



Test Laboratuvarları

## LVT Test Laboratuvarları Ltd. Şti.

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Test  
TS EN ISO/IEC 17025  
AB-0341-T

AB-0341-T

LVT.D.13-  
0909-R.00D

03-14

### DENEY RAPORU

Test Report

1/8

**Müşteri**

Client

: FİGABARA ELEKTRİK ELEKTRONİK MAK. SAN. TİC. LTD. ŞTİ.

**Adres**

Address

: KAYAPA SANAYİ BÖLGESİ BEYAZ CADDE NO:10 NİLÜFER / BURSA

**İmalatçı**

Manufacturer

: FİGABARA ELEKTRİK ELEKTRONİK MAK. SAN. TİC. LTD. ŞTİ.

**Deney Numunesi**

Test Sample

: PVC COMPOUND COATED ON COPPER

**Marka**

Trade Mark

: VESNEX INSULATED

**Deney Metodu**

Test Method

: IEC 61439-1:2011, IEC 60695-11-5:2004, IEC 60112:2009

**Deney Tarihi**

Date of Test

: 19.12.2013 – 20.12.2013

**Toplam Sayfa Sayısı**

Total Number of Pages

: 8

Türk Akreditasyon Kurumu (TÜRKAK) deney raporlarının tanınması konusunda Avrupa Akreditasyon Birliği (EA) ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanınma antlaşmasını imzalamıştır.

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

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

Mühür

Seal

Tarih

Date

Deney Sorumlusu

Person in Charge of Test

Laboratuvar Müdürü

Head of Testing Laboratory



31/03/2014

Cahit GÖKSEL

Ata Gürül ARSLANLI

**Bu rapor, Laboratuvarımızın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.**

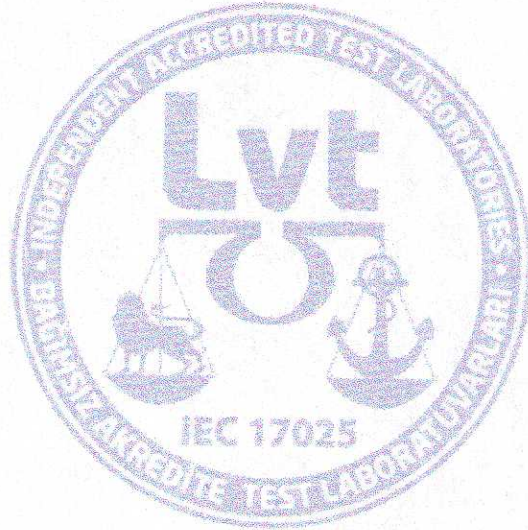
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FR.92 / REV04

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1. **Numunelerin Tanımı**  
*Definition of the Samples*

1.1 PVC COMPOUND COATED ON COPPER

(LVT.D.13-0909-R.00D-01)

Numune Kabul Tarihi : 19.12.2013  
*Date of Receive*  
Numune Seri No : -  
*Serial No*  
Numune Boyutları mm : See Page; 8  
*Dimensions of the Sample*  
Boya – Kaplama Özellikleri : See Page; 8  
*Paint – Coating Properties*  
Numune Ağırlığı kg : -  
*Weight of the Sample*

2. **Deney Sonuçları**  
*Test Results*

Deney sonuçları , sadece deneyi yapılan numunelere aittir.  
*Test results are just belong to the tested samples.*

Numune <i>Sample</i>	Uygulanan Deney <i>Applied Test</i>	Sonuç <i>Result</i>
PVC COMPOUND COATED ON COPPER	Verification of Resistance of Insulating Materials to Abnormal Heat and Fire Due to Internal Electric Effects	Passed
	Determination of Comparative Tracking Index (CTI)	Passed
	Needle Flame Test	Passed

3. **Çevre Şartları**  
*Environmental Conditions*

- 3.1 **Ortam Sıcaklığı** : (24±3) °C  
*Ambient Temperature*
- 3.2 **Ortam Nemi** : (47±3) %Rh  
*Ambient Moisture*

4. **Deney Metodundan Sapma, Ekleme ve Çıkarmalar**

: Deneyler ; standart deney methoduna göre uygulanmıştır.  
*Deviations , Additions & Cutbacks from the Test Method*  
*Tests were made according to the clauses of the relevant standards.*

5. **Şartnamelere Uygunluk (Gerekli Hallerde)**

: -  
*Conformity to Specifications (If Necessary)*

6. **Ölçüm Belirsizliği (Talep Halinde)**

: Talep Edilmemiştir.  
*Uncertainty of Measurement (If required)*  
*Not Requested*

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

*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 %.*

7. **Açıklama**

: -  
*Explanation*

8. **Dağıtım Bilgileri**

: FİGABARA ELEKTRİK ELEKTRONİK MAK SAN. TİC. LTD. ŞTİ.  
*Distribution Information*



# Yangın Tehlikesine Karşı Koruma Deneyleri

Fire Hazard Testing

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### 9. Deney Uygulamaları : Test Applications

#### 9.1 Yalıtkan Malzemelerin Anormal Isıya ve Dahili Elektrik Etkilerinden Kaynaklanan Yangına Dayanıklılığının Doğrulanması

Verification of Resistance of Insulating Materials to Abnormal Heat and Fire Due to Internal Electric Effects

IEC 61439-1/10.2.3.2

Deney Tarihi : 19.12.2013-20.12.2013  
Test Date

Numune No : LVT.D.13-0909-R.00D-01  
Sample No

Kullanılan Parça : PVC COMPOUND COATED ON COPPER  
Tested Part

Tel Sıcaklığı : 960 °C  
Glow-wire Temperature

Açıklama :  
Explanation

The test was performed according to IEC 61439-1/10.2.3.2. The insulated cover, directly contacted to the current-carrying part, of the sample was conditioned at 23 °C and %50±5 Rh for 24 hours. The cover was placed above the wooden block and the silk paper on it.

Current level was arranged to 125 A and the temperature was raised to 960 °C. The temperature calibration was made by the melting silver tape.

The test was performed for 30 seconds with a force of 1 N. No penetration was observed during the test. The flame height was measured and recorded as 70 mm. After 30 seconds of contact, the flame disappeared in 15 seconds. No drop was observed during and after the test.

The sample completed the test successfully.

\*The explanation was detailed according to the request of the client.

#### 9.2 Mukayeseli Yüzeysel Kaçak Yolu İndisi Tayini

Determination of Comparative Tracking Index

IEC 60112

Deney Tarihi : 19.12.2013-20.12.2013  
Test Date

Numune No : LVT.D.13-0909-R.00D-01  
Sample No

Numune Boyutları : See Page; 8  
Sample Dimensions

Açıklama :  
Explanation

Comparative tracking index of the sample was determined for the sample. Five different points were tested according to the relevant standard.

According to IEC 60112; the sample was conditioned at 23±5°C and %50±5 Rh for 24 hours. The electrodes was placed with a 4 mm distance between. The electrodes were cleaned and visually controlled before each application. Solution 'A' was prepared and applied during the tests.

For the determination of 50 drop voltage ;

Tests were performed in the test chamber with an air velocity; not exceeding 1 m/sec. Voltage levels were started from 400 V AC and increased to 600 V AC with 50 V AC steps.

Solution 'A' was applied to the test samples with 30±5 intervals as mentioned in the relevant standard. 30 seconds after the last drop ; no fault condition or measurable corrosion was recorded.



# Yangın Tehlikesine Karşı Koruma Deneyleri

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Comparative tracking index was determined as CTI 600.

### 9.3 İğne Alevi Deneyi

Needle Flame Test

IEC 60695-11-5

Deney Tarihi Test Date	: 19.12.2013-20.12.2013
Numune No Sample No	: LVT.D.13-0909-R.00D-01
Numune Tipi Sample Type	: PVC COMPOUND COATED ON COPPER
Kullanılan Numune Adedi Used Sample	: 3
Şiddet Seviyesi (t <sub>a</sub> ) Level of Severity	: 30 sec
Yanma Süresi (t <sub>b</sub> ) The Duration of Burning	: 1 sec
Açıklama Explanation	:

The sample was conditioned at 23°C and %50Rh for 24 hours. No dropping or breakup was recorded at the test samples. The average flame out durations of the samples were recorded and any of the samples did not exceed 30 seconds. (t<sub>b</sub> < 30 s)

### 10. Deney ve Ölçüm Bilgileri :

Test and Measuring Arrangement

Cihaz Device	İmalatçı Manufacturer	Seri No. / Kod Serial No / Code	Sertifika No Certificate No	Kalibrasyon Tarihi Calibration Date
Humidity-Temperature Device	LUTRON	LVC 04	3.02337	04.01.2013
Needle Flame Tester	FINE UNITY	LVC 160	-	No need to calibrate
Glow-wire Tester	MULTITECH	LVC 79	S13080840	02.08.2013
Chamber	İŞİK	LVC 131	S13080841	01.08.2013
CTI Tester	FINE UNITY	LVC 161	E8683	11.07.2013
Calipper	TM	LVM 40	18487	28.11.2013
Timer	CATİGA	LVC 164	13-49080	26.11.2013
Steel Rule	-	LVM 43	18488	28.11.2013

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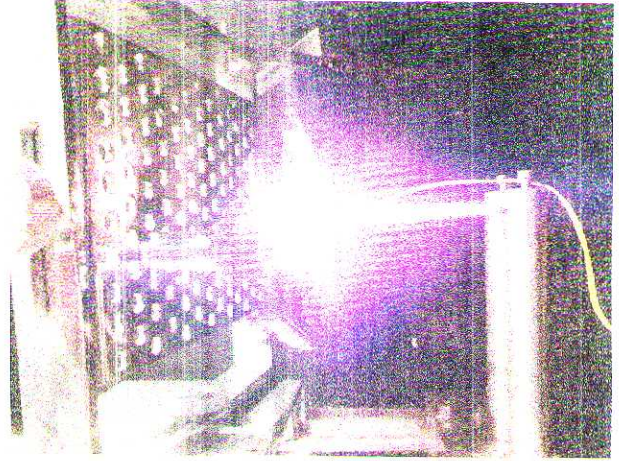
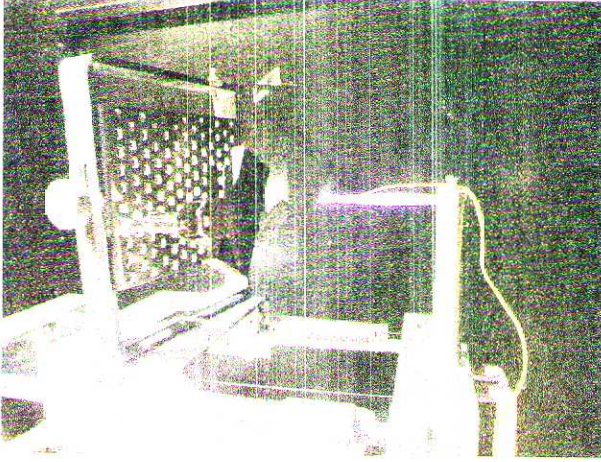
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# Yangın Tehlikesine Karşı Koruma Deneyleri

Fire Hazard Testing

## 11. Deney Fotoğrafları:

Test Photographs

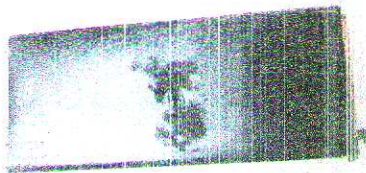
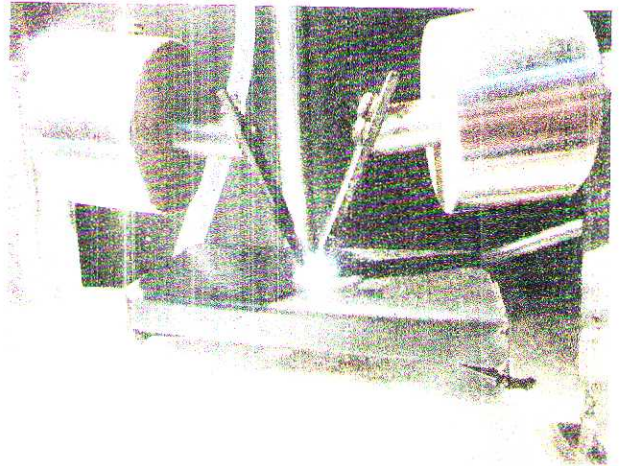
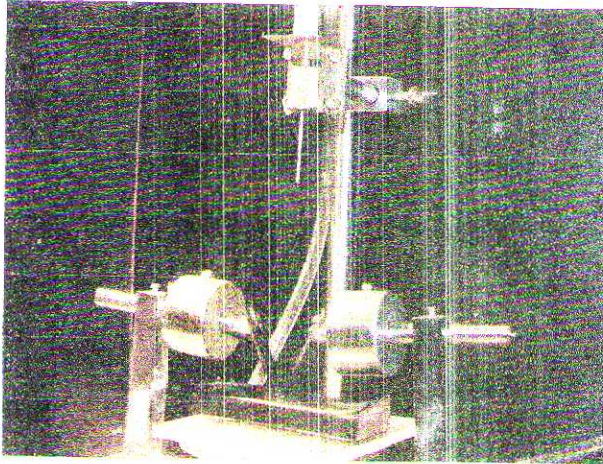
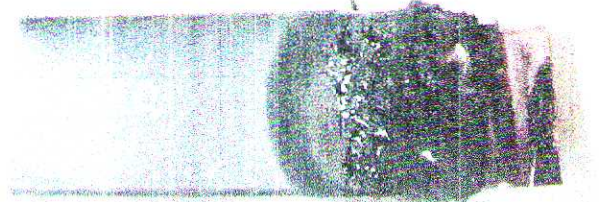
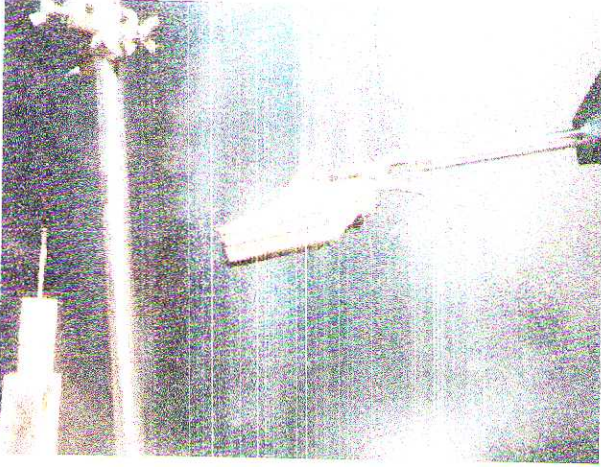




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# Yangın Tehlikesine Karşı Koruma Deneyleri

*Fire Hazard Testing*





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## Yangın Tehlikesine Karşı Koruma Deneyleri

Fire Hazard Testing

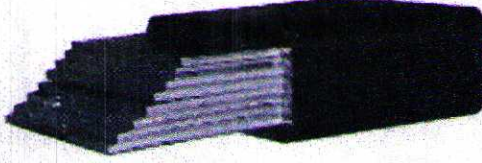
### 12. Firma Dökümanları: Documentary of Client



06.01.2014

Test amacıyla gönderdiğimiz malzemenin teknik özellikleri şöyledir.

- İç kısım; 32x1x8mm Elektrolitik Bakır ( 6 adet 32x1mm bakır çerit üst üste olacak şekilde)
- Dış kısım; her tarafı 2mm kalınlığında PVC kaplıdır.
- PVC 105C dayanıklı yakıtlanlık amacıyla ekstrüzyon yöntemiyle kaplanmıştır.



Malzeme 1m boyunda 1 adet gönderilmiştir. Siz boyunu istediğiniz ölçülere kesebilirsiniz.

Necip Okur  
Figabara Elektrik Ltd.



Figabara Elektrik Elektronik Makine Sanayi ve Ticaret Ltd. Şti.  
Kıyafet Sanayi Bölgesi No:24 16315 Nilüfer BURSA Tel. (224) 493 27 21-22 Faks.(224) 493 27 23

Figabara Pazarlama ve Dış Ticaret Ltd. Şti.

Uludağ cad.İzmirli mah. Yeşilörselik apt. No:17/1 Kocaköy İSTANBUL Tel.(212) 574 09 71 - 574 09 62 Faks.(212) 574 09 03

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