**TÜRK STANDARDLARI ENSTİTÜSÜ**
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*TURKISH STANDARDS INSTITUTION*
*HEADSHIP OF TEST and CALIBRATION CENTER*
*Construction Materials Fire and Acoustics Laboratory Directorate*
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Test
TS EN ISO/IEC 17025
AB-0001-T

| |
|---|
| AB-0001-T |
| 649180 |
| 11-21 |

# MUAYENE VE DENEY RAPORU
## *TEST REPORT*

| | | |
|---|---|---|
| **Deneyi Talep Eden/Firma** (Adı,Adresi,Şehir vb.) *Requesting/Customer (Name,Adress,City etc.)* | : | SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. VE TİC. LTD. ŞTİ. (SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. VE TİC. LTD. ŞTİ.: ESENTEPE MAH. MİLANGAZ CAD. NO:75 KAT:8 MONUMENTO PLAZA 34780 Kartal-İSTANBUL) |
| **Deney Talep Tarihi/No** *Order Date / No* | : | 19.02.2021 / 657327 |
| **Numunenin Tanımı** (No,Cins, Marka, Tip, Tür, Model vb.) *Sample Description(No,Type,Model etc.)* | : | 829541,Sibax Yangına Dayanıklı Köpük NS82 (21 mmve 31 mm), , , -, -, 1.00 adet<br>*829541,Sibax fire rated PU foam NS82 linear joint seal (21 mm and 31 mm),,,,,1,00 item* |
| **Numune Kabul Tarihi** *Test Item Receipt Date* | : | 19.02.2021<br>*Sample was taken by client* |
| **Deneylerin Yapıldığı Tarih** *Date of Test* | : | 03.06.2021 - 03.06.2021 |
| **Uygulanan Standard / Metod** *Applied Standard/Method* | : | TS EN 13501-2: 2016-12 Yapı mamulleri ve yapı elemanları - Yangın sınıflandırması - Bölüm 2: Yangına dayanım deneylerinden elde edilen veriler kullanılarak sınıflandırma (havalandırma tesisatları hariç)<br>*TS EN 13501-2: 2016-12 Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services* |
| **Raporun Sayfa Sayısı** *Number of pages of the report* | : | 5 |
| **Açıklamalar** *Remarks* | : | |

**Deney laboratuvarları olarak faaliyet gösteren TSE Deney ve Kalibrasyon Merkezi Başkanlığı Deney Laboratuvarları TÜRKAK'tan AB-0001-T ile TS EN ISO/IEC 17025:2012 standardına göre akredite edilmiştir.**
*TSE Headship of Test and Calibration Center Testing Laboratories accredited by TÜRKAK under registration number AB-0001-T for TS EN ISO/IEC 17025:2012 as test laboratory.*
**TÜRKAK deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği (EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.**
*TURKAK is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.*

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metodları bu raporun tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.
*The test and/or measurement results, the uncertainties (if applicable) 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 tests* | **Kontrol Eden** *Reviewer* | **Onaylayan** *Approved by* |
|---|---|---|---|
| 22.11.2021 | Ahmet Fazıl KARA<br>Deney Personeli<br>Testing Expert | Halil Alper YILDIRIM<br>Teknik Şef<br>Technical Chief | Sencer GÜVEN<br>Laboratuvar Müdürü<br>Laboratory Manager |

Bu rapor, hazırlayan laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.Bu rapor, sadece deneyi yapılan numune için geçerlidir ve "Ürün Belgesi" yerine geçmez.
*This test report shall not be reproduced other than in full except with the written permission of the laboratory. Test reports without signature and seal are not valid. This test report represents only tested sample(s). and shall not be used as Product Certificate*

# TS EN 13501-2 : 2016 CONSTRUCTION MATERIAL FIRE RESISTANCE CLASSIFACTION REPORT

## 1. Foreword

This classification report defines Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. specimen fire resistance classification report as per TS EN 13501-2.

## 2. Classification Report Detail

### 2.1 General

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was tested by TSE Construction Material Fire and Acoustic Laboratory as per TS EN 1366-4 in 03.06.2021.

### 2.2 Definition

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was applied in to 10 cm and 20 cm thick aerated concrete blocks with 1,55x1,55m test frame by opening with 31 mm (for 20 cm block) and 21 mm (for 10 cm block) with min 90 cm length.

No joints performed due to foam based specimen.

Fire rated silicon Sibax LS72 linear joint seal




**Figure 1. Specimen pictures**

**3. Test reports for classification / extended application reports and test results**

**3.1 Test reports / extended application reports**

| Name of Laboratory | Manufacturer | Report Number | Test Method |
|---|---|---|---|
| TSE Construction Material Fire and Acoustics Laboratory | SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. | **649176/11-21** | TS EN 1366-4:2021 |

**3.2. Deney Sonuçları**

**TEST RESULTS ( for 20 cm wall 31 mm thick specimen)**

| | |
|---|---|
| **INTEGRITY (E)** | |
| Sustained Flaming | 90 minutes, no failure |
| Gap Gauges | No measurement |
| Cotton Pad | 90 minutes, no failure |
| **INSULATION (I)** | 90 minutes, no failure |

**Test Duration:** The test was terminated in 245$^{th}$ minute.

**TEST RESULTS ( for 10 cm wall 21 mm thick specimen)**

| | |
|---|---|
| **INTEGRITY (E)** | |
| Sustained Flaming | 90 minutes, no failure |
| Gap Gauges | No measurement |
| Cotton Pad | Failure in 81st minute |
| **INSULATION (I)** | Failure in 79th minute (TC28: 198,7 $^{0}$C) |

**Test Duration:** The test was terminated in 245$^{th}$ minute.

## MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

### 4. Classification and application area

### 4.1 Reference classification

This classification has been carried out in accordance with paragraph 7 of TS EN 13501-2:2016

### 4.2 Sınıflandırma

SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. tarafından üretilen Sibax Yangına Dayanıklı PU Köpük LS82 lineer geçiş contasına ait ilgili ölçüleri test raporu çizimlerinde belirtilen deney numunesi aşağıdaki performans ve sınıflarının bir kombinasyonu olarak sınıflandırılmıştır.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R | E | I | W | | t | - | M | C | S | IncSlow | sn | ef | r |

**YANGINA DAYANIM SINIFLANDIRMASI**
**EI 90 -V-X-W31 (Vertical wall vertical joint (20 cm wall 31 mm)**
**E 90 -V-X-W31 (Vertical wall vertical joint (20 cm wall 31 mm)**
**EI 60 -V-X-W21 (Vertical wall vertical joint) (10 cm wall 21 mm)**
**E 60 -V-X-W21 (Vertical wall vertical joint) (10 cm wall 21 mm)**

### 4.3 DIRECT FIELD OF APPLICATION RESULTS

Fire test results can be directly applied to similar structures according to the TS EN 1366-4:2021 standard.

Accordingly, if one or more of the changes listed below occur, the results of this fire resistance test report can be directly applied to similar structures and show that the structure's compatibility with the designed stiffness and stability performance continues.

- Vertical test results are valid for vertical wall applications only. (Orientation B)

#### 4.3.1. Width

The sample was applied with a width of 10 mm.

Fire rated silicon Sibax LS72 linear joint seal was applied flatly along the wall by opening 31 mm (inside 20 cm wall) and 21 mm (inside 10 cm wall) width into 20 cm and 10 cm thick aerated concrete blocks.

#### 4.3.2. Joint

No joints performed due to foam based specimen

### 4.3.3. Standard Supporting Construction

The result of a non-load-bearing wall test tested inside the standard supporting structures given in TS-EN 1363-1 or the test frame, which is more fire resistant in the same type (fixed, low density fixed or flexible) (thicker, dense, very flexible laminated sheets may be applied to any of the other supporting masonry structures. (Applied aerated concrete block unit weight 450 kg/m3)

### 4.3.4. Standard Supporting Construction Foam Linear Joint Seal -Foam-Field Applied Foam

Test results for a given sealing depth and nominal joint width cover narrower nominal joint widths and equal or greater sealing depths, provided that the smallest targeted sealing width can be filled at the target sealing depth.

## 5. Limitations

This report does not represent type approval or its certificate.

**Prepared by**

**Ahmet Fazıl KARA**
**TSE Specialist (Civil Engineer, MSc.)**

**Approved by**

**Sencer GÜVEN**
**Laboratory Manager**

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| 649176 |
| 11-21 |

# MUAYENE VE DENEY RAPORU
## *TEST REPORT*

| | | |
|---|---|---|
| **Deneyi Talep Eden/Firma** (Adı,Adresi,Şehir vb.) *Requesting/Customer (Name,Adress,City etc.)* | : | SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. VE TİC. LTD. ŞTİ. (SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. VE TİC. LTD. ŞTİ.: ESENTEPE MAH. MİLANGAZ CAD. NO:75 KAT:8 MONUMENTO PLAZA 34780 Kartal-İSTANBUL) |
| **Deney Talep Tarihi/No** *Order Date / No* | : | 19.02.2021 / 657327 |
| **Numunenin Tanımı** (No,Cins, Marka, Tip, Tür, Model vb.) *Sample Description(No,Type,Model etc.)* | : | 829541,Sibax Yangına Dayanıklı Köpük NS82 (21 mmve 31 mm), , , -, -, 1.00 adet<br>*829541,Sibax fire rated PU foam NS82 linear joint seal (21 mm and 31 mm),,,,,1,00 item* |
| **Numune Kabul Tarihi** *Test Item Receipt Date* | : | 19.02.2021<br>*Sample was taken by client* |
| **Deneylerin Yapıldığı Tarih** *Date of Test* | : | 03.06.2021 - 03.06.2021 |
| **Uygulanan Standard / Metod** *Applied Standard/Method* | : | TS EN 1366-4 : 2021-02 Tesisat kurulumları için yangına karşı direnç deneyleri – Bölüm 4: Doğrusal bağlantı contaları<br>*TS EN 1366-4 : 2021-02 Fire resistance tests for service installations - Part 4: Linear joint seals* |
| **Raporun Sayfa Sayısı** *Number of pages of the report* | : | 16 |
| **Açıklamalar** *Remarks* | : | |

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

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metodları bu raporun tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.
*The test and/or measurement results, the uncertainties (if applicable) 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 tests* | **Kontrol Eden** *Reviewer* | **Onaylayan** *Approved by* |
|---|---|---|---|---|
| | 20.1.2021 | Ahmet Fazıl KARA<br>Deney Personeli<br>Testing Expert | Halil Alper YILDIRIM<br>Teknik Şef<br>Technical Chief | Sencer GÜVEN<br>Laboratuvar Müdürü<br>Laboratory Manager |

Bu rapor, hazırlayan laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.Bu rapor, sadece deneyi yapılan numune için geçerlidir ve "Ürün Belgesi" yerine geçmez.
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# MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

**SUMMARY**

| | |
| --- | --- |
| **ORDER /SPECIMEN NO** | **547313/726184** |
| **SPONSOR** | SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. |
| **PURPOSE** | Fire resistance test as per TS EN 1366-4:2021 Fire resistance tests for service installations - Part 4: Linear joint seals |
| **TEST LABORATORY** | TSE Construction Material Fire and Acoustics Laboratory |
| **ADDRESS** | Aydınlı Mah. Ulus Sok. No:7/1 Tuzla / İSTANBUL |

**ABOUT TEST SPECIMEN**

**General:**

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was tested by TSE Construction Material Fire and Acoustic Laboratory as per TS EN 1366-4 in 03.06.2021.

**Application:**

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was applied in to 10 cm and 20 cm thick aerated concrete blocks by opening with 31 mm (for 20 cm block) and 21 mm (for 10 cm block) with min 90 cm length.

**Sampling:**

The test specimen was not chosen by laboratory.

**Conditioning:**

No conditioning was performed.



## MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

**TEST RESULTS ( for 20 cm wall 31 mm thick specimen)**

| | |
|---|---|
| **INTEGRITY (E)**<br>Sustained Flaming<br><br>Gap Gauges<br>Cotton Pad | <br>90 minutes, no failure<br><br>No measurement<br>90 minutes, no failure |
| **INSULATION (I)** | 90 minutes, no failure |

**Test Duration:** The test was terminated in 245th minute.

**TEST RESULTS ( for 10 cm wall 21 mm thick specimen)**

| | |
|---|---|
| **INTEGRITY (E)**<br>Sustained Flaming<br><br>Gap Gauges<br>Cotton Pad | <br>90 minutes, no failure<br><br>No measurement<br>Failure in 81st minute |
| **INSULATION (I)** | Failure in 79th minute (TC28: 198,7 $^{0}$C) |

**Test Duration:** The test was terminated in 245th minute.

# MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

## 1. TEST SPECIMEN

### 1.1. GENERAL

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was applied in to 10 cm and 20 cm thick aerated concrete blocks with 1,55x1,55m test frame by opening with 31 mm (for 20 cm block) and 21 mm (for 10 cm block) with min 90 cm length.

### 1.2. MATERIALS

Fire rated PU foam NS82




**Figure 1. Specimen pictures**

### 1.3. SPECIMEN VERIFICATION

Specimen was applied in to 10 cm and 20 cm thick aerated concrete blocks by opening with 31 mm (for 20 cm block) and 21 mm (for 10 cm block) with min 90 cm length by vertical orientation in vertical frame.

### 1.4. ERECTION

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was applied in to 10 cm and 20 cm thick aerated concrete blocks with 1,55x1,55m test frame by opening with 31 mm (for 20 cm block) and 21 mm (for 10 cm block) with min 90 cm length.
No joints performed due to foam based specimen.

## MUAYENE - DENEY SONUÇLARI *TEST RESULTS*



**Figure 2. Specimen erection pictures**

### 1.5. CONDITIONING

No conditioning was performed.

### 1.6. THERMOCOUPLE LOCATION

Unexposed face thermocouple location and deflection measurement points are given below.




**Figure 3. TC location and laser measurements**

□(1-2-3-4-5-6-7) 31 mm ( for 20 cm wall) specimen unexposed face thermocouples location

□(22-23-24-25-26-27-47) 21 mm ( for 10 cm wall) specimen unexposed face thermocouples location

## 2. TEST PROCEDURE

### General

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was tested by TSE Construction Material Fire and Acoustic Laboratory as per TS EN 1366-4 in 03.06.2021.

Ambient conditions before the test are 19,6°C and 47% RH.

Ambient temperature change is given below.

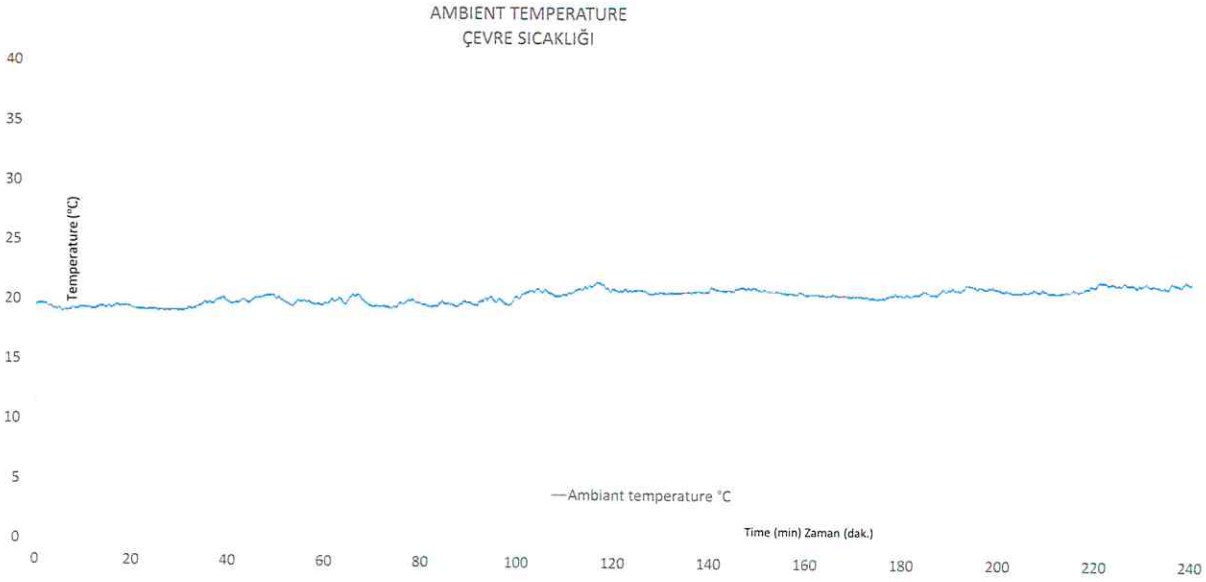



**Figure 4. Ambient temperature**

## 2.1. EQUIPMENTS

### General

Devices, equipment and apparatus used in test satisfy with updated TS EN 1366-4 and TS EN 1363-1.

### Furnace

Test furnace internal dimensions are 1,55 m x 1,55 m x 1,55 m. Furnace internal temperature is measured with 3 furnace thermocouple located 100 mm away from the specimen as per TS EN 1363-1:2020 Item 5.1 and controlled with software.

Standard time-temperature curve described in TS EN 1363-1:2020 is used in test.

**Table 1. Standard time-temperature curve values.**

Key

T temperature °C
t time minutes

| Time (minutes) | Furnace temperature (°C) | Time (minutes) | Furnace temperature (°C) |
|---|---|---|---|
| 0 | 20 | 90 | 1006 |
| 5 | 576 | 120 | 1049 |
| 10 | 678 | 150 | 1082 |
| 15 | 738 | 180 | 1110 |
| 20 | 781 | 210 | 1133 |
| 30 | 842 | 240 | 1153 |
| 45 | 902 | 300 | 1186 |
| 60 | 945 | 360 | 1214 |

# MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

## Thermocouples

The unexposed surface thermocouples produced from batch type roll thermocouples with a length of 1000 m are positioned on the wall as specified in TS EN 1366-4 standard.

Two component adhesives was used when placing the test thermocouples.

## Roving thermocouples

Roving thermocouples are used to perform measurements on unexposed sufaces where heating may occur than fixed thermocouples.

## Insulation and Integrity Criteria

During the test, thermocouple (TC) was used for the insulation value, and cotton pads and gap gauges were used to measure the integrity criteria.

## Furnace Pressure

Furnace internal pressure is controlled as per TS EN 1363-1:2020 Item 5.2. Furnace pressure shall not pass 15 Pa at centre test specimen. Furnace pressure is measured 1 pressure sensor located 1,5 m. In that test sensor number 4 (loaction:1,50 m) was set **15,4 Pa** with calculation. Furnace pressure-time graphic was given below.

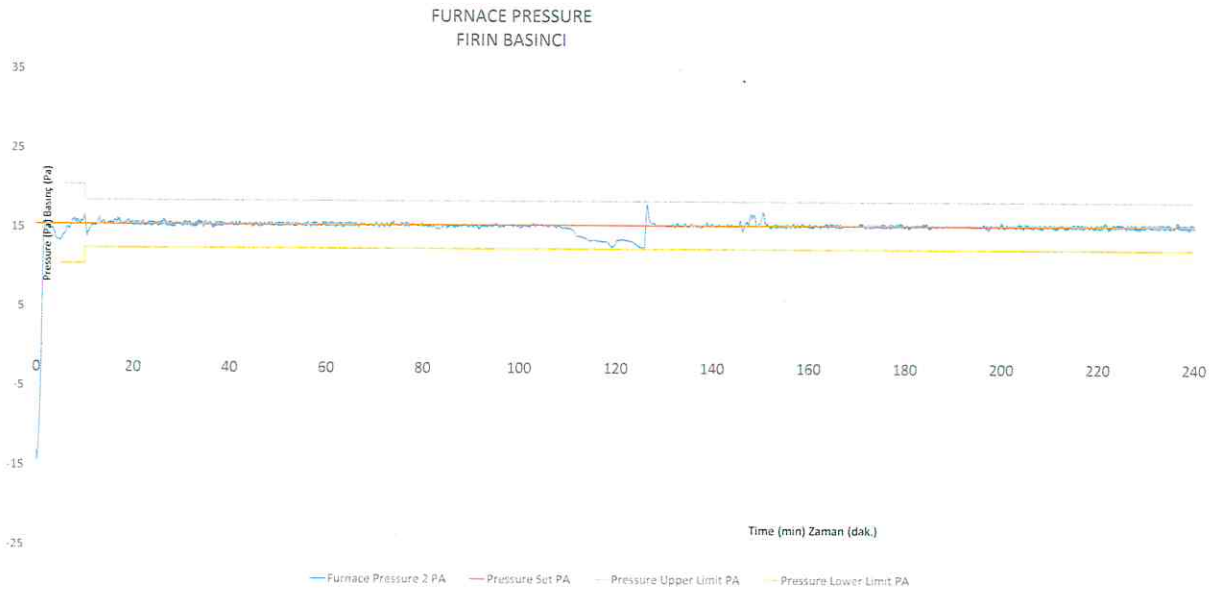



**Figure 5. Furnace internal pressure**

## 2.2. TEMPERATURE MEASUREMENT

7+7=14 thermocouple insulation pads are adhered to the unexposed surface of the sample, and the maximum increase value of the thermocouples at any measurement point should not be more than 180° C above the ambient temperature.

Regardless of whether a certain thermal insulation temperature limits are exceeded, failure to provide any integrity value means that thermal insulation cannot be provided.

The layout details of the sample surface thermocouples are given below.

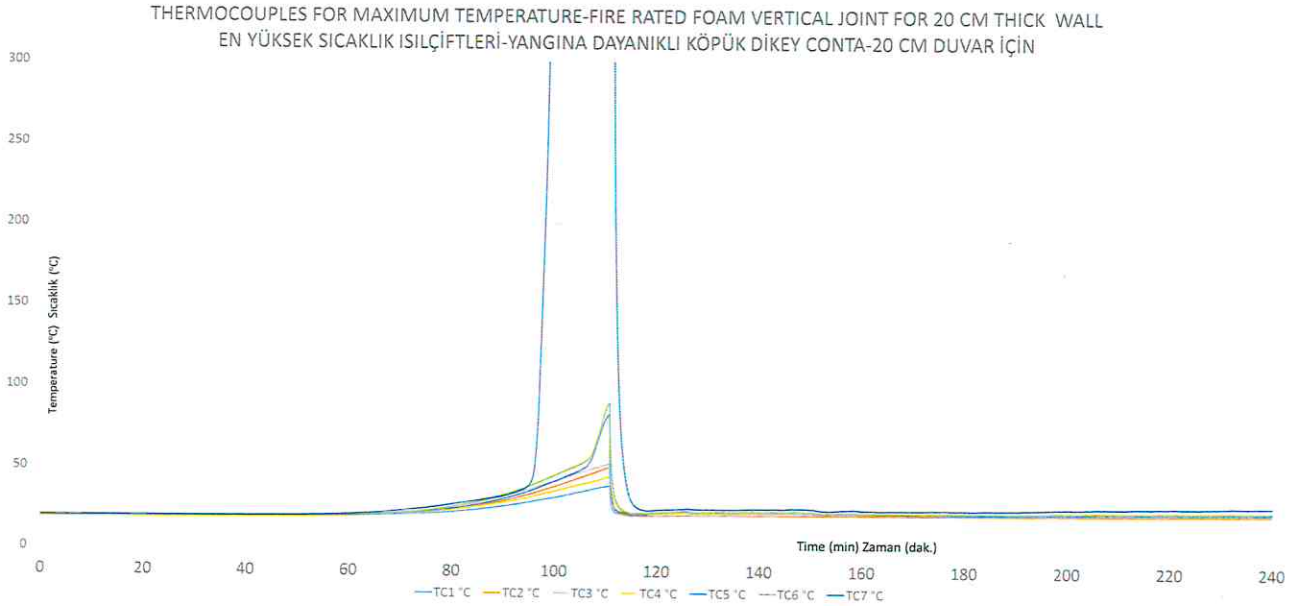



**Figure 6. Maximum temperature rise**

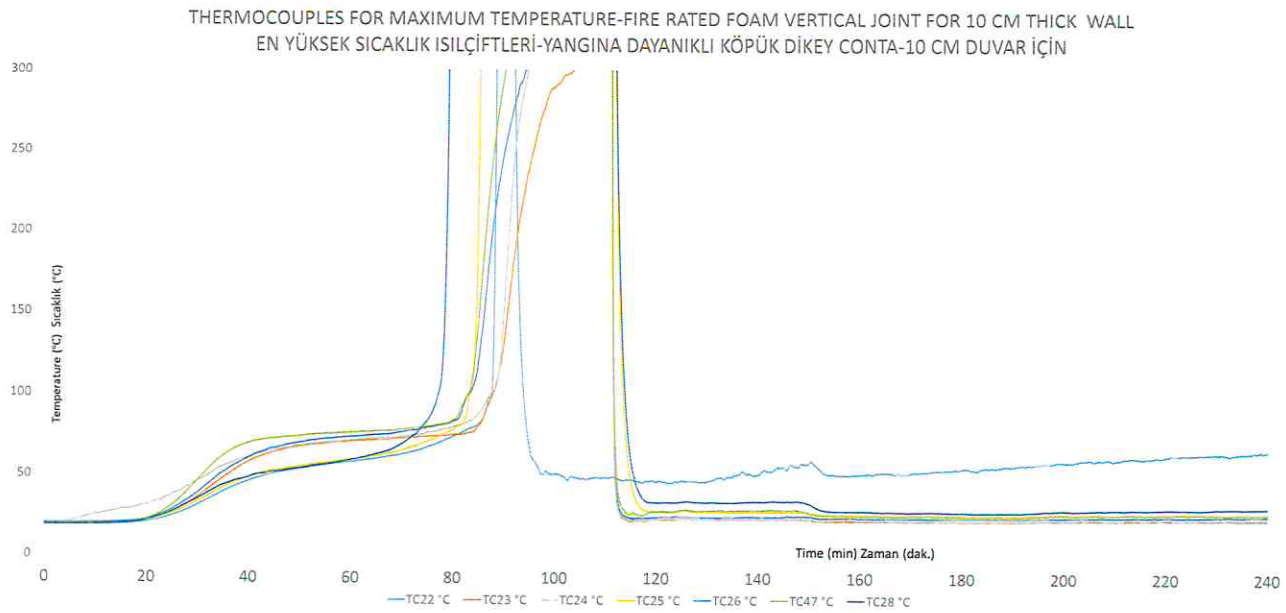



**Figure 7. Maximum temperature rise**

### 2.2.1. Internal Temperature Measurement

Furnace internal temperature upper and lower limit values as per TS EN 1363-1 are given in below with measured values.

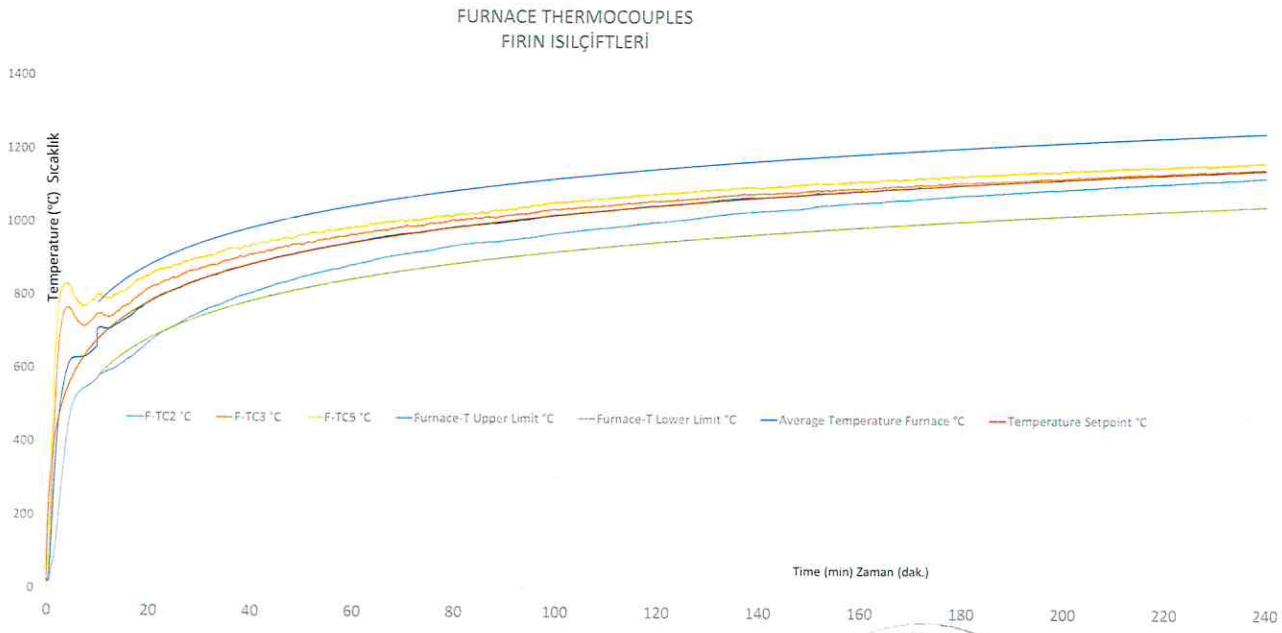



**Figure 8. Furnace internal temperature**

## MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

After first 10 minutes, no values at any time deviated more than 100°C as described in time temperature curve.

### 2.2.2. Tolerances

The percentage deviation ($d_e$) in the area of the curve of the average temperature recorded by the specified furnace thermocouples versus time from the area of the standard temperature/time curve shall be within:

a) for $5 < t \leq 10$, 15 %

b) for $10 < t \leq 30$, (15 –((0,5(t–10)) %

c) for $30 < t \leq 60$, (5 - 0,083 (t - 30) %

d) for $t > 60$, 2,5 %

$$d_e = \frac{A - A_s}{A_s} \; x \; 100$$

Where

$d_e$ is the percentage deviation

A is the area under the actual furnace temperature/time curve

As is the area under the standard temperature/time curve

t is the time in minutes.

Related graphic is given below.

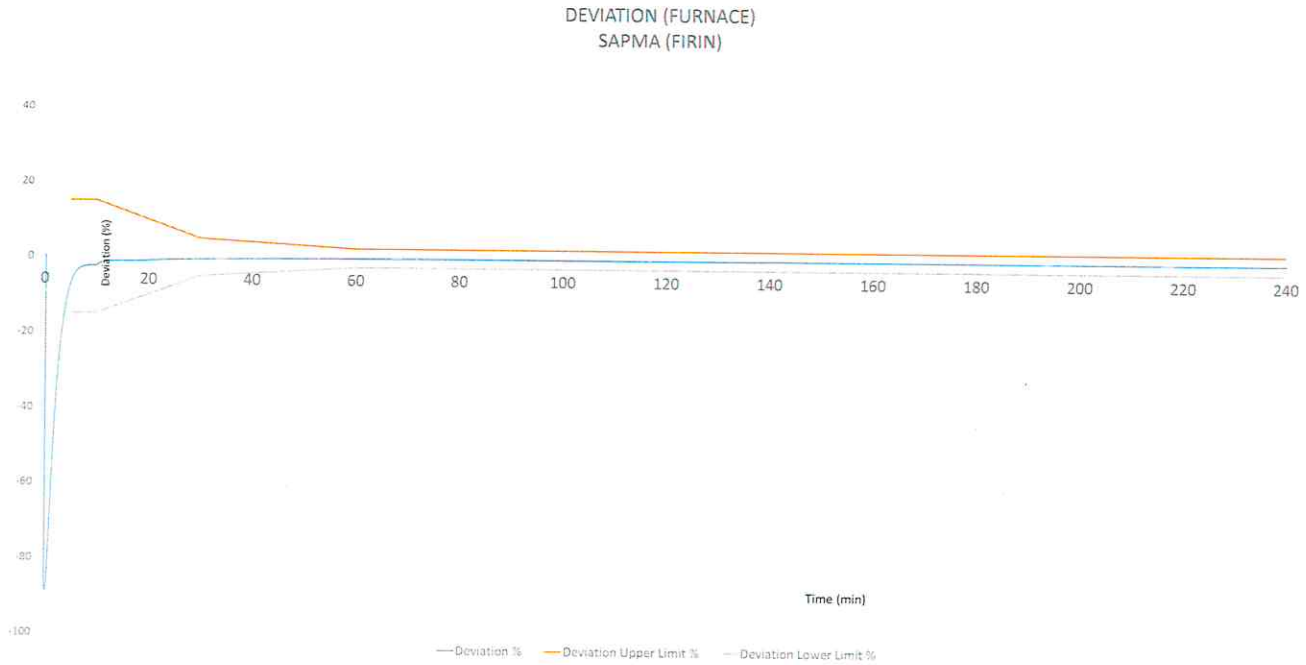



**Figure 9. Deviation-Time Graphic**

All values after 5 minutes are in limit.

### 2.4 RADIATION MEASUREMENT

No measurement performed for the testing.

## 3. OBSERVATIONS

| TIME (Minute) | NOTES |
|---|---|
| 00.00 | Test start |
| 31.00 | Smoke leakage from upper side |
| 73.06 | Smoke leakage observed bottom side of thermocouple (TC) 26 |
| 78.20 | Opening observed bottom side of thermocouple (TC) 28 |
| 78.54 | Cotton pad applied bottom side of thermocouple (TC) 28, no ignition observed |
| 80.18 | Cotton pad applied bottom side of thermocouple (TC) 28, ignition observed |
| 88.50 | 20 cm wall specimen upper side part to turn black colour |
| 90.50 | Cotton pad applied to 20 cm wall specimen upper side, no ignition observed |
| 92.00 | Sustained flaming observed on 20 cm wall specimen |
| 244.20 | The test was terminated. (The test was carried out for 240 minutes for other specimen) |

# MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

## 4. ASSESSMENT AND TEST RESULTS

Fire rated PU foam NS82 linear joint seal manufactured by SİBA KİMYA VE ENDÜSTRİYEL ÜRÜNLER SAN. TİC. LTD. ŞTİ. was applied in to 10 cm and 20 cm thick aerated concrete blocks by opening with 31 mm (for 20 cm block) and 21 mm (for 10 cm block) with min 90 cm length.

**TEST RESULTS ( for 20 cm wall 31 mm thick specimen)**

| | |
|---|---|
| **INTEGRITY (E)**<br>Sustained Flaming<br><br>Gap Gauges<br>Cotton Pad | <br>90 minutes, no failure<br><br>No measurement<br>90 minutes, no failure |
| **INSULATION (I)** | 90 minutes, no failure |

**Test Duration:** The test was terminated in 245$^{th}$ minute.

**TEST RESULTS ( for 10 cm wall 21 mm thick specimen)**

| | |
|---|---|
| **INTEGRITY (E)**<br>Sustained Flaming<br><br>Gap Gauges<br>Cotton Pad | <br>90 minutes, no failure<br><br>No measurement<br>Failure in 81st minute |
| **INSULATION (I)** | Failure in 79th minute (TC28: 198,7 $^{0}$C) |

**Test Duration:** The test was terminated in 245$^{th}$ minute.

## 5. DIRECT FIELD OF APPLICATION RESULTS

Direct field of application results can be applied to directly is limited to the allowable changes in the test sample valid after the successful fire resistance test. These changes can be automatically accepted without further evaluation, calculation or approval.

Direct field of application of test results was given related classification report.

## 6. PHOTOS



**Figure 10. Before the test**

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**Figure 11. During the test**

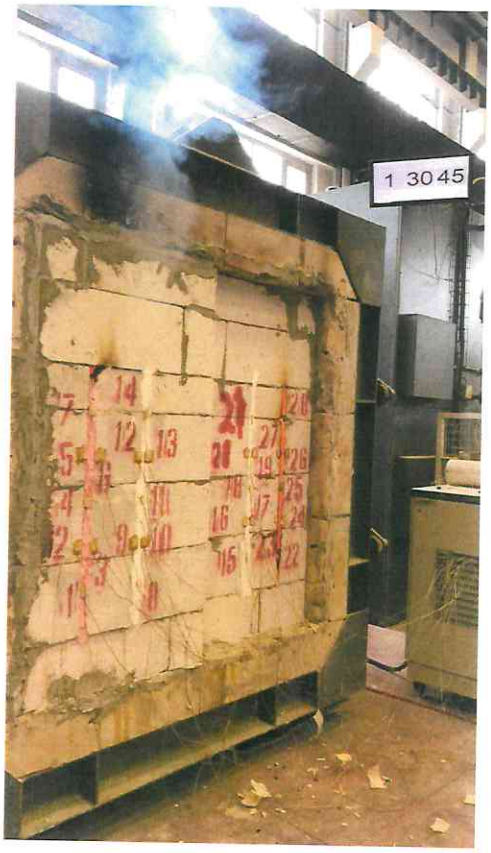



**Figure 12. After the test**

## MUAYENE - DENEY SONUÇLARI *TEST RESULTS*

### 7. REFERENCE LIST

**TS EN 1363-1:2020** : Fire resistance tests – Part 1: General requirements

**TS EN 1366-4:2021** : Fire resistance tests for service installations - Part 4: Linear joint seals

**TS EN 13501-2**: Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance test, excluding ventilation services

**LAB-D-17-FR-006**: Fire Resistance Tests Raw Data Form