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TÜRKAK
Test
TS EN ISO/IEC 17025
AB-0531-T

AB-0531-T
060.452.1 / 2015
10 / 2015

FTI Fasad Teknoloji Merkezi / *FTI Façade Testing Institute*

NB 2547 no'lu AB Onaylanmış Kuruluşu / *EU Notified Body Nr. 2547*

Merkez / *Head Office*

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Laboratuvar / *Laboratory*

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Tel: +90 212 776 42 25 Fax: +90 212 776 40 58-59 mail: info@fti-europe.com

DENEY SERTİFİKASI / *Test Certificate*

Üreticinin Adı ve Adresi / *Manufacturer's Name & Address*: Burak Alüminyum San. ve Tic. A.Ş.
Orta Mah. Hamdi Efendi Sok. No:16 D:32 İztower Soğanlık - Kartal / İstanbul / TÜRKİYE 34880

Ürün Kabul Tarihi : 27 / 08 / 2015
Acceptence Date of Item

FTI Referans No : 2015.497
FTI Reference No

Ürün Tipi Kimlik Kodu / *Identification Code of the Product Type*: BS 66 - Sliding Window System

İlgili Ürün Standardı : TS EN 14351-1+A1
Relevant Product Standard

Performansın Değişmezliğinin Değerlendirilmesi ve Doğrulanması Sistemi : System - 3
System of Assessment and Verification of Constancy of Performance

Uygulanan Test Standartları : TS EN ISO 10140-2
Applied Test Standards
TS EN ISO 717-1

Sonuçlar / *Results*: Rw (C ; Ctr) = 35,9 (- 1,3 ; -3,8) dB

Test Tarihi / *Date of Test*
30 / 09 / 2015

Sayfa Sayısı / *Number of Pages*
11 / 11

Türk Akreditasyon Kurumu (TÜRKAK) deney raporlarının tanmması konusunda Avrupa Akreditasyon Birliği (EA) ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanınma anlaşması imzalamıştır.
The Turkish Accreditation Agency (TURKAK) is signatory to the multilateral aggreements of the European co - operation for the Accreditation (EA) and of the International Laboratory Accreditation (ILAC) for the Mutual Recognation of test reports.

Uygulanan metodlar, test sonuçları ve genişletilmiş ölçüm belirsizlikleri (talep edilirse), bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir. Bu sertifika yanlız test edilen numuneye ait sonuçları içerir ve ekte sunulan ilgili test raporu ile birlikte geçerlidir.
The applied methods test results and the uncertainties (if requested) with confidence probability are given on the following pages which are part of this report. This certificate includes the test specimen which is identified above and its valid with the related test report which is presented as annex.

Bu sertifika, NB-2547 no'lu Avrupa Birliği Onaylanmış Kuruluşu FTI Fasad Teknoloji Merkezi tarafından 305/2011/AB Yapı Malzemeleri Yönetmeliği doğrultusunda verilmektedir.
This certificate is issued by FTI Facade Testing Institute - European Union Notified Body Nr. 2547 according to the Construction Products Regulation 305/2011/EU.

Mühür / *Seal*

Tarih / *Date of Issue*
07 / 10 / 2015

NB 2547 no'lu AB Onaylanmış Kuruluşu adına / *on behalf of EU NB 2547*
Onaylanmış Kuruluş Direktif Yöneticisi / *Directive Manager of Notified Body*
Öner ARSLAN

TEST REPORT

Report Number	:	060.452.1 / 2015
Report Date	:	07 / 10 / 2015
Testing Reference	:	TS EN ISO 10140-2 Acoustics - Laboratory Measurement of Sound Insulation of Building Elements Part2: Measurement of Airborne Sound Insulation
Product	:	BS 66 – Sliding Window System
Client	:	Burak Alüminyum San. ve Tic. A.Ş.

1. PREFACE

This report comprises of tests and results, which were performed by FTI Facade Testing Institute at the address; Çakıl Mah. Şehit Teğmen Tamer Aydın Sok. No: 60/A 34540 Çatalca - Istanbul / TURKIYE.
Test sample name is BS 66 Sliding Window System which has been produced by Burak Aluminyum San. ve Tic. A.Ş.
Test was carried out on 30 / 09 / 2015 for the determination of acoustic performance.
Test sample has been sent to FTI Laboratory on 27 / 08 / 2015.

2. CLIENT

Burak Aluminyum San. ve Tic. A.Ş.
Orta Mah.Hamdi Efendi Sok. No:16 D:32 İztower
Soğanlık - Kartal / İstanbul / TÜRKİYE 34880

3. TEST METHODS

The above mentioned test has been carried out in project specifications and classified on the standard indicated below. Test has been reported as the number of 060.452.1 / 2015 by Sinan BAYRAKTAR

TS EN ISO 10140-2	Acoustics-Laboratory Measurement of Sound Insulation of Building Elements Part2: Measurement of Airborne Sound Insulation
TS EN ISO 717-1	Acoustics-Rating of Sound Insulation in Buildings and of Building Elements Part 1: Airborne Sound Insulation

4. TEST DATE AND PARTICIPANTS

Test was performed on 30 / 09 / 2015 with the following participants:

Mr. Öner ARSLAN	FTI	Directive Manager of Notified Body
Mr. Serhat ÇOLAK	FTI	Testing Manager
Miss. Nilay BULUT	FTI	Testing Engineer

5. DESCRIPTION OF TEST SAMPLE

Type of sample	Sliding Window System
System Name	BS 66
Dimension of Sample (L x H)	1600 mm x 1400 mm
Surface area of Sample	2,24 m^2
Operable joint length	8,80 m
Glass Type	6 mm Helio Clear + 12mm Air Cavity + 6mm Helio Clear

6. CONDITIONS

Local Temperature	18	ºC
Humidity	68	%
Atmospheric Pressure	1021,0	mbar

7. TEST PERFORMANCE

7.1. Test Results

According to the airborne sound insulation tests conducted in the laboratory, weighted sound reduction index rated according to TS EN ISO 717-1 are given here below.

Rw (C ; Ctr) = 35,9 (- 1,3 ; -3,8) dB / 2015.497.A16 / 30.09.2015

7.2. Mounting in the Laboratory

Test Opening Size	1600 mm x 1400 mm
Test Setup	Modular test wall incorporating openings with differing size. Laboratory conforms to TS EN ISO 10140-2 suppressed flanking transmission suite conditions. Test wall frame is mounted with 50 mm continuous acoustic break filled with rockwool insulation and sealed with elastic PU foam and non setting mastic on all sides. The insert frame was adapted to the necessary test area by utilisation of a high sound insulation light weight wall detail.
Mounting of The Specimen	Carried out by staff of client.
Mounting Conditions	Test specimen was fitted with foam insulation and sealed on both sides with non setting mastic.

7.3. Testing Conditions

Source Room	Volume= 105,8 ; RT < 1,7 s
Receiving Room	Volume= 95,1 ; RT < 1,5 s
Test Opening in The Wall	Largest opening 3890 x 2570 mm (9,99 m^2)
Depth of Test Opening	250 mm
Total Partition Wall Area	21,07 m^2
Maximum Sound Insulation	R'max =59 dB
Sound Source	Dodecahedron loudspeaker placed in two positions inside the source room

Microphone System	Rotating microphone positioned inside the receiving room with 60s/rotation. A microphone with tripod placed in five different positions inside the source room.
Source Signal	Wideband white noise
Filters	One-third octave band filters with centre frequencies within the range of 50-5000Hz
Thermo-Hygro	18ºC ; 68% RH ;1021,0 mbar

7.4. Test Equipment

Instrument	Type	Manufacturer
Acoustic Analyser	NOR 140	Norsonic
Sound Level Calibrator	NOR 1251	Norsonic
Sound Source	NOR 270	Norsonic
Amplifier	NOR 280	Norsonic
Rotating Microphone Boom	NOR 265	Norsonic
Microphone Ext. Cables	NOR 1494	Norsonic
Temperature-Humidity Sensor	TFA Dostmann REF 486	TFA Dostmann/Wertheim

7.5. Detailed Result

Results obtained from the airborne sound insulation tests of the specimen are given in the following graphs prepared according to TS EN ISO 717-1.
Background noise correction was not necessary.

8. PICTURE OF TEST SAMPLE

View from the source room

View from the receiving room

9. RESULT

	MOCKUP	RESULT	CLASSIFICATION
TS EN ISO 10140-2	BS 66 - Sliding Window System	***Rw (C ; Ctr) = 35,9 (-1,3 ; -3,8)dB***	-

Apparent sound reduction index according to ISO 140-3

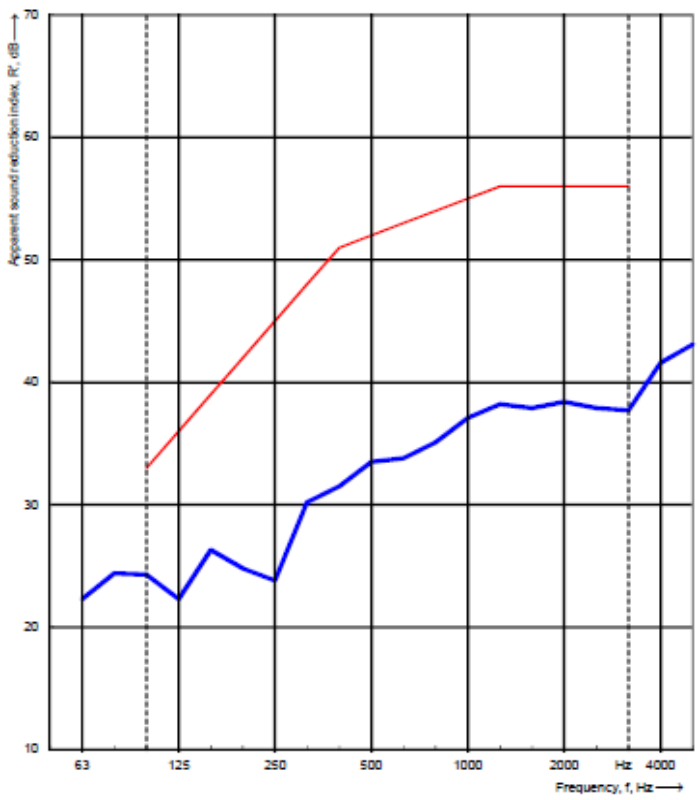
Laboratory measurements of airborne sound insulation of building elements

Client: Date of test: 30.09.2015
Manufacturer: BURAK ALÜMİNYUM SAN.TİC. A.Ş.
Test room identification:
Test specimen mounted by:
Product identification: BS 66 - Sliding Window System

Description of the specimen: 1600 mm x 1400 mm

Size of test opening: 2,24 m^2
Mass per unit area: kg/m^2
Temperature: °C
Air humidity: %
Source room volume: 105,8 m^3
Receiving room volume: 95,1 m^3

Frequency f [Hz]	R' 1/3 octave [dB]
50	
63	22,3
80	24,4
100	24,3
125	22,3
160	26,3
200	24,8
250	23,8
315	30,2
400	31,5
500	33,5
630	33,8
800	35,1
1000	37,1
1250	38,2
1600	37,9
2000	38,4
2500	37,9
3150	37,7
4000	41,6
5000	43,1

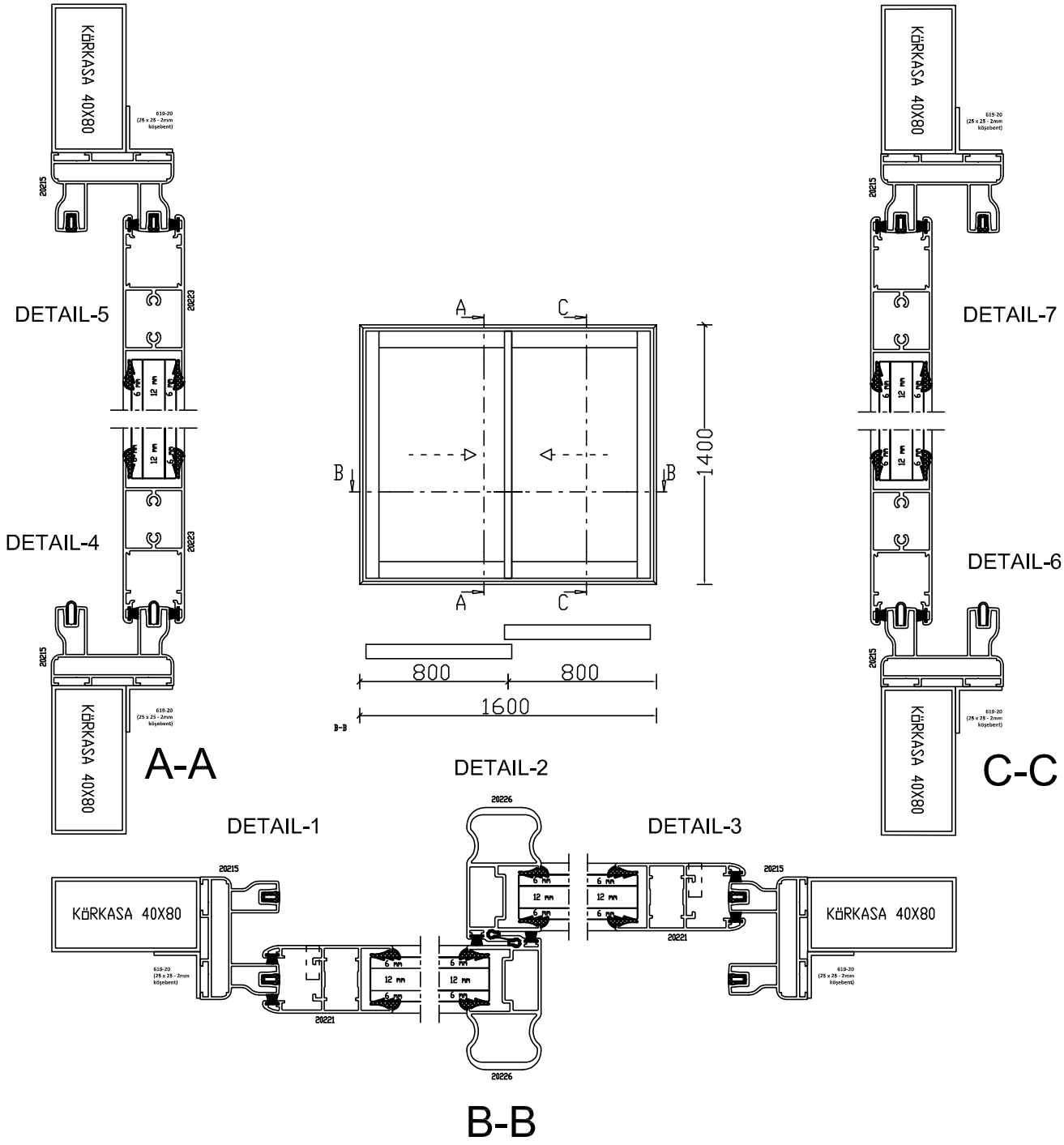


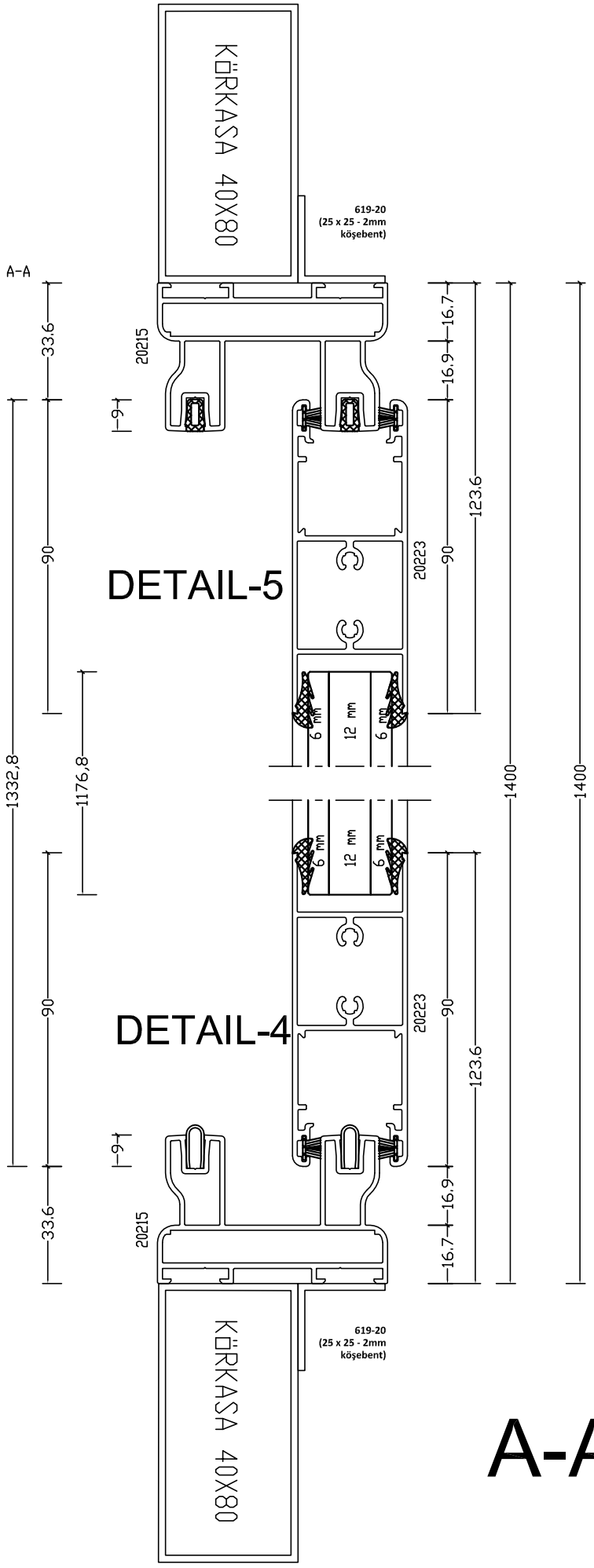
Rating according to ISO 717-1
$R'_w(C;C_{tr})$ = 35,9 (-1,3 ; -3,8) dB
Evaluation based on laboratory measurement results obtained in one-third-octave bands by an engineering method.

$C_{50-3150}$ = dB $C_{50-5000}$ = dB $C_{100-5000}$ = -0,4 dB
$C_{tr,50-3150}$ = dB $C_{tr,50-5000}$ = dB $C_{tr,100-5000}$ = -3,8 dB

Company:
No. of test report: 2015.497

Date: 30.09.2015 Signature:


KÖRKASA 40X80
20215
20223
DETAIL-5
DETAIL-4
A-A
A
C
B
1400
800
800
1600
B-B
DETAIL-2
DETAIL-7
DETAIL-6
C-C
20226
DETAIL-1
DETAIL-3
6 mm
12 mm
20221
B-B


KÖRKASA 40X80
619-20
(25 x 25 - 2mm
köşebent)
A-A
33.6
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DETAIL-5
20223
16.7
16.9
123.6
90
6 mm
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1332,8
1176,8
1400
1400
6 mm
12 mm
6 mm
90
DETAIL-4
20223
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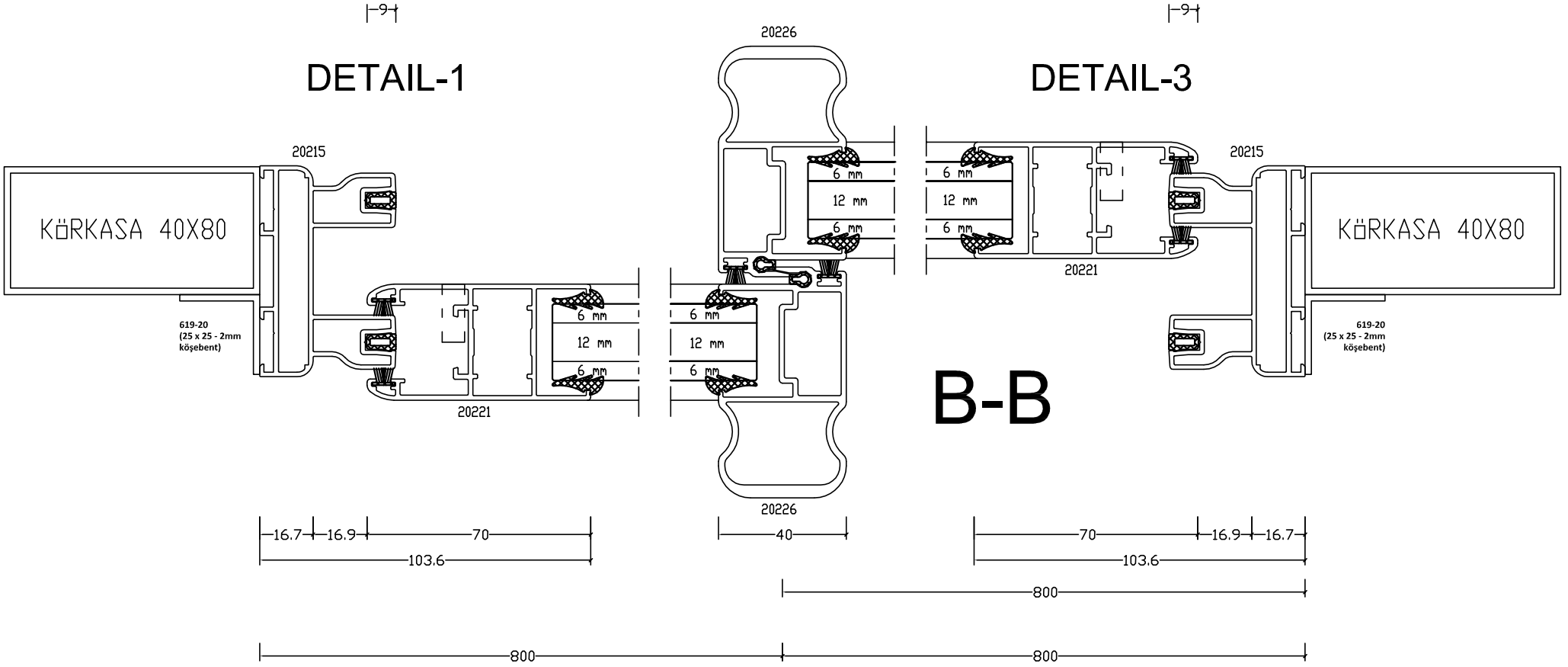
(25 x 25 - 2mm
köşebent)
KÖRKASA 40X80

A-A

DETAIL-2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DETAIL-1
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KÖRKASA 40X80
KÖRKASA 40X80
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B-B
20226
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103.6
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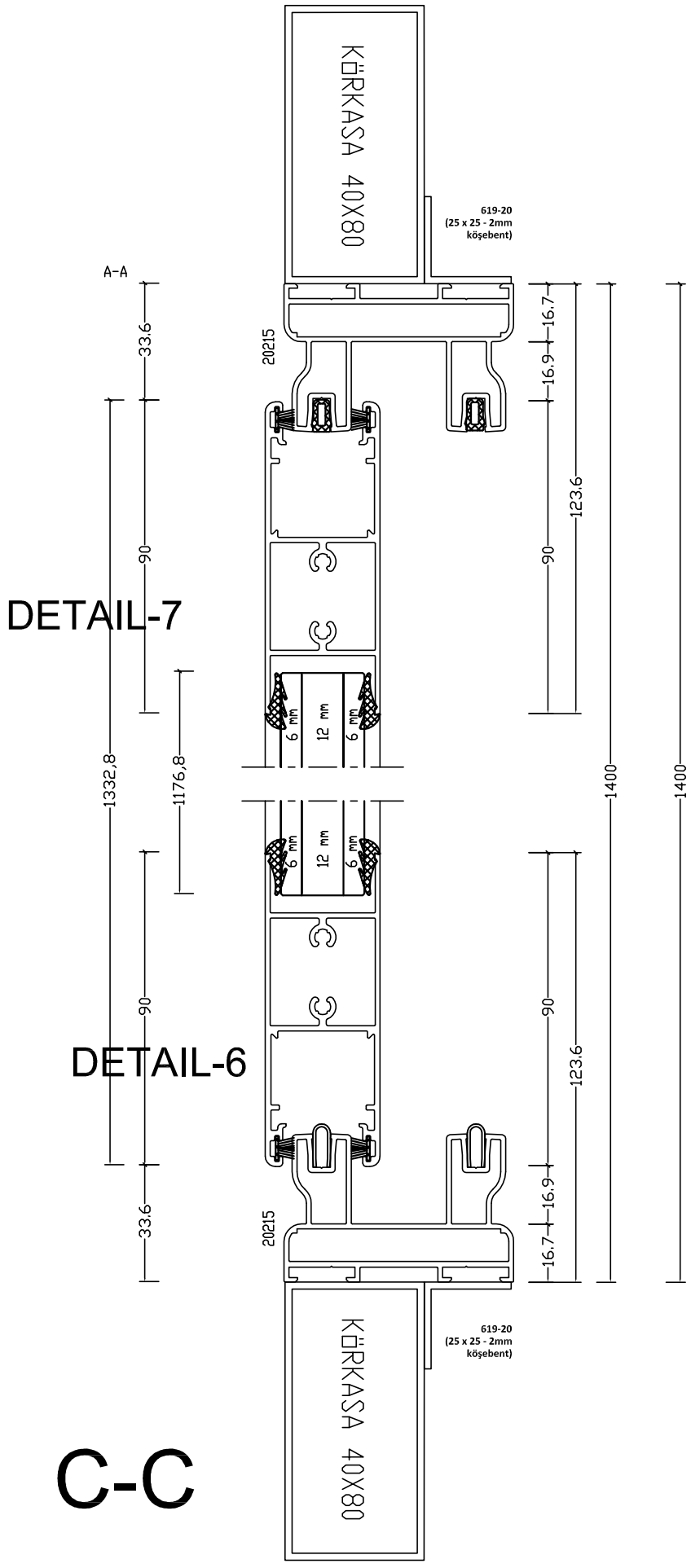
800
800


KÖRKASA 40X80
619-20
(25 x 25 - 2mm
köşebent)
A-A
20215
33.6
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1176,8
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6 mm
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1400
1400
DETAIL-7
DETAIL-6
C-C