T.C.
TÜRK PATENT ve MARKA KURUMU

# MARKA TESCİL BELGESİ

**Marka No : 2019 47901 - Ticaret**

isodoor

**Marka Sahibi :** BİLKA OTOMATİK KAPI SİSTEMLERİ LOJİSTİK İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ
TÜRKİYE CUMHURİYETİ
MİMARSİNAN O.S.B. 9.CAD.NO:1 Melikgazi Kayseri

**Emtiası : 06**
Metalden mamul kapılar ve pencereler, kepenkler, jaluziler, bunların kasaları ve aksamları.

T.C. TÜRK PATENT ve MARKA KURUMU MARKALAR DAİRESİ BAŞKANLIĞI

**İşbu Marka 13/05/2019 tarihinden itibaren ON YIL süreyle 26/09/2019 tarihinde tescil edilmiştir.**

**Prof. Dr. Habip ASAN**
Türk Patent ve Marka Kurumu Başkanı

TÜRK PATENT
TÜRK PATENT VE MARKA KURUMU

Kalitest

# SERTİFİKA–CERTIFICATE OF REGISTRATION

**Bu sertifika aşağıdaki kuruluşa**
This certificate has been awarded to the company

## BİLKA OTOMATİK KAPI SİSTEMLERİ LOJİSTİK İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ

## Mimarsinan O.S.B 9. Cadde No:1 Melikgazi/KAYSERİ

**Uygulanmakta olan kalite yönetim sisteminin**
To certify that the implemented quality management system complies with

# ISO 9001:2015

**Standardına uygunluğunu belgelendirmek amacı ile aşağıdaki kapsamda verilmiştir.**
For the activities described below

## Otomatik Kapı Sistemleri Üretimi ve Satışı

## Production and Sales of Automatic Door Systems

**EAC 19**

Kalitest Belgelendirme ve Eğitim Hizmetleri Ltd. Şti. :

Figen BİGÜN
Genel Müdür Yardımcısı/Vice General Manager

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

TÜRKAK
Kalite Yönetim Sistemi
TS EN ISO IEC 17021-1
AB-0017-YS

TÜRKAK BDS NO
YS-33EF-F20C

| | |
|---|---|
| Sertifika No<br>Certificate No | **K-QM-4172** |
| İlk Belge Tarihi<br>Date of Registration | **09.03.2015** |
| Belge Periyodu<br>Period of Registration | **3 yıl / years** |
| Sertifika Tarihi<br>Certificate Date | **16.03.2021** |
| Bitiş Tarihi<br>Expiry Date | **09.03.2024** |

Bu sertifikanın geçerliliği firmanın KALİTEST Sertifika Yönetmeliğine uyumuna ve yılda en az bir kez yapılacak gözetim denetimlerinin başarılı geçmesine bağlıdır.

The validity of this certificate depends on the company's conformity with KALİTEST Certificate Regulations and the result of the surveillance audits which will be carried out at least once in a year.

Bu sertifikanın geçerliliğini 3894294 seri numarasıyla www.kalitest.com.tr adresinden veya TÜRKAK BDS NO ile tbds.turkak.org.tr adresinden doğrulayabilirsiniz.

Please verify the validity of this certificate with the serial number of 3894294 from the web site of www.kalitest.com.tr or with TURKAK BDS NO from the web site of tbds.turkak.org.tr

**KALITEST BELGELENDİRME VE EĞİTİM HİZMETLERİ LİMİTED ŞİRKETİ**
**Yazgülü Sokak, Aydın Sitesi 1.Kısım, C-4 1/D Blok, D:33, Levazım-Beşiktaş/İSTANBUL**
**www.kalitest.com.tr info@kalitest.com.tr**

T.C.
TÜRK STANDARDLARI ENSTİTÜSÜ

TSE-HYB

# HİZMET YETERLİLİK BELGESİ

| | |
|---|---|
| Belge No | :38-HYB-2453 |
| İlk Veriliş Tarihi | :09.04.2012 |
| Son Geçerlilik Tarihi | :09.04.2021 |
| Firmanın Adı | :BİLKA OTOMATİK KAPI SİSTEMLERİ LOJİSTİK İNŞAAT SANAYİ VE TİCARET |
| Firmanın Adresi | :MİMARSİNAN ORGANİZE SANAYİ BÖLGESİ 9. CADDE NO:1 MELİKGAZİ KAYSERİ/TÜRKİYE |
| Hizmet Yeri Adresi | :MİMARSİNAN ORGANİZE SANAYİ BÖLGESİ 9. CADDE NO:1 KAYSERİ/TÜRKİYE |
| Sicil No | :371 |

**Verilen Hizmetin Kapsamı**

1. 21 (08.08.2013)YETKİLİ SERVİSLER-OTOMATİK VEYA MANUEL KAPI SİSTEMLERİNE (DAİRESEL, YANA KAYAR, KATLANABİLİR, PANJUR VB.) HİZMET YETERLILIK BELGESI VERILMESINE ESAS KRITERLER KRİTERİNE UYGUN HİZMET VEREN
  * SANEC MÜHENDİSLİK ELEKTRİK ELEKTRONİK BİLGİSAYAR İNŞAAT SANAYİ VE TİCARET LTD. ŞTİ. YETKİLİ SERVİSİ (620115)
(05.06.2015) (TECHNA) (SANEC) (TECHNA FLEX) (TECHNA ROLL) MARKALI
  * BİLKA OTOMATİK KAPI SİSTEMLERİ LOJİSTİK İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ YETKİLİ SERVİSİ (1450192)
(09.04.2012) (ISODOOR) MARKALI

Türk Standardları Enstitüsü Hizmet Belgelendirme Yönergesine göre yapılan inceleme neticesinde; firma işyerinin, kapsamında belirtilen, hizmetler için yeterli olduğu tespit edilerek bu belge verilmiştir.

02.04.2020

A. MAHMUT ULAŞ
TSE KAYSERİ BELGELENDİRME MÜDÜRÜ

TÜRK STANDARDLARI ENSTİTÜSÜ KAYSERİ BELGELENDİRME MÜDÜRLÜĞÜ TSE

. Organize Sanayi Bölgesi 6.Cadde P.K. 512 KAYSERİ Telefon: 0 352 321 11 06-07-08-09 / 321 25 97 Faks: 0 352 321

 

# YERLİ MALI BELGESİ

Belgenin Veriliş Tarihi : 28.10.2020 Belgenin Geçerlilik Tarihi : 28.10.2021 Belge No : 2020108468300

Üretici Ünvanı: BİLKA OTOMATİK KAPI SİSTEMLERİ LOJİSTİK İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ

İşyeri Adresi: Mimarsinan Organize Sanayi Bölgesi 9. Cad. No:1 MELİKGAZİ/KAYSERİ

Üreticinin Vergi Kimlik No: 1750412984 TC Kimlik No: MERSİS No : 7136883791437186

| | | | |
|---|---|---|---|
| Telefon: | 352-2943900 | E-posta: | finans@isodoor.com |
| Faks: | 352-2943902 | Web Adresi: | www.isodoor.com |

Ticaret Sicil No: 31638 Üye Sicil No: 002538

Ürün Adı: Otomatik Kapı Sistemleri

Ürün Kodu (PRODCOM/GTİP): 25.12.10.30.00 /

Teknik Özellikleri(Marka Adı, Modeli, Seri Numarası, Cinsi): İsodoor

Kapasite Raporunun Tarih :09.10.2020 No : 33073 Geçerlilik Süresi :09.10.2022

Sanayi Sicil Belgesinin Tarih : 22.10.2013 No : 598691

Yerli Katkı Oranı : % 84,79

Ürünün Teknolojik Düzeyi (düşük/orta-düşük/orta-yüksek/yüksek)(Eurostat) : orta-düşük

Diğer bilgi ve belgeler :

İşbu belge Bilim, Sanayi ve Teknoloji Bakanlığı'nın 13/09/2014 tarih ve 29118 sayılı Resmi Gazetede yayımlanan " Yerli Malı Tebliği (SGM 2014/35) "ne istinaden ve TOBB tarafından hazırlanan " Yerli Malı Belgesinin Düzenlenmesi Uygulama Esaslarına " göre 28.10.2020 tarihinde düzenlenmiştir. Belgenin geçerlilik süresi veriliş tarihinden itibaren bir yıl geçerlidir.

Düzenleyen Oda/Borsa
KAYSERİ SANAYİ ODASI

Onaylayan
Nihat MOLU
Genel Sekreter

# YERLİ MALI BELGESİ

Belgenin Veriliş Tarihi : 28.10.2020 Belgenin Geçerlilik Tarihi : 28.10.2021 Belge No : 2020108468301

Üretici Ünvanı: BİLKA OTOMATİK KAPI SİSTEMLERİ LOJİSTİK İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ

İşyeri Adresi: Mimarsinan Organize Sanayi Bölgesi 9. Cad. No:1 MELİKGAZİ/KAYSERİ

Üreticinin Vergi Kimlik No: 1750412984 TC Kimlik No: MERSİS No : 7136883791437186

| | | | |
|---|---|---|---|
| Telefon: | 352-2943900 | E-posta: | finans@isodoor.com |
| Faks: | 352-2943902 | Web Adresi: | www.isodoor.com |

Ticaret Sicil No: 31638 Üye Sicil No: 002538

Ürün Adı: Seksiyonel Kapı Paneli (518.400 m/Yıl)(13.500 m/Yıl kendi imalatında kullanılmaktadır.)

Ürün Kodu (PRODCOM/GTİP): 24.33.30.00.00 /
Teknik Özellikleri(Marka Adı, Modeli, Seri Numarası, Cinsi): İsodoor

Kapasite Raporunun Tarih :09.10.2020 No : 33073 Geçerlilik Süresi :09.10.2022

Sanayi Sicil Belgesinin Tarih : 22.10.2013 No : 598691

Yerli Katkı Oranı : % 100

Ürünün Teknolojik Düzeyi (düşük/orta-düşük/orta-yüksek/yüksek)(Eurostat) : orta-düşük

Diğer bilgi ve belgeler :

İşbu belge Bilim, Sanayi ve Teknoloji Bakanlığı'nın 13/09/2014 tarih ve 29118 sayılı Resmi Gazetede yayımlanan " Yerli Malı Tebliği (SGM 2014/35) "ne istinaden ve TOBB tarafından hazırlanan " Yerli Malı Belgesinin Düzenlenmesi Uygulama Esaslarına " göre 28.10.2020 tarihinde düzenlenmiştir. Belgenin geçerlilik süresi veriliş tarihinden itibaren bir yıl geçerlidir.

Düzenleyen Oda/Borsa
KAYSERİ SANAYİ ODASI

Onaylayan
Nihat MOLU
Genel Sekreter

IDA™

International Door Association

*Community - Education - Professionalism*

This certifies that

**Bilka Otomatik Kapi Sistemleri Ltd. Sti – ISODOOR**

**Mimarsinan Osb. 9. Cadde #1 Kayseri, Turkey 38260 TURKEY**

is a member of the

**International Door Association**

and is entitled to all the rights and privileges of membership,
subject to the provisions of association bylaws and all amendments.

*This certificate is authorized and valid through 31 December, 2021.*

Kevin Pettiette, President

Mike Fischer, Managing Director

# CE UYGUNLUK DEKLARASYONU

Firmamız,

**BİLKA OTOMATİK KAPI SİSTEMLERİ**
**LOJ. İNŞ. SAN. ve TİC. LTD. ŞTİ.**

Üretim faliyetlerini aşağıdaki adreslerde sürdürmektedir.

Mimarsinan O.S.B 9. Cadde No:1 Melikgazi / KAYSERİ

0402 numaralı akredite test kuruluşu olan,

İsveç SP Ulusal Test ve Araştırma Entitüsü'nün

30 / 4 / 2019 tarihli 9P02246-1 referans numaralı ITTR- Temel Tip Test Raporlarına

dayanarak, aşağıda logosu bulunan tescilli **ISODOOR** markalı

## SEKSİYONEL ENDÜSTRİYEL KAPILARININ

**ISO EN 13241-1 : 2003 + A2:2016 standartı kapsamında ;**

**EN 12426 , EN 12425 , EN 12424 , EN 12427 , EN 12 489 , EN 12444,**

**EN 12667 , EN 10077-2 .**

**" EU Construction Products Directive 89/106/EEC " yapı malzemeleri yönetmeliğine,**

**" EC Directive 2004/108/EC " elektromanyetik uyumluluk yönetmeliğine,**

**" EU Directive 2006/42/EC " makine yönetmeliğine**

uygun olarak üretildiğini deklare ederiz.

**KAYSERİ / TÜRKİYE**

**03 / 02 / 2020**

isodoor

***Emrullah KAYA***

***Genel Müdür***

# REPORT

issued by an Accredited Testing Laboratory

Contact person RISE
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Building Technology
+46 10 516 56 54
roger.davidsson@ri.se

Date: 2019-04-30

Reference: 9P02246-1



BILKA otomatik kapı sistemleri
Mimarsinan OSB 9. Cadde no:1
TR-38520 MELIKGAZI/KAYSERI
Turkiet

# Determination of air permeability, resistance to water penetration and resistance to wind load according to EN 13241:2003+A2:2016

(1 appendix)

## Test object

| | |
|---|---|
| Client: | BİLKA otomatik kapi sistemleri - ISODOOR |
| Product name: | Industrial Door, ISO-E |
| Type of door: | Overhead, sectional door |
| Daylight size: | Width 4000 mm, Height 3380 mm |

The door was supplied and installed by the client in the opening of an airtight chamber, with its exterior facing inwards towards the chamber, see description and figures in appendix 1.

## Summary of classification

| | |
|---|---|
| Air permeability according to EN 12426:2000: | Class 2 |
| Resistance to water penetration according to EN 12425:2000: | Class 3, 110 Pa |
| Resistance to wind load according to EN 12424:2000: | Class 3 |

## Test procedure

### Air permeability

A positive air pressure was established in the chamber and the air leakage was measured at 50 Pa.

The tests were carried out in accordance with EN 12427:2000.

### Resistance to water penetration

Water was applied through three horizontal rows of nozzles with ten nozzles on each row. The upper row supplied 2±0.2 l/min of water per nozzle. The two lower rows supplied 1±0.1 l/min of water per nozzle.

The test was carried out in accordance with EN 12489:2000.

### Resistance to wind load

The door was tested in an air pressure chamber. Before the test measures were taken to minimize air leakage in the door and its supporting construction. The air pressure in the test chamber was increased in steps in accordance with the different classes given in EN 12424:2000.

The test was carried out in accordance with EN 12444:2000.





Accred. No. 1002
Testing
ISO/IEC 17025

## Test results

### Air permeability

Leakage at 50 Pa positive pressure: 6,2 m³/h,m²
Classification according to EN 12426:2000: Class 2

### Resistance to water penetration

The test was interrupted after 130 Pa and 45 minutes.

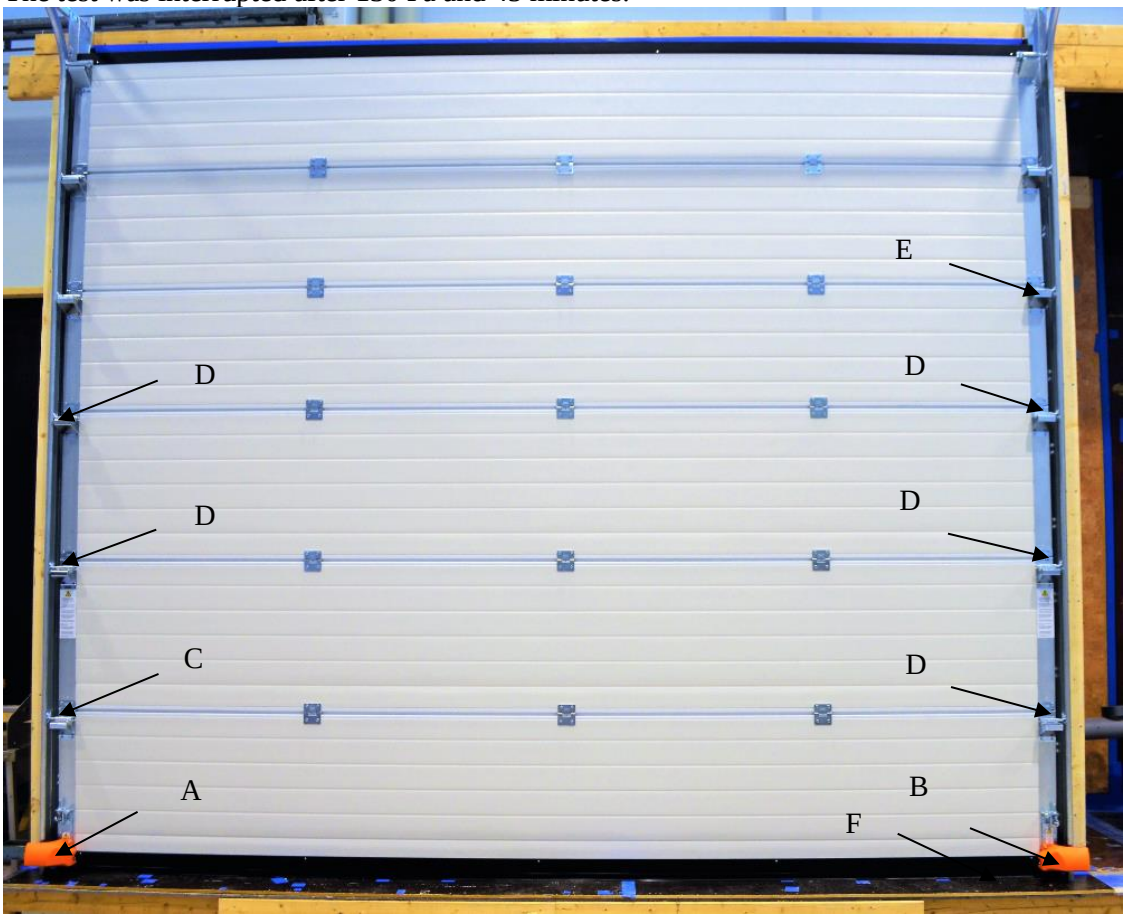


Figure 1. The door as seen from inside.

| Air pressure (Pa) | Time (min) | Degree of water leakage at location | | | | | |
|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F |
| 0 | 0-10 | 3 | 0 | 0 | 0 | 0 | 0 |
| 10 | 11-15 | 3 | 0 | 0 | 0 | 0 | 0 |
| 30 | 16-20 | 3 | 3 | 0 | 0 | 0 | 0 |
| 50 | 21-25 | 3 | 3 | 0 | 0 | 0 | 0 |
| 70 | 26-30 | 3 | 3 | 2 | 0 | 0 | 0 |
| 90 | 31-35 | 3 | 3 | 3 | 3 | 0 | 0 |
| 110 | 35-40 | 3 | 3 | 3 | 3 | 3 | 0 |
| 130 | 41-45 | 3 | 3 | 3 | 3 | 3 | 2 |

**Location of leakage:**
A: Leakage at the edge of the bottom sealing
B: Leakage at the edge of the bottom sealing
C: Leakage between the panels at the edge
D: Leakage between the panels at the edge
E: Leakage between the panels at the edge
F: Water splash on the floor from leakage D and E

**Degree of water leakage:**
0: No leak
1: One clinging drop
2: Two or more falling or chain drops
3: Runs
4: Considerable flow

Failure according to leakage, location F.

Classification according to EN 12425:2000: Class 3, 110 Pa

## Resistance to wind load

The test was interrupted after the inner pressure step at 1100 Pa. After the test the screws to the side hinges had started to come loose from the panel and the side hinges had started to be deformed.

No visible deformations were noted at pressure step, 965 Pa.

Classification according to EN 12424:2000: Class 3

## Conditions of test

The test results refer only to the tested object.

| | |
|---|---|
| Date of test: | 2019-04-16 |
| Place of test: | RISE Building Technology, Borås Sweden |
| Equipment used: | Measuring equipment no. 202429, 202733, 202214, 200417 |
| Estimated error margin: | Air pressure difference ±2 %, air flow ±5 %, water flow ±5 % |
| Ambient climate: | Air temperature 20 ºC, RH 25 %, hPa 1011 |

**RISE Research Institutes of Sweden AB**
**Building Technology - Building Physics and Indoor Environment**

Performed by

Signed by: Roger Davidsson
Reason: I am the author of this document
Date & Time: 2019-05-06 20:33:29 +02:00
Roger Davidsson

Examined by

Signed by: Börje Gustavsson
Reason: Jag är författare till det här dokumentet
Date & Time: 2019-05-08 16:22:08 +02:00
Börje Gustavsson

**Appendix**
1. Description and figures of the door.

Appendix 1

## Description of the door

| | |
|---|---|
| **Manufacturer of the door:** | BİLKA otomatik kapi sistemleri - ISODOOr |
| **Product name:** | INDUSTRIAL DOOR ISO-E |
| **Type of door:** | Overhead, sectional door |
| **Daylight size (wxh):** | 4000 x 3380 |
| **Weight on tested door:** | 150 KG |
| **Producer and type of panel:** | BILKA – ISODOOR finger safe |
| **Total thickness of panel:** | 40 mm |
| **Thickness of the sheet metal in panel:** | 0,45 mm |
| **Type of bottom profile on bottom panel:** | ISODOOR - 24016 |
| **Type of tracks:** | ISODOOR - 12501 |
| **Type of side hinges:** | ISODOOR - 18002 |
| **Type of slide/roller:** | ISODOOR - 19002 |
| **Type of intermediate hinges:** | ISODOOR - 18001 |
| **Type of bottom bracket:** | ISODOOR - 17009 |
| **Type of top bracket:** | ISODOOR - 18005 |
| **Type of top sealing:** | ISODOOR - 13005 |
| **Type of side sealing:** | ISODOOR - 13001 |
| **Type of bottom sealing:** | ISODOOR - 13004 |
| **Type of reinforcement on the panel:** | ISODOOR - 12607 |

Appendix 1

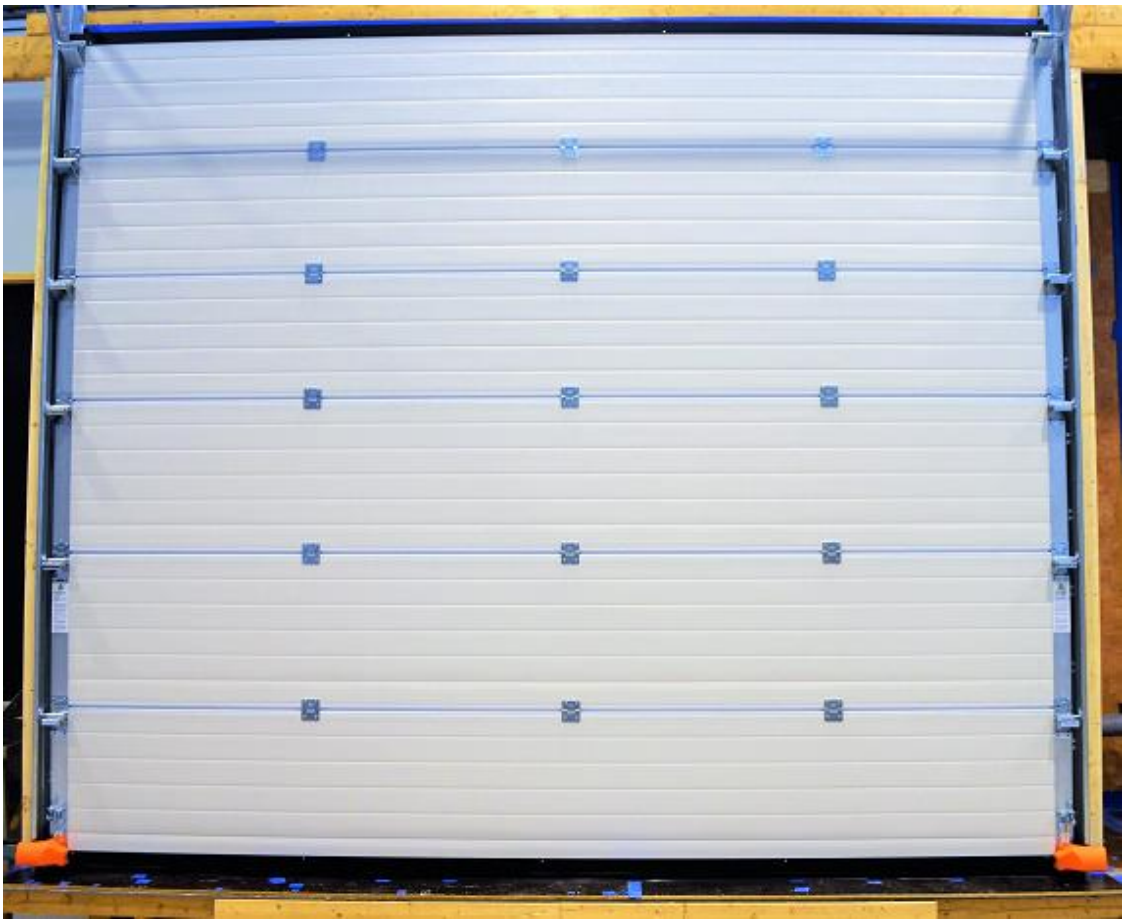

Figure 2. Door type, ISODOOR, Industrial Door ISO-E, mounted in the test rig, as seen from inside.

Appendix 1

Figure 3. Side hinges and roller on the door.

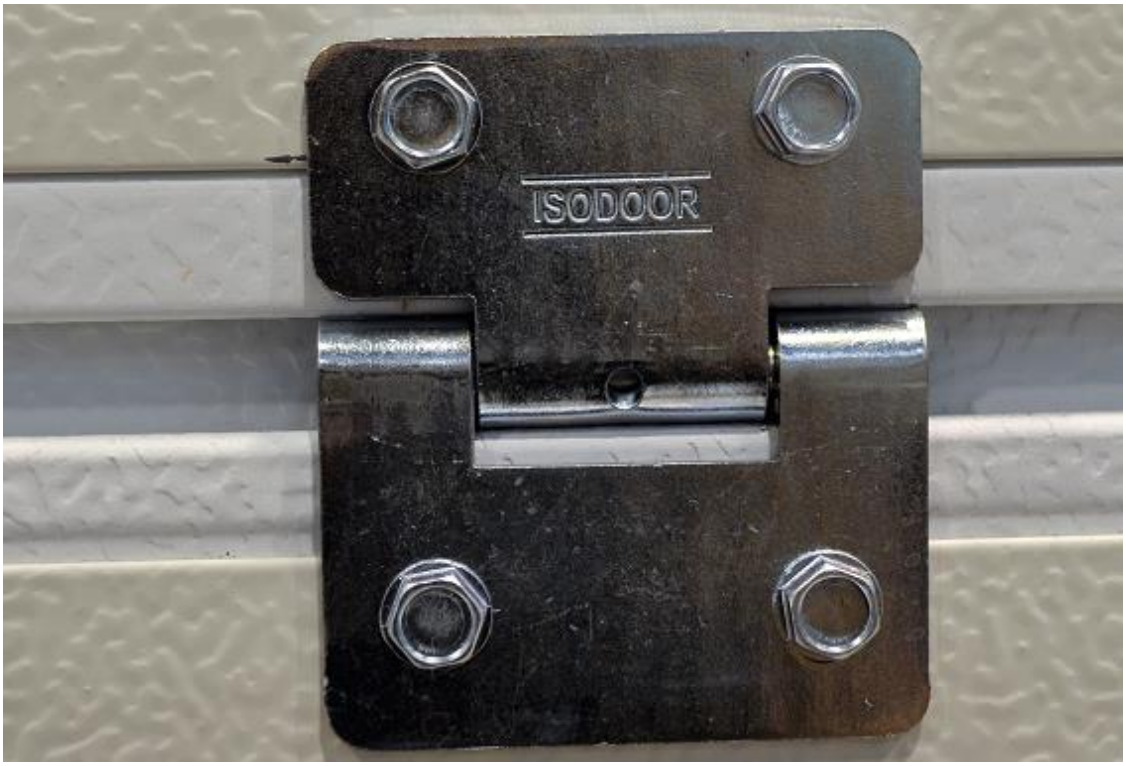


Figure 4. Intermediate hinges on the door.

Appendix 1

Figure 5. Bottom bracket on the door.

Figure 6. Top bracket on the door.

# REPORT

issued by an Accredited Testing Laboratory

Contact person RISE
Roger Davidsson
Building Technology
+46 10 516 56 54
roger.davidsson@ri.se

Date: 2019-04-30
Reference: 9P02246-2


BILKA otomatik kapı sistemleri
Mimarsinan OSB 9. Cadde no:1
TR-38520 MELIKGAZI/KAYSERI
Turkiet

# Determination of air permeability, resistance to water penetration and resistance to wind load according to EN 13241:2003+A2:2016

(1 appendix)

## Test object

| | |
|---|---|
| Client: | BİLKA otomatik kapi sistemleri - ISODOOR |
| Product name: | Garage Door, ISO 220 |
| Type of door: | Overhead, sectional door |
| Daylight size: | Width 2500 mm, Height 2250 mm |

The door was supplied and installed by the client in the opening of an airtight chamber, with its exterior facing inwards towards the chamber, see description and figures in appendix 1.

## Summary of classification

| | |
|---|---|
| Air permeability according to EN 12426:2000: | Class 3 |
| Resistance to water penetration according to EN 12425:2000: | Class 3, 110 Pa |
| Resistance to wind load according to EN 12424:2000: | Class 5, 1300 Pa |

## Test procedure

### Air permeability

A positive air pressure was established in the chamber and the air leakage was measured at 50 Pa.

The tests were carried out in accordance with EN 12427:2000.

### Resistance to water penetration

Water was applied through two horizontal rows of nozzles with six nozzles on each row. The upper row supplied 2±0.2 l/min of water per nozzle. The lower row supplied 1±0.1 l/min of water per nozzle.

The test was carried out in accordance with EN 12489:2000.

### Resistance to wind load

The door was tested in an air pressure chamber. Before the test measures were taken to minimize air leakage in the door and its supporting construction. The air pressure in the test chamber was increased in steps in accordance with the different classes given in EN 12424:2000.

The test was carried out in accordance with EN 12444:2000.





Accred. No. 1002
Testing
ISO/IEC 17025

## Test results

### Air permeability

Leakage at 50 Pa positive pressure: 5,9 m³/h,m²
Classification according to EN 12426:2000: Class 3

### Resistance to water penetration

The test was interrupted after 130 Pa and 45 minutes.

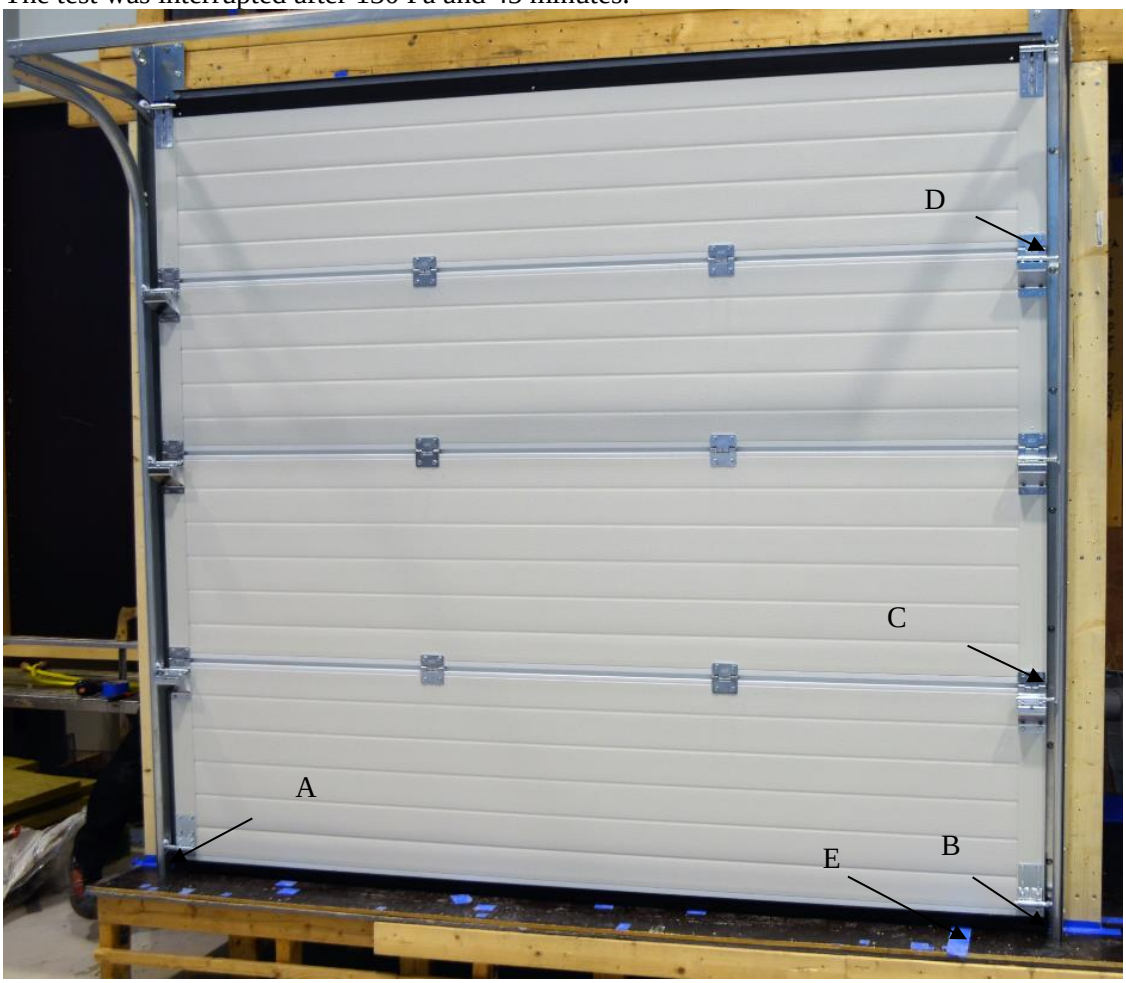


Figure 1. The door as seen from inside.

| Air pressure (Pa) | Time (min) | Degree of water leakage at location | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | E |
| 0 | 0-10 | 0 | 0 | 0 | 0 | 0 |
| 10 | 11-15 | 2 | 3 | 0 | 0 | 0 |
| 30 | 16-20 | 3 | 3 | 0 | 0 | 0 |
| 50 | 21-25 | 4 | 3 | 0 | 0 | 0 |
| 70 | 26-30 | 4 | 4 | 0 | 0 | 0 |
| 90 | 31-35 | 4 | 4 | 3 | 0 | 0 |
| 110 | 35-40 | 4 | 4 | 3 | 3 | 0 |
| 130 | 41-45 | 4 | 4 | 3 | 3 | 3 |

**Location of leakage:**
A: Leakage at the edge of the bottom sealing
B: Leakage at the edge of the bottom sealing
C: Leakage between the panels at the edge
D: Leakage between the panels at the edge
E: Leakage between the panels at the edge

**Degree of water leakage:**
0: No leak
1: One clinging drop
2: Two or more falling or chain drops
3: Runs
4: Considerable flow

Failure according to leakage, location E.

Classification according to EN 12425:2000: Class 3, 110 Pa

## Resistance to wind load

The test was interrupted after the inner pressure step at 1788 Pa. After the test the side hinges had started to be deformed.

No visible deformations were noted at pressure step, 1430 Pa.

Classification according to EN 12424:2000: Class 5, 1300 Pa

## Conditions of test

The test results refer only to the tested object.

| | |
|---|---|
| Date of test: | 2019-04-17 |
| Place of test: | RISE Building Technology, Borås Sweden |
| Equipment used: | Measuring equipment no. 202429, 202733, 202214, 200417 |
| Estimated error margin: | Air pressure difference ±2 %, air flow ±5 %, water flow ±5 % |
| Ambient climate: | Air temperature 20 ºC, RH 21 %, hPa 1013 |

**RISE Research Institutes of Sweden AB**
**Building Technology - Building Physics and Indoor Environment**

Performed by

Signed by: Roger Davidsson
Reason: I am the author of this document
Date & Time: 2019-05-06 20:34:11 +02:00

Roger Davidsson

Examined by

Signed by: Börje Gustavsson
Reason: I have reviewed this document
Date & Time: 2019-05-08 16:23:15 +02:00

Börje Gustavsson

**Appendix**
1. Description and figures of the door.

Appendix 1

## Description and figures of the door

| | |
|---|---|
| **Manufacturer of the door:** | BİLKA otomatik kapi sistemleri - ISODOOr |
| **Product name:** | GARAGE DOOR ISO 220 |
| **Type of door:** | Overhead, sectional door |
| **Daylight size (wxh):** | 2500 x 2250 |
| **Weight on tested door:** | 65 KG |
| **Producer and type of panel:** | BILKA – ISODOOR finger safe |
| **Total thickness of panel:** | 40 mm |
| **Thickness of the sheet metal in panel:** | 0,45 mm |
| **Type of bottom profile on bottom panel:** | ISODOOR - 24916 |
| **Type of tracks:** | ISODOOR - 12501 |
| **Type of side hinges:** | ISODOOR - 18002 |
| **Type of slide/roller:** | ISODOOR - 19002 |
| **Type of intermediate hinges:** | ISODOOR - 18001 |
| **Type of bottom bracket:** | ISODOOR - 17001 |
| **Type of top bracket:** | ISODOOR - 18006 |
| **Type of top sealing:** | ISODOOR - 13001 |
| **Type of side sealing:** | ISODOOR - 13001 |
| **Type of bottom sealing:** | ISODOOR - 13003 |

Appendix 1

Figure 2. Door type, ISODOOR, Garage Door ISO 220, mounted in the test rig, as seen from inside.

Appendix 1

Figure 3. Side hinges and roller on the door.


Figure 4. Intermediate hinges on the door.

Appendix 1

Figure 5. Bottom bracket on the door.

Figure 6. Top bracket on the door.

Appendix 1

Figure 7. Leakage, location E, at the resistance to water penetration test.

# REPORT

issued by an Accredited Testing Laboratory

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Date 2019-06-12

Reference 9P02246-01



SP Testing

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Turkiet

# Measuring of resistance to wind load, by four point bending test

**Table 1 Summary of test results of resistance to wind load of door panels.**

| Door Panels | | Wind load class | Wind load [Pa] | Maximum pressure [Pa] | Remarks/ Fracture |
|---|---|---|---|---|---|
| **1** | ISODOOR Industrial fingersafe 8500 x 600 mm, With truss 60 mm | **2** | | 671 | BoP* between point of loading |
| **2** | ISODOOR Industrial fingersafe 6500 x 600 mm, With truss 60 mm | **3** | | 1069 | BoP* between point of loading |
| **3** | ISODOOR Residential fingersafe 5000 x 500 mm, | **3** | | 1299 | BoP* at point of loading |
| **4** | ISODOOR Residential fingersafe 2500 x 500 mm, | **5** | **3515** | 4833 | BoP* at point of loading |

BoP = Buckling of the panel
* Only stated for class 5

## 1 Introduction

RISE has been commissioned by BILKA otomatik kapi sistemleri to perform wind load tests on door panels.

| | |
|---|---|
| Place of testing | RISE – Safety – Mechanics research laboratory in Borås. |
| Test dates | 2019-05-10 – 2019-05-11. |





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## 2 Tested objects

The tested objects consist of door panels according to Table 2. The client selected the test specimens without assistance from RISE.

**Table 2 Description of the tested door panels.**

| Product name | | Width (mm) | Height (mm) | Thickness (mm) | Strengthening profile (truss) |
|---|---|---|---|---|---|
| **1** | ISODOOR Industrial fingersafe | 8500 | 600 | 40 | Truss 60 mm |
| **2** | ISODOOR Industrial fingersafe | 6500 | 600 | 40 | Truss 60 mm |
| **3** | ISODOOR Residential fingersafe | 5000 | 500 | 40 | - |
| **4** | ISODOOR Residential fingersafe | 2500 | 500 | 40 | - |

## 3 Test performance

The door panels were subjected to four point bending and tested in accordance with *EN 12444 Resistance to wind load – testing and calculation*. The load was applied as shown in Figure 1. The loading points were symmetrical positioned in the test set-up. The distance between the loading points was half of the distance between the points of support.
The applied load was increased in steps in accordance with the different classes given in *EN 12424 Resistance to wind load – classification*. After each step the deflection of the door panels was measured. The test was performed at ambient temperature.

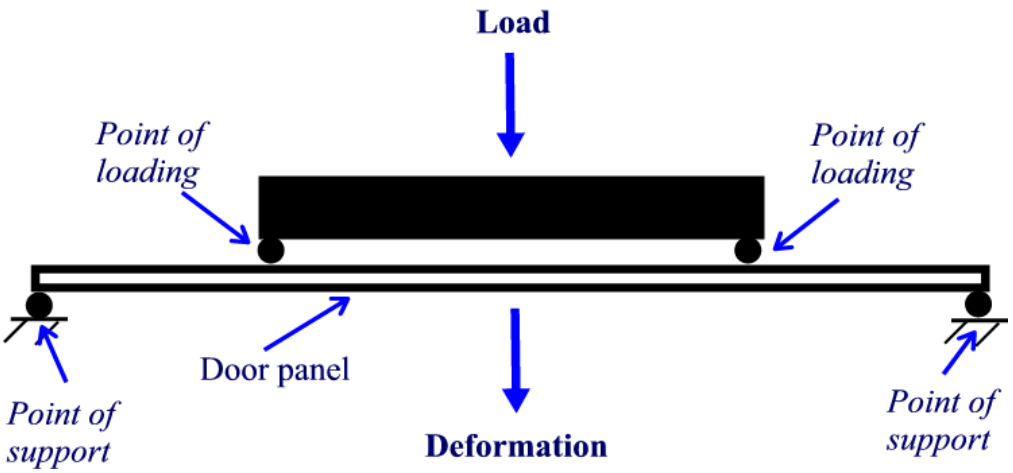


**Figure 1 Schematic figure of test set-up**

# 4 Test results

The test results shown in this report refer only to the tested objects. A summary of the test results is shown in Table 1, (see also Table 2 for a description of the panel details). Figures 2 to 5 shows wind load vs. displacement curves.

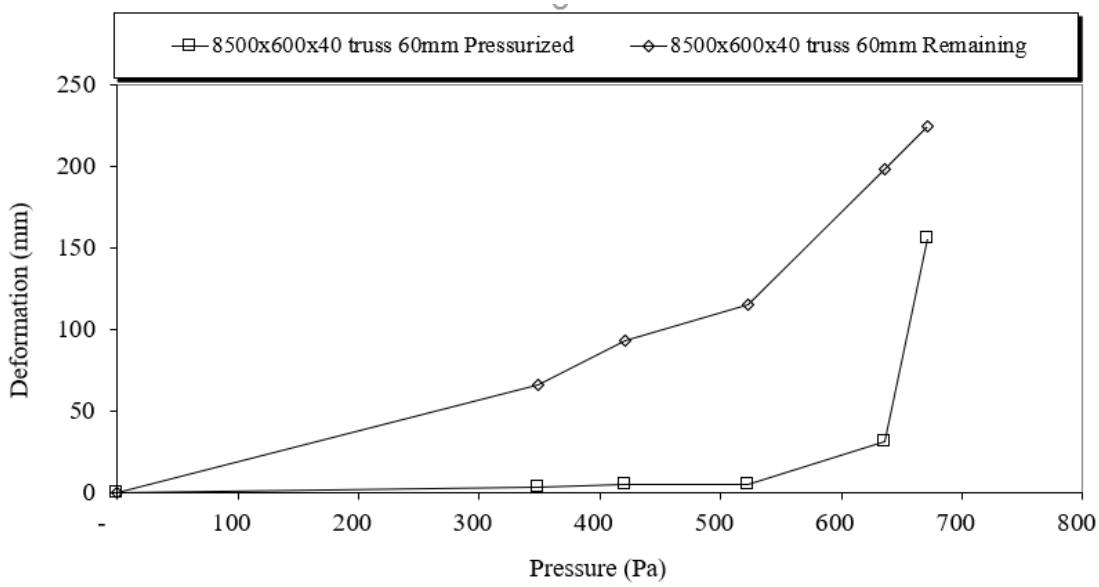


**Figure 2 Wind load vs. displacement**

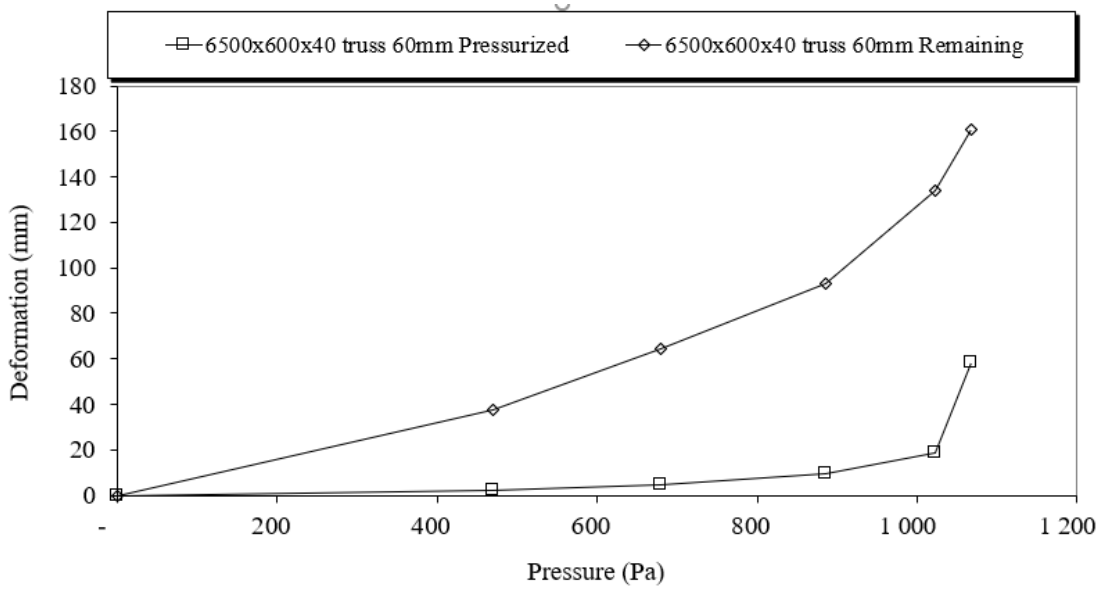


**Figure 3 Wind load vs. displacement**

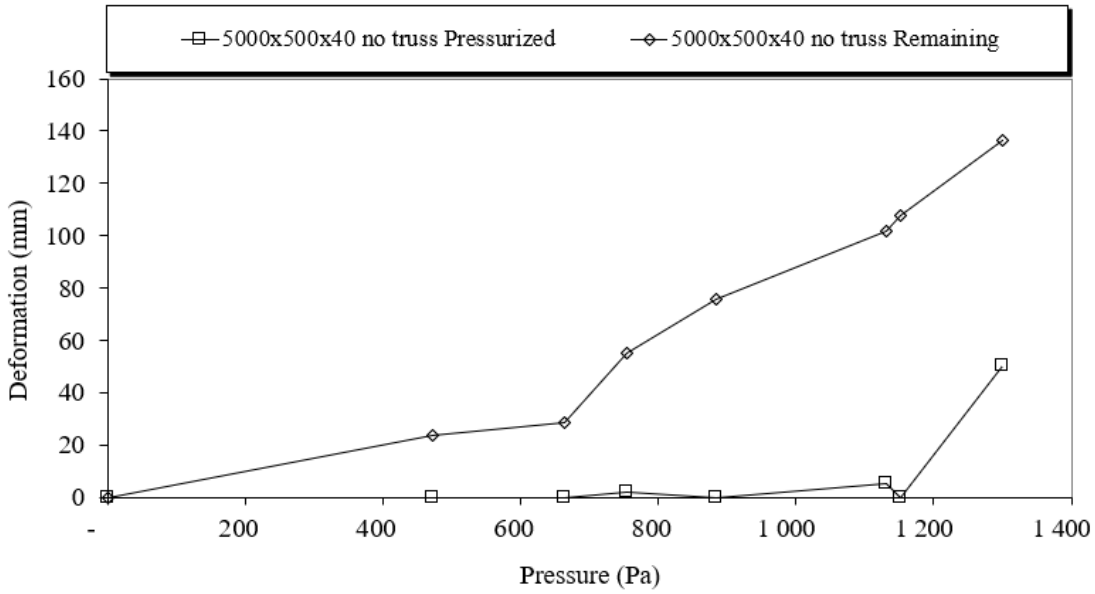


**Figure 4 Wind load vs. displacement**

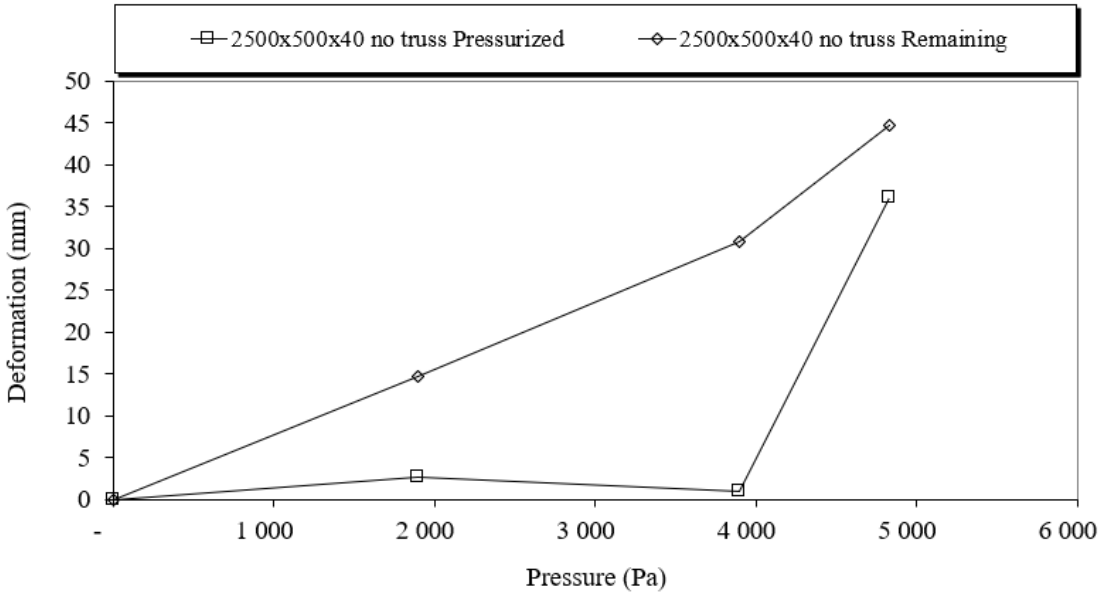


**Figure 5 Wind load vs. displacement**

# 5 Measurement uncertainty

The total calculated measurement uncertainty is for the wind load < 1.5% and for the deformations < 1.5%. Reported uncertainty corresponds to an approximate 95 % confidence interval around the measured value. The interval has been calculated in accordance with GUM (The ISO guide to the expression of uncertainty in measurements), which is normally accomplished by quadratic addition of the actual standard uncertainties and multiplication of the resulting combined standard uncertainty by the coverage factor *k*=2.

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# REPORT

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Turkiet

## Calculation of thermal transmittance according to EN12428:2013

(3 appendices)

### Work requested

The linear thermal transmittance Ψ for top, bottom and side section of a door with panel and thermal transmittance for the complete door were calculated. Heat losses are calculated based on the drawings and material data supplied by the client.

### Test object

| | |
|---|---|
| Client: | BİLKA otomatik kapi sistemleri - ISODOOR |
| Product name: | Industrial Door, ISO-E |
| Type of door: | Overhead, sectional door |
| Daylight size: | Width 4000 mm, Height 3380 mm |
| Type of panels: | PUR with steel cover |

### Calculation and test methods

Calculations were performed according to EN 12428:2013. The THERM 6.3 software was applied when calculating linear heat losses. Values of the thermal conductivity and applied boundary conditions are shown in appendix 1. The calculations are shown with more details in appendix 2.

### Results

The thermal transmittance of door with size 3000mm * 2250mm was calculated to

$U_D$ = 1.4 W/(m²K)





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**Building Technology - Building Physics and Indoor Environment**

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## Appendices

1 Material data and boundary conditions
2 Calculation of thermal transmittance
3 Drawings

Appendix 1

| Material | Thermal conductivity, W/(m·K) | Source |
|---|---|---|
| Steel | 50 | 1 |
| Polyurethane | 0.023 | 2 |
| Aluminium | 160 | 1 |
| EPDM | 0.25 | 1 |

Cavity (air) is calculated according to SS-EN ISO 10077-2:2012 , single equivalent thermal conductivity method.

For aluminium surfaces that faces the interior of the aluminium profiles is the emissivity 0.3 (-). For other surfaces is the emissivity 0.9 (-) according to SS-EN ISO 10077-2:2012.

1= EN10456:2007
2= According to report 9P02246-1A including increment for ageing

The air temperature and surface resistance have been taken as $\vartheta_i$ = +20 °C on the inside and $\vartheta_e$ = 0 °C on the outside
$R_{se}$ = 0.04 m²K/W
Rsi = 0.13 m²K/W (0.20 m²K/W for inward corners)

Appendix 2

# Calculation of thermal transmittance

## Formulation

$$U_D = \left[A^p \cdot U^p_{1-DIM} + A^g \cdot U^g_{1-DIM} + \sum(\psi_i \cdot L_i)\right] / A_{door} + \Delta U_D$$

where

$U^p_{1-DIM}$, $U^g_{1-DIM}$ = thermal transmittance for the one-dimensional heat flow through the panel and glazing, W/(m²K)

$A^p$ and $A^g$ = area of the insulated panel and glazing

$\psi_i$ = linear thermal transmittance for edge sections. Additional heat flow compared to the one-dimensional heat-flow through panel due to combined thermal effects of glazing panel(s), thermal bridging at the edge and wall position.

$L_i$ = length, m

The total additional thermal transmittance of all point thermal bridges ($\Delta U_D$) is less than 0.01 W/(m²K).

## Panel design

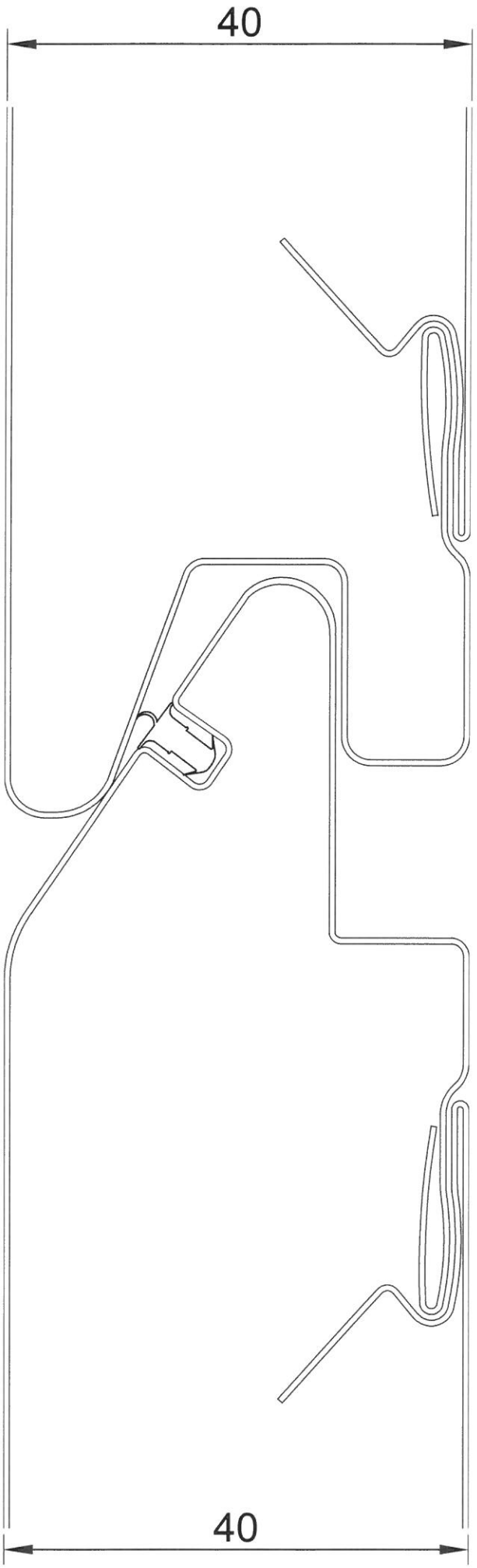
6 panels , door size 4000 * 3380

*40.0mm panel: 0.5 steel – 39.0 polyurethane – 0.5 steel*

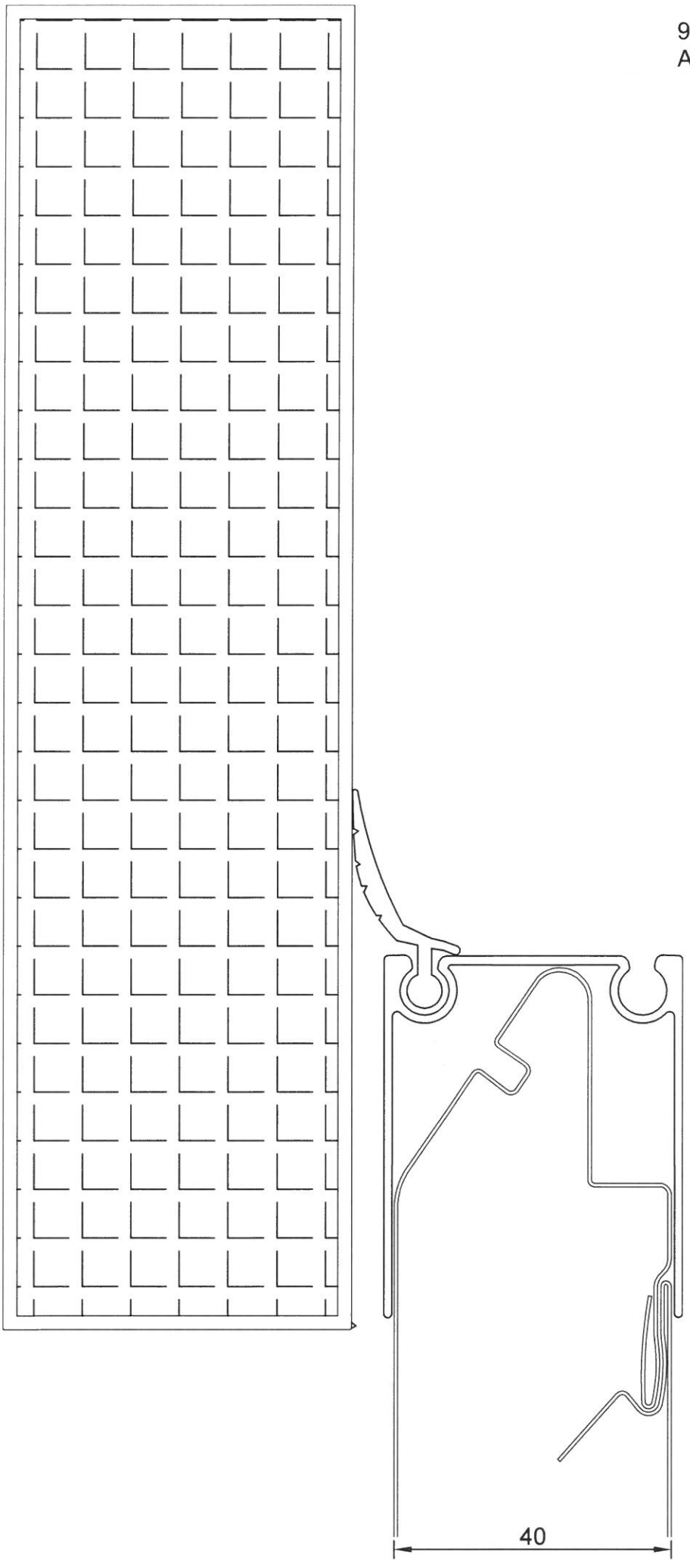
$U^p_{1-DIM}$ = 0.54 W/(m²·K)

## Test results

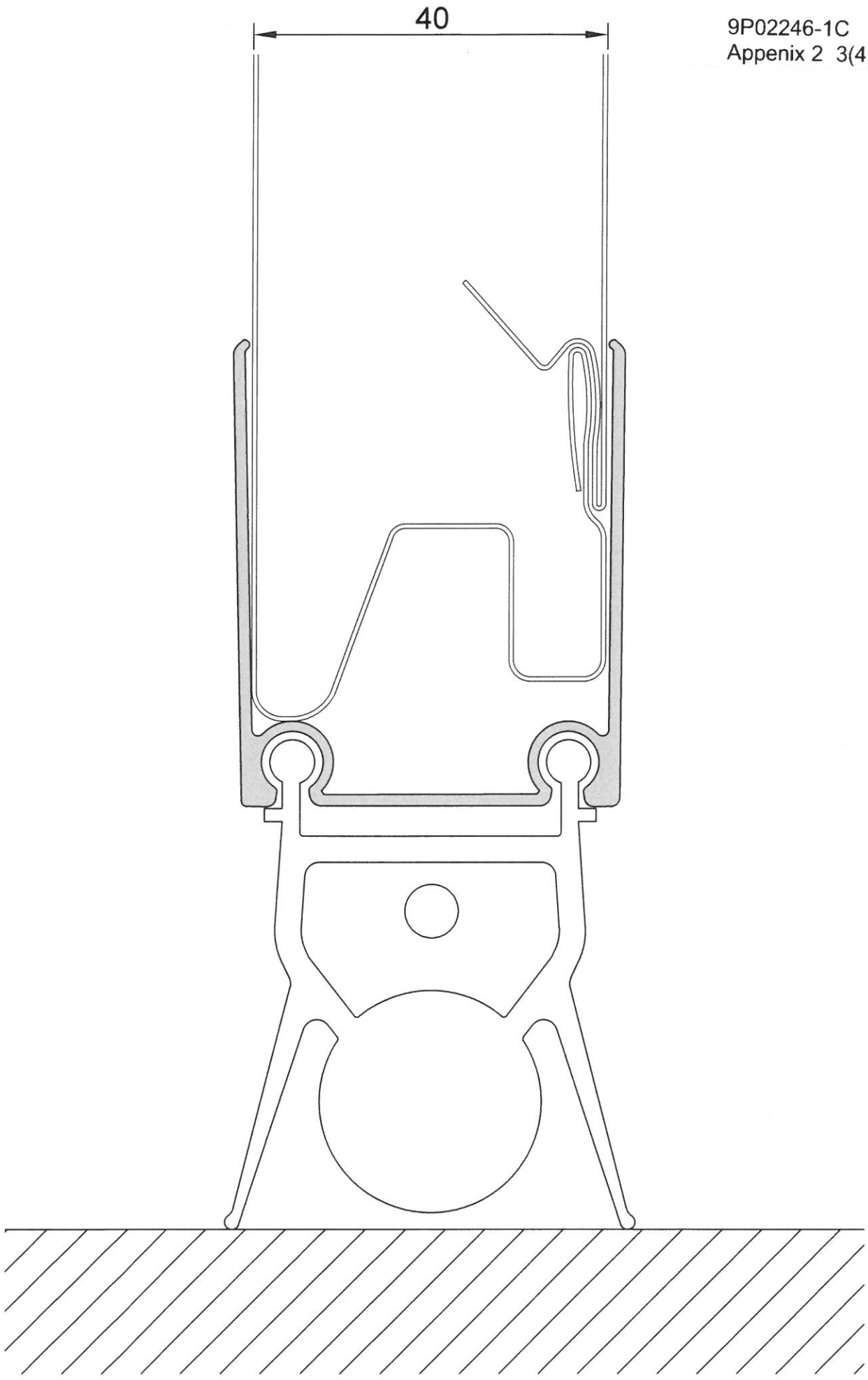
| Section | Length, m | Ψ-value , W/(mK) | Area , m² | U-value, W/(m²K) |
|---|---|---|---|---|
| Side | 6.76 | 0.40 | - | - |
| Top | 4.0 | 0.58 | - | - |
| Bottom | 4.0 | 0.49 | - | - |
| Between panels | 20.0 | 0.27 | - | - |
| Panels | - | - | 13.52 | 0.54 |
| Point thermal bridges ($\Delta U_D$) | - | - | - | <0.01 |
| Door | - | - | 4.0 * 3.38 | 1.42 |




# Panel Joint

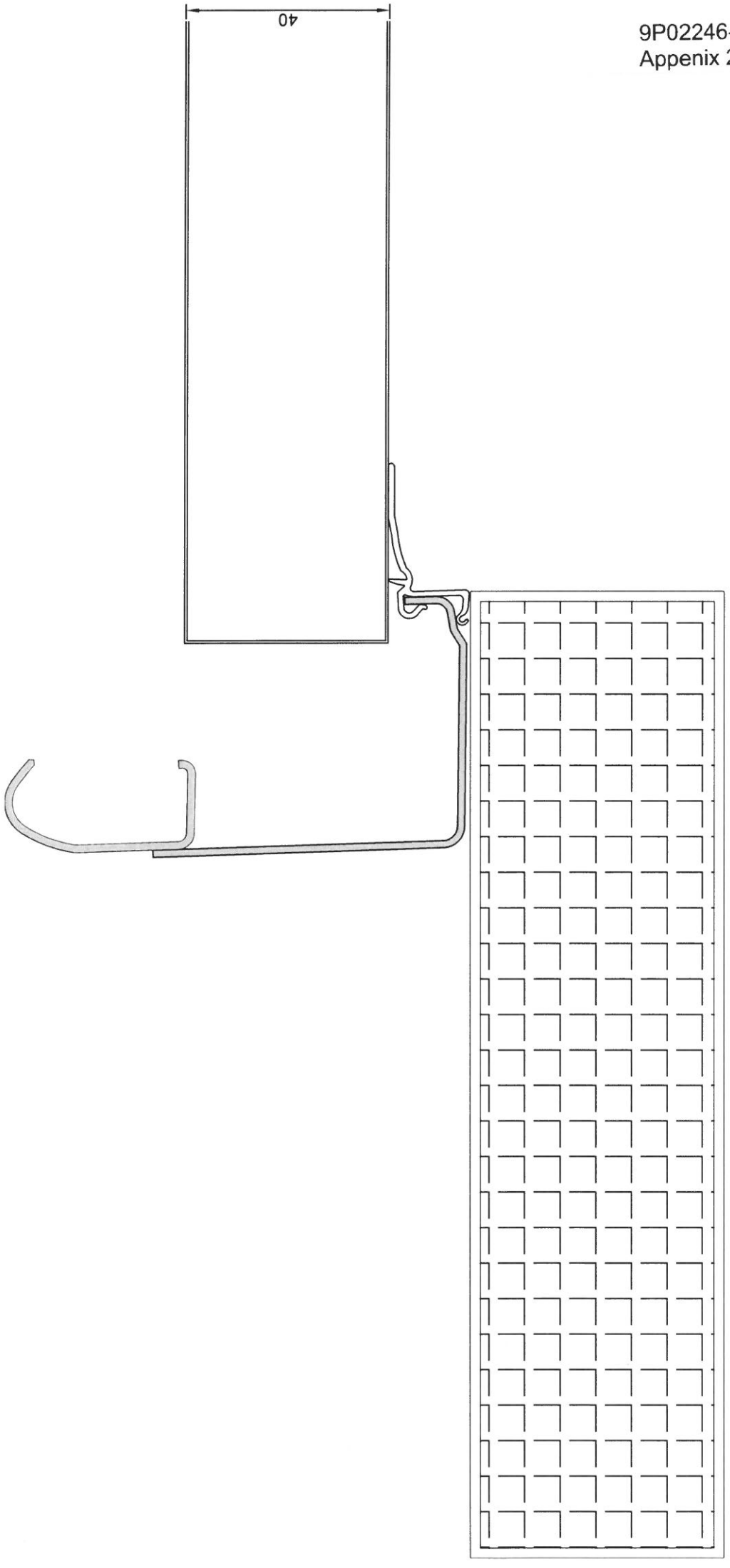



Top Section




# Bottom Section

Side Section



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Testing

BILKA otomatik kapı sistemleri
Mimarsinan OSB 9. Cadde no:1
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Turkiet

# Determination of thermal conductivity

(1 appendix)

## Sampling

Cut-out pieces of sandwich door leafs were sent to RISE by the client and arrived in good condition to RISE HSi at 2017-12-18.

## Test preparation

The samples consisted of polyurethane foam sandwiched between sheets of steel. Before determination of thermal conductivity of the polyurethane foam the surface sheets were removed and the test specimens were cut.

## Test method

The thermal conductivity was determined according to SS-EN 12667:2001.

## Test results

| Tested product | Thermal conductivity, W/(m·K) |
|---|---|
| ISO 220 | 0.0209 |

The results, which are only valid for the tested specimens, are reported in more detail in Annex 1, where also the uncertainty of measurement and testing dates are reported.

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**Appendix**

1 Test results





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Appendix 1

# Test results

## Determination of thermal conductivity

| | |
|---|---|
| **Client** | BİLKA otomatik kapi sistemleri - ISODOOR |
| **Products** | The samples consisted of polyurethane foam sandwiched between sheets of steel. |
| **Test date** | 2019-05-02--03 |
| **Test preparation** | Before determination of thermal conductivity the surface sheets were removed and the test specimens were cut. |
| **Test data** | **Apparatus:** Heat-flow meter apparatus HFM2000 single specimen symmetrical configuration with double heat-flow meters (400 x 400 mm). Calibration 2019-03-23 with reference specimen IRMM 440 F66d $\lambda$ = 0.0304 W/(m·K).<br>**Heat-flow:** vertical, downwards<br>**Mean temperature:** 10±0.3 °C<br>**Ambient temperature:** 10 °C<br><br>The specimen thickness in the metering zone were determined by a caliper (inv.nr 900911), measuring plate (TP250 A): 250 Pa, 200 x 200 mm. |
| **Measurement uncertainty** | The uncertainty of the measured thermal conductivity is estimated to ±2 %. The uncertainty of the measured thickness is 0.05 mm<br><br>The measured results only refer to the tested specimen. |
| **Remarks** | No thickness or volume changes were observed during the tests. |
| **Ageing** | The increment for aged value according to table C.2, EN 13165:2012 is 0.0015-0.0025 W/(m·K). |

Appendix 1

## Test results

| | |
|---|---|
| Product | ISO 220 |
| Material | PUR |
| Density of the specimen, kg/m³ | 41.4 |
| Thickness of the specimen, mm | 27.0 |
| Mass change during test, kg/kg | 0.001 |
| Temperature difference across the sample, °C | 17.8 |
| Density of the heat-flow, W/m² | 13.8 |
| Thermal conductivity, W/(m·K) | 0.0209 |

# REPORT

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Turkiet

## Calculation of thermal transmittance according to EN12428:2013

(3 appendices)

### Work requested

The linear thermal transmittance Ψ for top, bottom and side section of a door with panel and thermal transmittance for the complete door were calculated. Heat losses are calculated based on the drawings and material data supplied by the client.

### Test object

| | |
|---|---|
| Client: | BİLKA otomatik kapi sistemleri - ISODOOR |
| Product name: | Garage Door, ISO 220 |
| Type of door: | Overhead, sectional door |
| Daylight size: | Width 2500 mm, Height 2250 mm |
| Type of panels: | PUR with steel cover |

### Calculation and test methods

Calculations were performed according to EN 12428:2013. The THERM 6.3 software was applied when calculating linear heat losses. Values of the thermal conductivity and applied boundary conditions are shown in appendix 1. The calculations are shown with more details in appendix 2.

### Results

The thermal transmittance of door with size 3000mm * 2250mm was calculated to

$U_D = 1.6$ W/(m²K)





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## Appendices

1 Material data and boundary conditions
2 Calculation of thermal transmittance
3 Drawings

Appendix 1

| Material | Thermal conductivity, W/(m·K) | Source |
|---|---|---|
| Steel | 50 | 1 |
| Polyurethane | 0.023 | 2 |
| Aluminium | 160 | 1 |
| EPDM | 0.25 | 1 |

Cavity (air) is calculated according to SS-EN ISO 10077-2:2012 , single equivalent thermal conductivity method.

For aluminium surfaces that faces the interior of the aluminium profiles is the emissivity 0.3 (-). For other surfaces is the emissivity 0.9 (-) according to SS-EN ISO 10077-2:2012.

1= EN10456:2007
2= According to report 9P02246-1A including increment for ageing

The air temperature and surface resistance have been taken as $\vartheta_i$ = +20 °C on the inside and $\vartheta_e$ = 0 °C on the outside
$R_{se}$ = 0.04 m²K/W
Rsi = 0.13 m²K/W (0.20 m²K/W for inward corners)

Appendix 2

# Calculation of thermal transmittance

## Formulation

$$U_D = \left[A^p \cdot U^p_{1-DIM} + A^g \cdot U^g_{1-DIM} + \sum(\psi_i \cdot L_i)\right] / A_{door} + \Delta U_D$$

where

$U^p_{1-DIM}$, $U^g_{1-DIM}$ = thermal transmittance for the one-dimensional heat flow through the panel and glazing, W/(m²K)

$A^p$ and $A^g$ = area of the insulated panel and glazing

$\psi_i$ = linear thermal transmittance for edge sections. Additional heat flow compared to the one-dimensional heat-flow through panel due to combined thermal effects of glazing panel(s), thermal bridging at the edge and wall position.

$L_i$ = length, m

The total additional thermal transmittance of all point thermal bridges ($\Delta U_D$) is less than 0.01 W/(m²K).

## Panel design

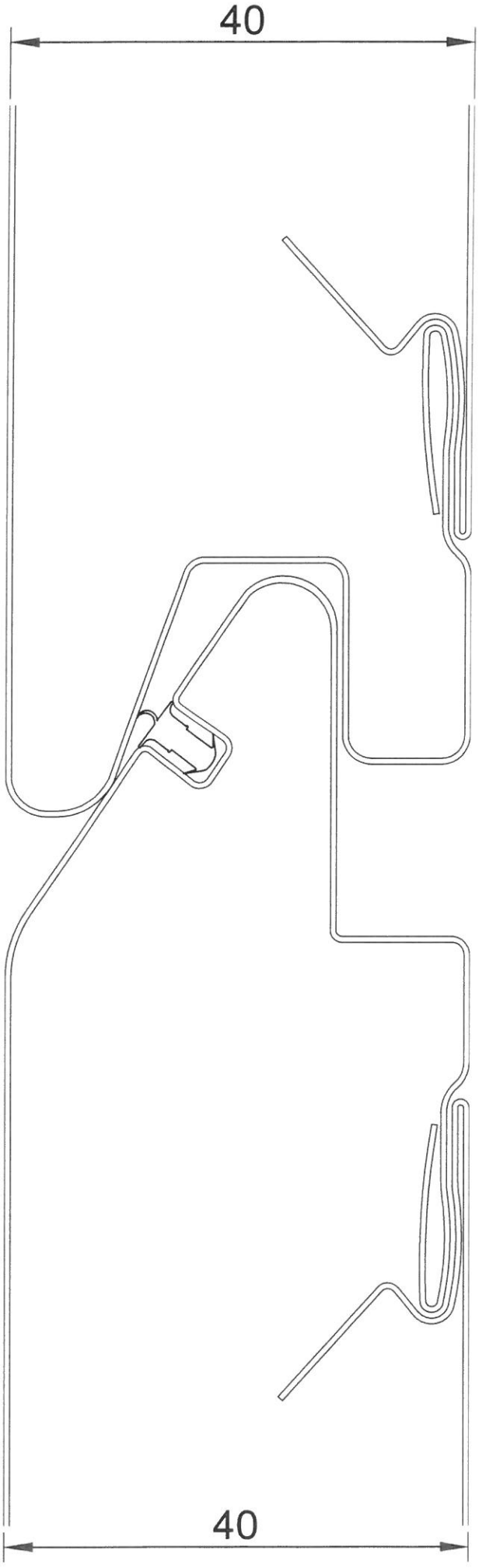
4 panels , door size 2500 * 2250

*40.0mm panel: 0.5 steel – 39.0 polyurethane – 0.5 steel*

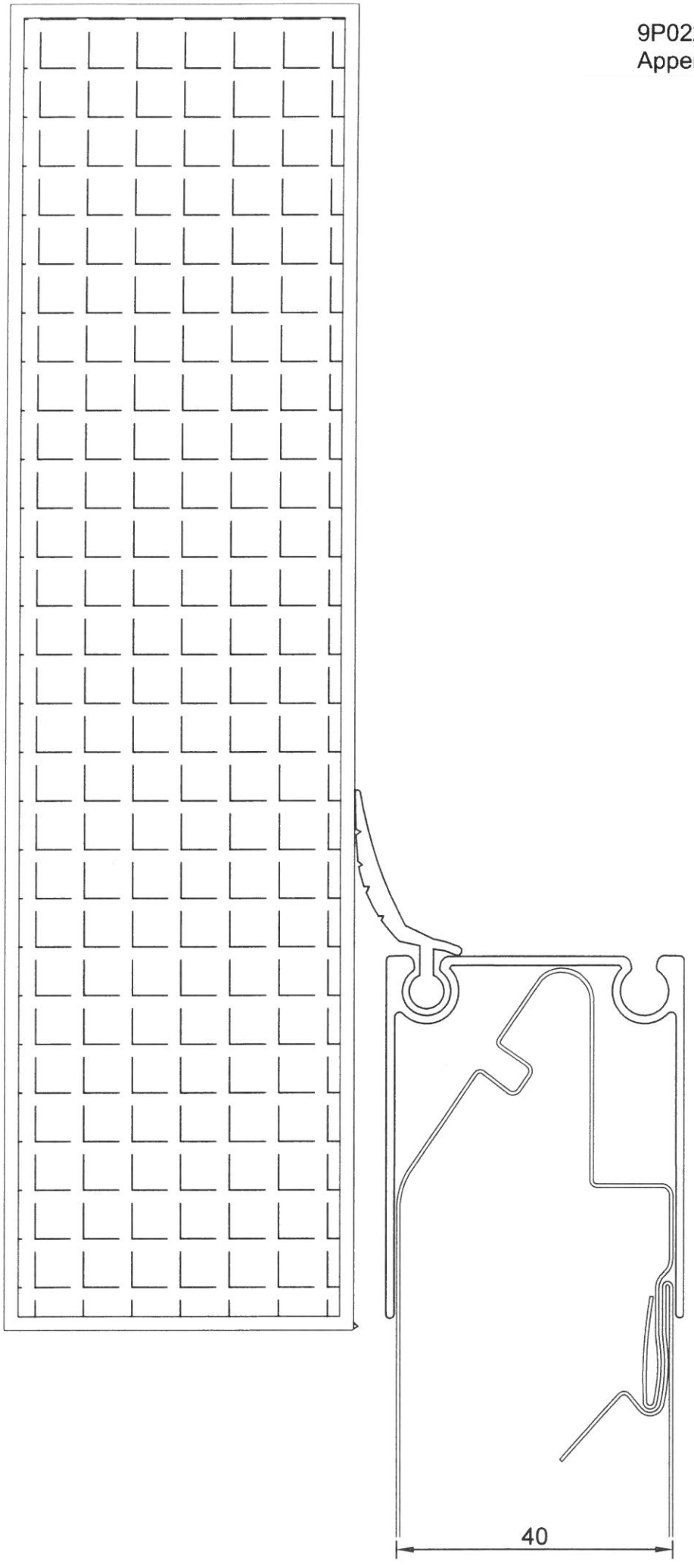
$U^p_{1-DIM}$ = 0.54 W/(m²·K)

## Test results

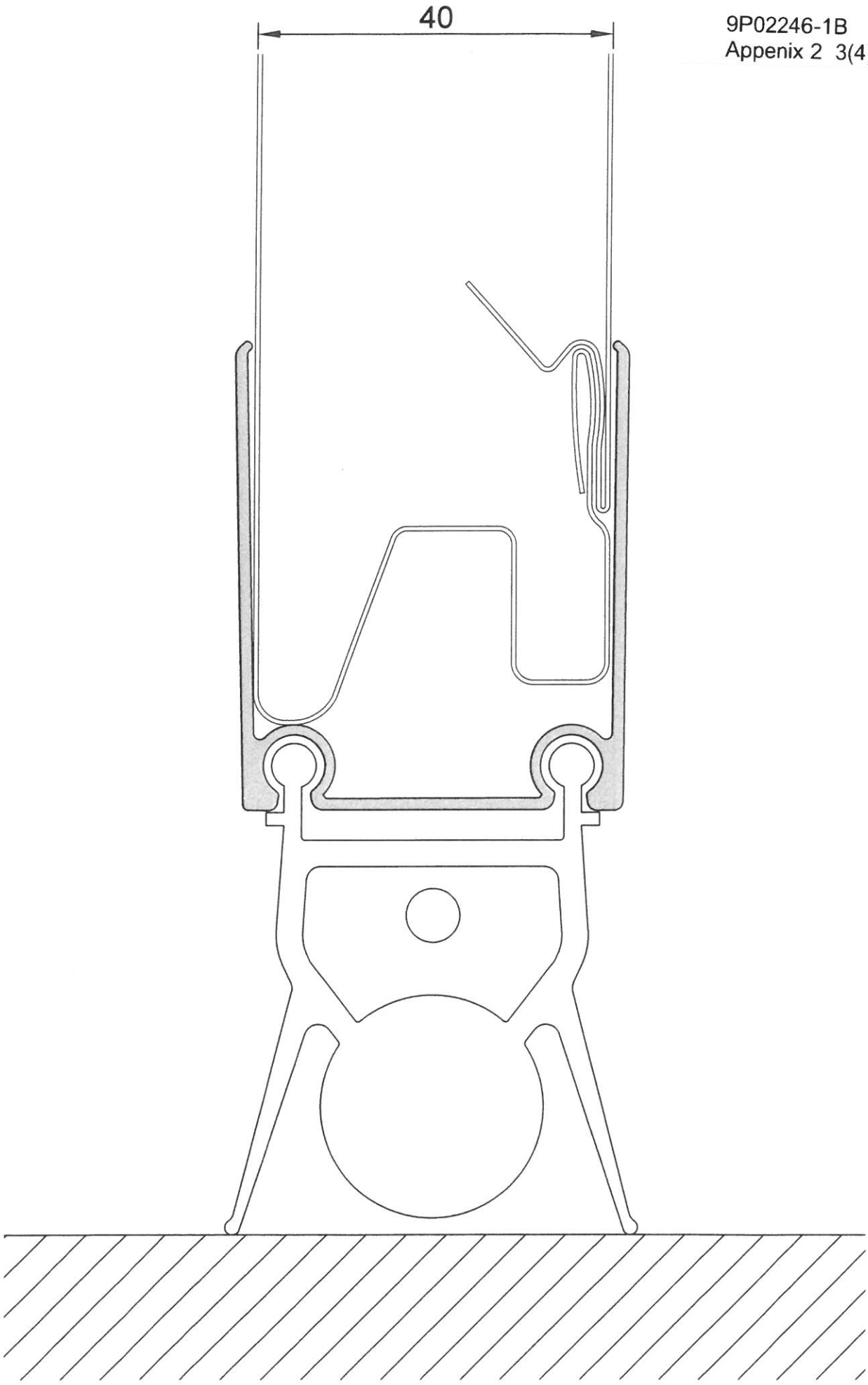
| Section | Length, m | Ψ-value , W/(mK) | Area , m² | U-value, W/(m²K) |
|---|---|---|---|---|
| Side | 4.5 | 0.40 | - | - |
| Top | 2.5 | 0.58 | - | - |
| Bottom | 2.5 | 0.49 | - | - |
| Between panels | 7.5 | 0.27 | - | - |
| Panels | - | - | 5.62 | 0.54 |
| Point thermal bridges ($\Delta U_D$) | - | - | - | <0.01 |
| Door | - | - | 2.5 * 2.25 | 1.60 |




# Panel Joint




Top Section




# Bottom Section

# Side Section