51,26                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70754                                   | 161,21                                                                       | 1,111                                                         | 51,48                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70755                                   | 163,84                                                                       | 1,198                                                         | 51,24                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70756                                   | 162,30                                                                       | 1,141                                                         | 51,24                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70757                                   | 164,48                                                                       | 1,199                                                         | 51,31                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70758                                   | 163,62                                                                       | 1,124                                                         | 51,65                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70759                                   | 162,51                                                                       | 1,139                                                         | 51,36                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70760                                   | 163,75                                                                       | 1,114                                                         | 51,84                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70761                                   | 166,72                                                                       | 1,164                                                         | 51,59                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70762                                   | 164,55                                                                       | 1,116                                                         | 51,83                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70763                                   | 162,99                                                                       | 1,127                                                         | 51,77                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70764                                   | 163,08                                                                       | 1,135                                                         | 52,04                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70765                                   | 163,20                                                                       | 1,161                                                         | 51,35                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70766                                   | 163,41                                                                       | 1,154                                                         | 51,52                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70767                                   | 163,66                                                                       | 1,125                                                         | 51,79                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,0 °C RH = 62,7 % P = 1009,7 mbar

k1 = 0,964 k2 = 1,000 kt = 0,964

$U_t = 163,9 \pm 3\%$  (158,94 kV <  $U_t$  < 168,77 kV)



✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 12    | Closed / Kapalı                                  | Open / Açık  | C                                                                         | A, a<br>B, b<br>C, c<br>F                    | —                                        | Negative / Negatif  | 50-80                              | 70769                                   | -102,71                                                                      | 1,213                                                         | 49,65                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70770                                   | -102,89                                                                      | 1,196                                                         | 49,08                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70771                                   | -101,95                                                                      | 1,260                                                         | 50,03                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70772                                   | -160,25                                                                      | 1,103                                                         | 50,90                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70773                                   | -163,40                                                                      | 1,094                                                         | 51,14                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70774                                   | -163,71                                                                      | 1,111                                                         | 51,39                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70775                                   | -163,79                                                                      | 1,157                                                         | 50,43                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70776                                   | -161,73                                                                      | 1,086                                                         | 51,11                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70777                                   | -166,01                                                                      | 1,177                                                         | 50,60                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70778                                   | -165,66                                                                      | 1,168                                                         | 50,55                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70779                                   | -165,46                                                                      | 1,148                                                         | 51,02                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70780                                   | -164,68                                                                      | 1,107                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70781                                   | -166,28                                                                      | 1,141                                                         | 51,08                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70782                                   | -163,93                                                                      | 1,117                                                         | 50,67                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70783                                   | -166,03                                                                      | 1,175                                                         | 50,45                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70784                                   | -163,62                                                                      | 1,094                                                         | 51,29                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70785                                   | -163,51                                                                      | 1,121                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70786                                   | -166,03                                                                      | 1,153                                                         | 50,86                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,0 °C RH = 62,7 % P = 1009,7 mbar

k1 = 0,964 k2 = 1,000 kt = 0,964

$U_t = 163,9 \pm 3\%$  (158,94 kV <  $U_t$  < 168,77 kV)

✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 13    | Closed / Kapalı                                  | Open / Açık  | a                                                                         | A<br>B, b<br>C, c<br>F                       | --                                       | Positive / Pozitif  | 50-80                              | 70820                                   | 101,45                                                                       | 1,169                                                         | 50,39                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70821                                   | 101,05                                                                       | 1,139                                                         | 51,25                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70822                                   | 101,39                                                                       | 1,153                                                         | 51,08                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70823                                   | 165,97                                                                       | 1,164                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70824                                   | 163,36                                                                       | 1,129                                                         | 51,25                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70825                                   | 163,73                                                                       | 1,176                                                         | 50,56                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70826                                   | 162,92                                                                       | 1,118                                                         | 51,43                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70827                                   | 164,14                                                                       | 1,173                                                         | 50,90                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70828                                   | 163,94                                                                       | 1,132                                                         | 51,21                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70829 <sup>2)</sup>                     | 166,46                                                                       | 1,190                                                         | 5,47                                                                   | ✗                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70830                                   | 166,34                                                                       | 1,173                                                         | 50,78                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70831                                   | 164,63                                                                       | 1,145                                                         | 51,37                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70832                                   | 164,67                                                                       | 1,139                                                         | 51,61                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70833                                   | 165,45                                                                       | 1,125                                                         | 51,01                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70834                                   | 164,34                                                                       | 1,156                                                         | 50,85                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70835                                   | 165,93                                                                       | 1,146                                                         | 51,27                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70836                                   | 165,09                                                                       | 1,172                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70837                                   | 166,04                                                                       | 1,158                                                         | 51,39                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,1 °C RH = 69,1 % P = 1009,3 mbar

k1 = 0,970 k2 = 1,000 kt = 0,970

Ut = 164,8  $\pm$  3% (159,88 kV < Ut < 169,77 kV)

2) Disruptive discharge occurred inside tested sample / Test edilen hücre içerisinde atlama oluşmuştur.



✓ : Passed / Geçti

✗ : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 13    | Closed / Kapalı                                  | Open / Açık  | a                                                                         | A<br>B, b<br>C, c<br>F                       | —                                        | Negative / Negatif  | 50-80                              | 70839                                   | -102,23                                                                      | 1,226                                                         | 48,68                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70840                                   | -100,44                                                                      | 1,115                                                         | 50,69                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70841                                   | -100,45                                                                      | 1,163                                                         | 50,39                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70842                                   | -164,29                                                                      | 1,105                                                         | 51,22                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70843                                   | -164,31                                                                      | 1,100                                                         | 51,16                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | <b>70844<sup>2)</sup></b>               | <b>-163,45</b>                                                               | <b>1,120</b>                                                  | <b>7,12</b>                                                            | ✗                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70845                                   | -165,21                                                                      | 1,133                                                         | 50,44                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70846                                   | -163,95                                                                      | 1,109                                                         | 51,24                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70847                                   | -166,05                                                                      | 1,138                                                         | 51,06                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70848                                   | -165,02                                                                      | 1,112                                                         | 51,27                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70849                                   | -166,01                                                                      | 1,133                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70850                                   | -165,94                                                                      | 1,129                                                         | 51,27                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70851                                   | -164,34                                                                      | 1,106                                                         | 51,15                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70852                                   | -164,18                                                                      | 1,118                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70853                                   | -165,05                                                                      | 1,098                                                         | 51,17                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70854                                   | -166,24                                                                      | 1,163                                                         | 50,80                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70855                                   | -166,39                                                                      | 1,163                                                         | 50,88                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70856                                   | -165,68                                                                      | 1,109                                                         | 51,26                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 28,1 °C RH = 69,1 % P = 1009,3 mbar

k1 = 0,970 k2 = 1,000 kt = 0,970

$U_t = 164,8 \pm 3\%$  (159,88 kV <  $U_t$  < 169,77 kV)

2) Disruptive discharge occurred inside tested sample / Test edilen hücre içerisinde atlama oluşmuştur.

✓ : Passed / Geçti

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O : Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 14    | Closed / Kapalı                                  | Open / Açık  | b                                                                         | A<br>B, b<br>C, c<br>F                       | —                                        | Positive / Pozitif  | 50-80                              | 70882                                   | 99,13                                                                        | 1,136                                                         | 49,77                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70883                                   | 101,43                                                                       | 1,235                                                         | 50,26                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70884                                   | 98,50                                                                        | 1,131                                                         | 51,00                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70885                                   | 162,41                                                                       | 1,185                                                         | 51,10                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70886                                   | 161,06                                                                       | 1,157                                                         | 50,83                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70887                                   | 161,73                                                                       | 1,210                                                         | 50,48                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70888                                   | 162,64                                                                       | 1,129                                                         | 51,34                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70889                                   | 164,55                                                                       | 1,130                                                         | 51,46                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70890                                   | 165,64                                                                       | 1,200                                                         | 50,82                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70891                                   | 162,65                                                                       | 1,149                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70892                                   | 164,05                                                                       | 1,176                                                         | 51,43                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70893                                   | 163,74                                                                       | 1,127                                                         | 51,65                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70894                                   | 165,44                                                                       | 1,183                                                         | 50,91                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70895                                   | 165,04                                                                       | 1,233                                                         | 50,67                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70896                                   | 165,04                                                                       | 1,170                                                         | 51,38                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70897                                   | 163,26                                                                       | 1,130                                                         | 51,65                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70898                                   | 164,61                                                                       | 1,176                                                         | 51,30                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70899                                   | 162,93                                                                       | 1,135                                                         | 51,43                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,4 °C RH = 55,3 % P = 1008,7 mbar

k1 = 0,962 k2 = 1,000 kt = 0,962

Ut = 163,5  $\pm$  3% (158,57 kV < Ut < 168,38 kV)



✓ : Passed / Geçti

\* : Failed / Geçmedi

O: Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 14    | Closed / Kapalı                                  | Open / Açık  | b                                                                         | A, a<br>B<br>C, c<br>F                       | —                                        | Negative / Negatif  | 50-80                              | 70901                                   | -98,76                                                                       | 1,125                                                         | 50,11                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70902                                   | -99,03                                                                       | 1,148                                                         | 50,15                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70903                                   | -98,45                                                                       | 1,103                                                         | 50,14                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70904                                   | -165,19                                                                      | 1,114                                                         | 51,02                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70905                                   | -164,49                                                                      | 1,108                                                         | 51,21                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70906                                   | -165,46                                                                      | 1,124                                                         | 51,02                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70907                                   | -167,99                                                                      | 1,214                                                         | 50,30                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70908                                   | -164,09                                                                      | 1,128                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70909                                   | -166,39                                                                      | 1,170                                                         | 50,57                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70910                                   | -165,46                                                                      | 1,124                                                         | 50,99                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70911                                   | -164,63                                                                      | 1,113                                                         | 51,24                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70912                                   | -166,63                                                                      | 1,204                                                         | 50,36                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70913                                   | -167,67                                                                      | 1,201                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70914                                   | -167,82                                                                      | 1,203                                                         | 50,36                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70915                                   | -166,61                                                                      | 1,139                                                         | 51,05                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70916                                   | -165,59                                                                      | 1,117                                                         | 50,86                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70917                                   | -166,53                                                                      | 1,118                                                         | 51,07                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70918                                   | -167,05                                                                      | 1,205                                                         | 50,79                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,4 °C RH = 55,3 % P = 1008,7 mbar

k1 = 0,962 k2 = 1,000 kt = 0,962

$U_t = 163,5 \pm 3\%$  (158,57 kV <  $U_t$  < 168,38 kV)



✓ : Passed / Geçti

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O : Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 15    | Closed / Kapalı                                  | Open / Açık  | c                                                                         | A, a<br>B, b<br>C, c<br>T                    | ---                                      | Positive / Pozitif  | 50-80                              | 70920                                   | 100,37                                                                       | 1,266                                                         | 50,17                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70921                                   | 98,66                                                                        | 1,170                                                         | 50,43                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70922                                   | 99,40                                                                        | 1,204                                                         | 50,27                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70923                                   | 165,25                                                                       | 1,167                                                         | 51,10                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70924                                   | 165,04                                                                       | 1,193                                                         | 50,60                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70925                                   | 162,14                                                                       | 1,104                                                         | 51,07                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70926                                   | 162,91                                                                       | 1,141                                                         | 51,22                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70927                                   | 163,88                                                                       | 1,143                                                         | 51,54                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70928                                   | 165,57                                                                       | 1,225                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70929                                   | 163,37                                                                       | 1,132                                                         | 51,49                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70930                                   | 164,10                                                                       | 1,153                                                         | 51,28                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70931                                   | 164,49                                                                       | 1,215                                                         | 50,67                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70932                                   | 165,24                                                                       | 1,216                                                         | 50,93                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70933                                   | 165,41                                                                       | 1,231                                                         | 50,43                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70934                                   | 165,04                                                                       | 1,222                                                         | 50,63                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70935                                   | 164,16                                                                       | 1,173                                                         | 51,20                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70936                                   | 162,80                                                                       | 1,168                                                         | 51,06                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70937                                   | 166,33                                                                       | 1,203                                                         | 50,68                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,4 °C RH = 55,3 % P = 1008,7 mbar

k1 = 0,962 k2 = 1,000 kt = 0,962

Ut = 163,5  $\pm$  3% (158,57 kV < Ut < 168,38)



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |              | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_1$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 15    | Closed / Kapalı                                  | Open / Açık  | c                                                                         | A, a<br>B, b<br>C<br>F                       | ---                                      | Negative / Negatif  | 50-80                              | 70939                                   | -102,33                                                                      | 1,272                                                         | 50,13                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70940                                   | -101,18                                                                      | 1,277                                                         | 50,14                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70941                                   | -101,44                                                                      | 1,157                                                         | 48,66                                                                  |                     |
|       |                                                  |              |                                                                           |                                              |                                          |                     | 100                                | 70942                                   | -164,56                                                                      | 1,168                                                         | 50,77                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70943                                   | -163,66                                                                      | 1,172                                                         | 50,66                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70944                                   | -160,44                                                                      | 1,089                                                         | 51,08                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70945                                   | -165,37                                                                      | 1,199                                                         | 50,38                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70946                                   | -164,05                                                                      | 1,156                                                         | 50,50                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70947                                   | -163,85                                                                      | 1,144                                                         | 50,43                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70948                                   | -164,57                                                                      | 1,182                                                         | 50,49                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70949                                   | -165,41                                                                      | 1,212                                                         | 50,28                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70950                                   | -165,68                                                                      | 1,216                                                         | 50,41                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70951                                   | -164,63                                                                      | 1,135                                                         | 50,80                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70952                                   | -164,19                                                                      | 1,179                                                         | 50,47                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70953                                   | -163,18                                                                      | 1,136                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70954 <sup>2)</sup>                     | -165,91                                                                      | 1,200                                                         | 19,85                                                                  | ✗                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70955                                   | -165,52                                                                      | 1,191                                                         | 50,78                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70956                                   | -162,70                                                                      | 1,131                                                         | 50,97                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70957                                   | -163,59                                                                      | 1,130                                                         | 51,14                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70958                                   | -162,79                                                                      | 1,140                                                         | 50,76                                                                  | ✓                   |
|       |                                                  |              |                                                                           |                                              |                                          |                     |                                    | 70959                                   | -165,82                                                                      | 1,148                                                         | 50,74                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied considering atmospheric conditions. / Deneyler atmosferik şartlar dikkate alınarak uygulanmıştır.

T = 30,4 °C RH = 55,3 % P = 1008,7 mbar

k1 = 0,962 k2 = 1,000 kt = 0,962

Ut = 163,5  $\pm$  3% (158,57 kV < Ut < 168,38)

2) Last disruptive discharge occurred inside tested sample, self-restoring insulation was confirmed by 5 consecutive impulse withstands following the last disruptive discharge / Test edilen hücre içerisinde son atlama oluşmuştur, yalıtımın kendini yenilediği son atlamadan sonra 5 adet sıralı geçer darbe ile doğrulanmıştır.

✓ : Passed / Geçti

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O: Out of Evaluation / Değerlendirme Dışı



| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 16    | Open / Açık                                      | Closed / Kapalı | A                                                                         | a                                            | B, b<br>C, c<br>F                        | Positive / Pozitif  | 50-80                              | 70961                                   | 115,92                                                                       | 1,099                                                         | 49,98                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70962                                   | 115,18                                                                       | 1,010                                                         | 50,77                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70963                                   | 118,46                                                                       | 1,086                                                         | 49,56                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70964                                   | 193,55                                                                       | 1,054                                                         | 50,56                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70965                                   | 191,90                                                                       | 1,055                                                         | 50,32                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70966                                   | 193,03                                                                       | 0,997                                                         | 51,01                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70967                                   | 192,93                                                                       | 0,995                                                         | 50,94                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70968                                   | 194,54                                                                       | 1,050                                                         | 50,59                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70969                                   | 193,14                                                                       | 1,006                                                         | 51,00                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70970                                   | 194,76                                                                       | 0,999                                                         | 51,21                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70971                                   | 194,32                                                                       | 1,028                                                         | 50,83                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70972                                   | 198,73                                                                       | 1,067                                                         | 50,41                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70973                                   | 196,32                                                                       | 1,059                                                         | 50,53                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70974                                   | 198,33                                                                       | 1,052                                                         | 50,71                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70975                                   | 197,28                                                                       | 1,022                                                         | 51,28                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70976                                   | 196,47                                                                       | 1,063                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70977                                   | 195,74                                                                       | 1,046                                                         | 50,47                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70978                                   | 197,72                                                                       | 1,061                                                         | 50,50                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied across the isolating distance without considering atmospheric conditions.

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 30,4 °C    RH = 55,3 %    P = 1008,7 mbar,     $U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$



✓ : Passed / Geçti

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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayırıcı                                    | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 16    | Open / Açık                                      | Closed / Kapalı | A                                                                         | a                                            | B, b<br>C, c<br>F                        | Negative / Negatif  | 50-80                              | 70980                                   | -116,57                                                                      | 1,084                                                         | 49,54                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70981                                   | -118,97                                                                      | 1,144                                                         | 49,83                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70982                                   | -118,30                                                                      | 1,113                                                         | 50,22                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 70983                                   | -193,66                                                                      | 1,004                                                         | 50,55                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70984                                   | -192,84                                                                      | 1,009                                                         | 50,35                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70985                                   | -195,21                                                                      | 1,024                                                         | 50,34                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70986                                   | -196,43                                                                      | 1,005                                                         | 50,56                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70987                                   | -194,64                                                                      | 1,012                                                         | 50,45                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70988                                   | -194,94                                                                      | 1,023                                                         | 50,29                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70989                                   | -192,91                                                                      | 0,982                                                         | 50,78                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70990                                   | -197,44                                                                      | 1,046                                                         | 50,49                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70991                                   | -197,58                                                                      | 1,005                                                         | 50,66                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70992                                   | -197,21                                                                      | 1,029                                                         | 50,48                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70993                                   | -198,38                                                                      | 1,045                                                         | 50,53                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70994                                   | -197,81                                                                      | 1,039                                                         | 50,56                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70995                                   | -195,80                                                                      | 1,000                                                         | 50,50                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70996                                   | -194,58                                                                      | 0,985                                                         | 50,86                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 70997                                   | -194,34                                                                      | 0,983                                                         | 51,00                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied across the isolating distance without considering atmospheric conditions.

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 30,4 °C    RH = 55,3 %    P = 1008,7 mbar,     $U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$

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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$ (kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayırıcı                                    | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                           |                                                               |                                                                        |                     |
| 17    | Open / Açık                                      | Closed / Kapalı | B                                                                         | b                                            | A, a<br>C, c<br>F                        | Positive / Pozitif  | 50-80                              | 70999                                   | 117,05                                                                    | 1,122                                                         | 50,03                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71000                                   | 116,52                                                                    | 1,120                                                         | 50,44                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71001                                   | 114,67                                                                    | 1,048                                                         | 50,74                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71002                                   | 191,20                                                                    | 1,039                                                         | 50,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71003                                   | 193,37                                                                    | 1,055                                                         | 50,60                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71004                                   | 193,55                                                                    | 1,003                                                         | 51,16                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71005                                   | 197,61                                                                    | 1,078                                                         | 50,23                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71006                                   | 197,43                                                                    | 1,063                                                         | 50,31                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71007                                   | 194,83                                                                    | 1,032                                                         | 50,97                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71008                                   | 197,74                                                                    | 1,052                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71009                                   | 196,26                                                                    | 1,004                                                         | 51,01                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71010                                   | 196,90                                                                    | 1,065                                                         | 50,74                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71011                                   | 196,44                                                                    | 1,009                                                         | 51,18                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71012                                   | 197,31                                                                    | 1,063                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71013                                   | 197,48                                                                    | 1,067                                                         | 50,65                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71014                                   | 194,87                                                                    | 0,997                                                         | 51,23                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71015                                   | 197,04                                                                    | 1,047                                                         | 50,97                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71016                                   | 197,17                                                                    | 1,082                                                         | 50,43                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied across the isolating distance without considering atmospheric conditions.

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 30,4 °C RH = 55,3 % P = 1008,7 mbar,

$U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$

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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 17    | Open / Açık                                      | Closed / Kapalı | B                                                                         | b                                            | A, a<br>C, c<br>F                        | Negative / Negatif  | 50-80                              | 71018                                   | -116,50                                                                      | 1,078                                                         | 49,58                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71019                                   | -118,18                                                                      | 1,116                                                         | 50,10                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71020                                   | -118,96                                                                      | 1,104                                                         | 50,16                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71021                                   | -196,03                                                                      | 1,059                                                         | 50,11                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71022                                   | -194,62                                                                      | 1,017                                                         | 50,62                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71023                                   | -191,68                                                                      | 0,984                                                         | 50,65                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71024                                   | -192,98                                                                      | 1,048                                                         | 50,19                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71025                                   | -198,00                                                                      | 1,039                                                         | 50,55                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71026                                   | -194,34                                                                      | 1,033                                                         | 50,48                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71027                                   | -196,74                                                                      | 1,011                                                         | 50,71                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71028                                   | -196,43                                                                      | 1,009                                                         | 50,37                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71029                                   | -195,93                                                                      | 1,056                                                         | 50,33                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71030                                   | -197,43                                                                      | 1,046                                                         | 50,59                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71031                                   | -193,49                                                                      | 0,999                                                         | 50,52                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71032                                   | -193,13                                                                      | 0,999                                                         | 50,48                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71033                                   | -197,52                                                                      | 1,032                                                         | 50,30                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71034                                   | -196,71                                                                      | 1,054                                                         | 50,29                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71035                                   | -194,86                                                                      | 0,992                                                         | 50,58                                                                  | ✓                   |

**Notes / Notlar**

**1) Tests were applied across the isolating distance without considering atmospheric conditions.**

*Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.*

T = 30,4 °C    RH = 55,3 %    P = 1008,7 mbar,     $U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 18    | Open / Açık                                      | Closed / Kapalı | C                                                                         | c                                            | A, a<br>B, b<br>F                        | Positive / Pozitif  | 50-80                              | 71039                                   | 115,19                                                                       | 1,106                                                         | 50,44                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71040                                   | 118,06                                                                       | 1,179                                                         | 50,40                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71041                                   | 119,07                                                                       | 1,131                                                         | 50,52                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71042                                   | 194,07                                                                       | 1,181                                                         | 50,55                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71043                                   | 192,15                                                                       | 1,064                                                         | 51,49                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71044                                   | 196,50                                                                       | 1,164                                                         | 50,88                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71045                                   | 198,24                                                                       | 1,157                                                         | 50,90                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71046                                   | 195,47                                                                       | 1,168                                                         | 50,76                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71047                                   | 192,42                                                                       | 1,080                                                         | 51,40                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71048                                   | 192,99                                                                       | 1,106                                                         | 50,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71049                                   | 196,54                                                                       | 1,142                                                         | 51,24                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71050                                   | 195,43                                                                       | 1,161                                                         | 50,76                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71051                                   | 193,14                                                                       | 1,111                                                         | 51,08                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71052                                   | 197,63                                                                       | 1,158                                                         | 50,94                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71053                                   | 196,99                                                                       | 1,164                                                         | 50,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71054                                   | 197,01                                                                       | 1,170                                                         | 50,59                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71055                                   | 194,29                                                                       | 1,141                                                         | 51,12                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71056                                   | 193,76                                                                       | 1,152                                                         | 51,07                                                                  | ✓                   |

**Notes / Notlar**

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T = 30,4 °C    RH = 55,3 %    P = 1008,7 mbar,     $U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$



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|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayırıcı                                    | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 18    | Open / Açık                                      | Closed / Kapalı | C                                                                         | c                                            | A, a<br>B, b<br>F                        | Negative / Negatif  | 50-80                              | 71058                                   | -114,87                                                                      | 1,121                                                         | 49,70                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71059                                   | -121,24                                                                      | 1,141                                                         | 49,76                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71060                                   | -122,61                                                                      | 1,216                                                         | 49,66                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71061                                   | -192,04                                                                      | 1,066                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71062                                   | -194,52                                                                      | 1,117                                                         | 50,54                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71063                                   | -192,50                                                                      | 1,050                                                         | 50,88                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71064                                   | -194,96                                                                      | 1,094                                                         | 50,76                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71065                                   | -196,80                                                                      | 1,156                                                         | 50,51                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71066                                   | -194,02                                                                      | 1,051                                                         | 50,84                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71067                                   | -196,42                                                                      | 1,076                                                         | 50,83                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71068                                   | -193,61                                                                      | 1,056                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71069                                   | -197,28                                                                      | 1,130                                                         | 50,81                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71070                                   | -195,13                                                                      | 1,136                                                         | 50,57                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71071                                   | -195,02                                                                      | 1,052                                                         | 50,80                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71072                                   | -192,79                                                                      | 1,058                                                         | 50,93                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71073                                   | -197,82                                                                      | 1,118                                                         | 50,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71074                                   | -197,24                                                                      | 1,142                                                         | 50,69                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71075                                   | -194,74                                                                      | 1,097                                                         | 50,81                                                                  | ✓                   |

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|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 19    | Open / Açık                                      | Closed / Kapalı | a                                                                         | A                                            | B, b<br>C, c<br>F                        | Positive / Pozitif  | 50-80                              | 71080                                   | 120,23                                                                       | 1,109                                                         | 51,09                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71081                                   | 120,31                                                                       | 1,224                                                         | 49,92                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71082                                   | 120,21                                                                       | 1,233                                                         | 50,26                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71083                                   | 194,34                                                                       | 1,171                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71084                                   | 193,19                                                                       | 1,108                                                         | 51,43                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71085                                   | 193,80                                                                       | 1,132                                                         | 51,25                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71086                                   | 195,09                                                                       | 1,205                                                         | 51,03                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71087                                   | 197,83                                                                       | 1,189                                                         | 51,27                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71088                                   | 194,00                                                                       | 1,111                                                         | 51,56                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71089                                   | 195,57                                                                       | 1,197                                                         | 50,98                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71090                                   | 195,49                                                                       | 1,127                                                         | 51,20                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71091                                   | 196,26                                                                       | 1,167                                                         | 51,12                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71092                                   | 195,64                                                                       | 1,204                                                         | 50,80                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71093                                   | 195,12                                                                       | 1,153                                                         | 51,15                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71094                                   | 193,95                                                                       | 1,104                                                         | 51,47                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71095                                   | 194,06                                                                       | 1,123                                                         | 51,41                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71096                                   | 194,46                                                                       | 1,127                                                         | 51,20                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71097                                   | 199,24                                                                       | 1,205                                                         | 50,98                                                                  | ✓                   |

**Notes / Notlar**

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|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayırıcı                                    | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 19    | Open / Açık                                      | Closed / Kapalı | a                                                                         | A                                            | B, b<br>C, c<br>F                        | Negative / Negatif  | 50-80                              | 71099                                   | -122,13                                                                      | 1,306                                                         | 50,25                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71100                                   | -121,78                                                                      | 1,217                                                         | 50,82                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71101                                   | -121,23                                                                      | 1,155                                                         | 50,22                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71102                                   | -194,09                                                                      | 1,111                                                         | 50,97                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71103                                   | -197,76                                                                      | 1,134                                                         | 50,65                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71104                                   | -195,81                                                                      | 1,101                                                         | 50,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71105                                   | -198,61                                                                      | 1,134                                                         | 50,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71106                                   | -193,79                                                                      | 1,074                                                         | 51,05                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71107                                   | -196,71                                                                      | 1,098                                                         | 50,99                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71108                                   | -194,69                                                                      | 1,106                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71109                                   | -197,36                                                                      | 1,180                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71110                                   | -193,81                                                                      | 1,081                                                         | 51,16                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71111                                   | -195,38                                                                      | 1,102                                                         | 50,73                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71112                                   | -194,41                                                                      | 1,103                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71113                                   | -197,08                                                                      | 1,139                                                         | 50,88                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71114                                   | -198,29                                                                      | 1,196                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71115                                   | -195,13                                                                      | 1,162                                                         | 50,86                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71116                                   | -194,55                                                                      | 1,116                                                         | 50,97                                                                  | ✓                   |

**Notes / Notlar**

**1) Tests were applied across the isolating distance without considering atmospheric conditions.**

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 30,4 °C    RH = 55,3 %    P = 1008,7 mbar,     $U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$



✓ : Passed / Geçti

\* : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayırıcı                                    | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 20    | Open / Açık                                      | Closed / Kapalı | b                                                                         | B                                            | A, a<br>C, c<br>F                        | Positive / Pozitif  | 50-80                              | 71117                                   | 118,76                                                                       | 1,212                                                         | 50,87                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71118                                   | 118,08                                                                       | 1,195                                                         | 50,87                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71119                                   | 117,84                                                                       | 1,333                                                         | 50,71                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71120                                   | 196,45                                                                       | 1,128                                                         | 51,15                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71121                                   | 195,23                                                                       | 1,168                                                         | 50,87                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71122                                   | 194,77                                                                       | 1,165                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71123                                   | 194,36                                                                       | 1,139                                                         | 51,17                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71124                                   | 197,72                                                                       | 1,161                                                         | 50,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71125                                   | 194,77                                                                       | 1,209                                                         | 51,01                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71126                                   | 195,87                                                                       | 1,177                                                         | 50,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71127                                   | 195,49                                                                       | 1,148                                                         | 51,09                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71128                                   | 194,76                                                                       | 1,104                                                         | 51,13                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71129                                   | 196,14                                                                       | 1,174                                                         | 50,81                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71130                                   | 196,33                                                                       | 1,139                                                         | 51,32                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71131                                   | 194,94                                                                       | 1,170                                                         | 50,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71132                                   | 194,81                                                                       | 1,144                                                         | 51,13                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71133                                   | 196,76                                                                       | 1,172                                                         | 51,10                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71134                                   | 196,24                                                                       | 1,141                                                         | 51,06                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied across the isolating distance without considering atmospheric conditions.

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 28,0 °C RH = 60,8 % P = 1011,4 mbar,

$U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$



✓ : Passed / Geçti

\* : Failed / Geçmedi

O : Out of Evaluation / Değerlendirme Dışı

| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 20    | Open / Açık                                      | Closed / Kapalı | b                                                                         | B                                            | A, a<br>C, c<br>F                        | Negative / Negatif  | 50-80                              | 71137                                   | -118,12                                                                      | 1,228                                                         | 50,73                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71138                                   | -117,39                                                                      | 1,173                                                         | 50,84                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71139                                   | -117,25                                                                      | 1,213                                                         | 51,01                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71140                                   | -196,04                                                                      | 1,131                                                         | 51,12                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71141                                   | -193,67                                                                      | 1,085                                                         | 51,16                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71142                                   | -193,56                                                                      | 1,082                                                         | 51,01                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71143                                   | -197,80                                                                      | 1,120                                                         | 50,84                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71144                                   | -194,86                                                                      | 1,115                                                         | 50,98                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71145                                   | -194,79                                                                      | 1,086                                                         | 51,22                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71146                                   | -196,58                                                                      | 1,150                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71147                                   | -196,44                                                                      | 1,146                                                         | 50,95                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71148                                   | -195,78                                                                      | 1,141                                                         | 51,19                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71149                                   | -197,19                                                                      | 1,128                                                         | 51,12                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71150                                   | -196,61                                                                      | 1,141                                                         | 51,33                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71151                                   | -196,38                                                                      | 1,158                                                         | 51,19                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71152                                   | -196,21                                                                      | 1,121                                                         | 51,19                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71153                                   | -195,35                                                                      | 1,108                                                         | 51,20                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71154                                   | -196,29                                                                      | 1,134                                                         | 51,33                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied across the isolating distance without considering atmospheric conditions.

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 28,0 °C RH = 60,8 % P = 1011,4 mbar,

$U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu s \pm 30\%$ ) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu s \pm 20\%$ ) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 21    | Open / Açık                                      | Closed / Kapalı | c                                                                         | C                                            | A, a<br>B, b<br>F                        | Positive / Pozitif  | 50-80                              | 71156                                   | 117,21                                                                       | 1,216                                                         | 50,52                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71157                                   | 116,57                                                                       | 1,088                                                         | 50,46                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71158                                   | 117,14                                                                       | 1,161                                                         | 50,77                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     | 100                                | 71159                                   | 194,90                                                                       | 1,151                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71160                                   | 192,82                                                                       | 1,082                                                         | 51,48                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71161                                   | 193,05                                                                       | 1,074                                                         | 51,46                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71162                                   | 195,40                                                                       | 1,091                                                         | 51,33                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71163                                   | 194,31                                                                       | 1,090                                                         | 51,39                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71164                                   | 197,70                                                                       | 1,159                                                         | 50,82                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71165                                   | 196,08                                                                       | 1,104                                                         | 51,23                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71166                                   | 194,86                                                                       | 1,081                                                         | 51,44                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71167                                   | 194,89                                                                       | 1,140                                                         | 51,10                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71168                                   | 197,86                                                                       | 1,151                                                         | 50,83                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71169                                   | 198,25                                                                       | 1,163                                                         | 51,08                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71170                                   | 194,56                                                                       | 1,114                                                         | 51,32                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71171                                   | 196,21                                                                       | 1,104                                                         | 51,09                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71172                                   | 194,05                                                                       | 1,062                                                         | 51,64                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71173                                   | 196,14                                                                       | 1,079                                                         | 51,19                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied across the isolating distance without considering atmospheric conditions.

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 28,0 °C RH = 60,8 % P = 1011,4 mbar,

$U_t = 195 \pm 3 \% (189,15 \text{ kV} < U_t < 200,85 \text{ kV})$



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| S. N. | Switch Position<br>Anahtarlama Elemanının Durumu |                 | High Voltage<br>Applied Terminals<br>Yüksek Gerilim Uygulanan Terminaller | Earthed Terminals<br>Topraklanan Terminaller | Insulated Terminals<br>İzole Terminaller | Polarity / Polarite | Test Voltage<br>Deney Gerilimi (%) | Waveform Number<br>Dalga Şekli Numarası | Measured Test Voltage<br>Ölçülen Test Gerilimi<br>$U_t$<br>(kVpeak / kVtepe) | Front time<br>Tepe Süresi<br>$T_1$<br>(1,2 $\mu$ s $\pm$ 30%) | Time to half-value<br>Kuyruk Süresi<br>$T_2$<br>(50 $\mu$ s $\pm$ 20%) | Results<br>Sonuçlar |
|-------|--------------------------------------------------|-----------------|---------------------------------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------|------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|---------------------|
|       | DS<br>Ayrıcı                                     | CB<br>Kesici    |                                                                           |                                              |                                          |                     |                                    |                                         |                                                                              |                                                               |                                                                        |                     |
| 21    | Open / Açık                                      | Closed / Kapalı | c                                                                         | C                                            | A, a<br>B, b<br>F                        | Negative / Negatif  | 50-80                              | 71175                                   | -117,28                                                                      | 1,188                                                         | 50,41                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71176                                   | -115,98                                                                      | 1,112                                                         | 50,42                                                                  |                     |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71177                                   | -115,06                                                                      | 1,136                                                         | 50,56                                                                  |                     |
|       | Open / Açık                                      | Closed / Kapalı | c                                                                         | C                                            | A, a<br>B, b<br>F                        | Negative / Negatif  | 100                                | 71178                                   | -194,85                                                                      | 1,069                                                         | 50,91                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71179                                   | -199,05                                                                      | 1,131                                                         | 50,67                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71180                                   | -197,02                                                                      | 1,140                                                         | 50,80                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71181                                   | -195,62                                                                      | 1,124                                                         | 50,62                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71182                                   | -196,54                                                                      | 1,104                                                         | 51,04                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71183                                   | -192,55                                                                      | 1,090                                                         | 50,77                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71184                                   | -197,46                                                                      | 1,162                                                         | 50,75                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71185                                   | -195,24                                                                      | 1,113                                                         | 50,89                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71186                                   | -194,39                                                                      | 1,091                                                         | 50,96                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71187                                   | -197,63                                                                      | 1,148                                                         | 50,72                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71188                                   | -194,13                                                                      | 1,060                                                         | 50,82                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71189                                   | -197,17                                                                      | 1,095                                                         | 51,05                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71190                                   | -195,35                                                                      | 1,086                                                         | 50,85                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71191                                   | -197,26                                                                      | 1,152                                                         | 50,83                                                                  | ✓                   |
|       |                                                  |                 |                                                                           |                                              |                                          |                     |                                    | 71192                                   | -195,22                                                                      | 1,088                                                         | 51,08                                                                  | ✓                   |

**Notes / Notlar**

1) Tests were applied across the isolating distance without considering atmospheric conditions.

Deneyler ayırma aralığında, atmosferik şartlar dikkate alınmadan uygulanmıştır.

T = 28,0 °C RH = 60,8 % P = 1011,4 mbar,

Ut = 195  $\pm$  3 % (189,15 kV < Ut < 200,85 kV)

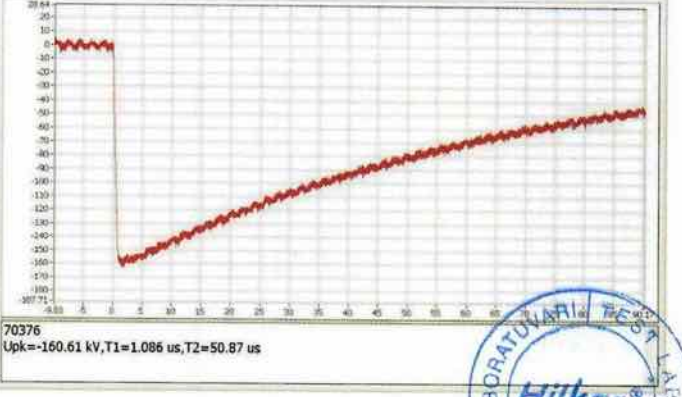
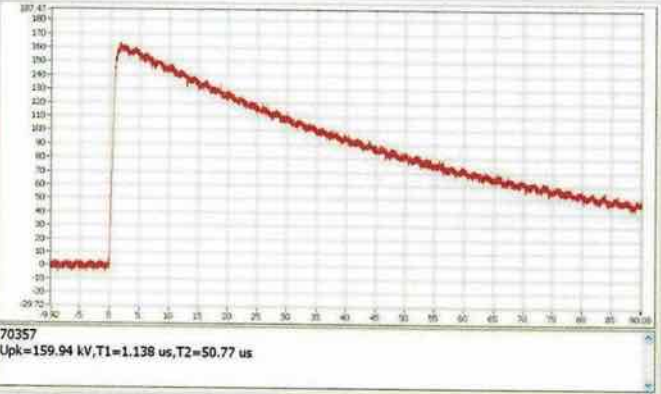
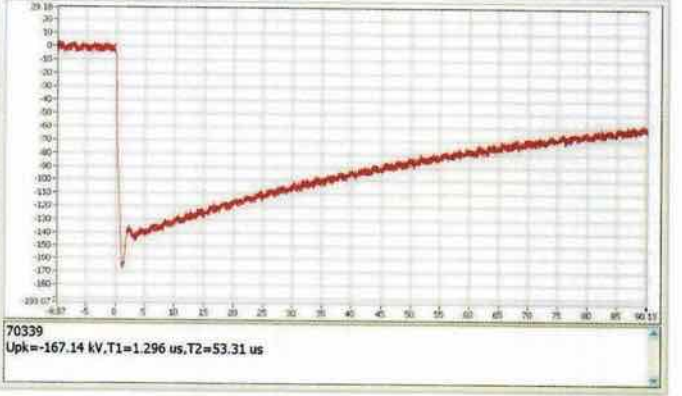
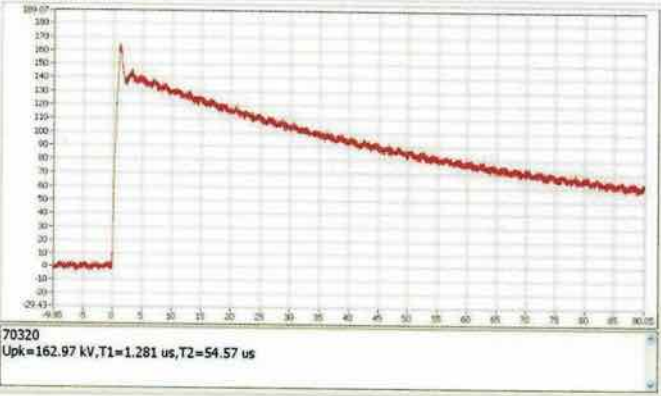
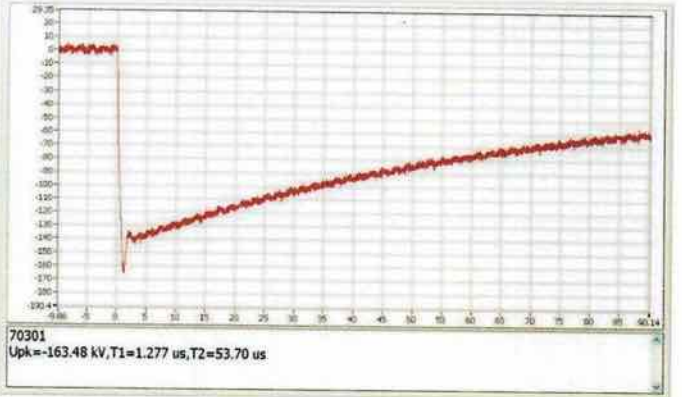
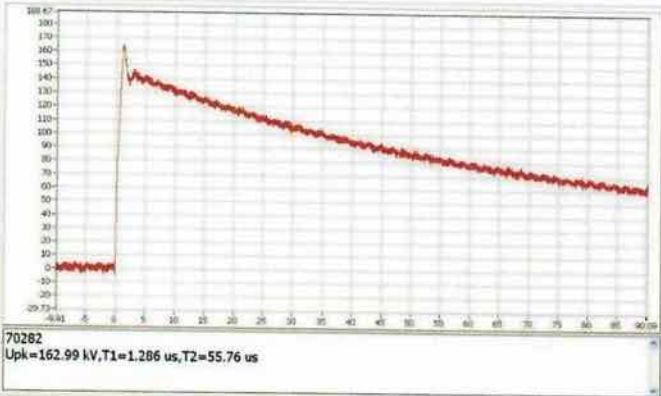
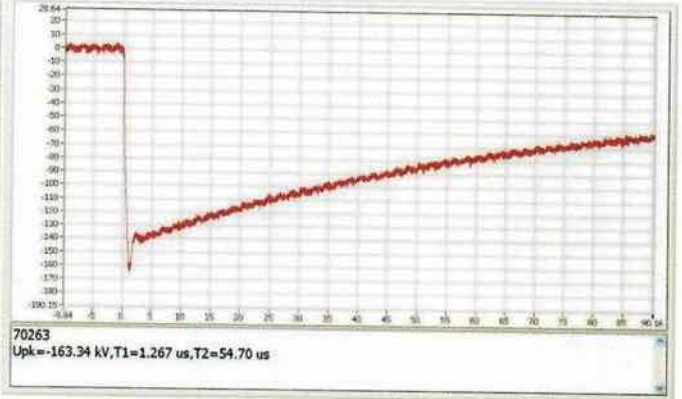
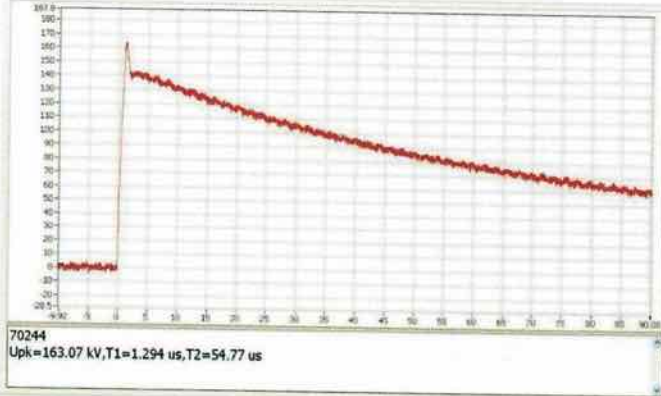


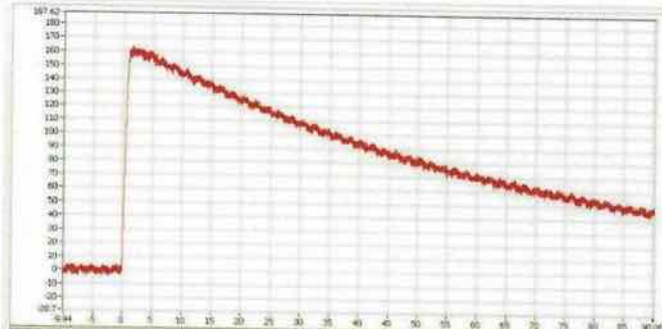
✓ : Passed / Geçti

\* : Failed / Geçmedi

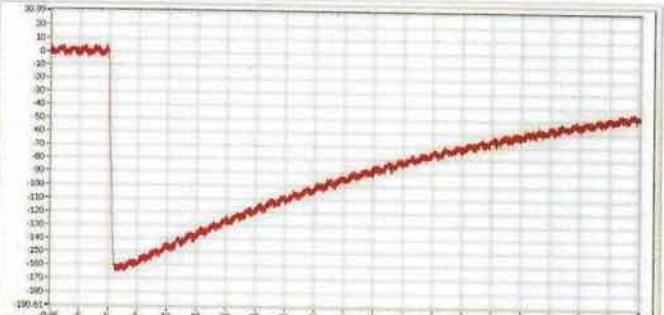
O : Out of Evaluation / Değerlendirme Dışı

**4.2.7. Test Graphics / Deney Grafikleri**

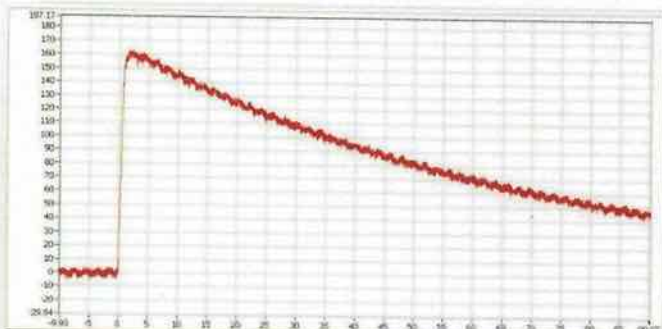




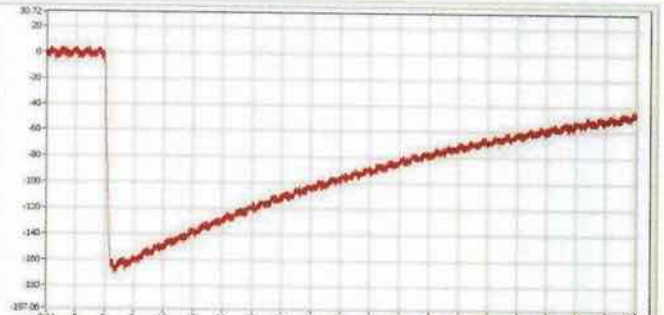
70399  
Upk=159.55 kV, T1=1.082 us, T2=51.55 us



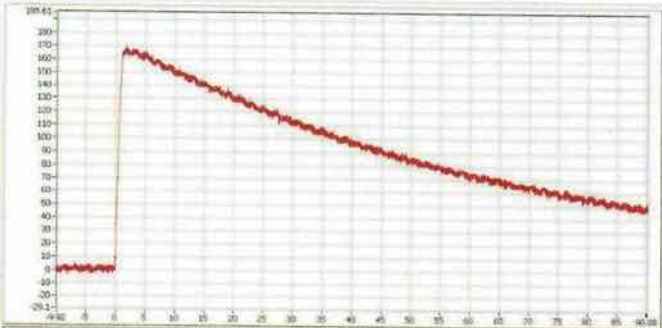
70418  
Upk=-162.88 kV, T1=1.040 us, T2=50.91 us



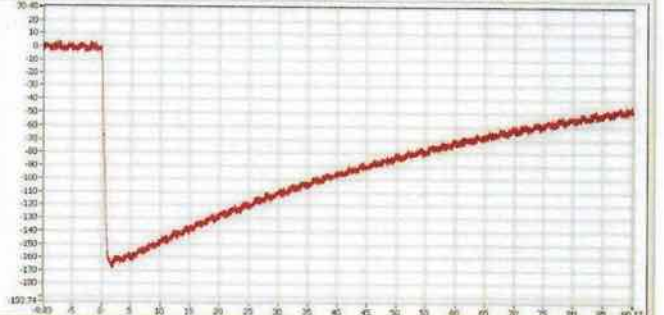
70437  
Upk=160.13 kV, T1=1.106 us, T2=51.04 us



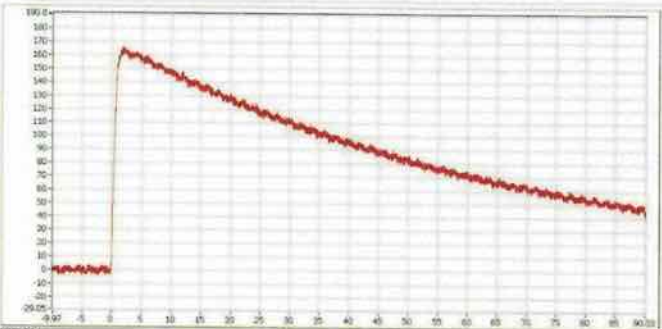
70456  
Upk=-167.02 kV, T1=1.123 us, T2=50.41 us



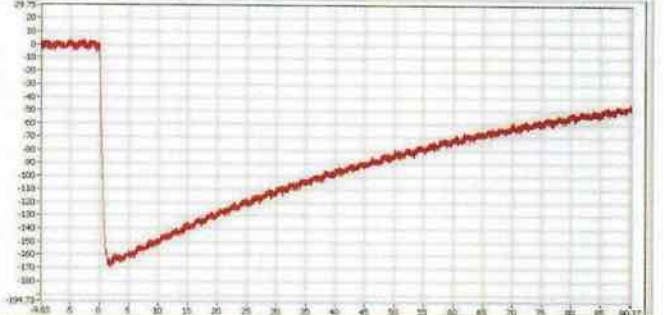
70549  
Upk=166.85 kV, T1=1.142 us, T2=51.33 us



70568  
Upk=-165.63 kV, T1=1.148 us, T2=50.95 us

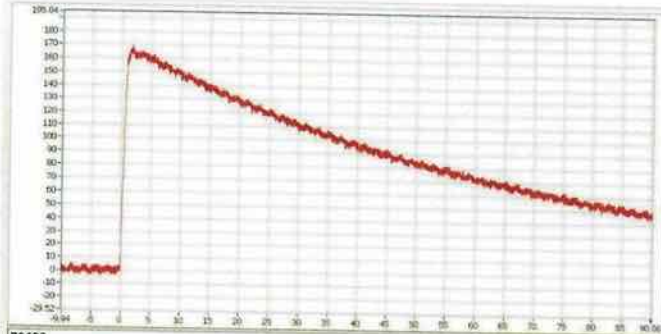


70588  
Upk=163.14 kV, T1=1.205 us, T2=50.91 us

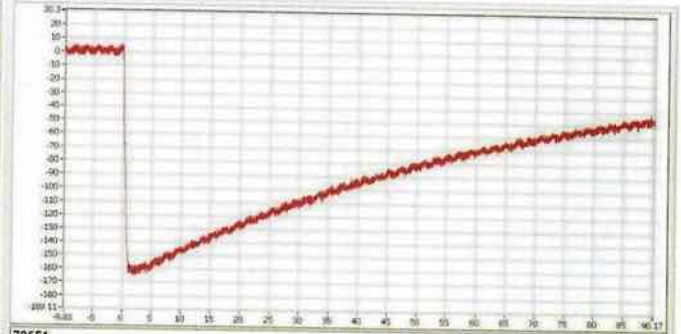


70606  
Upk=-166.95 kV, T1=1.205 us, T2=50.73 us

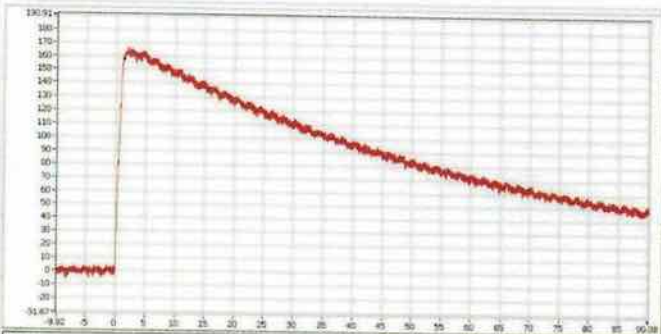




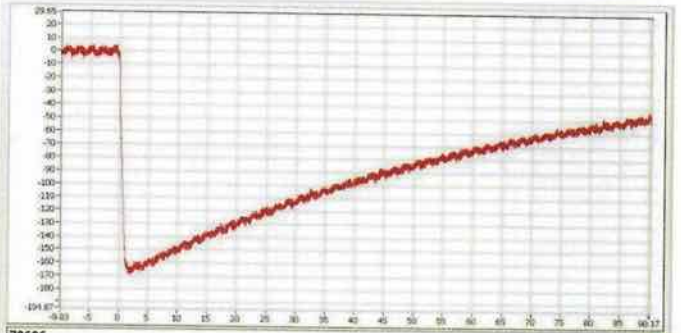
70632  
Upk=165.55 kV, T1=1.177 us, T2=50.82 us



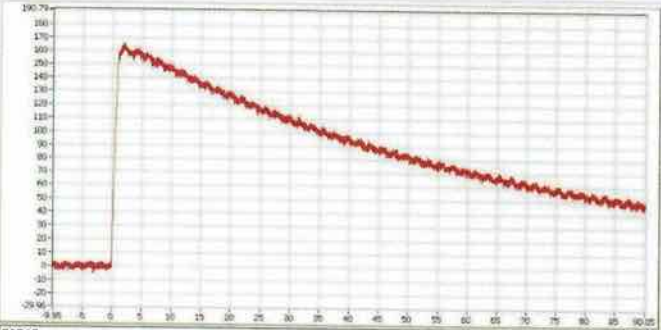
70651  
Upk=-162.56 kV, T1=1.123 us, T2=50.92 us



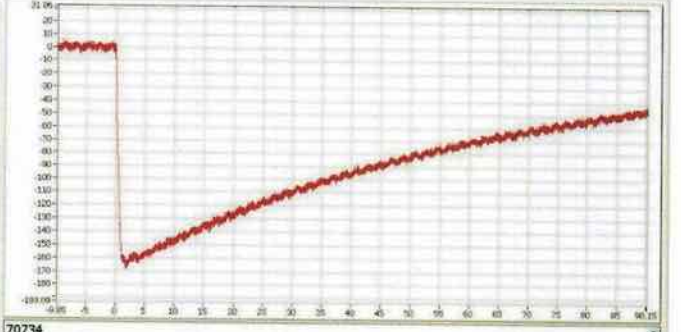
70677  
Upk=162.61 kV, T1=1.293 us, T2=51.50 us



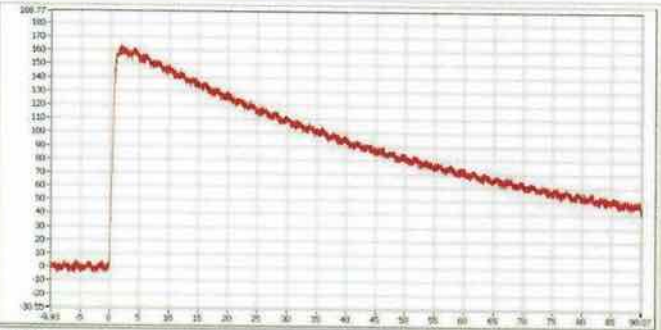
70696  
Upk=-166.56 kV, T1=1.348 us, T2=50.93 us



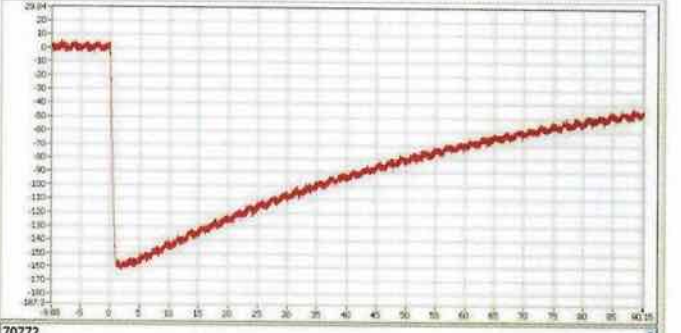
70715  
Upk=162.43 kV, T1=1.214 us, T2=50.67 us



70734  
Upk=-164.04 kV, T1=1.174 us, T2=50.27 us

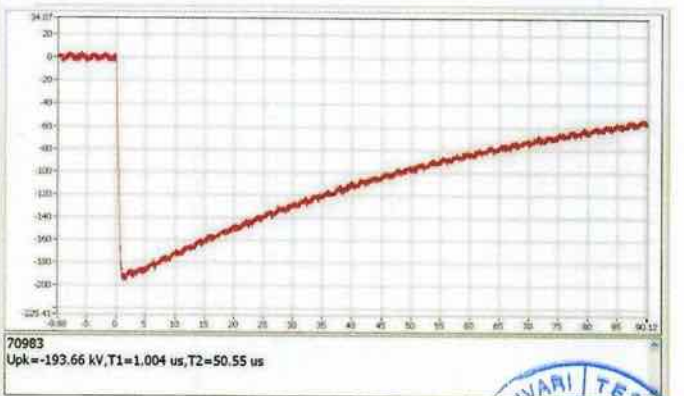
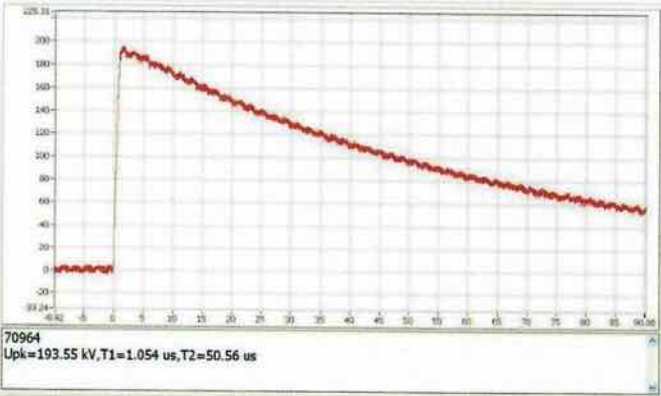
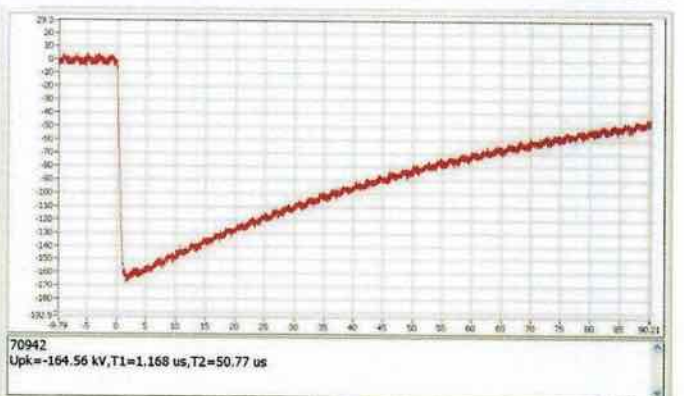
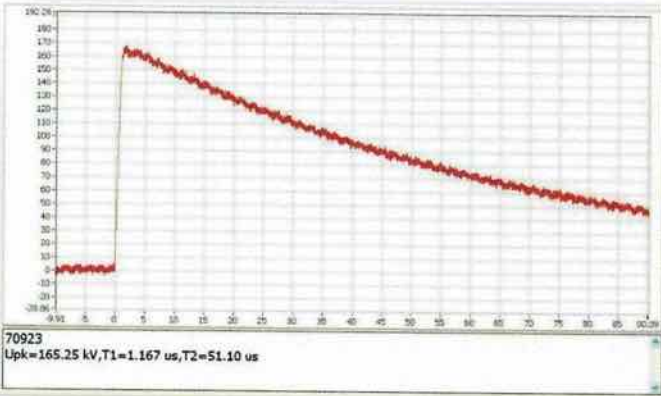
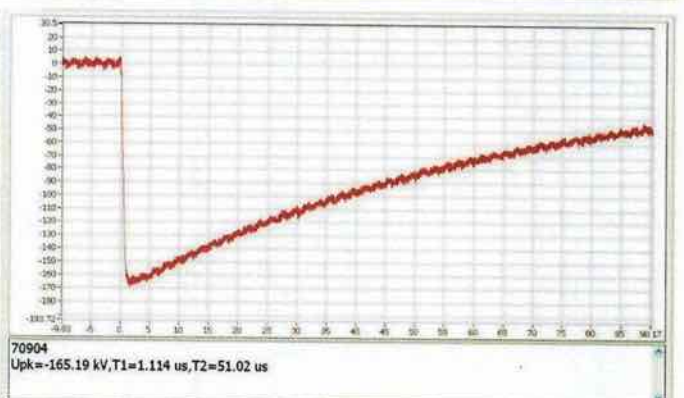
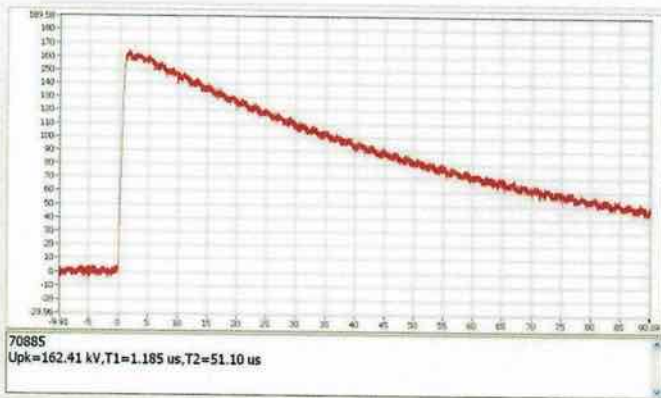
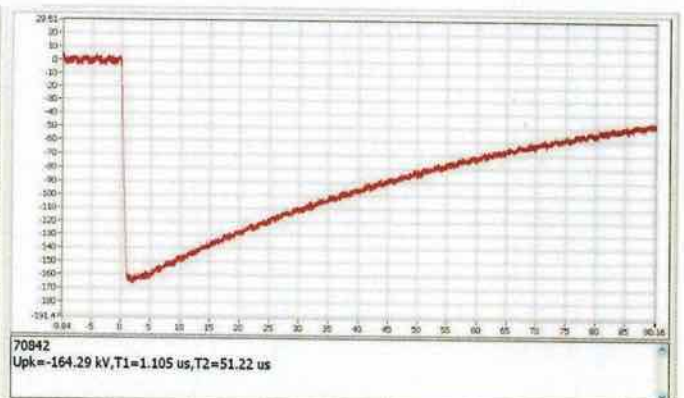
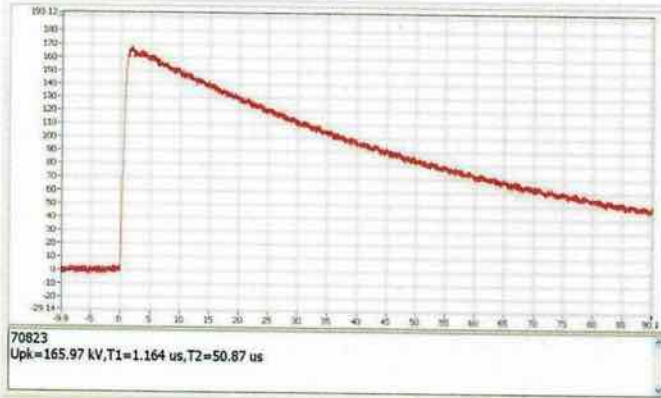


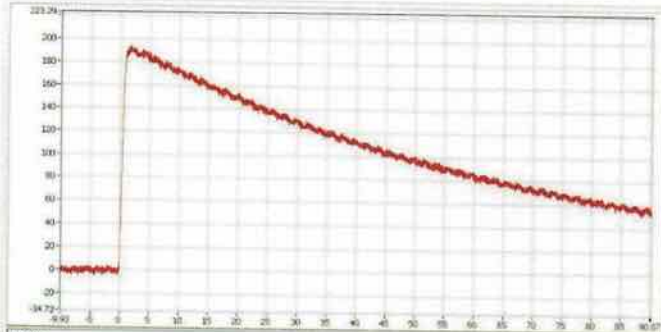
70753  
Upk=160.07 kV, T1=1.166 us, T2=51.26 us



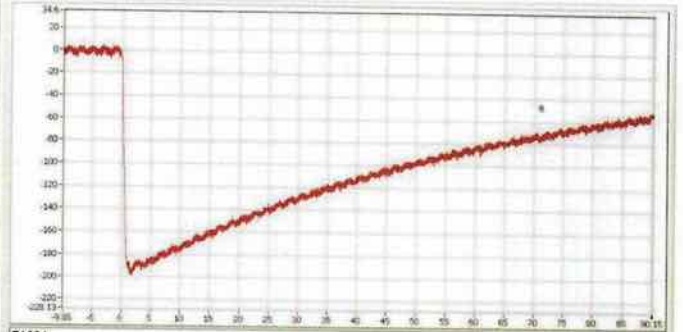
70772  
Upk=-160.25 kV, T1=1.103 us, T2=50.90 us



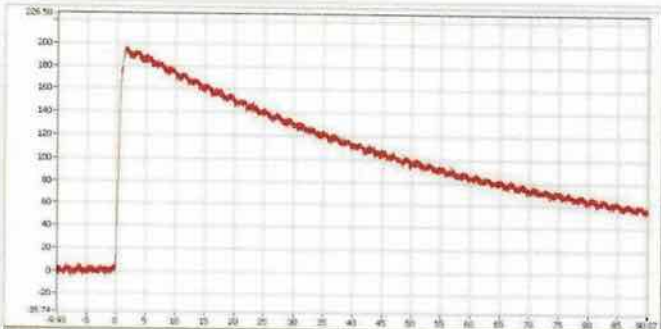




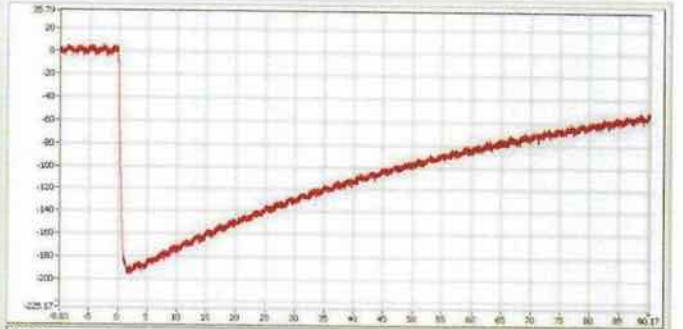
71002  
Upk=191.20 kV, T1=1.039 us, T2=50.89 us



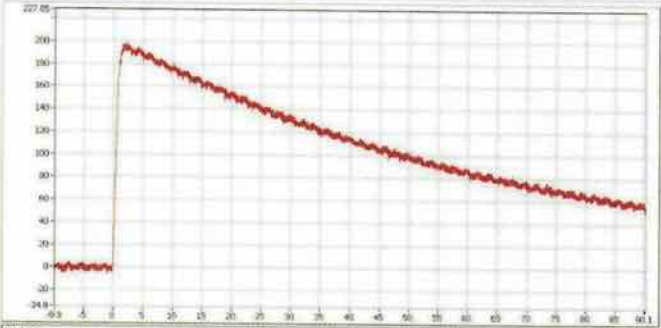
71021  
Upk=-196.03 kV, T1=1.059 us, T2=50.11 us



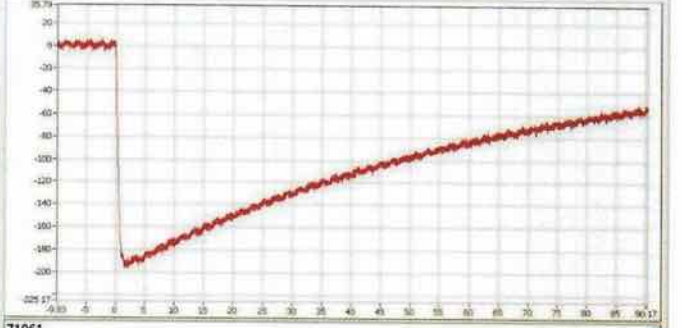
71042  
Upk=194.07 kV, T1=1.181 us, T2=50.55 us



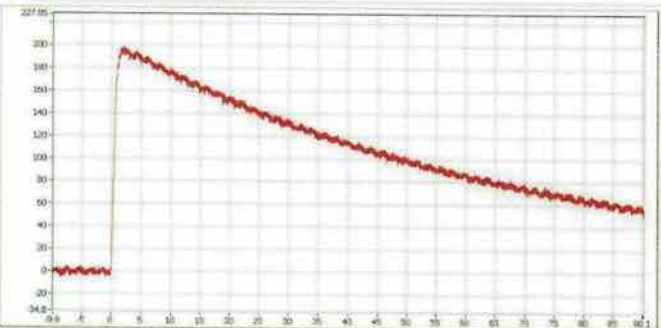
71061  
Upk=-192.04 kV, T1=1.066 us, T2=50.87 us



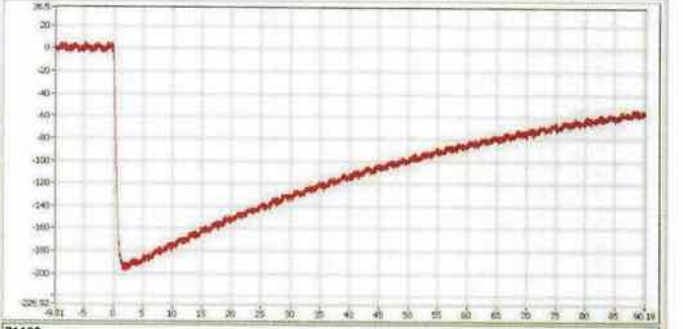
71063  
Upk=194.34 kV, T1=1.171 us, T2=50.87 us



71061  
Upk=-192.04 kV, T1=1.066 us, T2=50.87 us

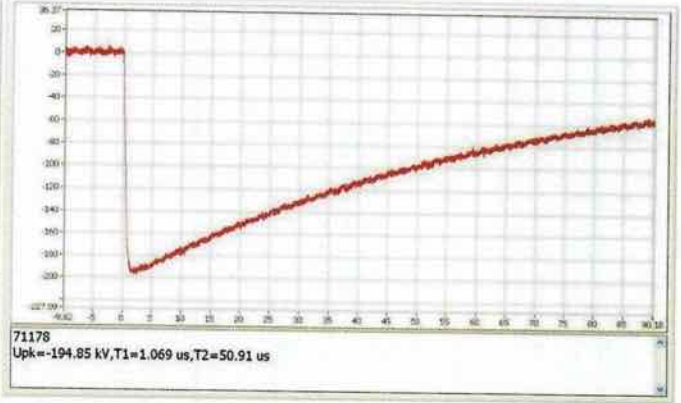
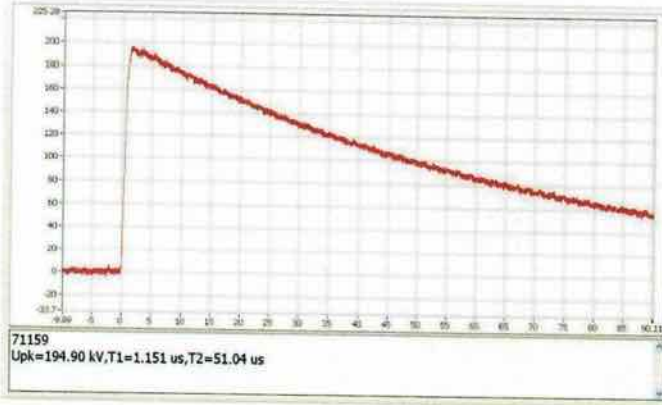


71083  
Upk=194.34 kV, T1=1.171 us, T2=50.87 us



71102  
Upk=-194.09 kV, T1=1.111 us, T2=50.97 us



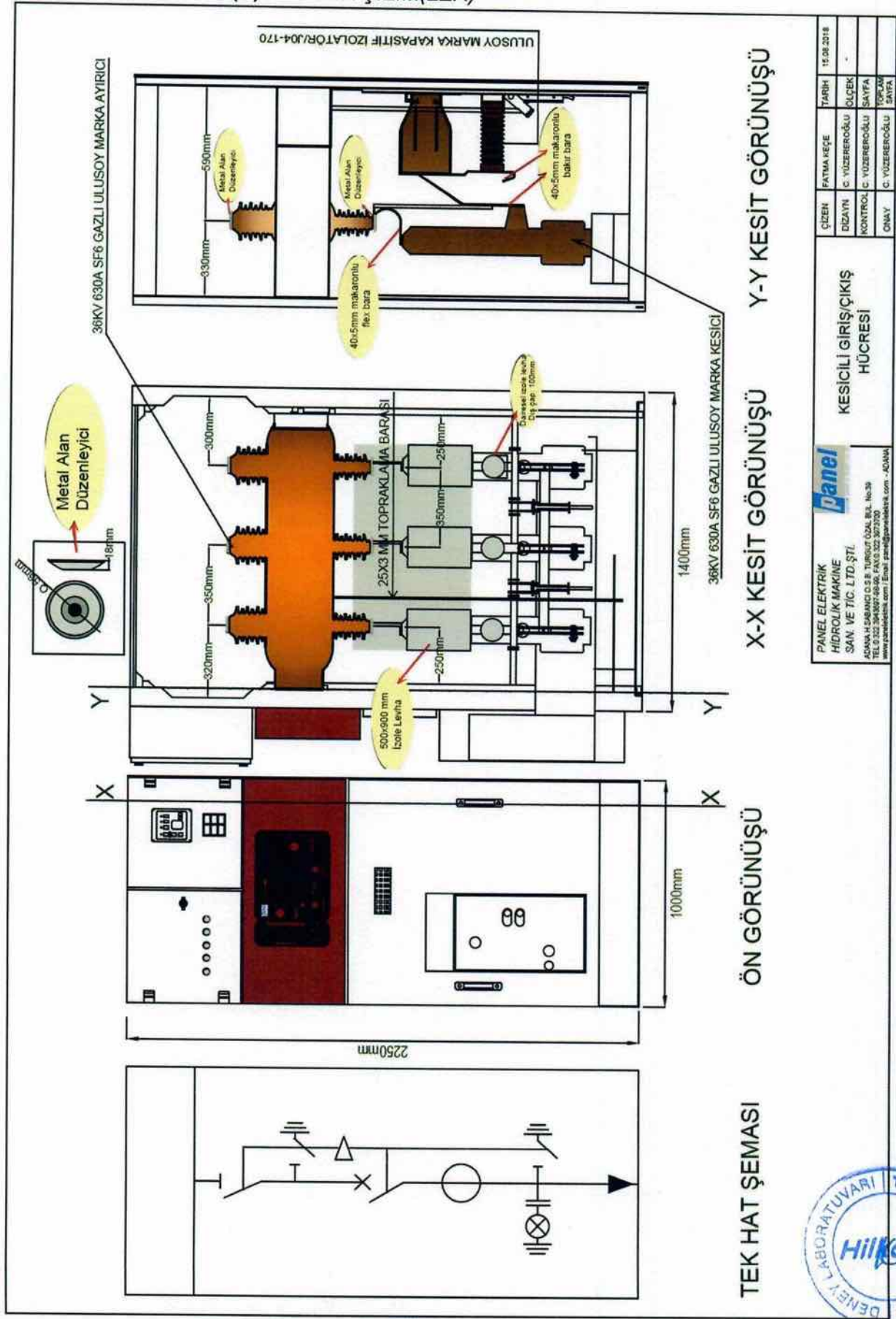


**4.2.8. Remarks, Comments and Statements of Compliance / Açıklamalar, Yorumlar ve Uygunluk Beyanları:**

- **Test voltage, depending on the insulation level according to IEC 62271-1 clause 4.2 table 1a was applied.**  
*Deney gerilimi ürün yalıtım seviyesine bağlı olarak TS EN 62271-1 madde 4.2 çizelge 1a'ya göre uygulanmıştır.*
- **Tests were applied considering atmospheric correction (please see the notes in clause 4.2.6. measurement results).**  
*Deneylerde atmosferik şartlara göre düzeltme uygulanmıştır (lutfen madde 4.2.6 ölçüm sonuçlarındaki notlara bakınız).*
- **NEXANS" brand "YXC7V" type 1x50/16 mm<sup>2</sup> high voltage cables and "Raychem" brand 36 kV 50/16 indoor type cable termination caps were used during the test.**  
*Deneylerde "NEXANS" marka "YXC7V" model 1x50/16 mm<sup>2</sup> kablolar ve "Raychem" marka 36 kV 50/16 dahili tip kablo başlıkları kullanılmıştır*
- **Electrical field regulators were used on incoming and outgoing of the disconnecter switch.**  
*Ayırıcının alt ve üst kutup başlarında elektriksel alan düzenleyiciler kullanılmıştır.*
- **(500x900x3) mm Insulation panel was used between disconnecter switch and current transformer.**  
*Kesici ile akım trafoları arasında (230x1090x3) mm izolasyon levha kullanılmıştır.*
- **Ø85x3 mm Insulation material was used on disconnecter switch outgoing terminals.**  
*Kesici faz çıkışlarında Ø85x2 mm izolasyon malzemesi kullanılmıştır.*
- **Absolute gas pressure inside the load break switch was measured 0,51 bar (1,51 bar atmospheric pressure) before and after the test.**  
*Deney öncesinde ve sonrasında ayırıcının bağıl gaz basıncı 0,51 bar (1,51 bar atmosfer basıncı) olarak ölçülmüştür.*
- **Gas pressure of the Circuit Breaker was declared as 0,7 bar (1,7 bar atmospheric pressure) by customer.**  
*Kesici gaz basıncı 0,7 bar (1,7 bar atmosfer basıncı) olarak müşteri tarafından beyan edilmiştir.*
- **Measurement Uncertainty / Ölçüm Belirsizliği**  
Ut = 2,033 %      t1 = 4,505 %      t2 = 5,179 %



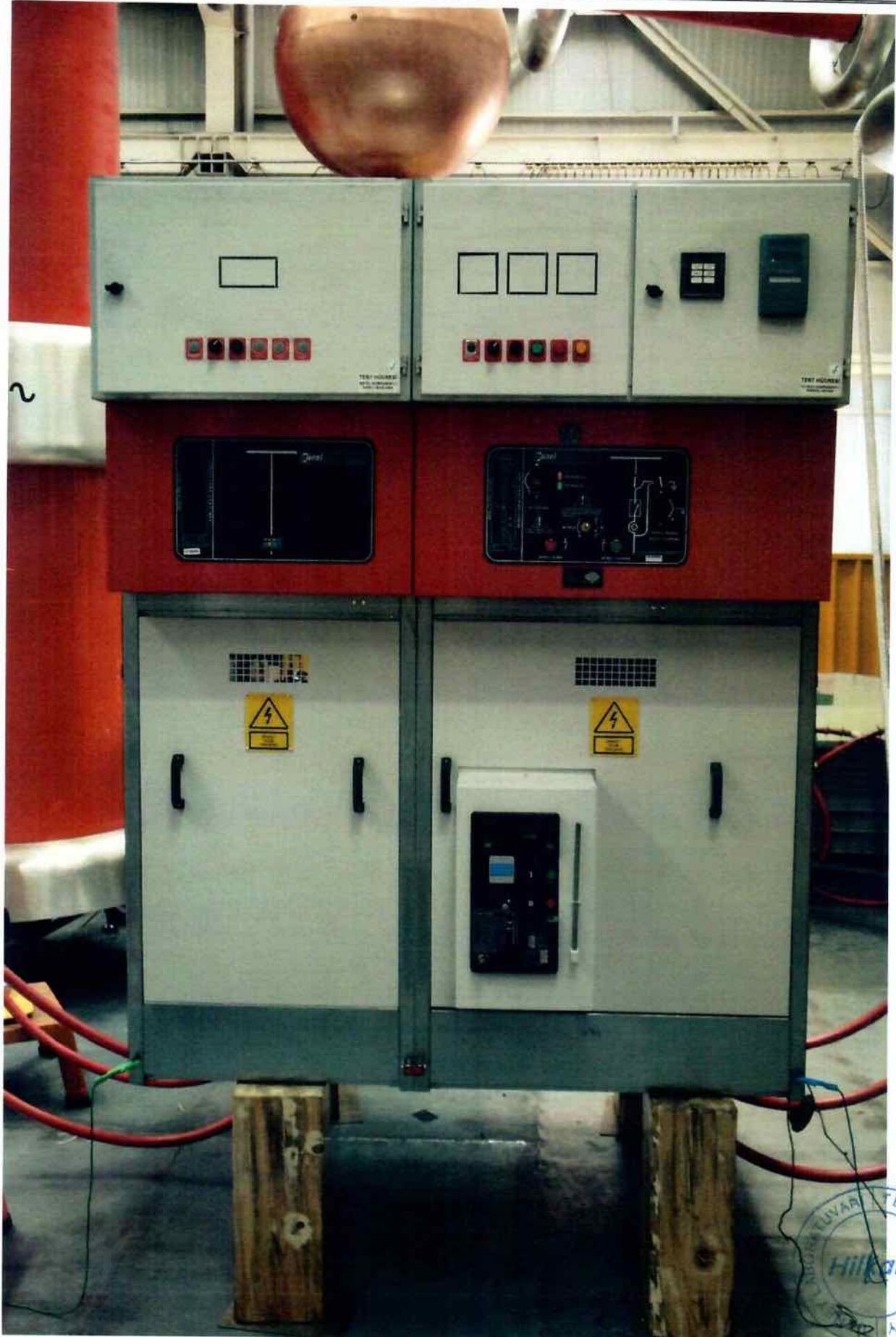
**5. TECHNICAL DRAWING(S) / TEKNİK ÇİZİM(LER)**



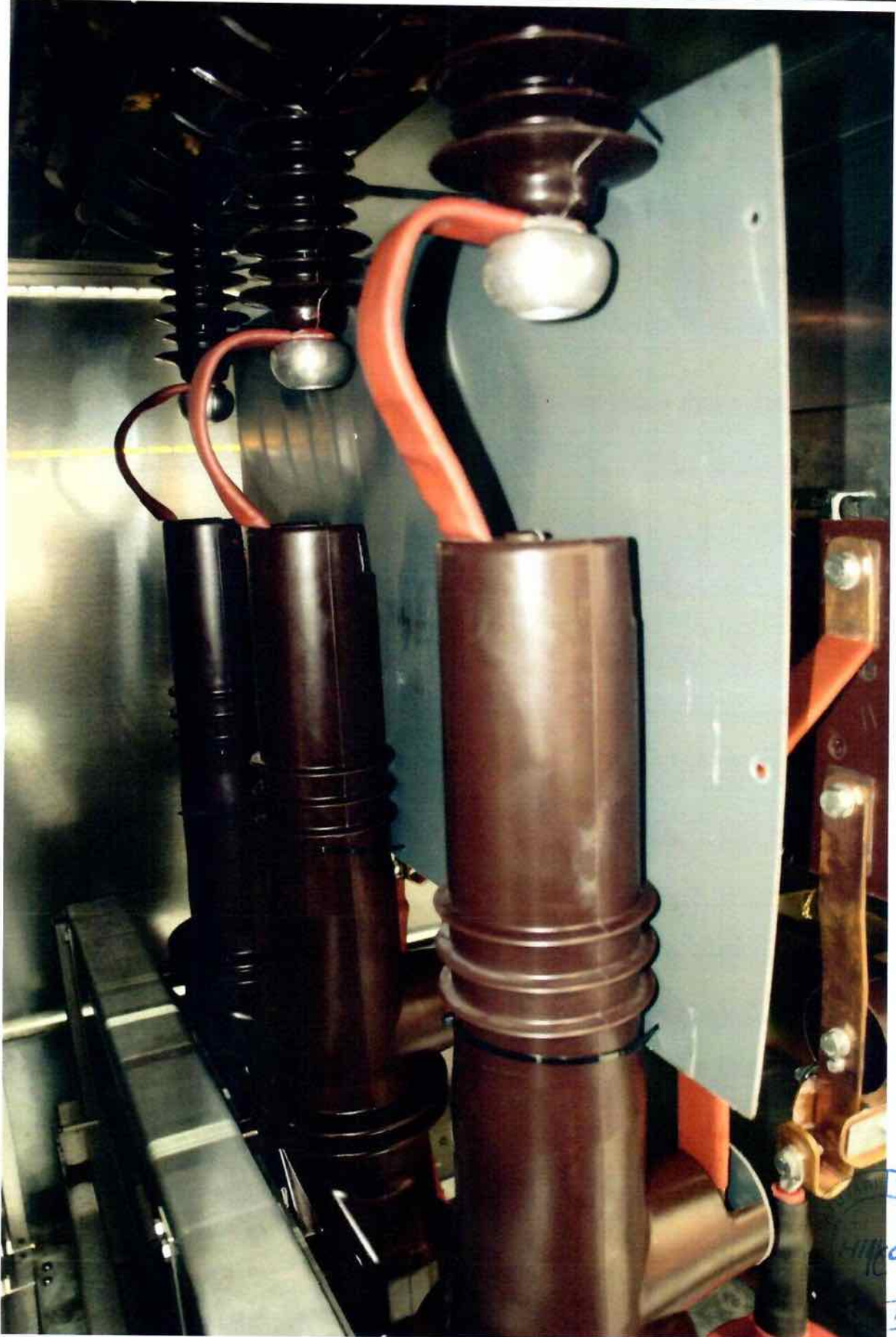
6. PHOTOS OF THE TEST SAMPLE / DENEY NUMUNESİNE AİT FOTOĞRAFLAR

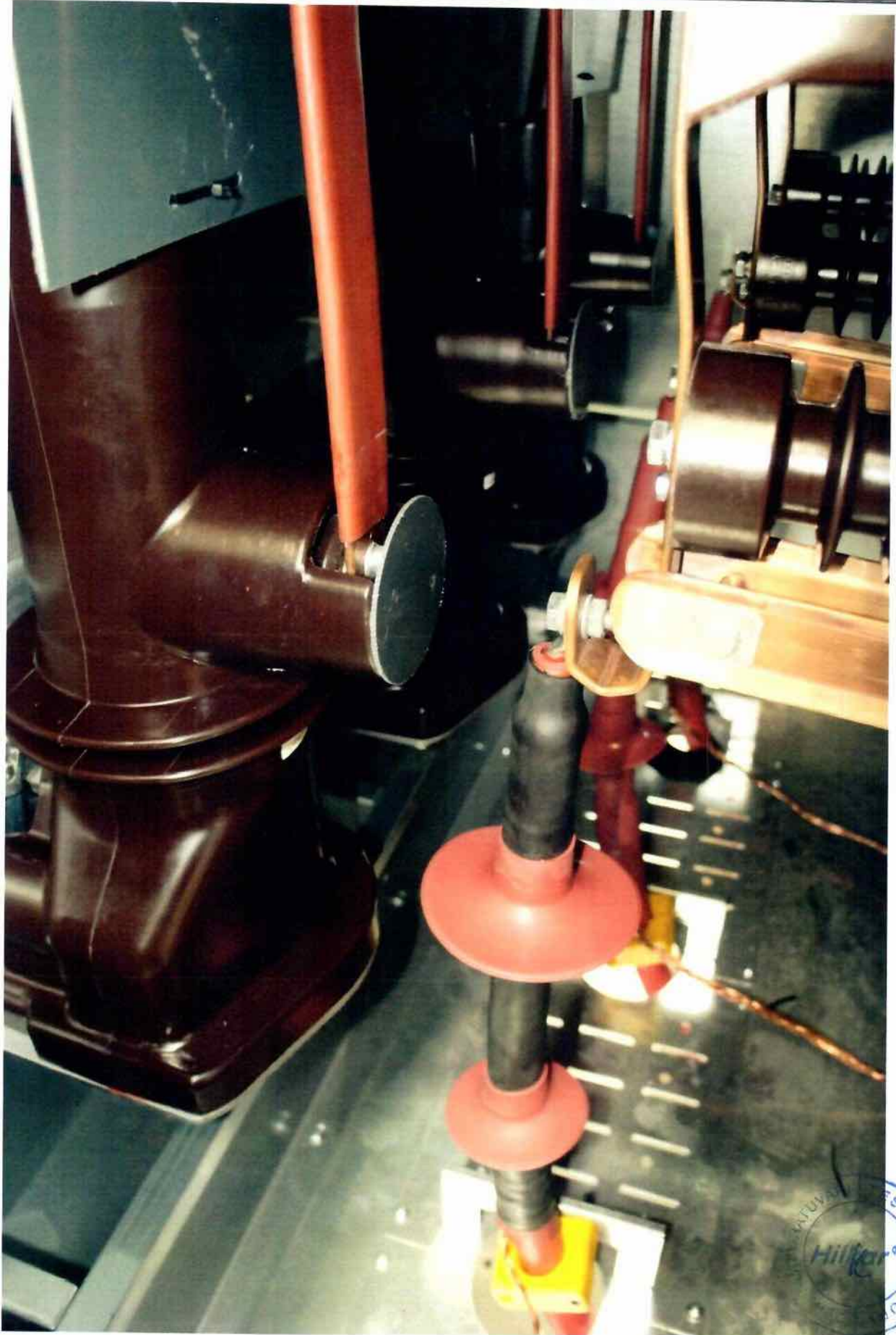


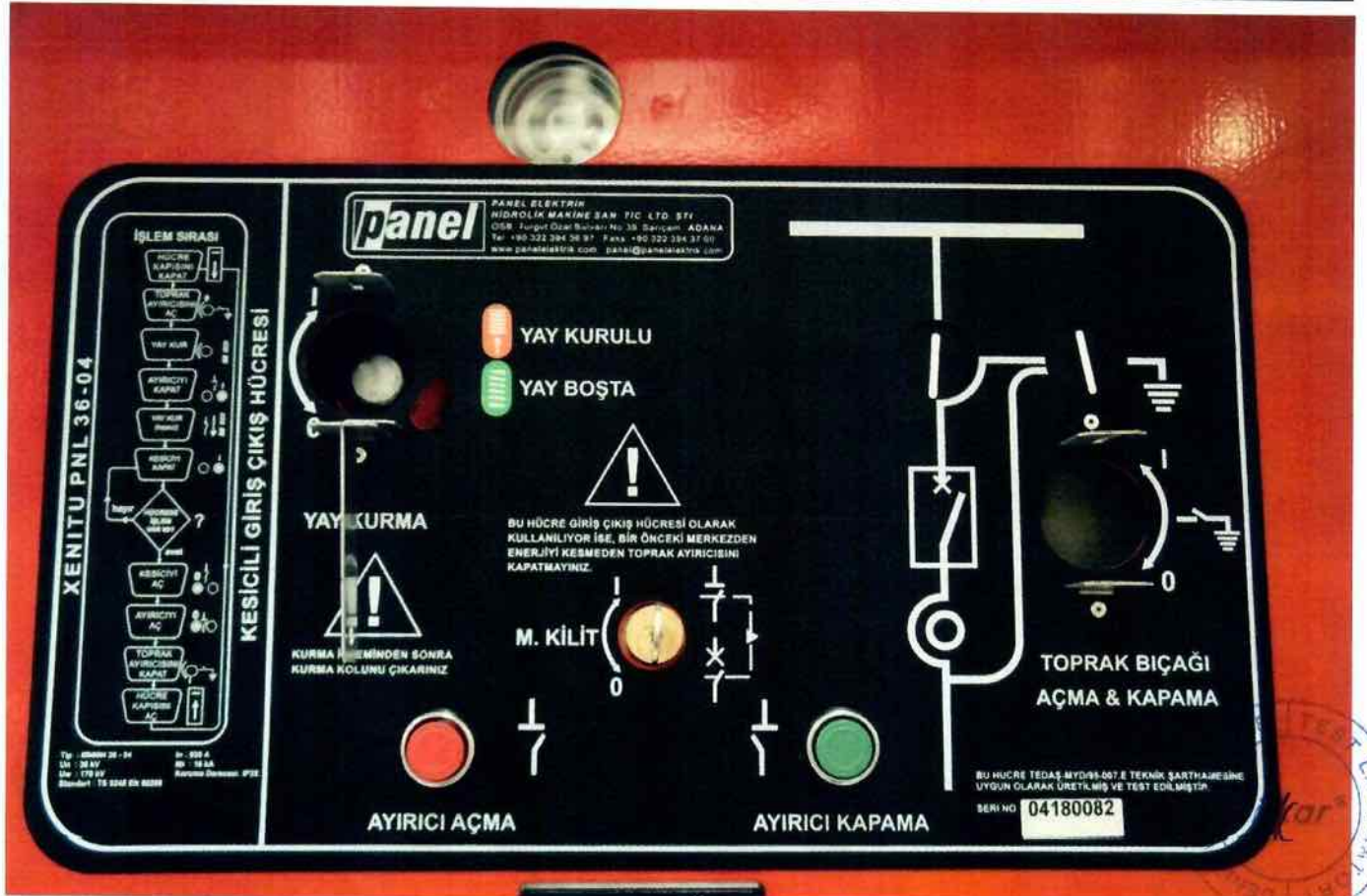














**SF6 KESİCİ/SF6 CIRCUIT BREAKER**

|       |           |
|-------|-----------|
| Ir    | 630 A     |
| Ik    | 16kA      |
| Ip    | 40kA      |
| Ur    | 36kV      |
| Ud/Up | 70/170 kV |
| Fr    | 50/60 Hz  |
| Ts    | 3 sec.    |
| Icc   | 50 A      |

**Tipi / Type**

USFB - 36 R

**İmal Yılı / Pro. Date**

2018

**Seri No / Serial No**

33652

**Standart Numarası**

IEC 62271 - 100

|                                 |                                 |
|---------------------------------|---------------------------------|
| Kapama Gerilimi / Close Voltage | 24 V / DC                       |
| Açma Gerilimi / Open Voltage    | 24 V / DC                       |
| Motor Gerilimi / Motor Voltage  | 220 V / AC/DC                   |
| Ağırlık / Weight                | 100 Kg                          |
| Sıcaklık Sınıfı / Temperature   | -5 °C +40 °C                    |
| Koruma Sınıfı (IP)              | 20                              |
| Anma İşlemler Dizisi / Seq      | O: -0,3 sec<br>CO: -15 sec - CO |

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