

hayatın her yerinde
in every aspect of life

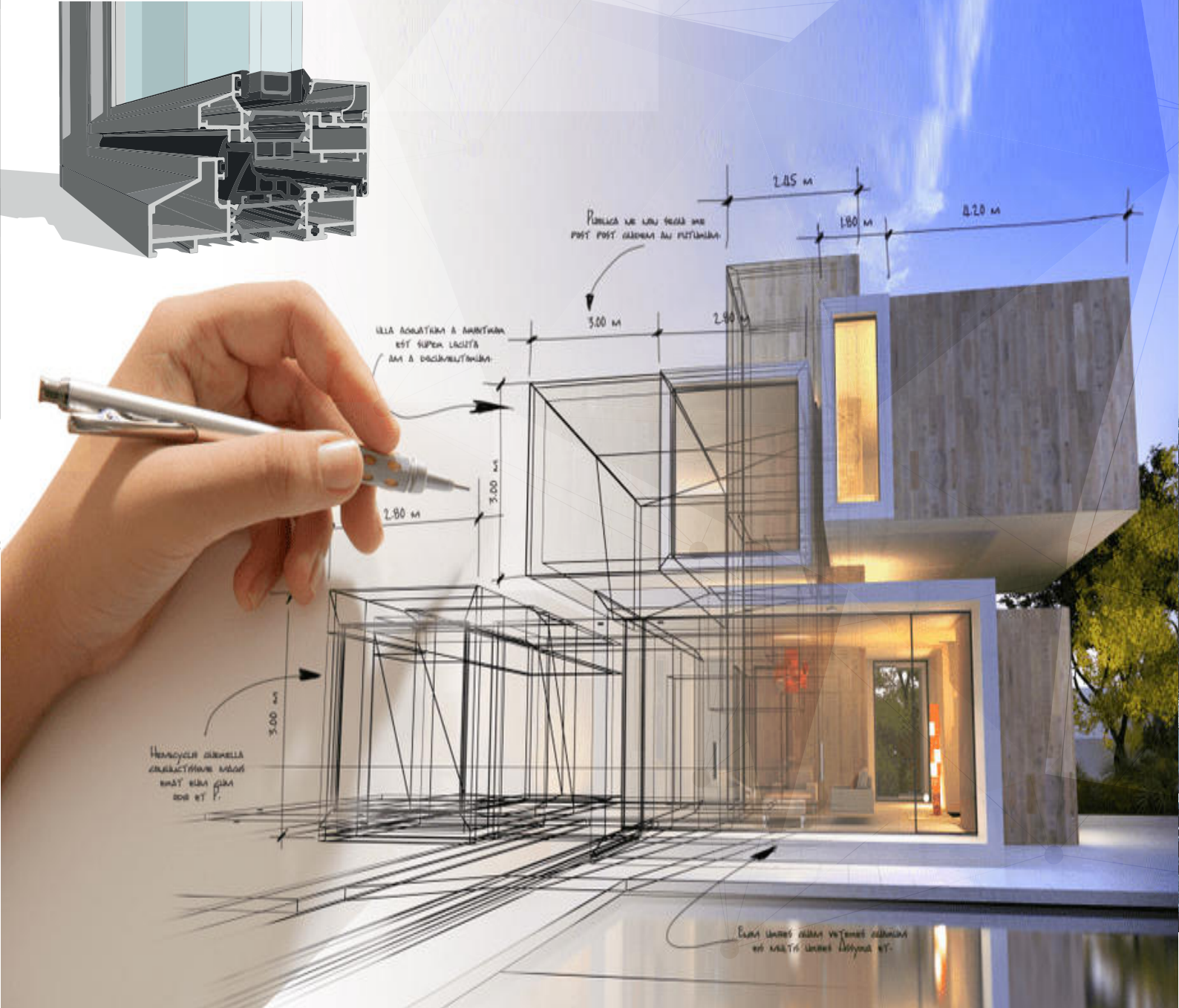
MİMARİ SİSTEMLER KATALOĞU

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SYSTEM

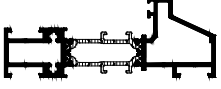
ARCHITECTURAL SYSTEMS
CATALOGUE

SMARTNESS 37

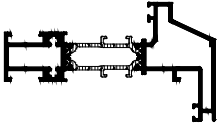


SMARTNESS 37 HINGED System

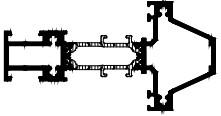
ÜRÜN KONSEPTİ / PRODUCT CONCEPT



SMARTNESS 37 menteşeli sistem ince ve estetik zarif görünümünün yansıra kasa derinliği 106mm olup kasada 39mm ısı bariyeri kanatta 35mm ısı bariyeri ile maksimum yalıtım performansı sağlamakla beraber yüksek statik değerlerde sağlamaktadır.

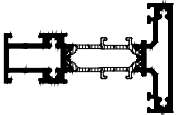


SMARTNESS 37 'de kullanılan geometrik tasarım dili, sistemin estetik ve modern yapısını ön plana çıkartmaktadır. Sistemin her detayında görülebilecek geometrik yapı, görsel bütünlüğü bozabilecek gibi bölümlerde ince kesitler kullanılmasıyla birleştiğinde sistemin yapıyla bir bütünlük oluşturması sağlanmaktadır. Mimari alüminyum sistemlerde estetiğin artması, imalat ve kullanım zorluğu manasına gelirken; bu tip zorluklar tasarım sürecinin en başında planlandığından, SMARTNESS 37 imalat ve kullanım kolaylığı sağlamakla beraber sistemin yapısal özelliklerine önem verilmiştir.



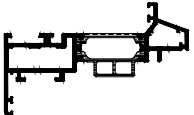
İMALAT KOLAYLIĞI

Sistemin tüm aksesuarları ortak kullanım ve birbiriyle uyumlu çalışma mantığı çerçevesinde tasarlandığından, SMARTNESS 37 imalat kolaylığı yönünden benzersiz bir yapıdadır.



ENERJİ TASARRUFU

Çevreye duyarlılık ve enerji tasarrufu konuları gün geçtikçe önem kazanmakta olduğundan SMARTNESS 37'da ısı yalıtım özelliklerine de önem verildi.



GELİŞTİRİLEBİLİRLİK

SMARTNESS 37 sistem konsepti olarak kolaylıkla geliştirilebilir yapıda dizayn edilmiştir. Bu sayede eklenecek yeni çözümlerinin sisteme adaptesi hızlı biçimde yapılabilmektedir.

The SMARTNESS 37 hinge system is slim and aesthetically elegant looking. Case depth is 106mm. It provides maximum insulation with 39mm thermal break on the frame and 35mm thermal break on the wing. It has high temperature and static values. Geometric used in SMARTNESS 37 design language, aesthetic and modern highlights its structure.

The geometric structure, which can be seen in every detail of the system, provides an integrity in the system together with the use of thin sections in sections that may disrupt the visual integrity.

While the increase in aesthetics in architectural aluminum systems means difficulty in manufacturing and use; Since such difficulties were planned at the very beginning of the design process, the structural features of the SMARTNESS 37 system were given importance as well as providing ease of manufacture and use.

EASE OF MANUFACTURING

All accessories of the system are common use and compatible with each other. The SMARTNESS 37 is designed for ease of manufacture. It has a unique structure.

ENERGY-SAVING

Environmental awareness and energy saving issues are gaining importance day by day. therefore in the SMARTNESS 37 the heat Insulation properties were also given importance.

DEVELOPABILITY

in SMARTNESS 37 as a system concept easily expandable design has been done. In this way, the adaptation of new solutions to the system can be done very fast

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SMARTNESS 37 HINGED System

STATİK HESAPLAMALARDA KABULLER THE ACCEPTANCES OF STATIC CALCULATIONS

STATİK HESAPLARDA KULLANILAN STANDARTLAR (STANDARDS USING WITH STATIC CALCULATIONS):

TS 498 (DIN 1055) , TS EN 13830

STATİK HESAPLARDA KULLANILAN YÜKLER (LOADS USING WITH STATIC CALCULATIONS):

1-Yatay Rüzgar Yükleri (Horizontal Wind Load)

2-Düşey Cam Yükleri (Vertical Glass Load)

3-Kar Yükleri (Snow Load)

Rüzgar Yükleri (Wind Load) :

Statik hesaba başlamadan önce rüzgar şekil katsayısı tayin edilerek binanın yüksekliğine göre aşağıdaki tablodan seçilen rüzgar yükü referans değer olarak alınır. (Before the static calculation, first determine the shape coefficient of wind and then according to the height of the building select the wind load value from the table below.)

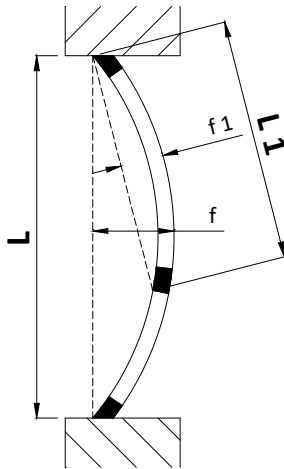
Rüzgar şekil katsayısı (Shape coefficient of wind) :

Binanın boyu (height of building) / binanın en dar eni (minimum width of building) < 5 : $c = 1.2$

Binanın boyu (height of building) / binanın en dar eni (minimum width of building) > 5 : $c = 1.6$

RÜZGAR ŞEKİL KATSAYISI SHAPE COEFFICIENT OF WIND	ZEMİNDEN YÜKSEKLİK (m) GROUND ELEVATION	RÜZGAR HIZI (m/s) WIND SPEED	HIZ BASINCI (kg/m ²) ABSORPTION	RÜZGAR YÜKÜ (kg/m ²) WIND LOAD
1.2	0 - 8	28	50	60
	9 - 20	36	80	96
	21 - 100	42	110	132
	> 100	46	130	156
1.6	0 - 8	28	50	80
	9 - 20	36	80	128
	21 - 100	42	110	176
	> 100	46	130	208

STATİK HESAPLARDA SEHİM KABULÜ (DEFLECTION ACCEPTANCE OF STATIC CALCULATIONS):



Tek camlarda (at single glass);

MESNET AÇIKLIĞI SUPPORT CLEARNESS	AZAMİ SEHİM MAXIMUM DEFLECTION
$L < 3m$	$f = L / 200$
$L > 3m$	$f = L / 300$

Çift camlarda (at double glass);

ARA KAYIT YOKSA ; (IF IT HAS NO TRANSOM)	
$L \geq 3m$	$f = \max. 0,8cm$
$L < 2m$	$f = L / 200$
ARA KAYIT VARSA ; (IF IT HAS TRANSOM)	
a) Camların boyları $L1$; (If the glass height $L1$)	
$L1 \leq 2,4m$	$f1 \leq L1 / 300$
$L1 > 2,4m$	$f1 \leq 0,8cm$
b) Profillerin boyları L ; (If the profile length L)	
$L \leq 3m$	$f1 \leq L / 200$
$L > 2m$	$f1 \leq L / 300$

KISALTMALARIN ANLAMLARI

EXPLANATIONS OF ABBREVIATIONS

W: Rüzgar yükü (Wind load)

c: Rüzgar şekil katsayısı (Wind shape c.)

q: Emme hız basıncı (Speed pressure)

V: Rüzgar hızı (Wind speed)

L: Düşey açıklık (Vertical clearance)

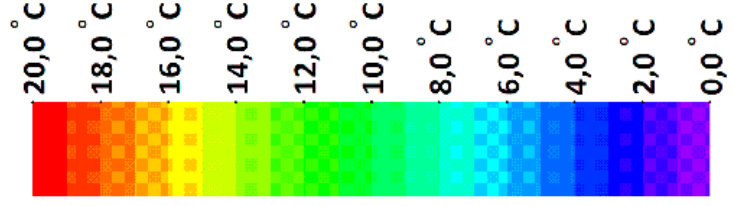
E: Elastisite modülü (Elasticity modulus)

f: Maksimum sehım (Max. deflection)

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SA SYSTEM

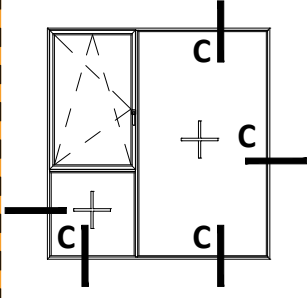
PROFİL TERMAL RAPORLARI PROFILE THERMAL INSULATION VALUES



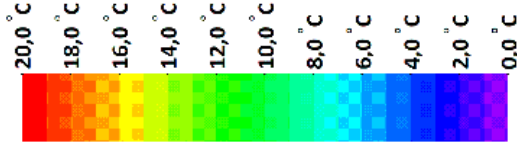
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SYSTEM

SMARTNESS 37 HINGED System



İÇE AÇILIR BİNLİ PENCERE INWARD OPENING STEP WINDOW



TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C

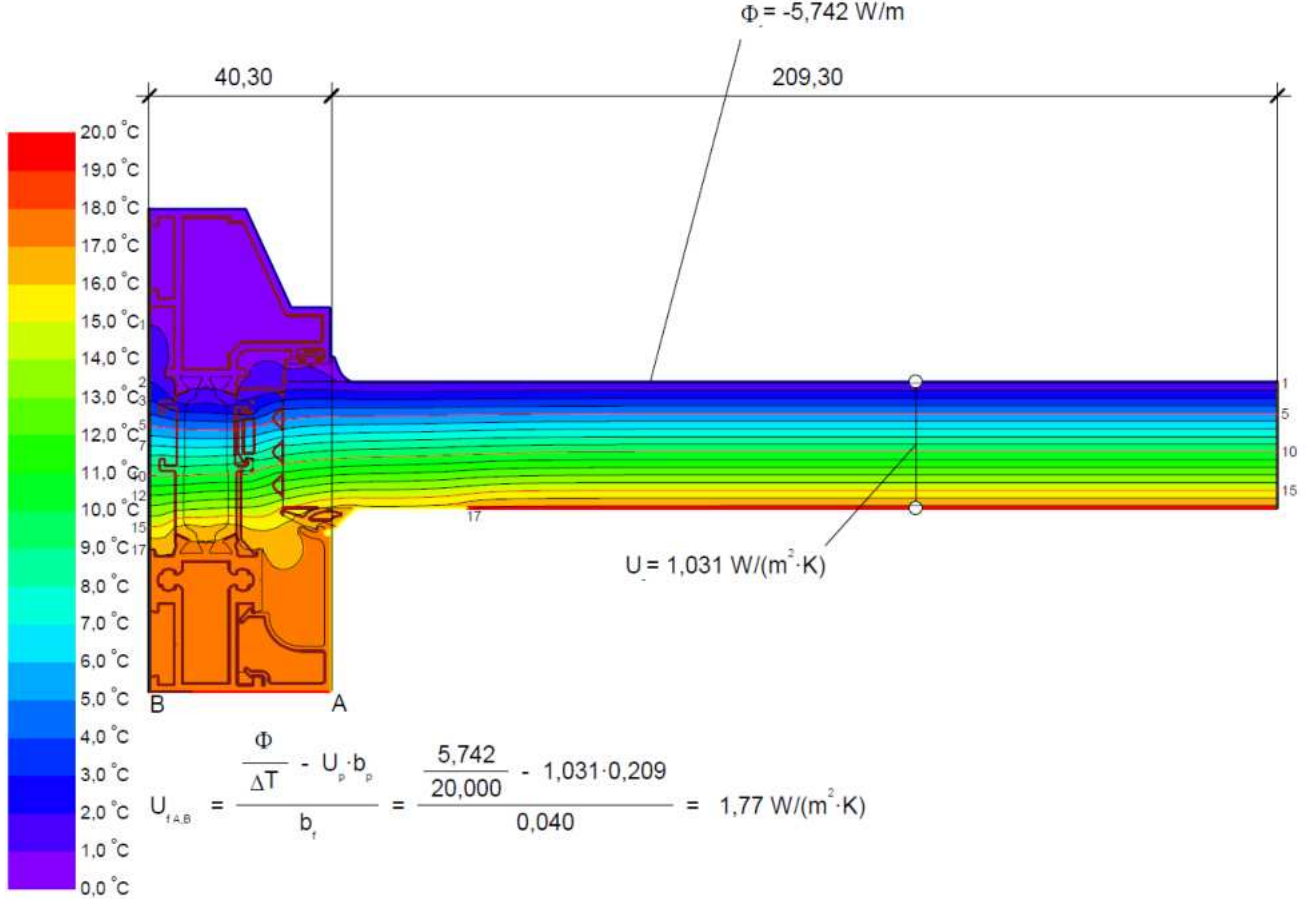
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C

(ROOM TEMPERATURE)

BAĞIL NEM : %50

(RELATIVE HUMIDITY)



Material	λ [W/(m·K)]	ϵ	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ϵ
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame		0,000	0,040	
Panel	0,035	0,900	Interior, frame, normal		20,000	0,130	
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced		20,000	0,200	
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Unventilated air cavity	anisotropic						

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

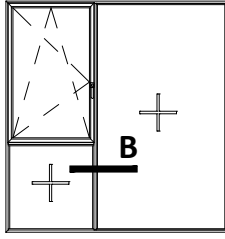
As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

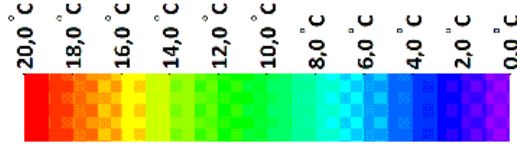
FERMO

SA SYSTEM

SMARTNESS 37 HINGED System



İÇE AÇILIR BİNLİ PENCERE INWARD OPENING STEP WINDOW

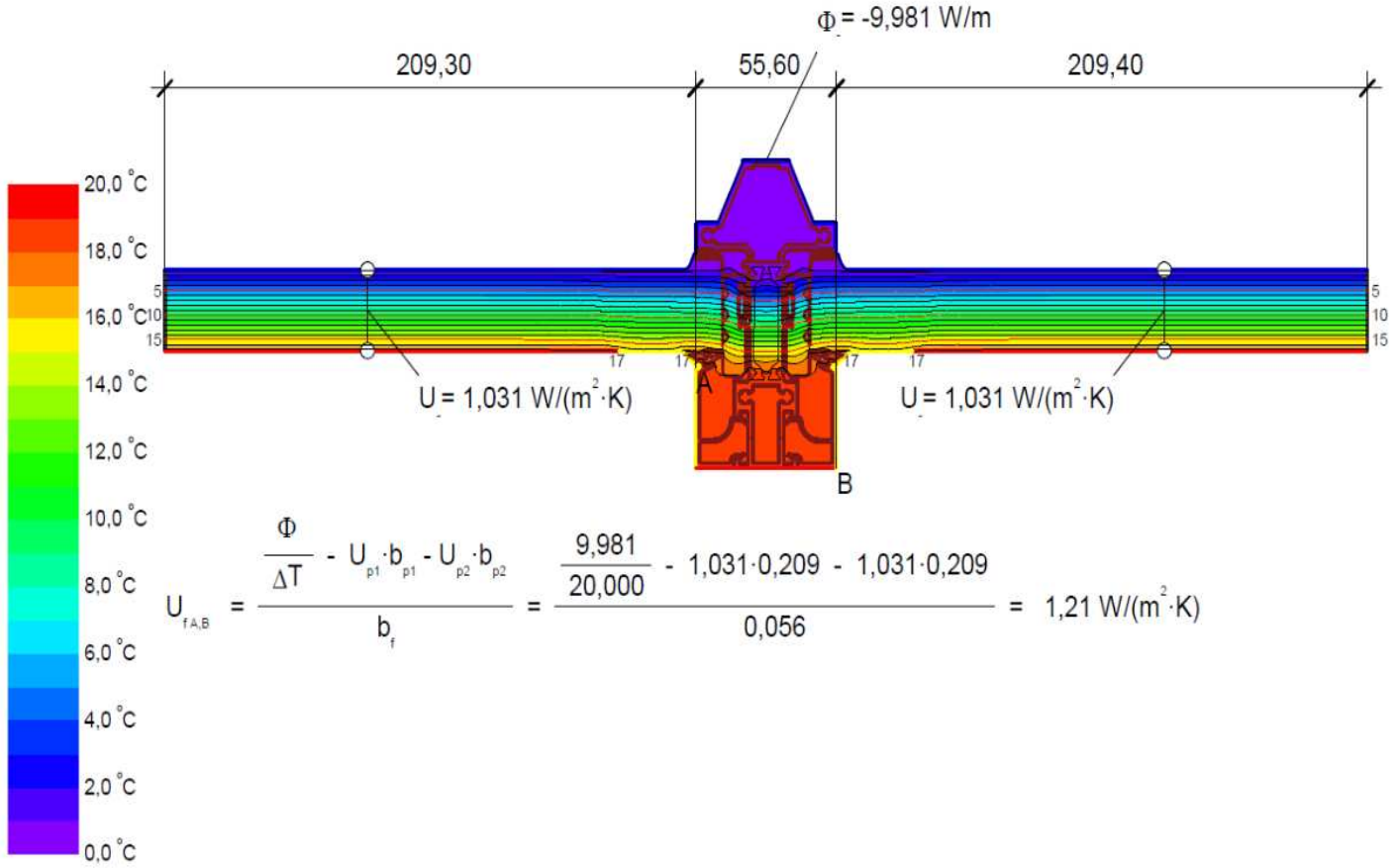


TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DİŞ ORTAM SICAKLIĞI : 0°C
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C
(ROOM TEMPERATURE)

BAĞIL NEM : %50
(RELATIVE HUMIDITY)



Material	λ [W/(m·K)]	ε	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ε
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame	0,000	0,040		
Panel	0,035	0,900	Interior, frame, normal	20,000	0,130		
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced	20,000	0,200		
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Unventilated air cavity	anisotropic						

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

Detaylı bilgi için, lütfen termal hesap raporlarınızı isteyiniz. / For further information, please ask for the reports.

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SYSTEM

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$$U_{fA,B} = \frac{\frac{\Phi}{\Delta T} - U_{p1} \cdot b_{p1} - U_{p2} \cdot b_{p2}}{b_f} = \frac{\frac{9,863}{20,000} - 1,031 \cdot 0,209 - 1,031 \cdot 0,209}{0,056} = 1,10 \text{ W/(m}^2 \cdot \text{K)}$$

Material	$\lambda [W/(m \cdot K)]$	Boundary Condition	$q [W/m^2]$	$\theta [^\circ C]$	$R [(m^2 \cdot K)/W]$
Aluminium (Si Alloys)	160,000	Exterior, frame		0,000	0,040
EPDM (ethylene propylene diene monomer)	0,250	Interior, frame, normal		20,000	0,130
Panel	0,035	Interior, frame, reduced		20,000	0,200
Polyamid 6.6 with 25% glass fibre	0,300	Symmetry/Model section	0,000		
Polyethylene LD, low (Cam Altı Yalıtım)	0,014				
Undefined Material	0,010				

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.
As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

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SYSTEM

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A diagram of a 2x2 grid. The top-left cell contains a dashed square labeled 'A' with a crosshair inside it. The top-right cell contains a crosshair. The bottom-left cell contains a crosshair. The bottom-right cell is empty.

A horizontal color gradient bar representing a temperature scale from 0,0 °C to 20,0 °C. The colors transition from dark blue at 0,0 °C, through light blue, green, yellow, orange, and red, to dark red at 20,0 °C. The temperature values are labeled above the bar at intervals of 2,0 °C.

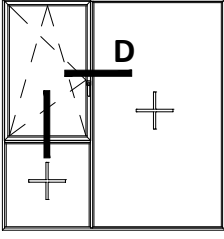
BAĞIL NEM : %50
(RELATIVE HUMIDITY)



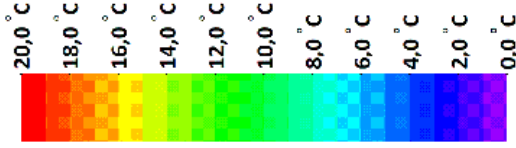
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SMARTNESS 37 HINGED System



İÇE AÇILIR BİNİLİ PENCERE
INWARD OPENING STEP WINDOW



TERMAL HESAP KOŞULLARI
THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C

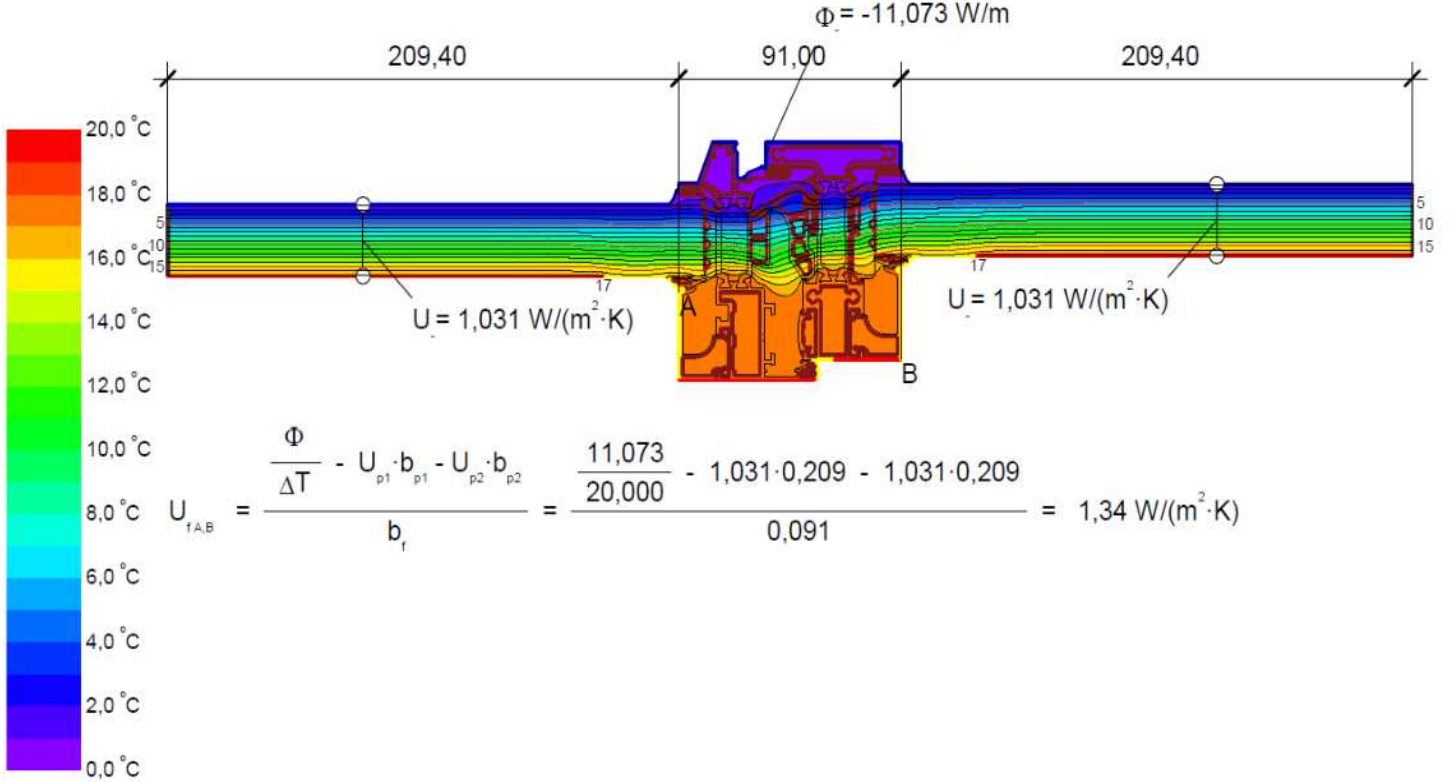
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C

(ROOM TEMPERATURE)

BAĞIL NEM : %50

(RELATIVE HUMIDITY)



$$U_{f,A,B} = \frac{\Phi}{\Delta T} - U_{p1} \cdot b_{p1} - U_{p2} \cdot b_{p2} = \frac{11,073}{20,000} - 1,031 \cdot 0,209 - 1,031 \cdot 0,209 = 1,34 \text{ W/(m}^2 \cdot \text{K)}$$

Material	λ [W/(m·K)]	ε	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ε
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame	0,000	0,040		
Panel	0,035	0,900	Interior, frame, normal	20,000	0,130		
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced	20,000	0,200		
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Polyethylene LD, low (Orta Tozluuk Yalıtım) (1)	0,018	0,900					
Unventilated air cavity	anisotropic						

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

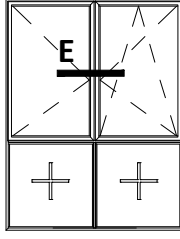
Detaylı bilgi için, lütfen termal hesap raporlarınızı isteyiniz. / For further information, please ask for the reports.

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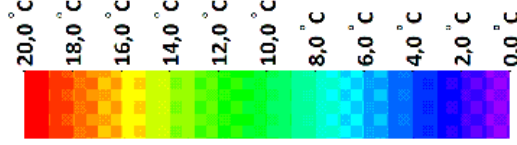
SYSTEM

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SMARTNESS 37 HINGED System



İÇE AÇILIR BİNLİ PENCERE INWARD OPENING STEP WINDOW

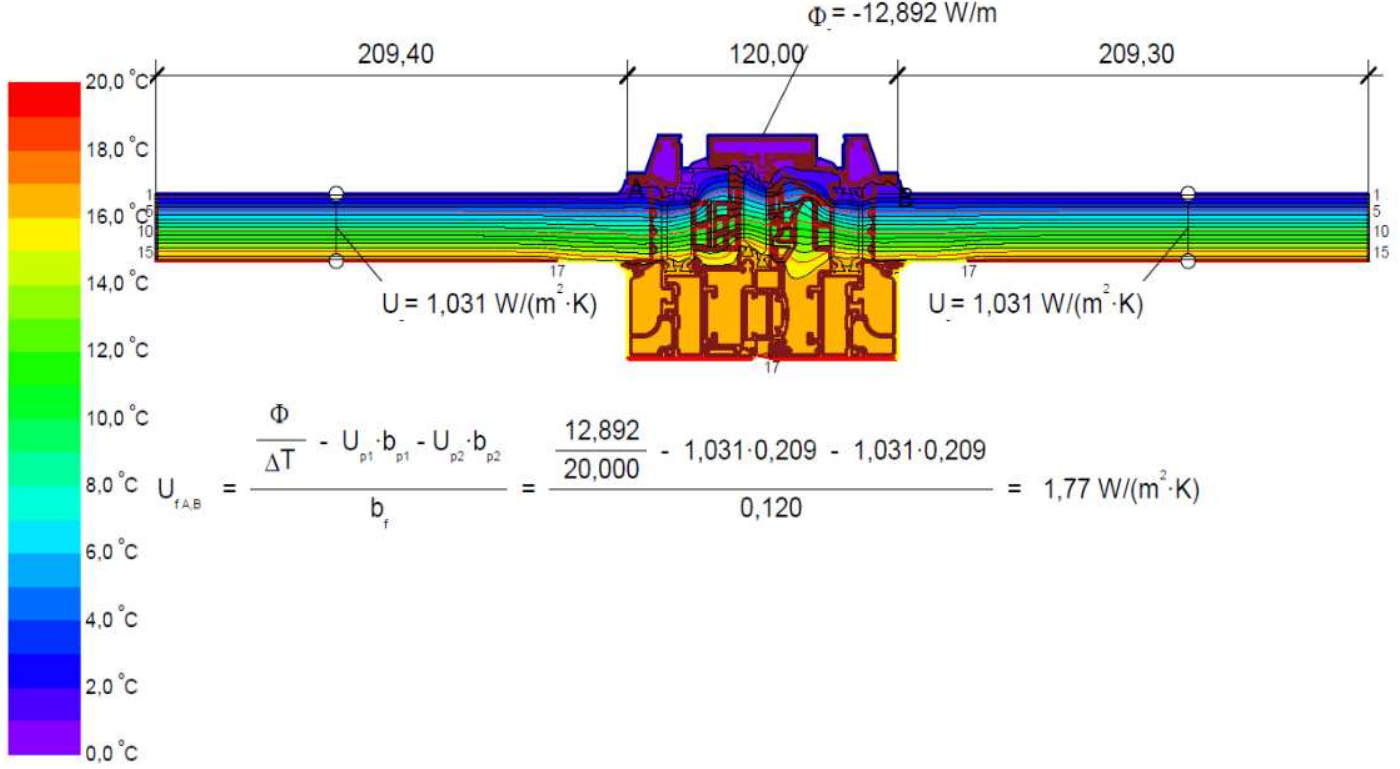


TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C
(ROOM TEMPERATURE)

BAĞIL NEM : %50
(RELATIVE HUMIDITY)



$$U_{fA,B} = \frac{\frac{\Phi}{\Delta T} - U_{p1} \cdot b_{p1} - U_{p2} \cdot b_{p2}}{b_f} = \frac{\frac{12,892}{20,000} - 1,031 \cdot 0,209 - 1,031 \cdot 0,209}{0,120} = 1,77 \text{ W/(m}^2 \cdot \text{K)}$$

Material	λ [W/(m·K)]	ϵ	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ϵ
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame	0,000		0,040	
Panel	0,035	0,900	Interior, frame, normal	20,000		0,130	
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced	20,000		0,200	
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Polyethylene LD, low (Orta Tozlu Yalıtım) (1)	0,018	0,900					
Slightly ventilated air cavity	anisotropic						
Unventilated air cavity	anisotropic						

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

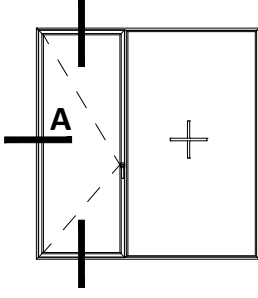
As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

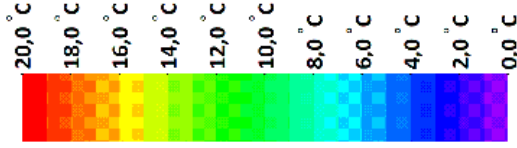
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SYSTEM

SMARTNESS 37 HINGED System



İÇE AÇILIR BİNİLİ KAPI INWARD OPENING STEP DOOR

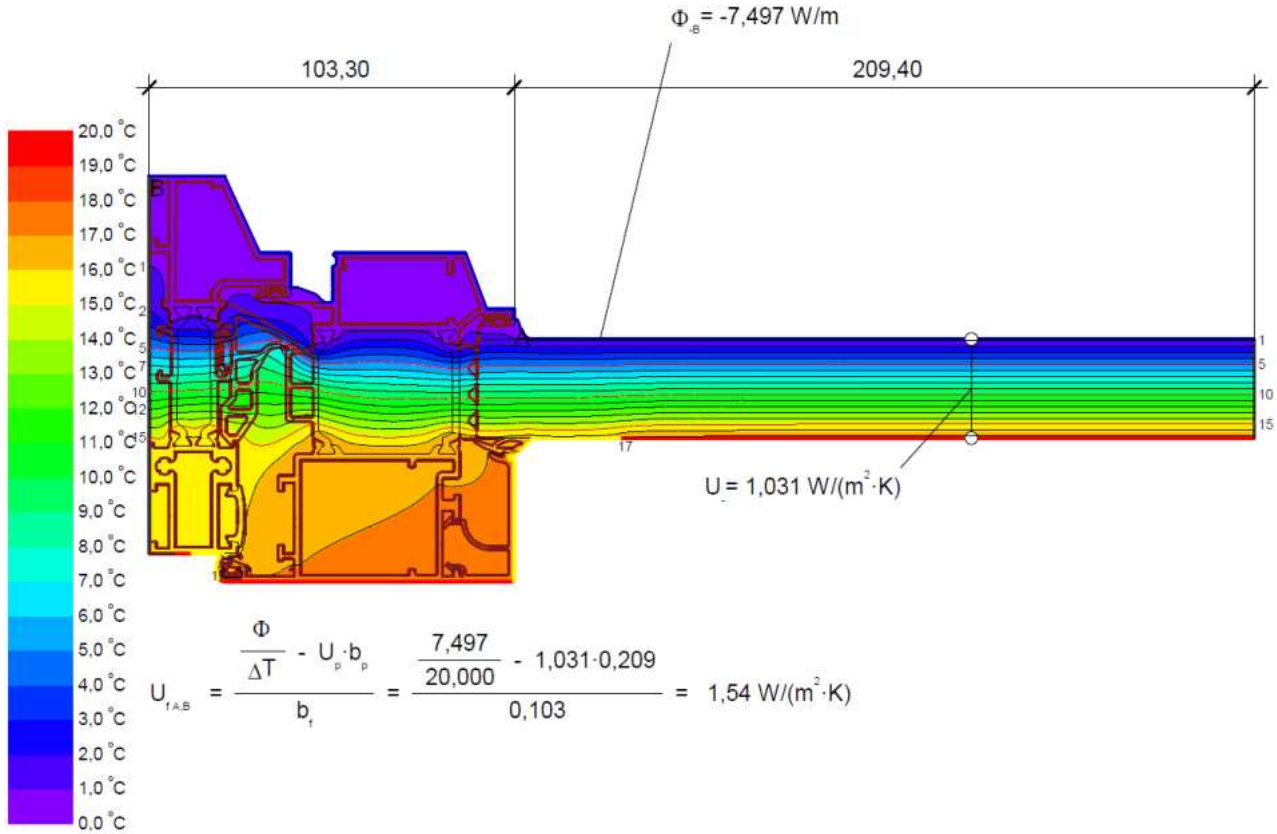


TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C
(ROOM TEMPERATURE)

BAĞIL NEM : %50
(RELATIVE HUMIDITY)



$$U_{fAB} = \frac{\Phi}{\Delta T} - \frac{U_p \cdot b_p}{b_f} = \frac{7,497}{20,000} - \frac{1,031 \cdot 0,209}{0,103} = 1,54 \text{ W/(m}^2 \cdot \text{K)}$$

Material	λ [W/(m·K)]	ϵ	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ϵ
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame	0,000	0,040		
Panel	0,035	0,900	Interior, frame, normal	20,000	0,130		
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced	20,000	0,200		
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Polyethylene LD, low (Orta Tozluk Yalıtım) (1)	0,018	0,900					
Unventilated air cavity	anisotropic						

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

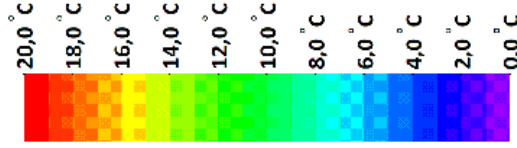
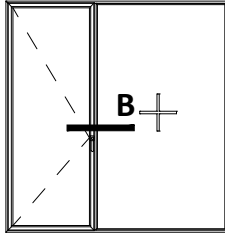
As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

FERMOŞA

SYSTEM

SMARTNESS 37 HINGED System



TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C

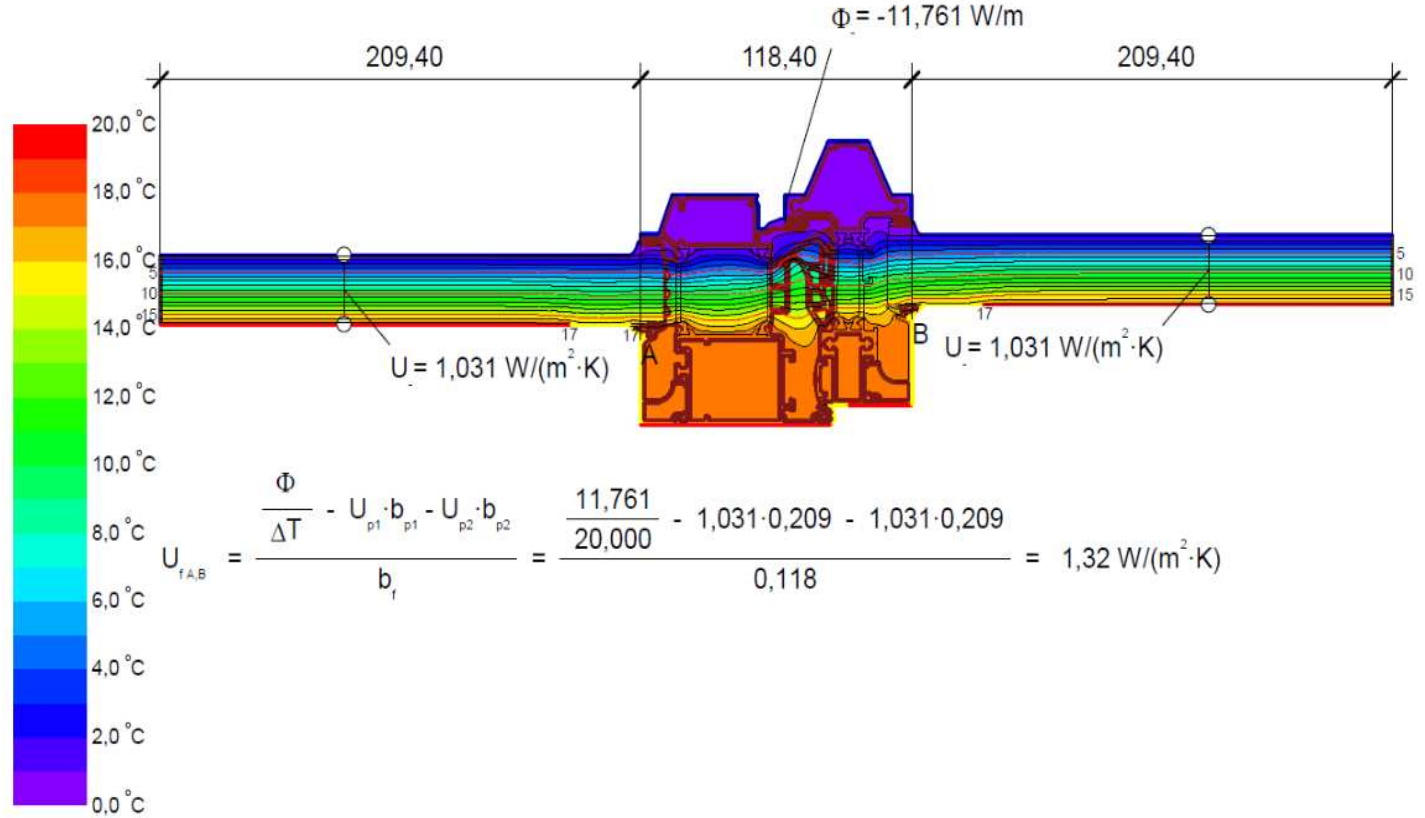
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C

(ROOM TEMPERATURE)

BAĞIL NEM : %50

(RELATIVE HUMIDITY)



Material	λ [W/(m·K)]	ϵ	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ϵ
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame	0,000		0,040	
Panel	0,035	0,900	Interior, frame, normal	20,000		0,130	
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced	20,000		0,200	
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Polyethylene LD, low (Orta Tozlu Yalıtım) (1)	0,018	0,900					
Unventilated air cavity		anisotropic					

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

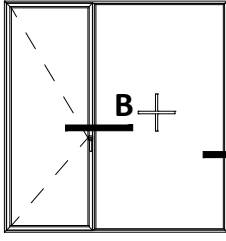
Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

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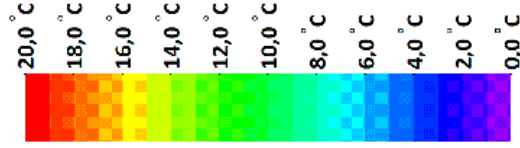
SYSTEM

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SMARTNESS 37 HINGED System



İÇE AÇILIR BİNLİ KAPI INWARD OPENING STEP DOOR

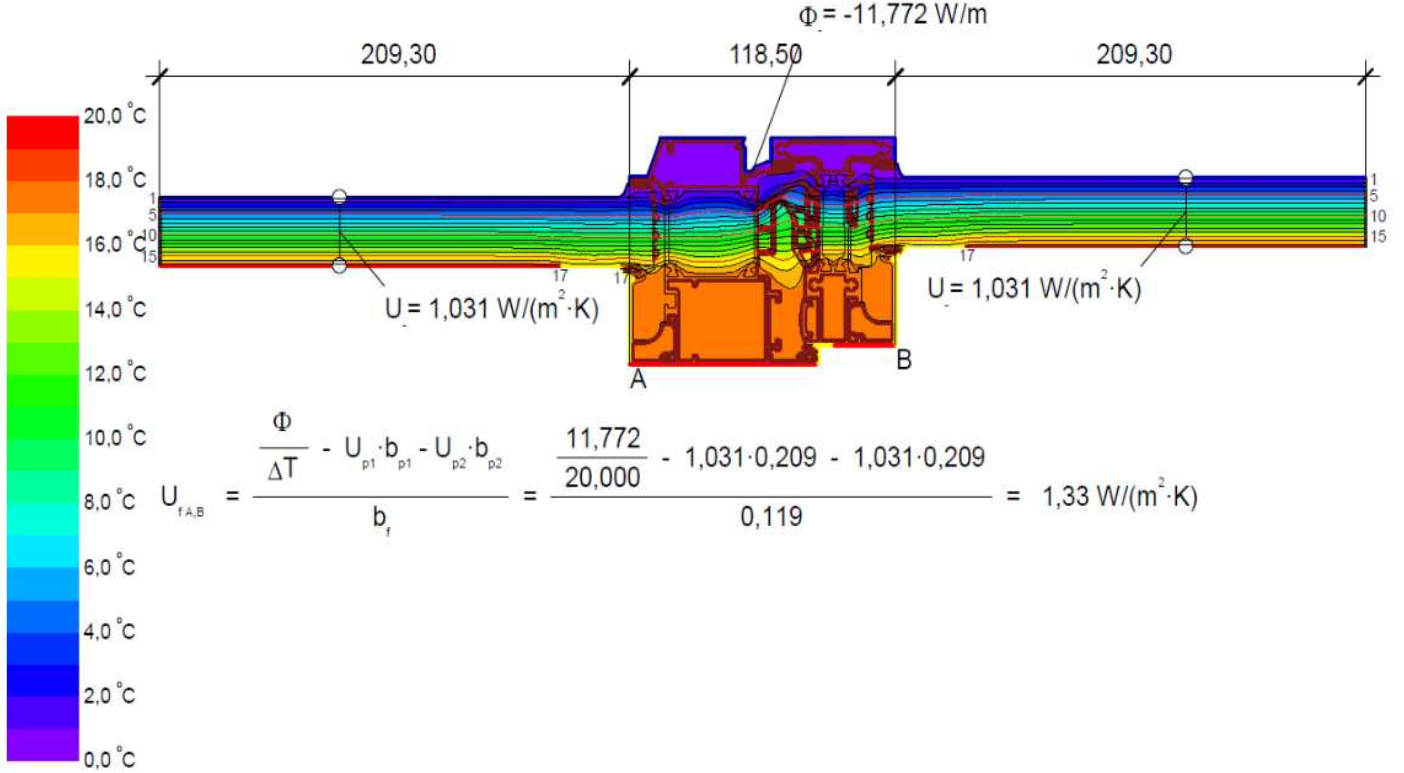


TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C
(ROOM TEMPERATURE)

BAĞIL NEM : %50
(RELATIVE HUMIDITY)



$$U_{fA,B} = \frac{\frac{\Phi}{\Delta T} - U_{p1} \cdot b_{p1} - U_{p2} \cdot b_{p2}}{b_f} = \frac{\frac{11,772}{20,000} - 1,031 \cdot 0,209 - 1,031 \cdot 0,209}{0,119} = 1,33 \text{ W/(m}^2 \cdot \text{K)}$$

Material	λ [W/(m·K)]	ϵ	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ϵ
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame	0,000		0,040	
Panel	0,035	0,900	Interior, frame, normal	20,000		0,130	
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced	20,000		0,200	
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Polyethylene LD, low (Orta Tozlu Yalıtım) (1)	0,018	0,900					
Unventilated air cavity	anisotropic						

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

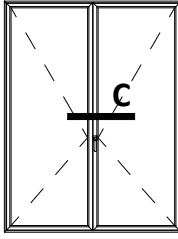
As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

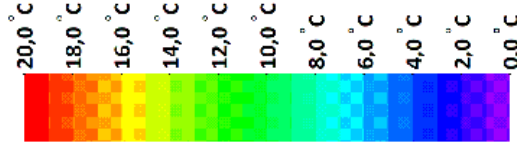
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SYSTEM

SMARTNESS 37 HINGED System



İÇE AÇILIR BİNLİ KAPI INWARD OPENING STEP DOOR

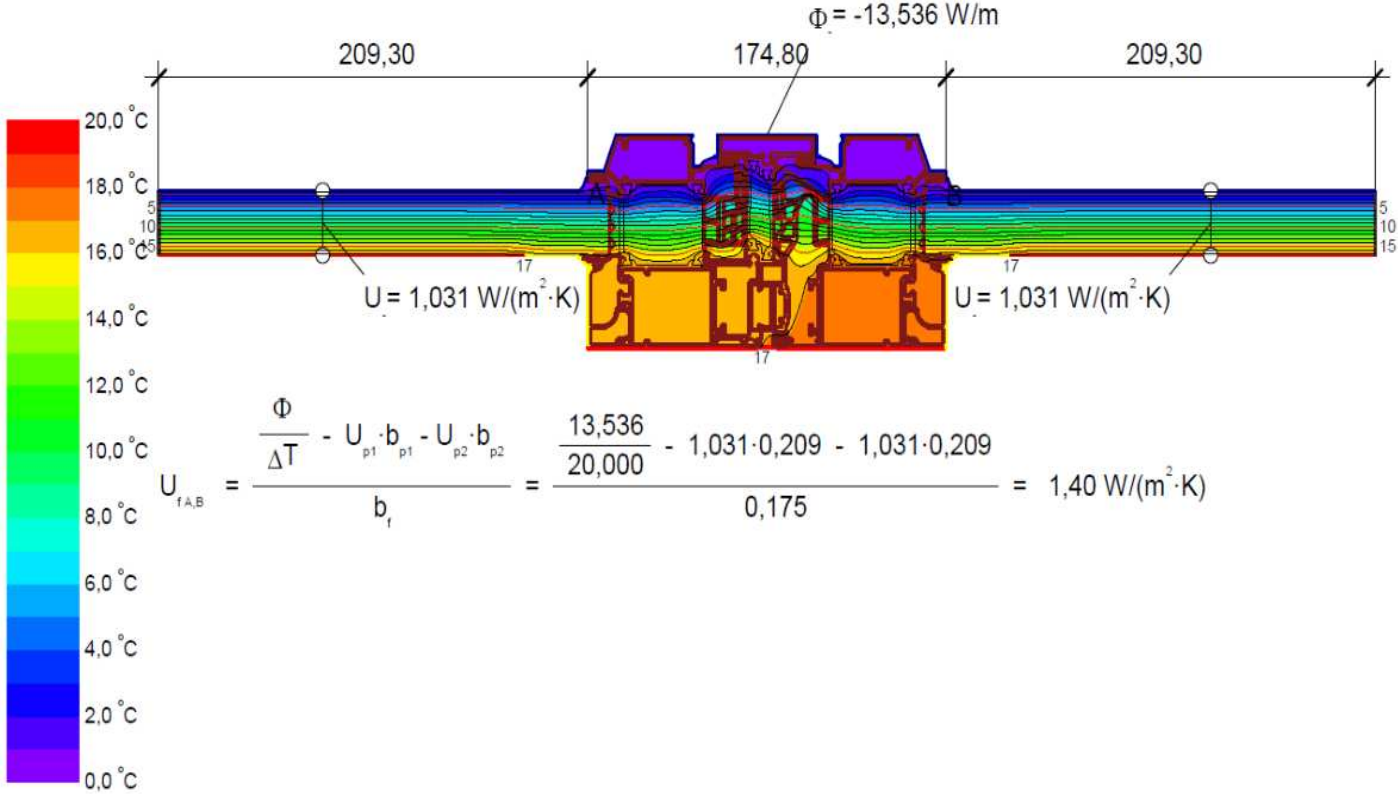


TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C
(ROOM TEMPERATURE)

BAĞIL NEM : %50
(RELATIVE HUMIDITY)



$$U_{f,A,B} = \frac{\Phi}{\Delta T} - \frac{U_{p1} \cdot b_{p1} - U_{p2} \cdot b_{p2}}{b_f} = \frac{13,536}{20,000} - \frac{1,031 \cdot 0,209 - 1,031 \cdot 0,209}{0,175} = 1,40 \text{ W/(m}^2 \cdot \text{K)}$$

Material	λ [W/(m·K)]	ϵ	Boundary Condition	q [W/m²]	θ [°C]	R [(m²·K)/W]	ϵ
Aluminium (Si Alloys)	160,000	0,900	Epsilon 0.9				0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900	Exterior, frame		0,000	0,040	
Panel	0,035	0,900	Interior, frame, normal		20,000	0,130	
Polyamid 6.6 with 25% glass fibre	0,300	0,900	Interior, frame, reduced		20,000	0,200	
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900	Symmetry/Model section	0,000			
Polyethylene LD, low (Orta Tozlu Yalıtım) (1)	0,018	0,900					
Slightly ventilated air cavity		anisotropic					
Unventilated air cavity		anisotropic					

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

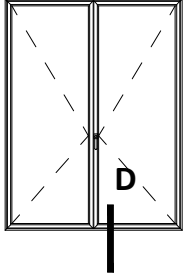
Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

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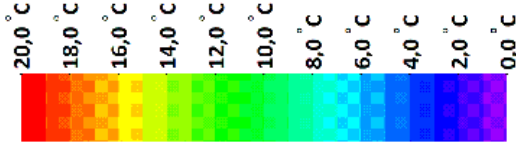
SYSTEM

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SMARTNESS 37 HINGED System



İÇE AÇILIR BİNLİ KAPI INWARD OPENING STEP DOOR

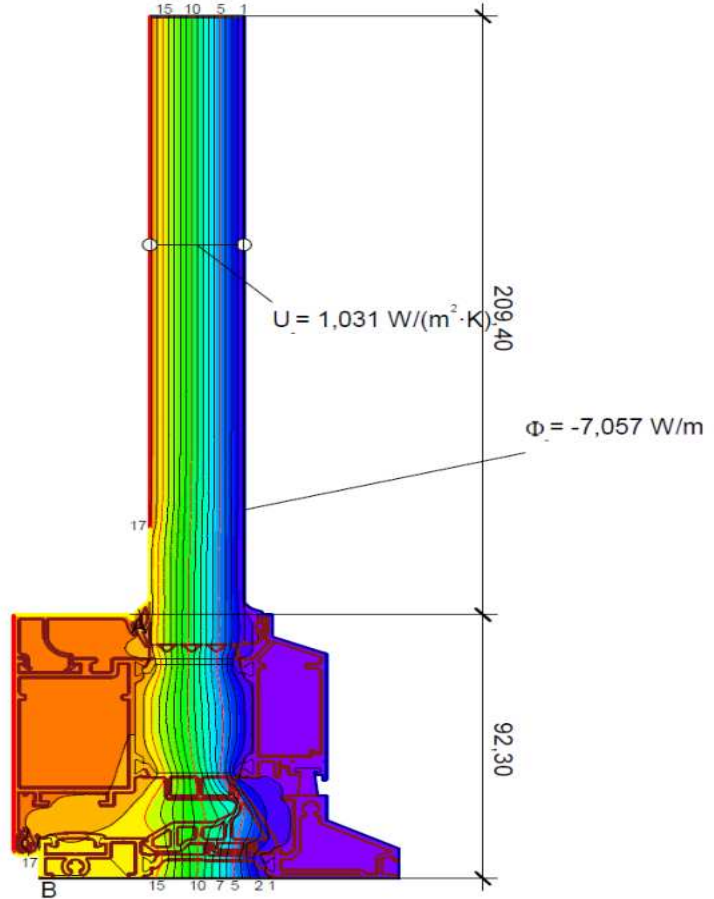
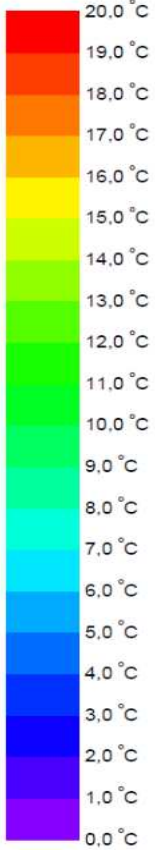


TERMAL HESAP KOŞULLARI THERMAL CALCULATION CONDITIONS

DIŞ ORTAM SICAKLIĞI : 0°C
(OUTER TEMPERATURE)

İÇ ORTAM SICAKLIĞI : 20°C
(ROOM TEMPERATURE)

BAĞIL NEM : %50
(RELATIVE HUMIDITY)



$$U_{fA,B} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{7,057}{20,000} - 1,031 \cdot 0,209}{0,092} = 1,48 \text{ W/(m}^2 \cdot \text{K)}$$

Material	λ [W/(m·K)]	ϵ
Aluminium (Si Alloys)	160,000	0,900
EPDM (ethylene propylene diene monomer)	0,250	0,900
Kil Filti	0,250	0,900
Panel	0,035	0,900
Polyamid 6.6 with 25% glass fibre	0,300	0,900
Polyethylene LD, low (Cam Altı Yalıtım)	0,014	0,900
Polyethylene LD, low (Orta Tozlu Yalıtım) (1)	0,018	0,900
Slightly ventilated air cavity		anisotropic
Unventilated air cavity		anisotropic

Boundary Condition	q [W/m²]	θ_i [°C]	R [(m²·K)/W]	ϵ
Epsilon 0.9				0,900
Exterior, frame		0,000	0,040	
Interior, frame, normal		20,000	0,130	
Interior, frame, reduced		20,000	0,200	
Symmetry/Model section	0,000			

* EN 10077-2 standardına göre; iç ortam sıcaklığı 20°C, dış ortam sıcaklığı 0°C ve bağıl nem %50 olarak alınmıştır.

As EN 10077-2 standard; room temperature is 20°C, outer temperature is 0°C and relative humidity is %50.

Detaylı bilgi için, lütfen termal hesap raporlarını isteyiniz. / For further information, please ask for the reports.

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YÜKSEK PERFORMANSLI MENTEŞELİ SİSTEM HIGH PERFORMANCE HINGED SYSTEM



TEKNİK ÖZELLİKLER TECHNICAL PROPERTIES

KASA DERİNLİĞİ / FRAME DEPTH :	106,8mm
KANAT DERİNLİĞİ / VENT DEPTH :	93 mm
PROFİL ET KALINLIĞI / PROFILE WALL THICKNESS :	1,8 mm-2mm
MAX. CAM KALINLIĞI / MAX. GLASS THICKNESS :	28 mm 56mm
ISI BARİYERLERİ / INSULATION BARS :	39 mm 35mm
ISI YALITIM DEĞERİ (Uf)-EN1077-2 / THERMAL INSULATION VALUE (Uf) :	(Uf): < 1,36-2,71 W/m²K

KULLANIM SEÇENEKLERİ APPLICATION ALTERNATIVES

	PENCERE WINDOW	KAPI DOOR
İÇE AÇILIR BİNİLİ / INWARD OPENING STEP :	•	•
ÇİFT EKSEN / TILT&TURN :	•	•

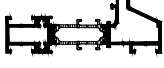
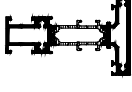
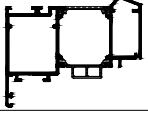
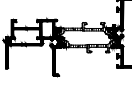
TEKNİK ÖZELLİKLER / TECHNICAL PROPERTIES

FERMO

SA SYSTEM

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PROFİL NUM. PROFILE NO.	ÇİZİM DRAWING	TANIM DESCRIPTION	STATİK Jx (cm ⁴)	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
SM-3702		KASA PROFİLİ SHAPED FRAME PROFILE	93,34	2,017	19
SM-3701		KASA PROFİLİ SHAPED FRAME PROFILE	76,64	1,815	19
SM-3704		TAKVİYELİ ORTA KAYIT PROFİLİ REINFORCEMENT TRANSOM PROFILE	79,51	2,022	20
SM-3705		KASA İÇİ ORTA KAYIT PROFİLİ TRANSOM PROFILE FOR FRAME	59,74	1,869	20
SM-3703		İÇE AÇILIR KANAT PROFİLİ VENT PROFILE FOR INWARD OPENING	53,18	1,550	21
SM-3707		İÇE AÇILIR KANAT PROFİLİ VENT PROFILE FOR INWARD OPENING	75,65	1,989	21
SM-3706		ÇİFT KANAT ADAPTÖR PROFİLİ ADAPTER PROFILE FOR DOUBLE VENT	59,83	1,869	20
SM-3708		EŞİK PROFİLİ DÖRSTEP PROFILE	-	1,173	21
18586		DEKORATİF PROFİLİ DECORATIVE PROFILE	-	0,535	22
18485		DEKORATİF PROFİLİ DECORATIVE PROFILE	-	0,405	22
18487		DEKORATİF PROFİLİ DECORATIVE PROFILE	-	0,419	22
18484		BAĞLANTI PROFİLİ CONNECTION PROFILE	-	0,338	23
18506		ADAPTÖR PROFİLİ ADAPTER PROFILE	-	0,162	23

FERMOsa

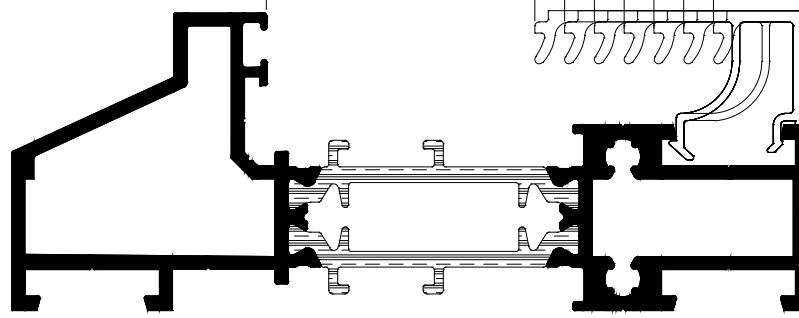
SYSTEM

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SMARTNESS 37 HINGED System

CAM KALINLIĞINA BAĞLI CAM ÇITASI SEÇİM TABLOSU
GLAZING BEAD SELECTION TABLE ACCORDING TO THE GLASS THICKNESS

18488	36	36.5
18489	40	32.5
18490	44	28.5
18491	48	24.5
18492	52	20.5
18493	56	16.5
18494	60	12.5



**** YUKARIDA GÖRÜLEN PROFİL VE FİTİL İLİŞKİLERİ TEORİKTİR.**
THE RELATION BETWEEN PROFILES & GASKETS ARE THEORETICAL AS SEEN ABOVE.

DIŞ FİTİLLER STANDART EBATTA OLUP 4mm KALINLIĞINDADIR. İÇTEKİ KAMA FİTİLİN BOŞLUĞU İSE, MİNİMUM 3mm MAKSİMUM 6mm OLACAK ŞEKİLDE AYARLANMALIDIR.

THE OUTER GASKET'S DIMENSION ARE STANDARD WITH 4mm THICKNESS. THE INNER GASKET'S SPACE SHOULD BE ADJUSTED BETWEEN 3 - 6mm.

CAM VE PROFİL TOLERANSLARI + VEYA - YÖNDE BERABER ÇALIŞARAK TEORİDE OLMASI GEREKENDEN BÜYÜK VEYA KÜÇÜK BİR FİTİL BOŞLUĞUNA NEDEN OLABİLİR.

THE GLASS AND THE PROFILE TOLERANCES CAN BE WORK AT + OR - DIRECTION TOGETHER. IT CAUSES THE GASKET'S SPACE BIGGER OR SMALLER THAN NORMAL.

İÇ KAMA FİTİLLERİN YERİNE GEÇMESİNDE PROBLEM YAŞANMAMASI İÇİN, ÖNCELİKLE BİR NUMUNE ÜZERİNDE DENENMESİNİ TAVSİYE EDERİZ.

WE ADVISE THAT THE INNER GASKET AND GLAZING BEAD RELATION SHOULD BE CHECKED ON A MOCK-UP BEFORE.

FERMOŞA

SYSTEM

SİSTEM PROFİLLERİ

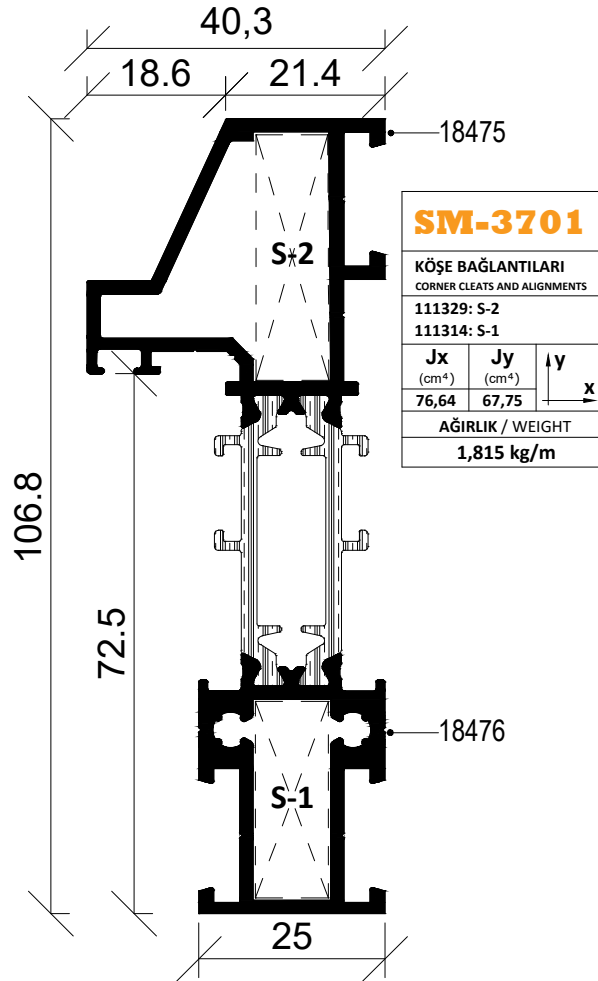
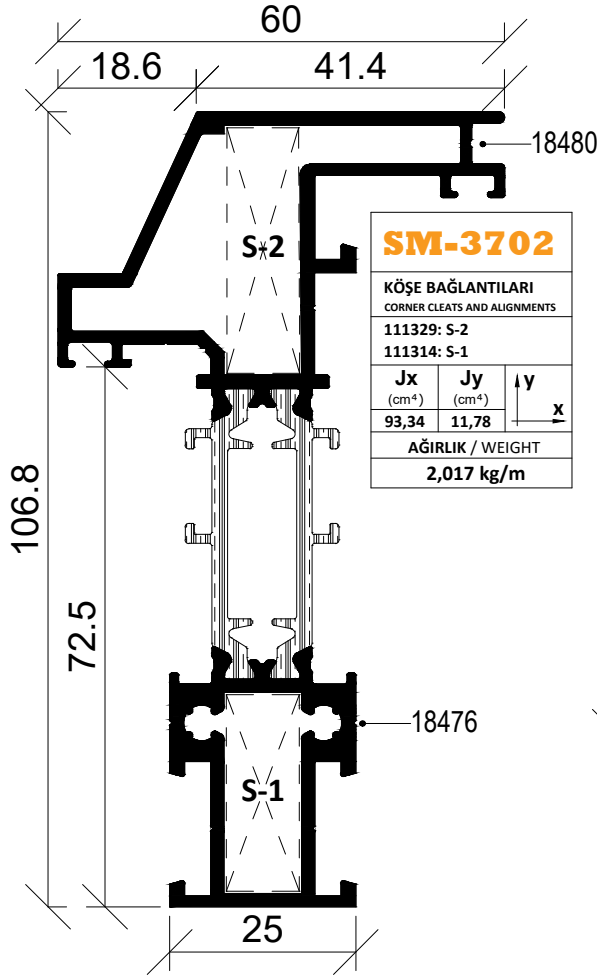
SYSTEM PROFILES

FERMOSA
SYSTEM

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SMARTNESS 37 HINGED System

YALITIMLI SİSTEM PROFİLLERİ
INSULATED SYSTEM PROFILES



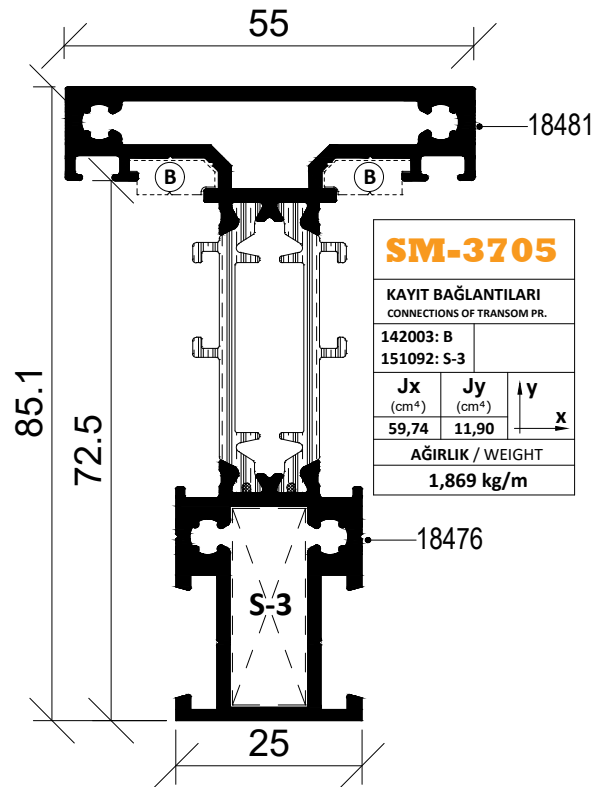
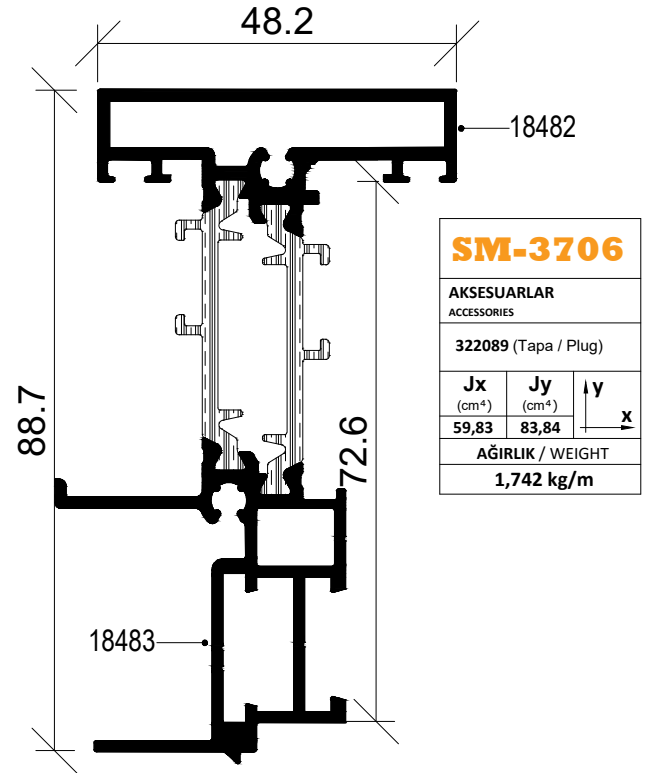
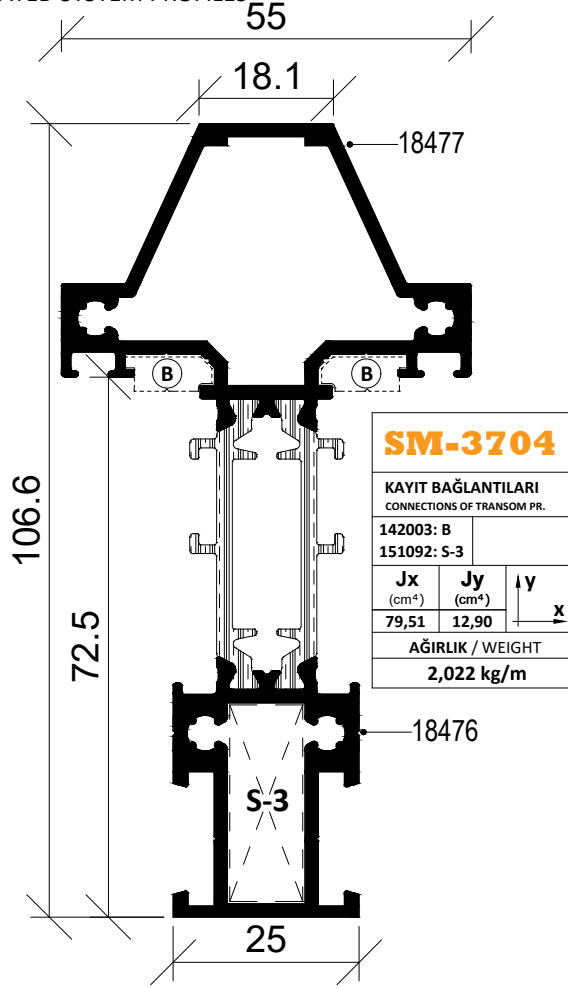
FERMOsa

SYSTEM

SMARTNESS 37 HINGED System

YALITIMLI SİSTEM PROFİLLERİ

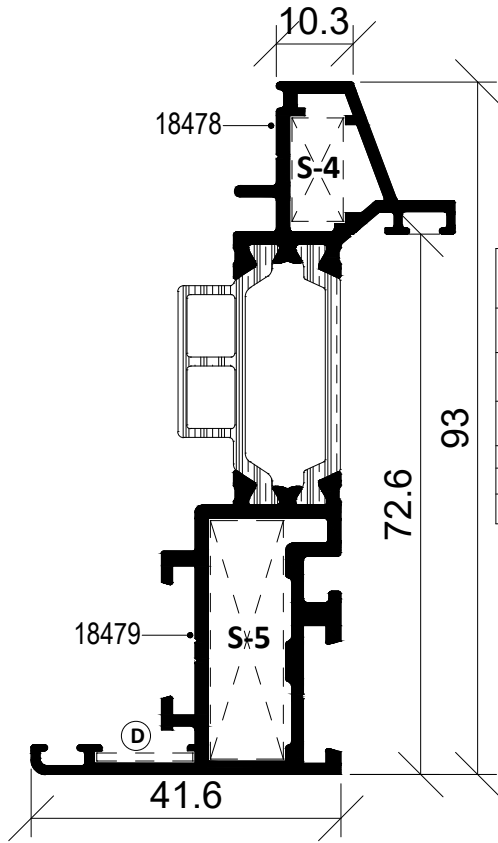
INSULATED SYSTEM PROFILES



FERMOŞA

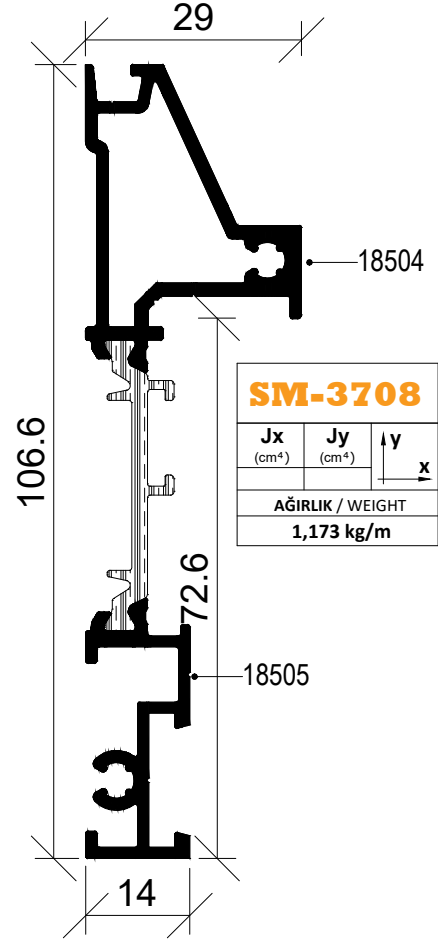
SYSTEM

SMARTNESS 37 HINGED System

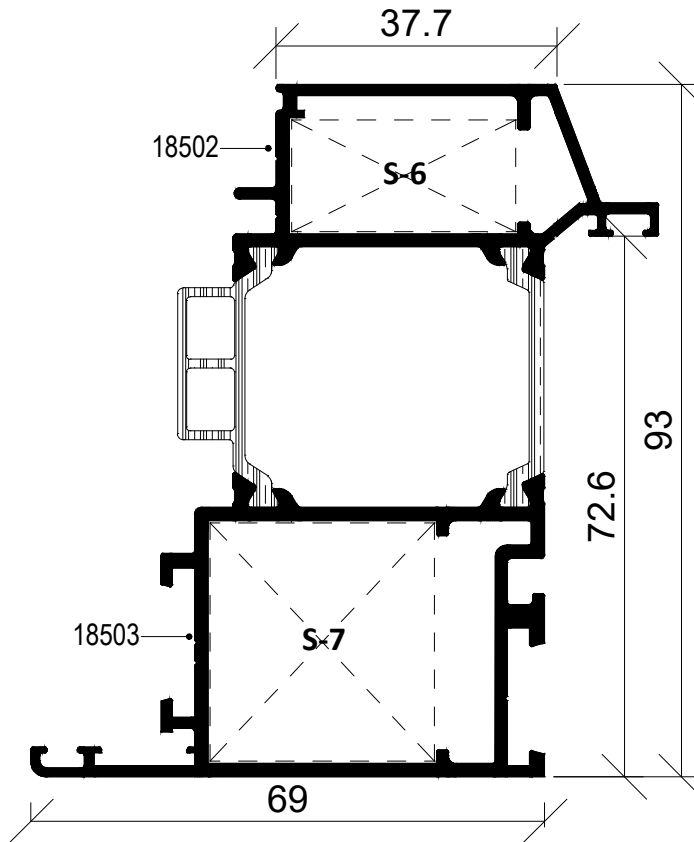


SM-3703			
KÖŞE BAĞLANTILARI			
CORNER CLEATS AND ALIGNMENTS			
111326: S-4	111327: S-5	162009: D	
Jx (cm ⁴)	Jy (cm ⁴)	↑ y	x
53,18	47,23		
AĞIRLIK / WEIGHT			
1,550 kg/m			

YALITIMLI SİSTEM PROFİLLERİ INSULATED SYSTEM PROFILES



SM-3708			
KÖŞE BAĞLANTILARI			
CORNER CLEATS AND ALIGNMENTS			
Jx (cm ⁴)	Jy (cm ⁴)	↑ y	x
AĞIRLIK / WEIGHT			
1,173 kg/m			



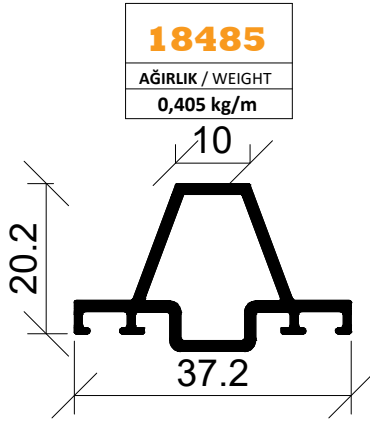
SM-3707			
KÖŞE BAĞLANTILARI			
CORNER CLEATS AND ALIGNMENTS			
111331: S-6	111330: S-7	162009: D	
Jx (cm ⁴)	Jy (cm ⁴)	↑ y	x
75,65	57,43		
AĞIRLIK / WEIGHT			
1,989 kg/m			

FERMO

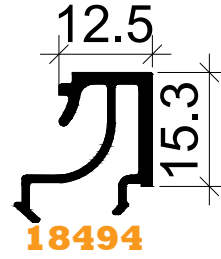
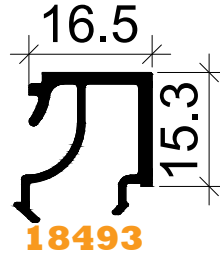
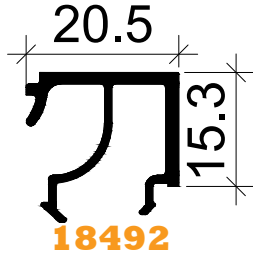
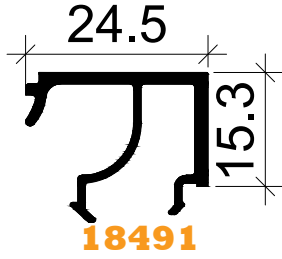
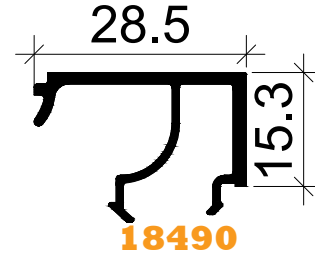
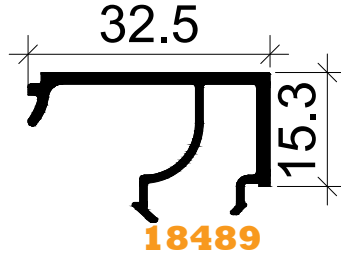
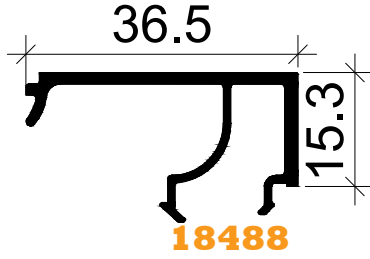
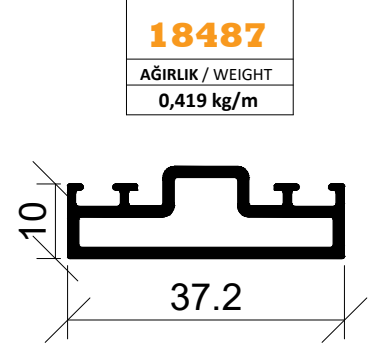
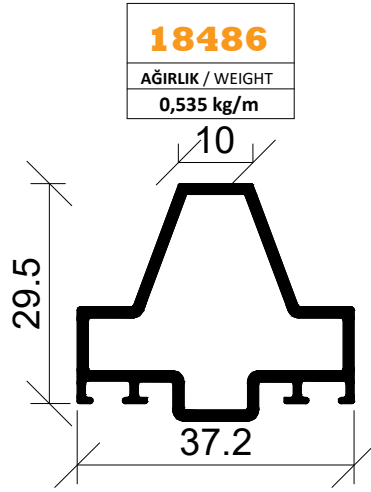
SYSTEM

SMARTNESS 37 HINGED System

ALÜMİNYUM AKSESUAR PROFİLLERİ PROFILES OF ALUMINIUM ACCESSORIES



CAM ÇİTALARI
GLAZING BEADS



PROFİL NUMARASI PROFILE NO.	AĞIRLIK WEIGHT (kg/m)
18488	0,320
18489	0,306
18490	0,289
18491	0,273
18492	0,257
18493	0,241
18494	0,236

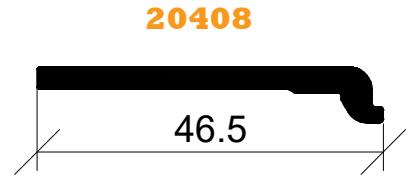
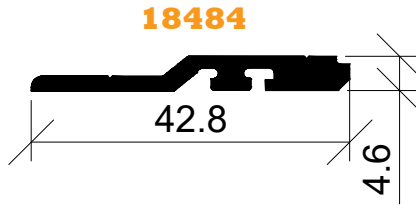
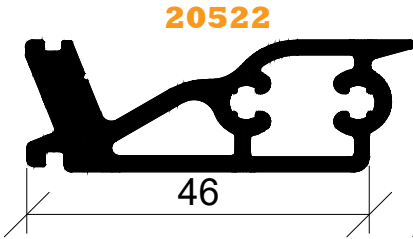
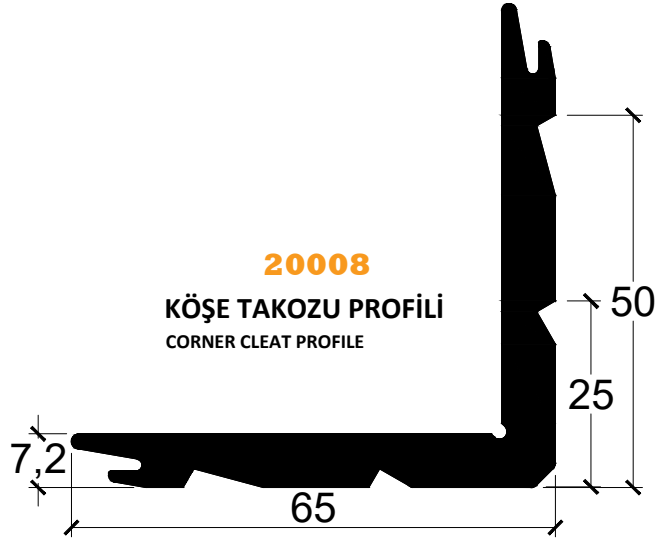
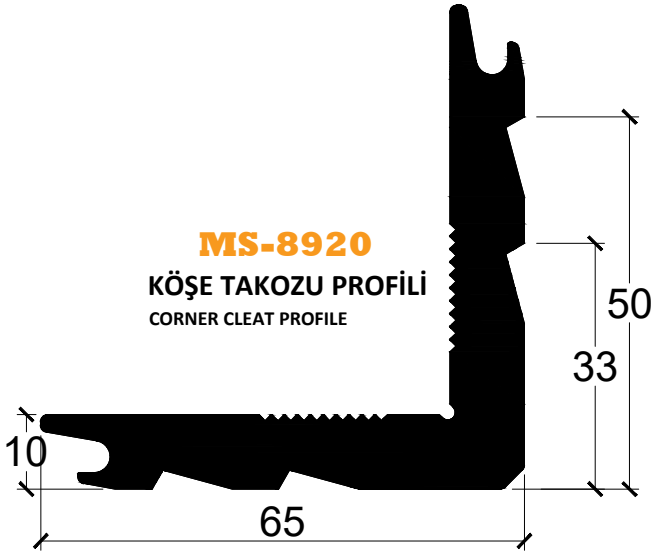
FERMOsa

SYSTEM

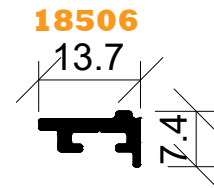
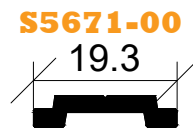
Her hakkı saklıdır; 2016. Burak Alüminyum'un izni olmadan kopya edilemez, çoğaltılamaz ve yayımlanamaz.
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SMARTNESS 37 HINGED System

ALÜMİNYUM AKSESUAR PROFİLERİ PROFILES OF ALUMINIUM ACCESSORIES



PROFİL NUMARASI PROFILE NO.	AĞIRLIK WEIGHT (kg/m)
MS-8920	2,748
20008	2,117
20522	1,034
18484	0,338
20408	0,421
18506	0,162
S5671-00	0,145



FERMO

SYSTEM

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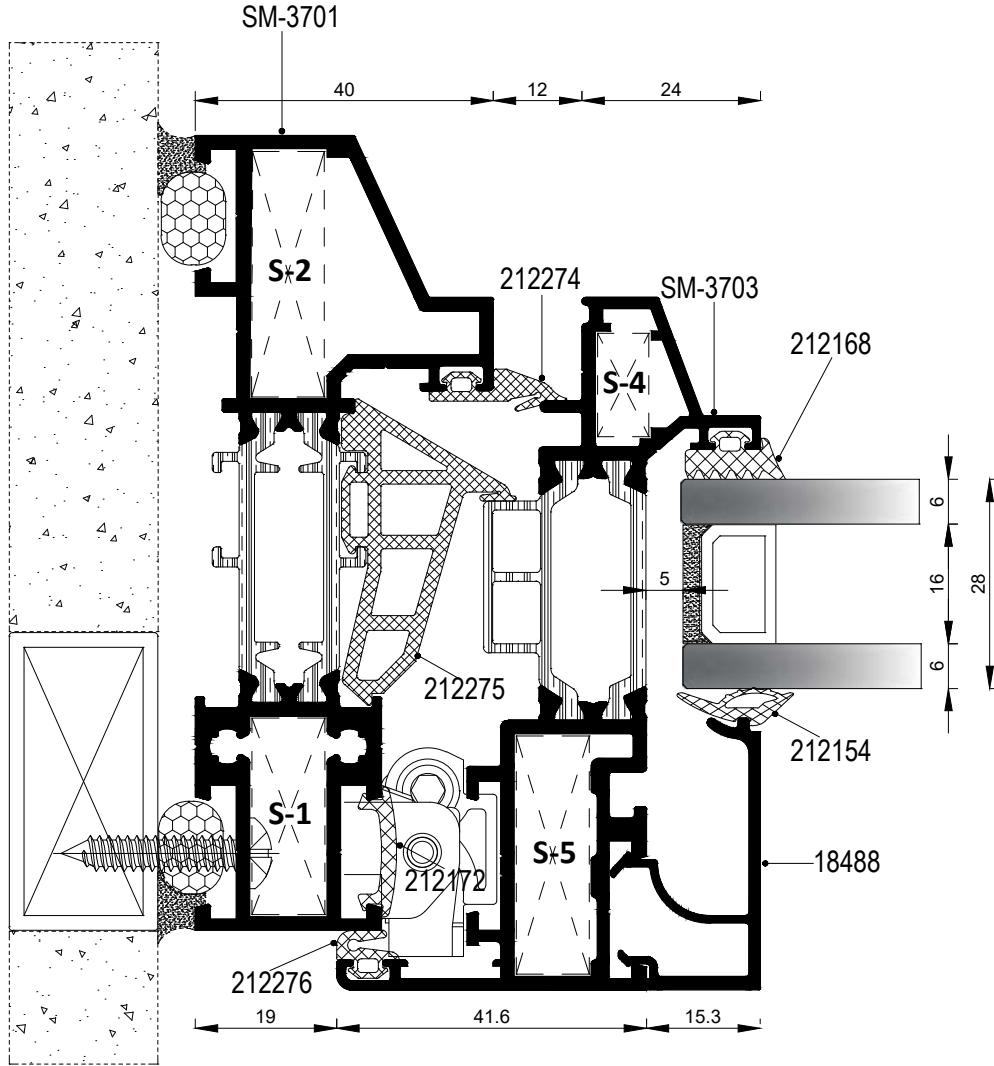
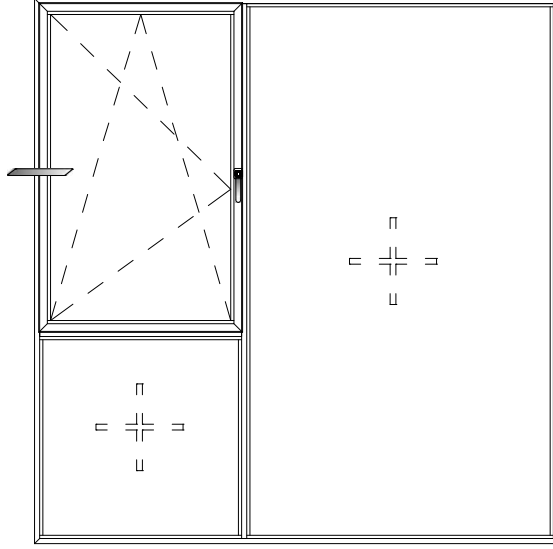
SİSTEM KESİT DETAYLARI

SYSTEM CROSS SECTION DETAILS

FERMOSA
SYSTEM

SMARTNESS 37 HINGED System

PENCERE DETAYLARI WINDOW DETAILS



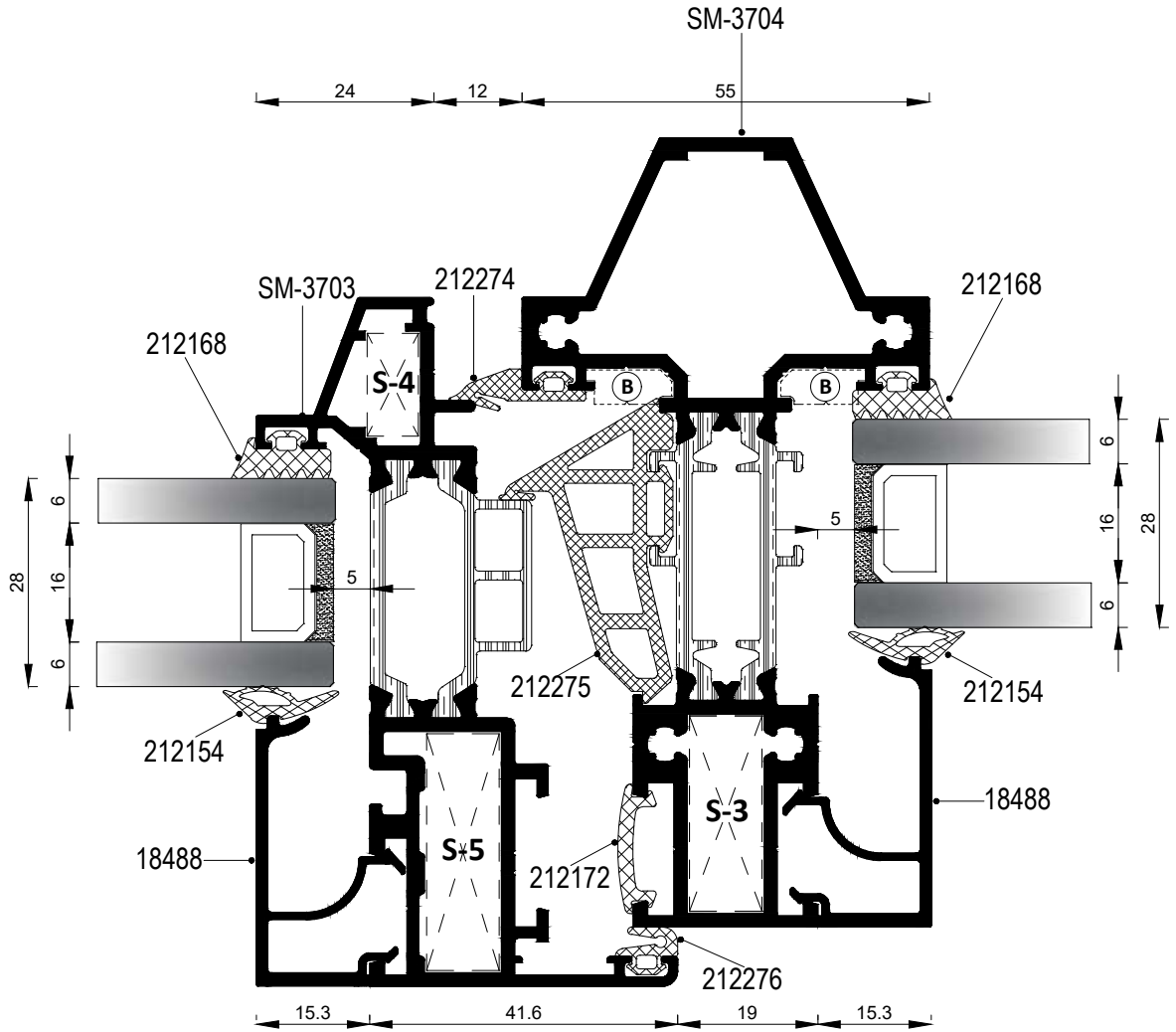
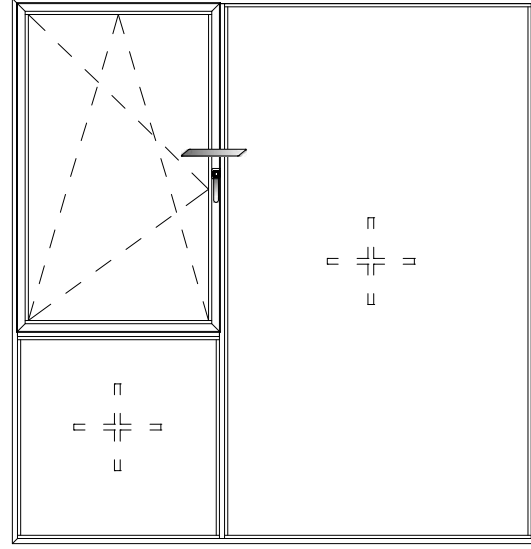
FERMOsa

SYSTEM

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SMARTNESS 37 HINGED System

PENCERE DETAYLARI WINDOW DETAILS

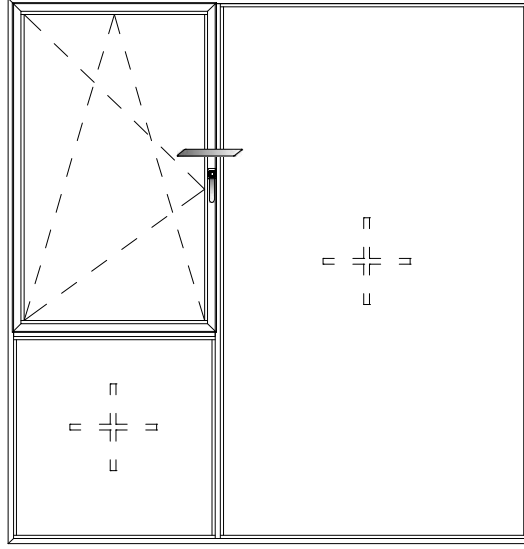


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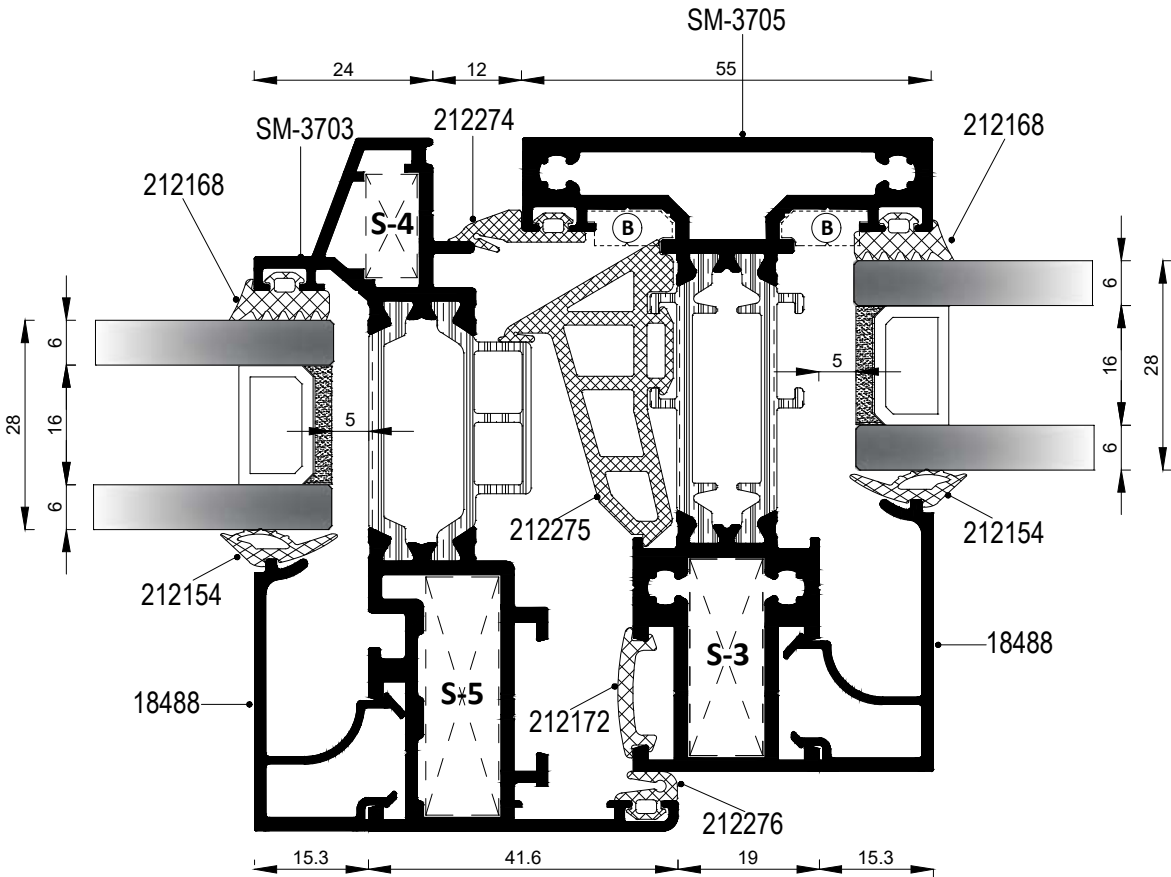
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SMARTNESS 37 HINGED System



PENCERE DETAYLARI
WINDOW DETAILS



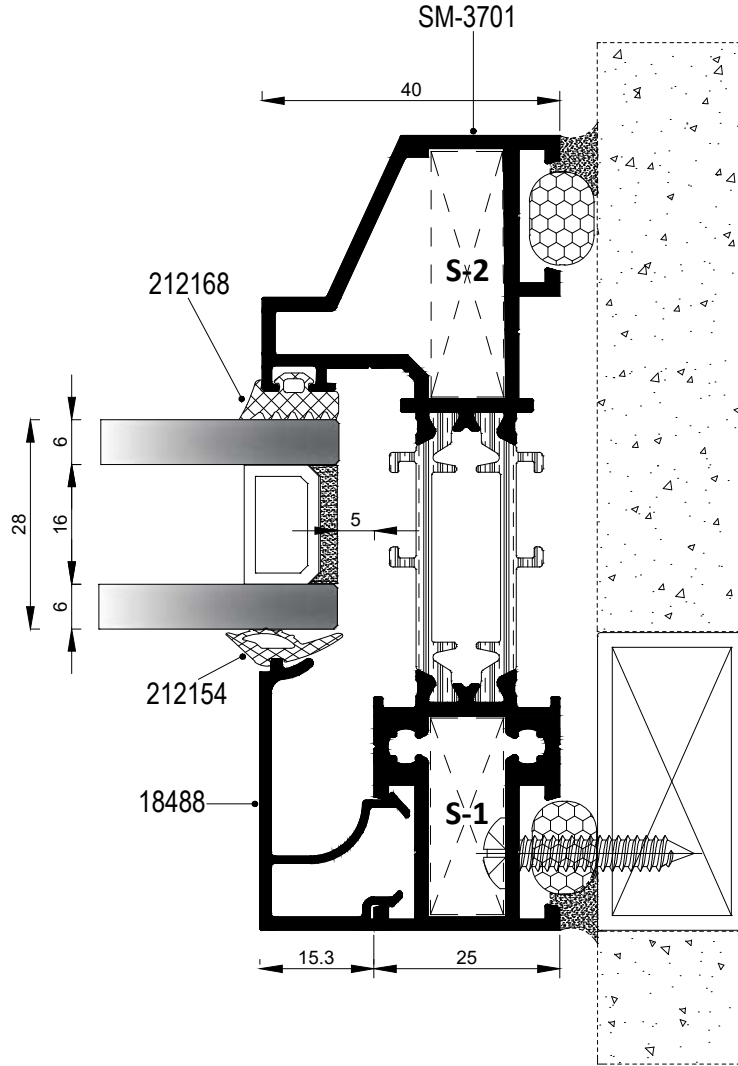
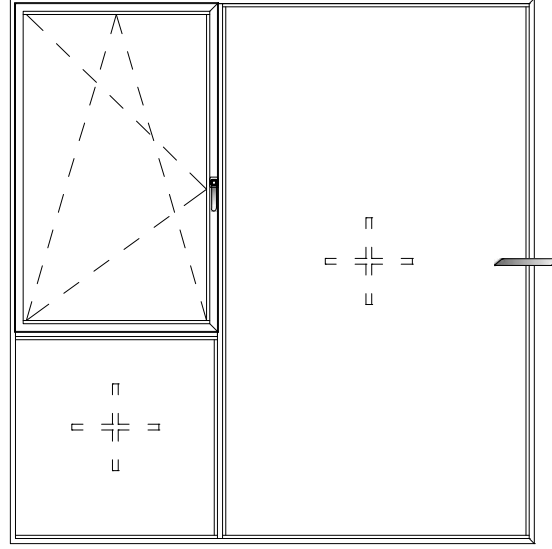
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SYSTEM

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PENCERE DETAYLARI WINDOW DETAILS



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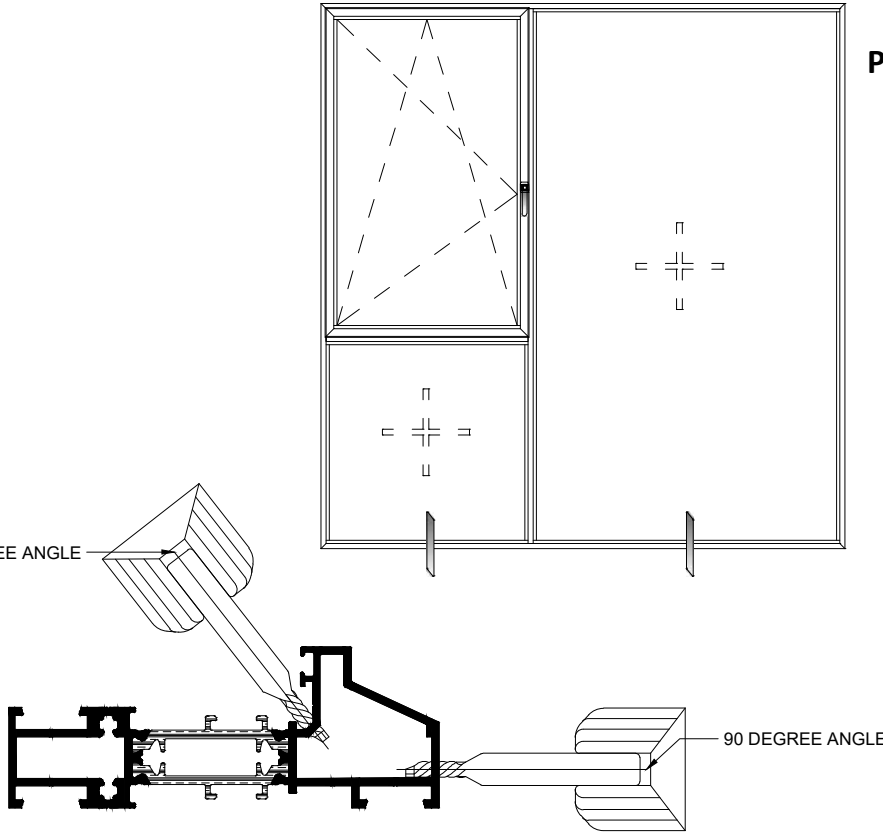
SYSTEM

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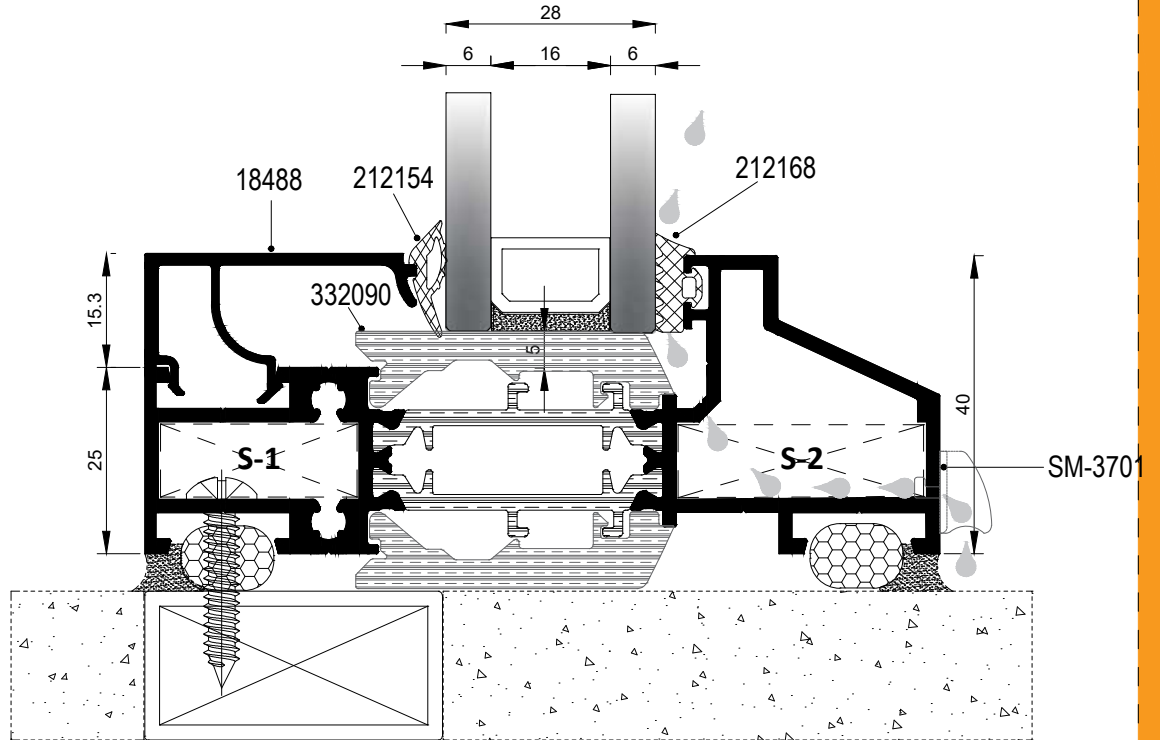
SMARTNESS 37 HINGED System

PENCERE DETAYLARI WINDOW DETAILS

52 DEGREE ANGLE



90 DEGREE ANGLE



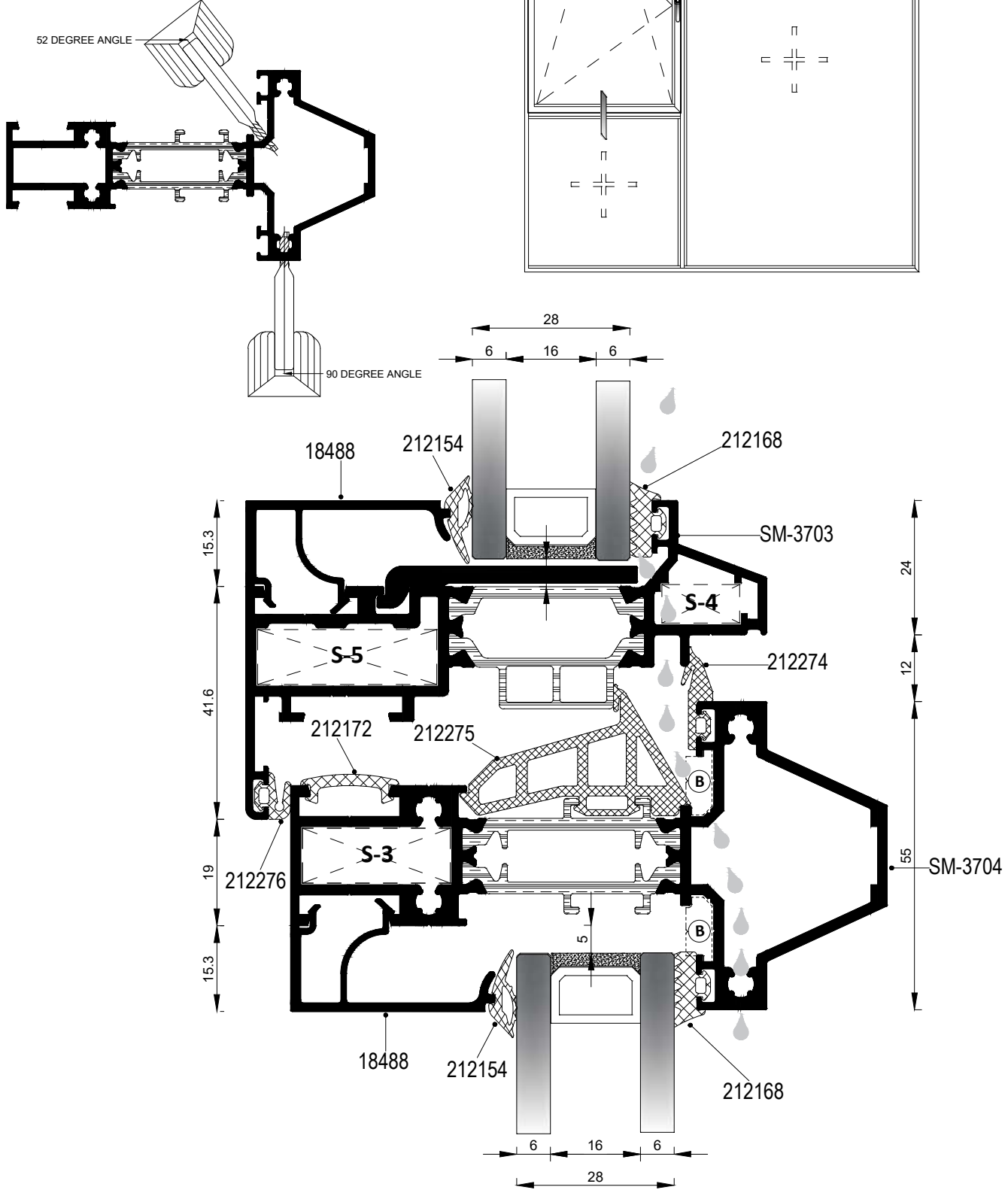
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PENCERE DETAYLARI WINDOW DETAILS

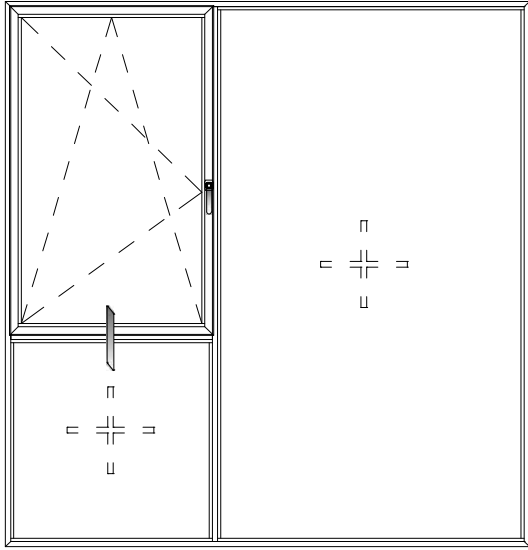


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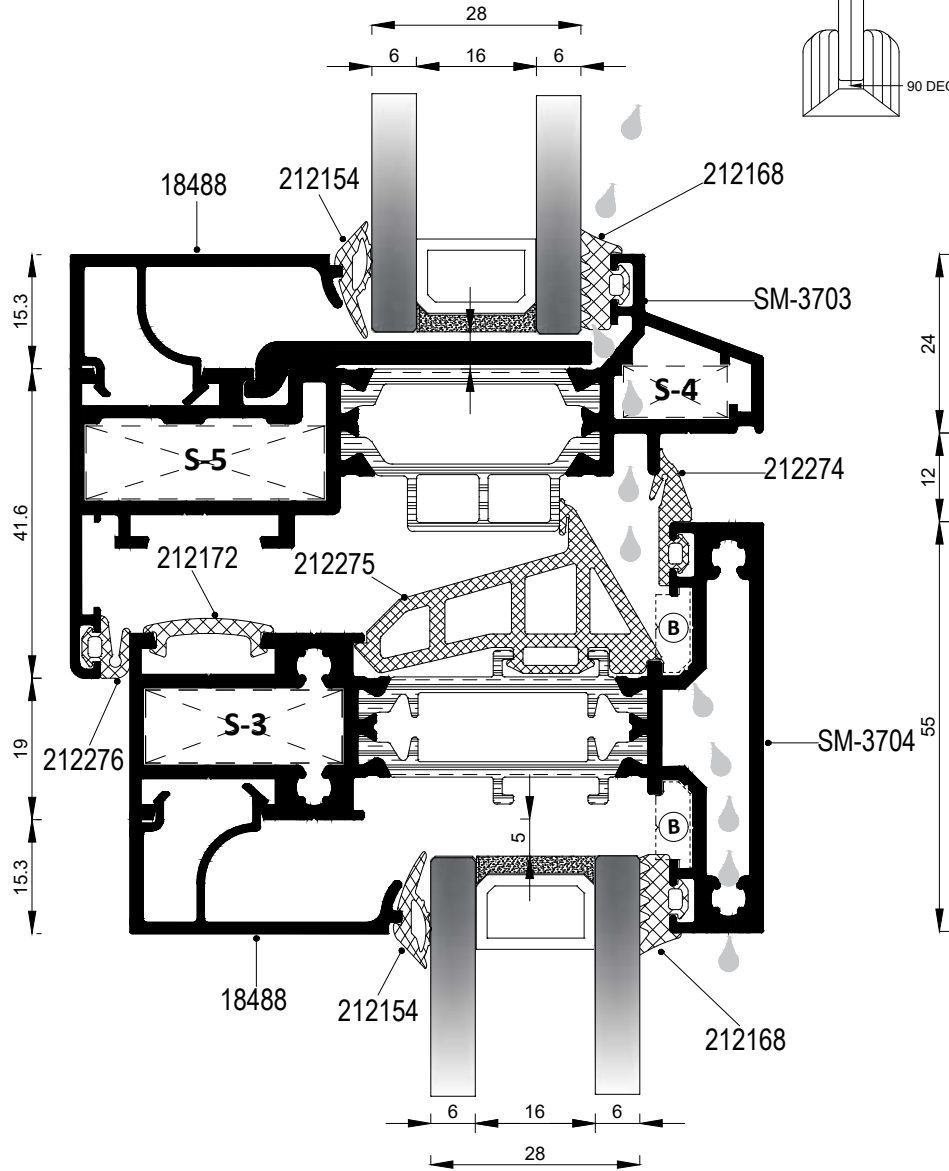
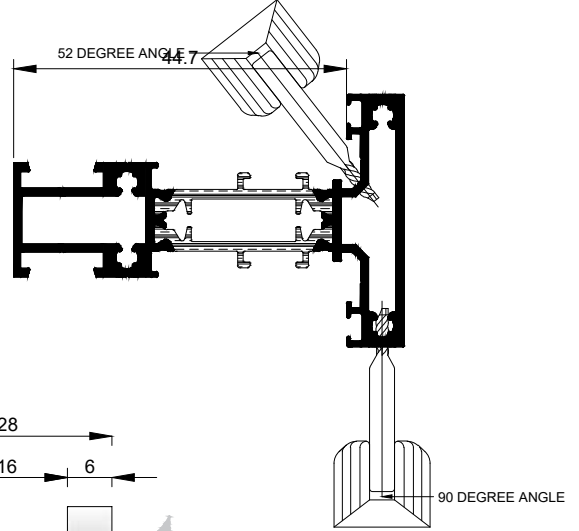
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PENCERE DETAYLARI
WINDOW DETAILS

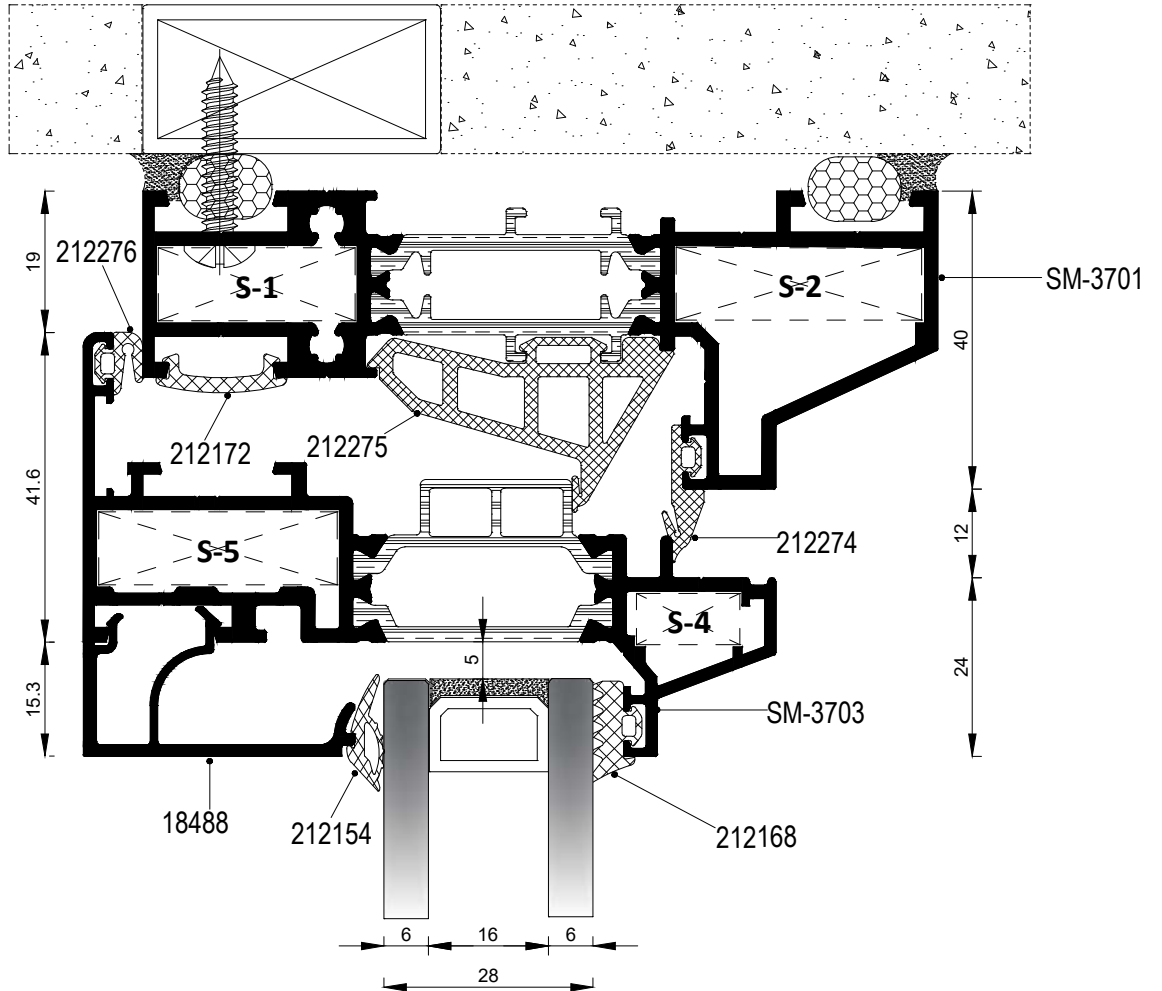
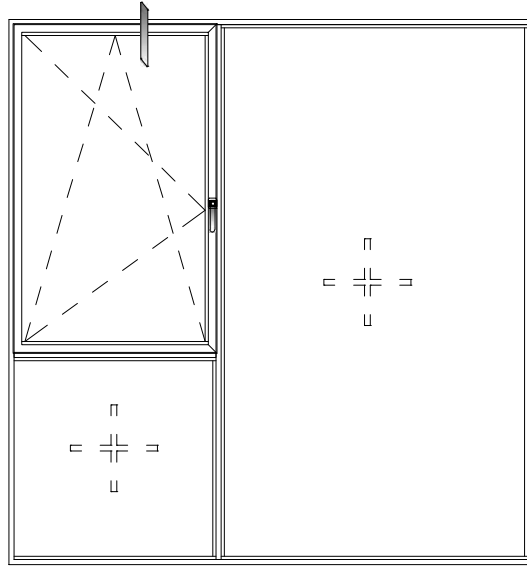


FERMOSA

SYSTEM

SMARTNESS 37 HINGED System

PENCERE DETAYLARI WINDOW DETAILS

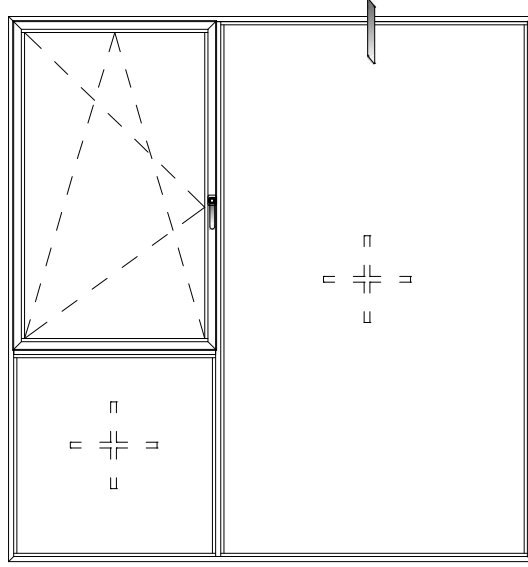


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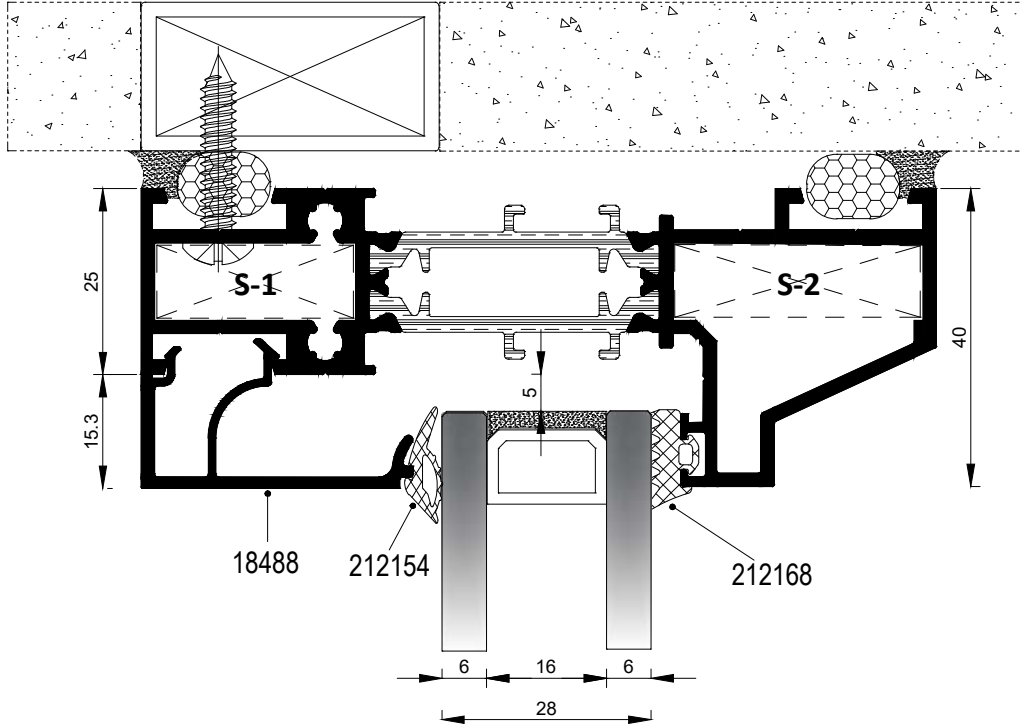
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PENCERE DETAYLARI
WINDOW DETAILS



FERMOSA

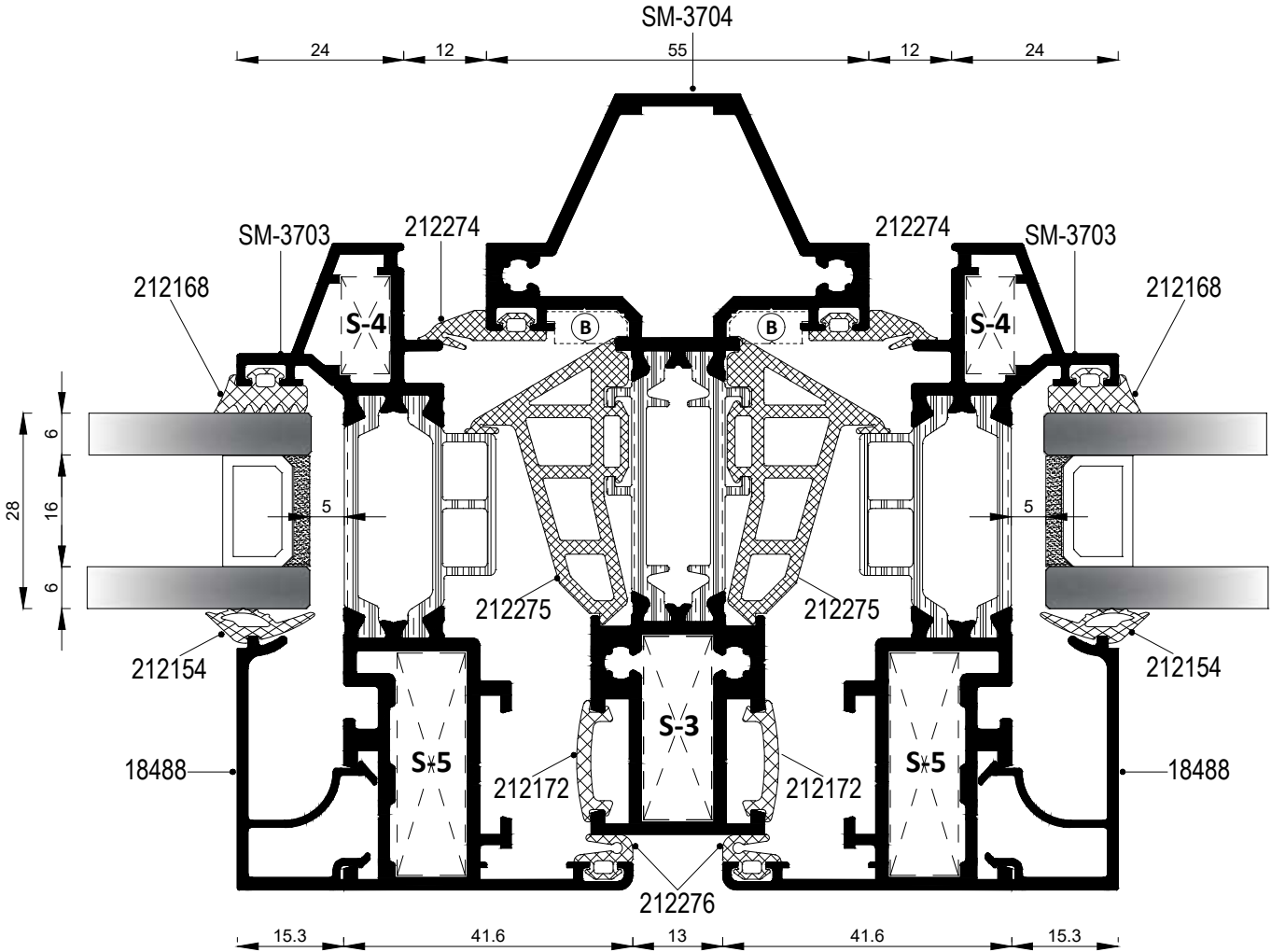
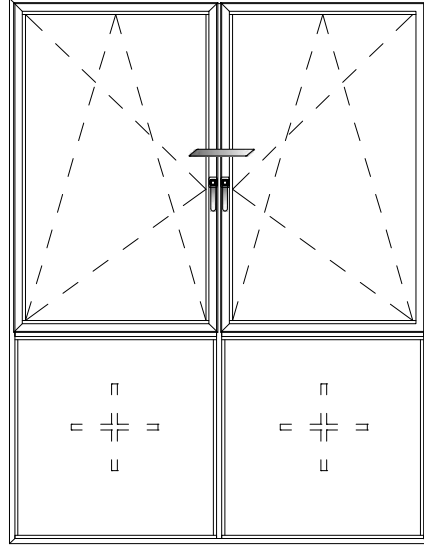
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SMARTNESS 37 HINGED System

PENCERE DETAYLARI WINDOW DETAILS



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SYSTEM

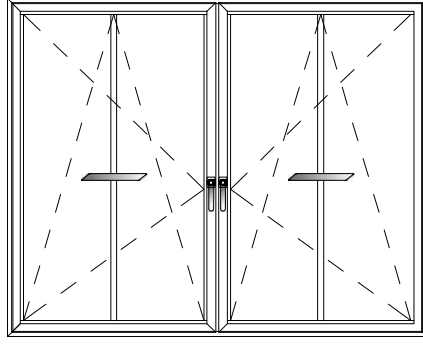
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37

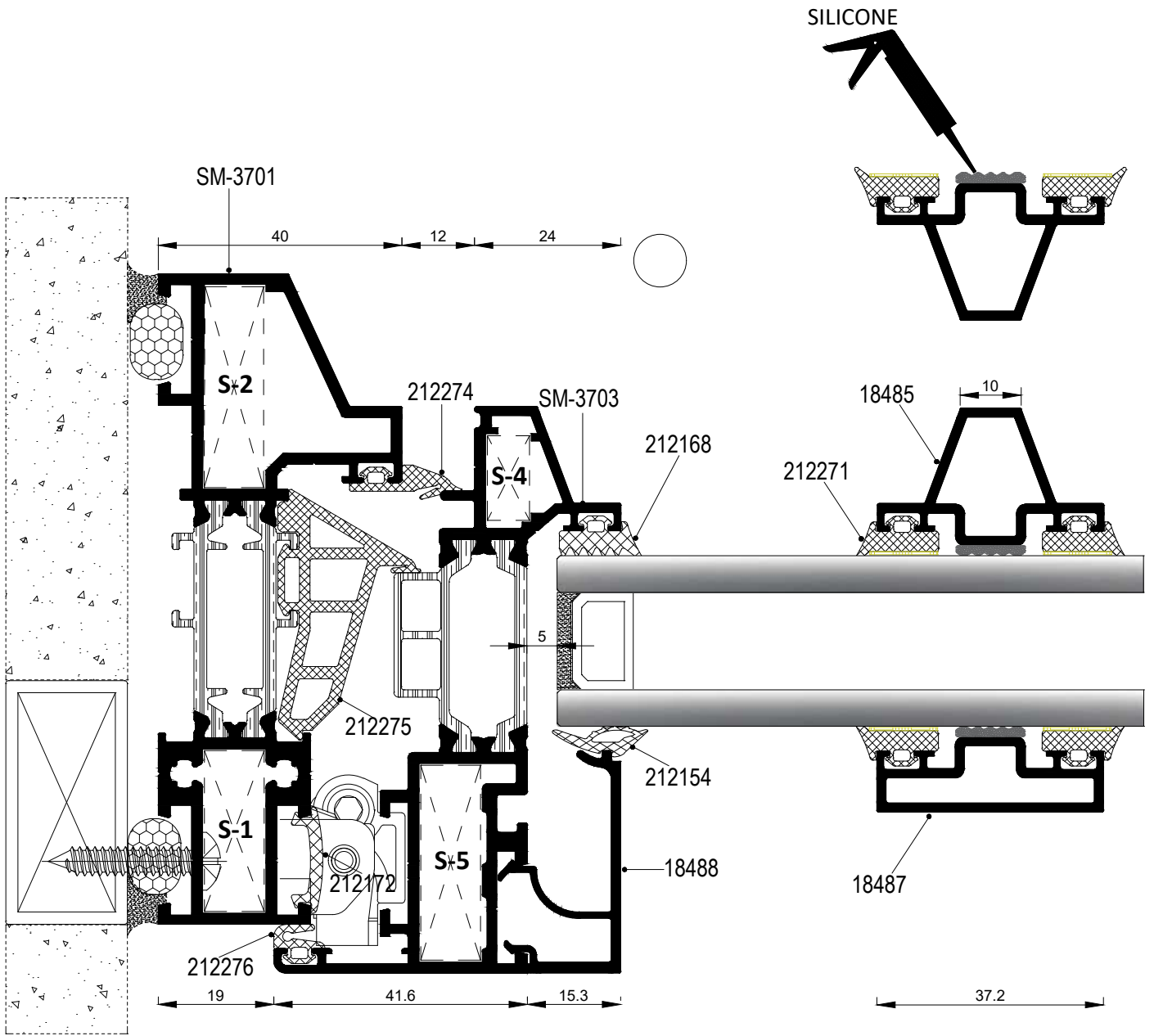


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PENCERE DETAYLARI WINDOW DETAILS

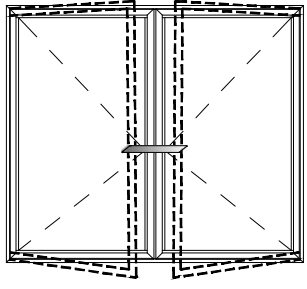


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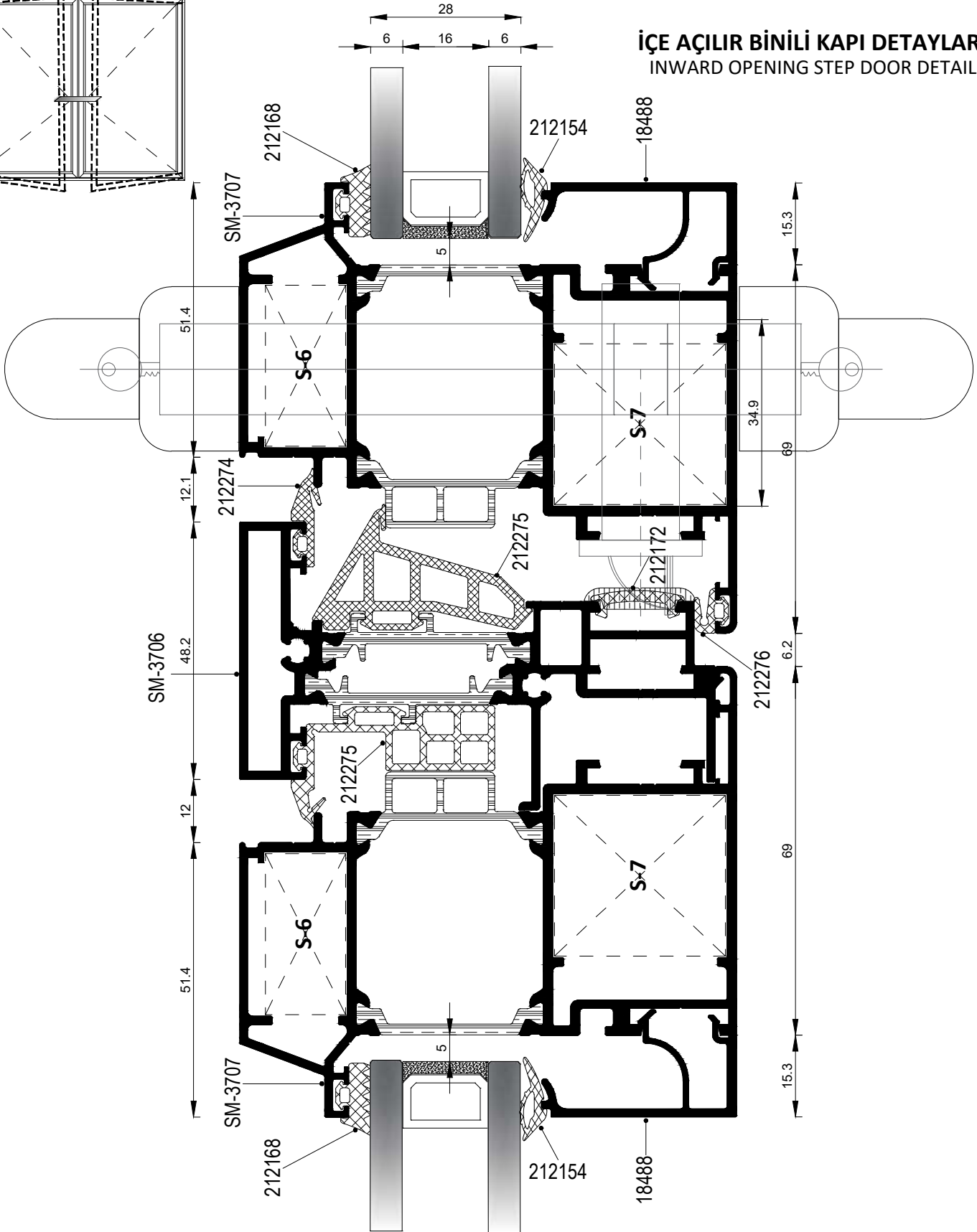
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SMARTNESS 37 HINGED System



İÇE AÇILIR BİNLİ KAPI DETAYLARI INWARD OPENING STEP DOOR DETAILS



FERMOSA

SYSTEM

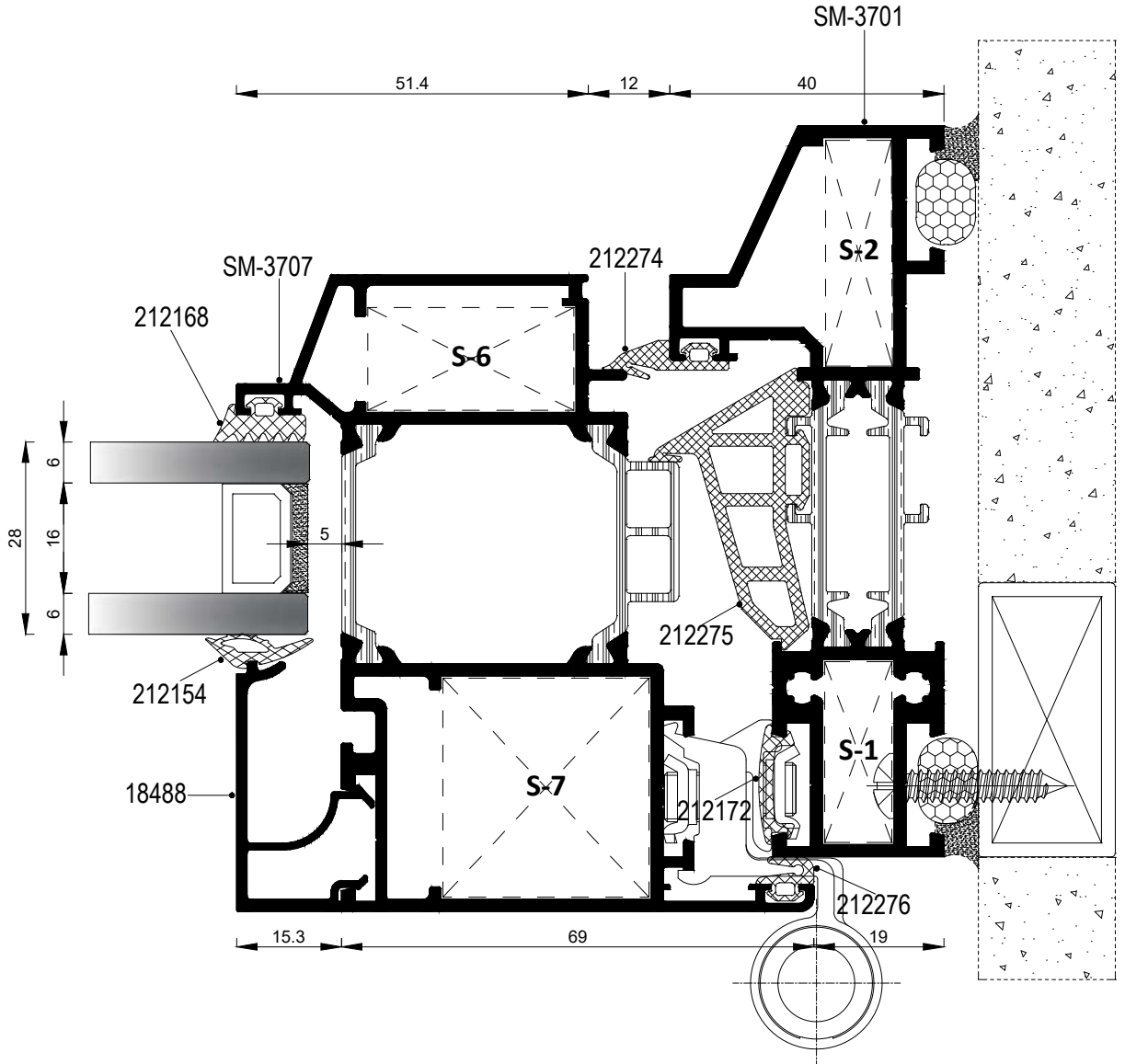
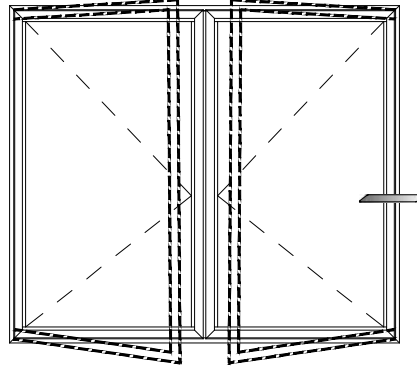
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M

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İÇE AÇILIR BİNLİ KAPI DETAYLARI INWARD OPENING STEP DOOR DETAILS



FERMOSA

SYSTEM

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42

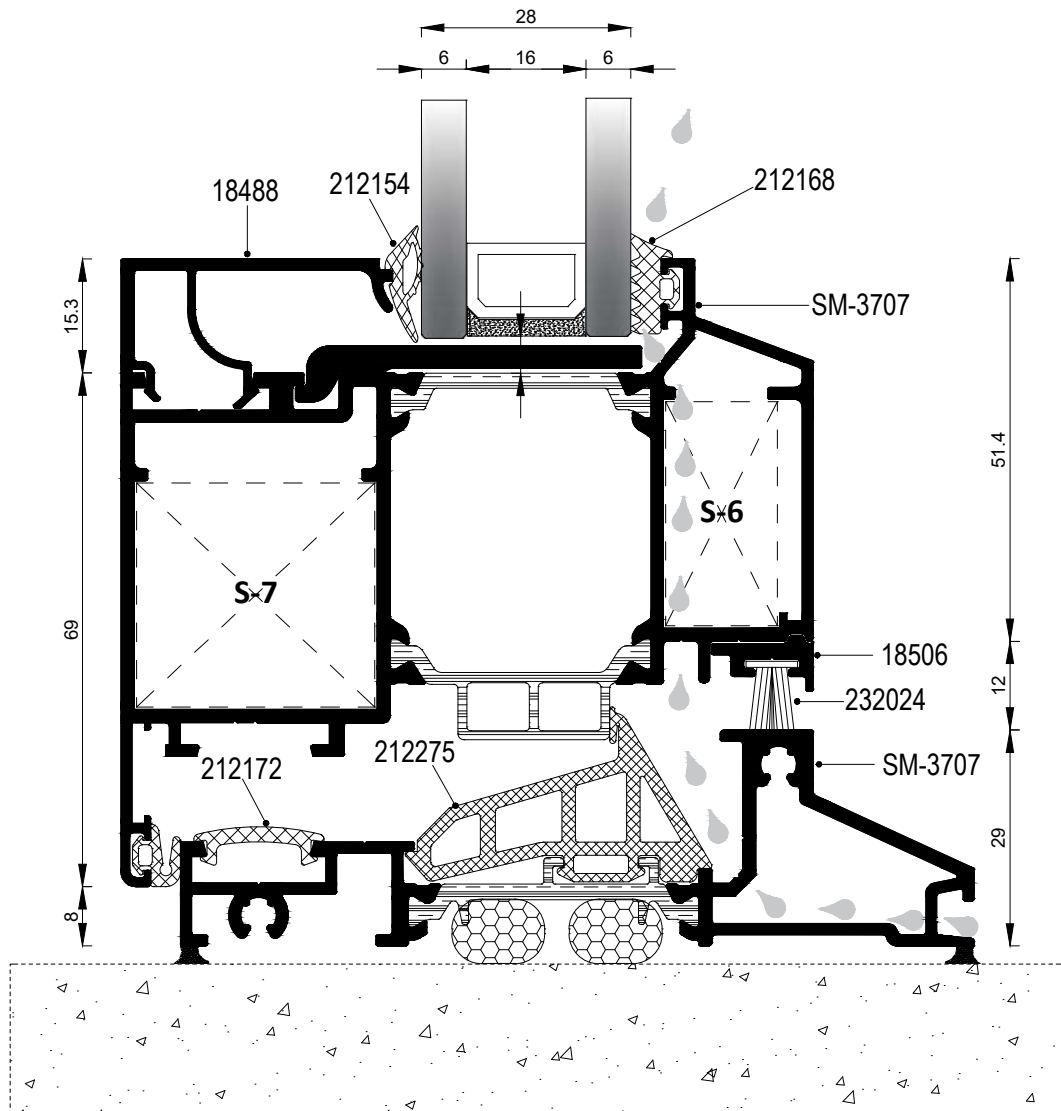
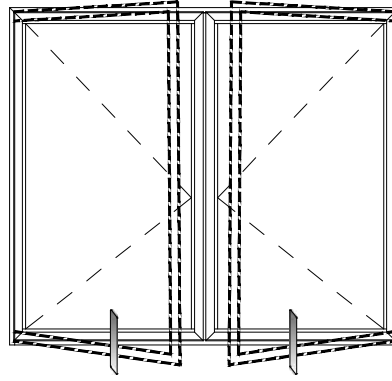


42

42

SMARTNESS 37 HINGED System

İÇE AÇILIR BİNİLİ KAPI DETAYLARI INWARD OPENING STEP DOOR DETAILS

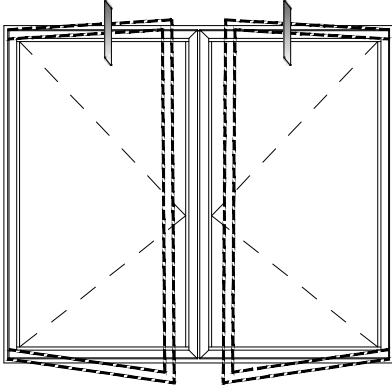


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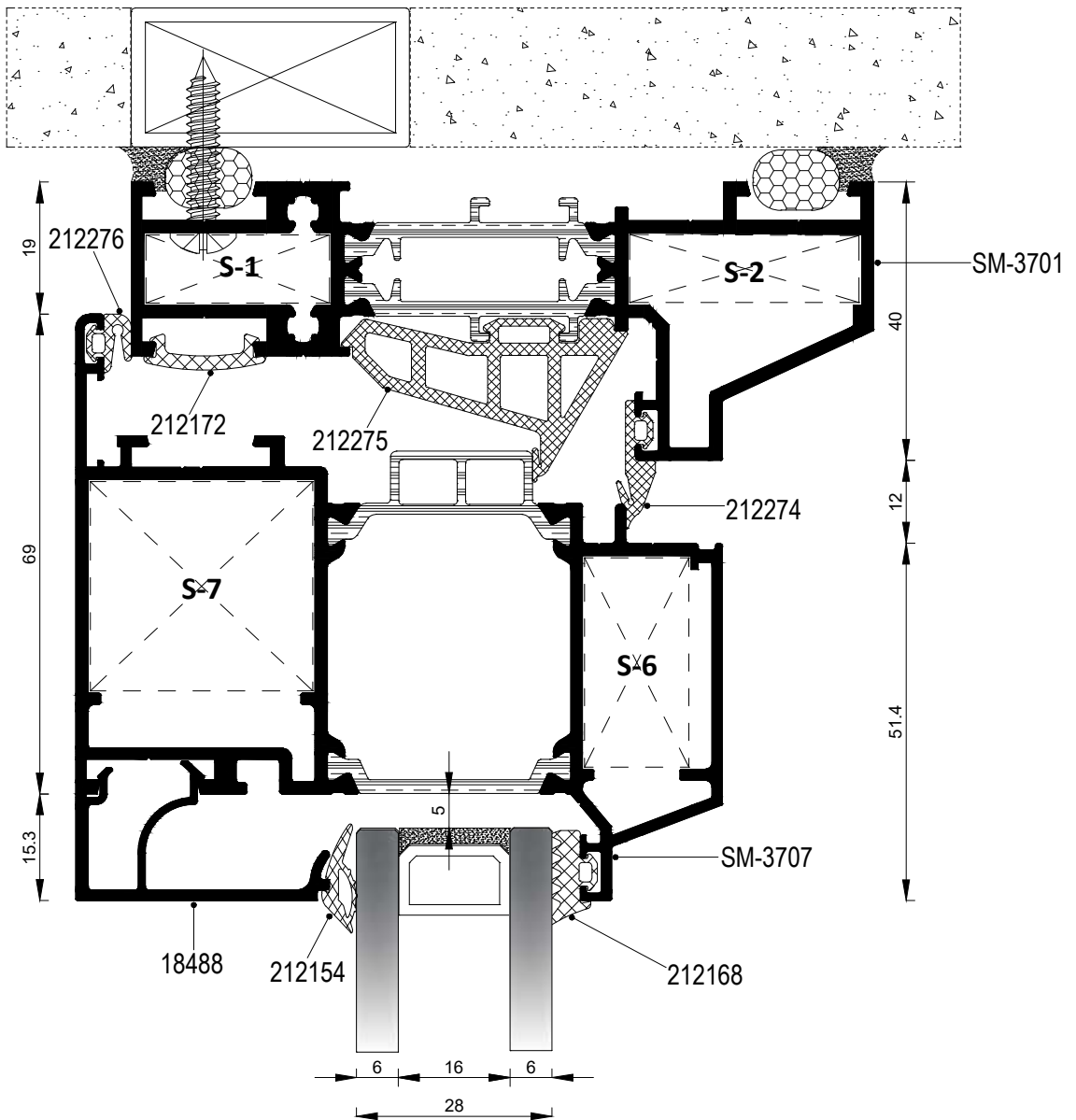
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İÇE AÇILIR BİNİLİ KAPI DETAYLARI INWARD OPENING STEP DOOR DETAILS



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SYSTEM

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ORTA KAYIT BAĞLANTI DETAYI MULLION, TRANSOM PROFILE END MILLING DETAIL

FERMOSA
SYSTEM

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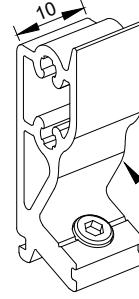
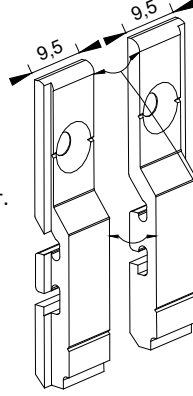
SMARTNESS 37 HINGED System

142003

ORTA KAYIT BAĞLANTI
SHAPED TRANSOM CONNECTION

Pr. No: 18484

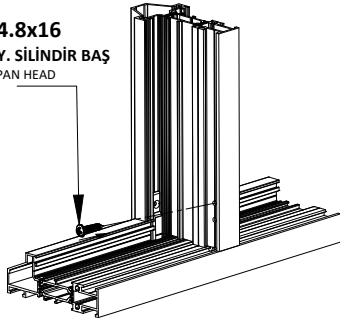
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Using left and right one together as kit.)



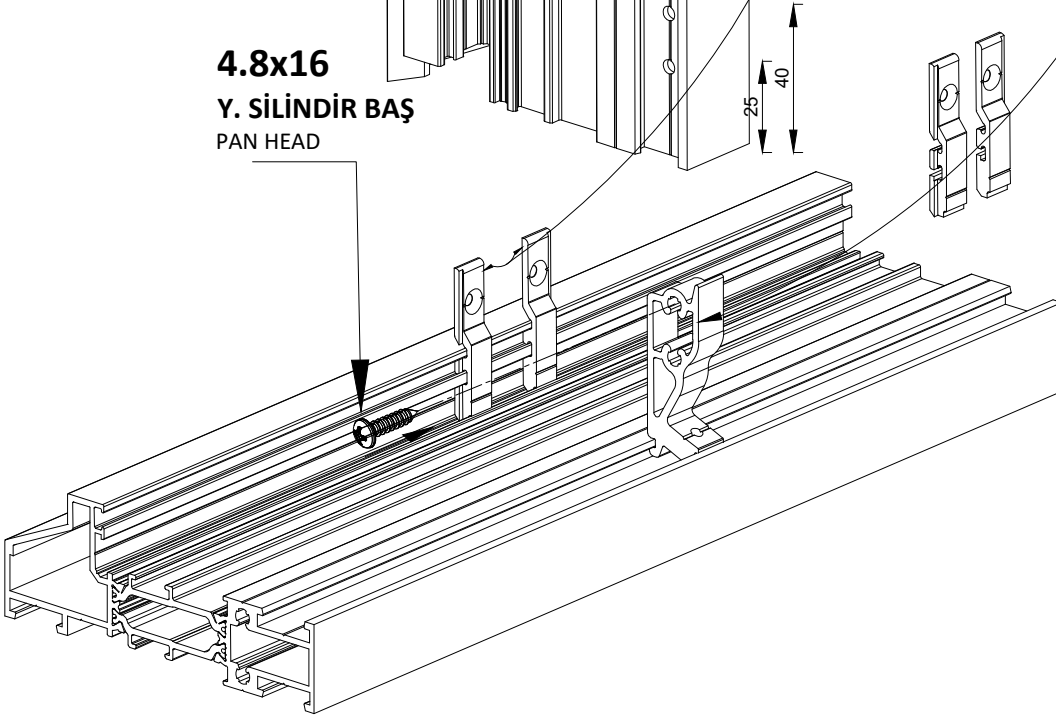
151092

U BAĞLANTILAR
U CONNECTIONS
Pr. No: 20522

4.8x16
Y. SİLİNDİR BAŞ
PAN HEAD



4.8x16
Y. SİLİNDİR BAŞ
PAN HEAD



FERMO

SYSTEM

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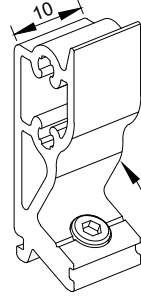
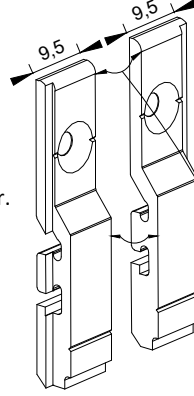
SMARTNESS 37 HINGED System

142003

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SHAPED TRANSOM CONNECTION

Pr. No: 18484

(Sağ ve sol olmak üzere ikili takımdır.
Using left and right one together as kit.)

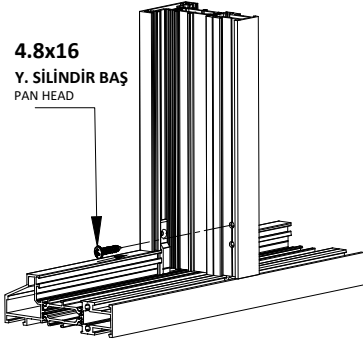


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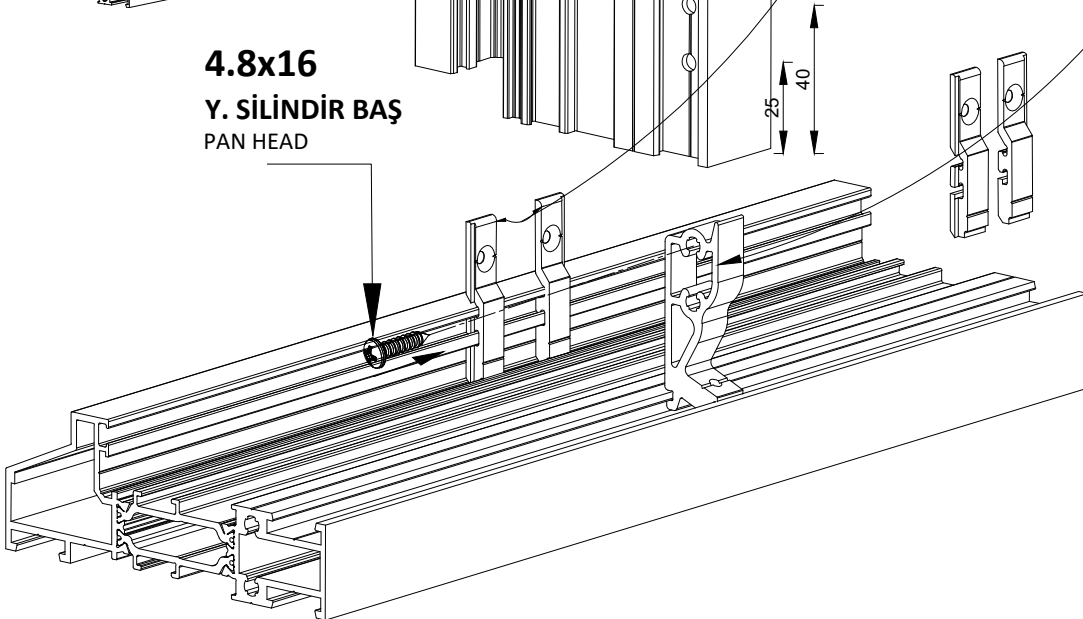
U BAĞLANTILAR
U CONNECTIONS

Pr. No: 20522

4.8x16
Y. SİLİNDİR BAŞ
PAN HEAD



4.8x16
Y. SİLİNDİR BAŞ
PAN HEAD



FERMO

SYSTEM

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AKSESUARLAR ACCESSORIES

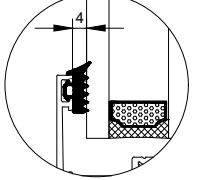
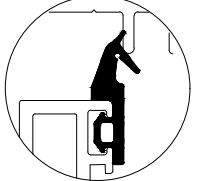
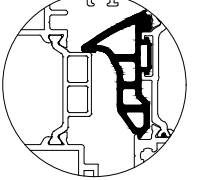
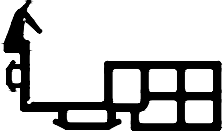
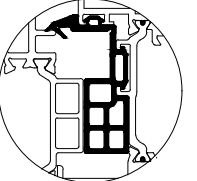
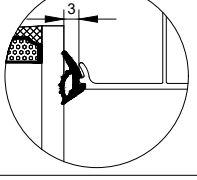
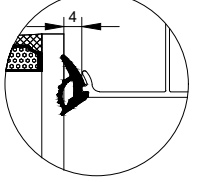
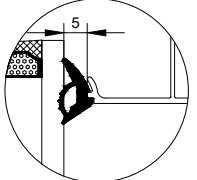
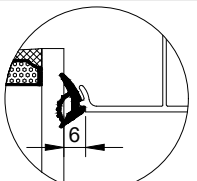
FERMOSA
SYSTEM

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M

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EPDM FİTİLLER / EPDM GASKETS

ÇİZİM / DRAWING	AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	TAKILMA BÖLGESİ / APPLICATION AREA
	212168 DIŞ CAM FİTİLİ 4 mm / OUTER GLAZING GASKET 4 mm BİRİM AĞIRLIK / UNIT WEIGHT: 68 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 220 m	
	212274 KASA BİNİ FİTİLİ / OUTER CASE GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 40 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 325 m	
	212275 ORTA BİNİ FİTİLİ / CENTRAL STEP GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 315 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 47 m	
	212273 ORTA BİNİ FİTİLİ / CENTRAL STEP GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 250 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 60 m	
	212153 KAMA FİTİLİ 3 mm / SUPPORT GASKET 3 mm BİRİM AĞIRLIK / UNIT WEIGHT: 42 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 350 m	
	212154 KAMA FİTİLİ 4 mm / SUPPORT GASKET 4 mm BİRİM AĞIRLIK / UNIT WEIGHT: 55 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 270 m	
	212155 KAMA FİTİLİ 5 mm / SUPPORT GASKET 5 mm BİRİM AĞIRLIK / UNIT WEIGHT: 65 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 230 m	
	212193 KAMA FİTİLİ 6 mm / SUPPORT GASKET 6 mm BİRİM AĞIRLIK / UNIT WEIGHT: 89 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 170 m	

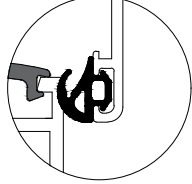
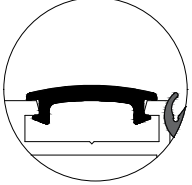
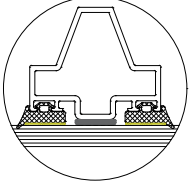
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EPDM FİTİLLER / EPDM GASKETS		
ÇİZİM / DRAWING	AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	TAKILMA BÖLGESİ / APPLICATION AREA
	212276 KANAT FİTİLİ / WING GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 40 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 325 m	
	212172 KAPATMA FİTİLİ / CLOSING GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 52 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 250 m	
	212271 YAPIŞKANLI CAM FİTİLİ 4 mm / ADHESIVE GLASS GASKET 4 mm BİRİM AĞIRLIK / UNIT WEIGHT: 68 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 220 m	

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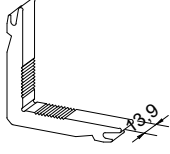
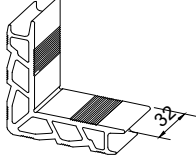
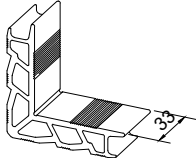
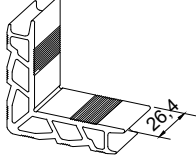
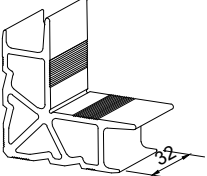
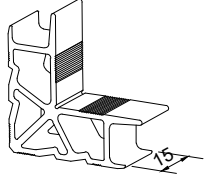
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KÖŞE TAKOZLARI / CORNER CLEATS

ÇİZİM / DRAWING	AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	KESİM ÖLÇÜSÜ CUTTING DIMENSION
	(S4) 111326 PROFİL NUMARASI / PROFILE NUMBER: 20008 PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,117 kg/m	13,9 mm
	(S5) 111327 PROFİL NUMARASI / PROFILE NUMBER: MS-8920 PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,115 kg/m	32 mm
	(S2) 111329 PROFİL NUMARASI / PROFILE NUMBER: MS-8920 PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,115 kg/m	33 mm
	(S1) 111314 PROFİL NUMARASI / PROFILE NUMBER: MS-8920 PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,115kg/m	26,4 mm
	(S6) 111330 PROFİL NUMARASI / PROFILE NUMBER: 20523 PROFİL AĞIRLIĞI / PROFILE WEIGHT: 3,793kg/m	32 mm
	(S7) 111331 PROFİL NUMARASI / PROFILE NUMBER: 20523 PROFİL AĞIRLIĞI / PROFILE WEIGHT: 3,793kg/m	15 mm

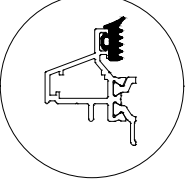
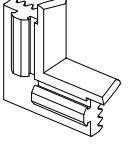
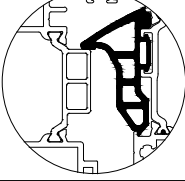
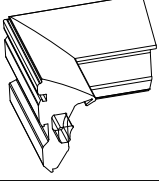
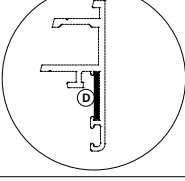
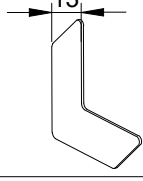
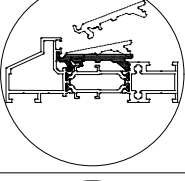
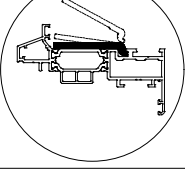
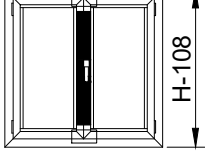
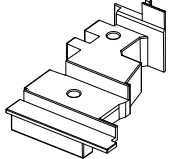
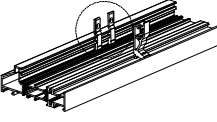
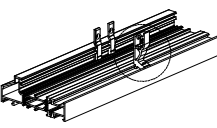
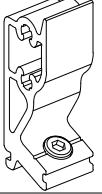
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ÇİZİM / DRAWING	AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	KESİM ÖLÇÜSÜ CUTTING DIMENSION
	252010 DIŞ CAM VULKANİZE KÖŞE CONTASI VULCANIZED CORNER FOR THE OUTER GASKET	
	252017 ORTA BİNİ VULKANİZE KÖŞE CONTASI VULCANIZED CORNER FOR THE CENTRAL GASKET	
	162009 KÖŞE ÇAVUŞU - 3 (Çelik/Steel) CORNER ALIGNMENT - 3	
	332090 CAM ALTI DESTEK PARÇASI - 1 (PVC) GLAZING SUPPORT - 1	
	181016 CAM ALTI DESTEK PARÇASI - 2 (AL.) GLAZING SUPPORT - 2	<i>Pr. No: 20408</i> 
	322089 ÇİFT KANAT ADAPTÖR TAPASI ADAPTER PLUG FOR DOUBLE VENT WINDOWS (Alt ve üst olmak üzere ikili takımdır. / Using top and bottom one together as kit.)	
	(B) 142003 ORTA KAYIT BAĞLANTI SHAPED TRANSOM CONNECTION <i>Pr. No: 18484</i>	KESİM ÖLÇÜSÜ CUTTING DIMENSION <i>9,5mm</i>
	(S3) 151092 U BAĞLANTILAR U CONNECTIONS <i>Pr. No: 20522</i>	KESİM ÖLÇÜSÜ CUTTING DIMENSION <i>10mm</i>
		

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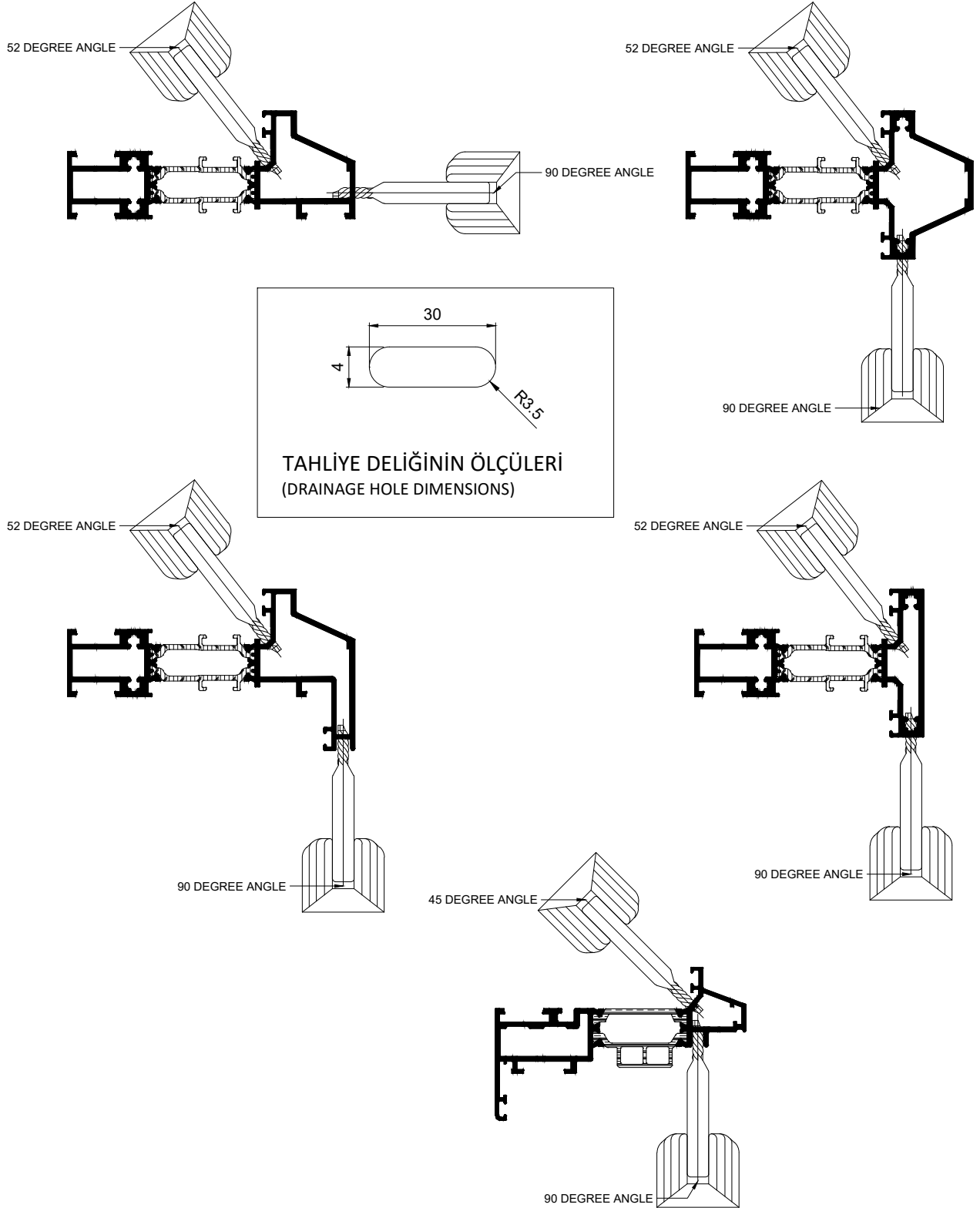
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TAHLİYE ŞEKİLLERİ - 1 DRAINAGE TYPES - 1



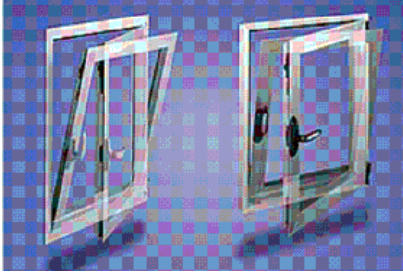
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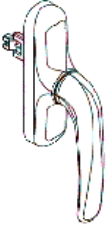
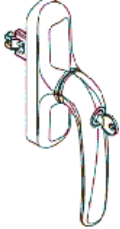
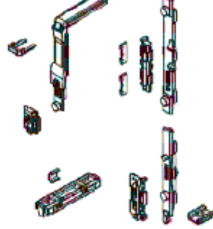
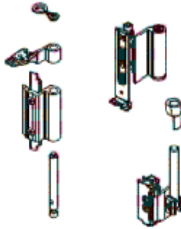
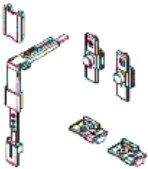
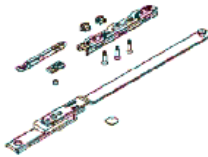
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ÇİFT AÇILIM AKSESUARLARI VE AÇILIM SETLERİ ACCESSORIES OF TILT&TURN OPENING KITS AND OPENING KITS



KANADIN AŞAĞIDAKİ ÖZELLİKLERİNE GÖRE VERİLEN TABLOLARDAN ÇİFT AÇILIM SETLERİNİN SEÇİMİ YAPILIR:
CHOOSE A T&T KIT FROM GIVEN TABLES AS SPECIFICATIONS OF VENT:

- 1) KANAT AĞIRLIĞI / WEIGHT OF VENT
- 2) KANAT ÖLÇÜLERİ / DIMENSIONS OF VENT
- 3) KANADIN AÇILIM ÖNCELİĞİ (ÖNCE NORMAL / ÖNCE VASİSTAS)
OPENING PRIORITY OF VENT (FIRST TILT OR FIRST TURN)
- 4) PVC KANALLILAR İÇİN AÇILIM YÖNÜ (SAĞ / SOL)
OPENING SIDE FOR PROFILES WITH PVC GROOVE (RIGHT OR LEFT HAND)

KOL CREMONE  613023	ANAHTARLI KOL CREMONE WITH KEY  613020	MEKANİZMA MECHANISM  513027	AKILLI MEKANİZMA LOGICAL MECHANISM  513028
MAKAS (80 kg) ARM  513037	MAKAS (130 kg) ARM  513049	MENTEŞE KİTİ (80 kg) HINGES  513030	MENTEŞE SETİ (130 KG) HINGES  513048
MENTEŞE KİTİ (170 kg) HINGES AND ARMS KIT  513053	İLAVE KİLİTLEME ADDITIONAL FASTENING  513016	İLAVE MAKAS ADDITIONAL ARM  513017	

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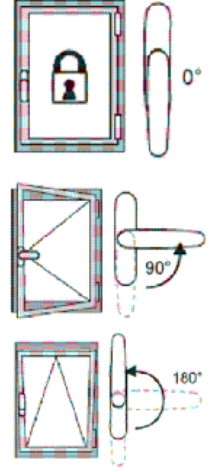
TABLO 1: 80 KG KAPASİTELİ ÇİFT AÇILIM SETLERİ

TABLE 1: TILT AND TURN OPENING KITS FOR 80 KG LOAD CAPACITY

SET KODU KIT CODE	503001	503002	503003	503004
KANAT ENİ (W) KANAT YÜKS. (H) SASH WIDTH AND HEIGHT	W:390-1000 H:600-1200	W:390-1000 H:1201-2500	W:1001-1300 H:600-1200	W:1301-1700 H:1201-2500
KOL CREMONE	613023	613023	613023	613023
MENTEŞE KİTİ HINGES	513030	513030	513030	513030
MEKANİZMA MECHANISM	513027	513027	513027	513027
MAKAS ARM	513037	513038	513038	513038
İLAVE KİLİTLEME ADDITIONAL FASTENING	-	513016	513016	513016 (2 ADET)
İLAVE MAKAS * ADDITIONAL ARM	-	-	513017	513017

*KANAT 60 KG'DAN AĞIR İSE KULLANILIR.

*IF THE WEIGHT OF VENT IS 60 KG, YOU HAVE TO USE ADDITIONAL ARM.



TABLO 2: 80 KG KAPASİTELİ AKILLI ÇİFT AÇILIM SETLERİ

TABLE 2: LOGICAL TILT AND TURN OPENING KITS FOR 80 KG LOAD CAPACITY

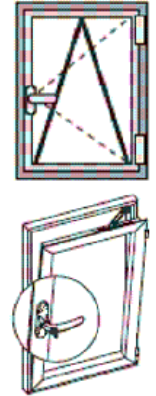
SET KODU KIT CODE	503005	503006	503007	503010
KANAT ENİ (W) KANAT YÜKS. (H) SASH WIDTH AND HEIGHT	W:390-1000 H:600-1200	W:390-1000 H:1201-2500	W:1001-1300 H:600-1200	W:1301-1700 H:1201-2500
KOL CREMONE	613020	613020	613020	613020
MENTEŞE KİTİ HINGES	513030	513030	513030	513030
MEKANİZMA MECHANISM	513028	513028	513028	513028
MAKAS ARM	513035	513029	513029	513029
İLAVE KİLİTLEME ADDITIONAL FASTENING	-	513016	513016	513016 (2 ADET)
İLAVE MAKAS * ADDITIONAL ARM	-	-	513017	513017

*KANAT 60 KG'DAN AĞIR İSE KULLANILIR.

*IF THE WEIGHT OF VENT IS 60 KG, YOU HAVE TO USE ADDITIONAL ARM.

NOT: AKILLI ÇİFT AÇILIMDA KANAT ÖNCE VASİSTAS SONRA NORMAL AÇILIR.

NOTE: LOGICAL TILT&TURN MEANS TILT FIRST.



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TABLO 3: 130 KG KAPASİTELİ ÇİFT AÇILIM SETLERİ

TABLE 3: TILT AND TURN OPENING KITS FOR 130 KG LOAD CAPACITY

SET KODU KIT CODE	503011	503012	503013	503014	503015	503016
KANAT ENİ (W) KANAT YÜKS. (H) SASH WIDTH AND HEIGHT	W:390-550 H:600-1200	W:390-550 H:1201-2500	W:551-1000 H:600-1200	W:551-1000 H:1201-2500	W:1001-1700 H:600-1200	W:1001-1800 H:1201-3000
KOL CREMONE	613023	613023	613023	613023	613023	613023
MENTEŞE KİTİ HINGES	513048	513048	513048	513048	513048	513048
MEKANİZMA MECHANISM	513027	513027	513027	513027	513027	513027
MAKAS ARM	513049	513050	513050	513050	513050	513050
İLAVE KİLİTLEME ADDITIONAL FASTENING	-	513016	-	513016	513016	513016 (2 AD)
İLAVE MAKAS * ADDITIONAL ARM	-	-	-	-	513017	513017

*KANAT 60 KG'DAN AĞIR İSE KULLANILIR.

*IF THE WEIGHT OF VENT IS 60 KG, YOU HAVE TO USE ADDITIONAL ARM.

TABLO 4: 130 KG KAPASİTELİ AKILLI ÇİFT AÇILIM SETLERİ

TABLE 4: LOGICAL TILT AND TURN OPENING KITS FOR 130 KG LOAD CAPACITY

SET KODU KIT CODE	503017	503018	503019	503020	503021	503022
KANAT ENİ (W) KANAT YÜKS. (H) SASH WIDTH AND HEIGHT	W:390-550 H:600-1200	W:390-550 H:1201-2500	W:551-1000 H:600-1200	W:551-1000 H:1201-2500	W:1001-1700 H:600-1200	W:1001-1800 H:1201-3000
KOL CREMONE	613020	613020	613020	613020	613020	613020
MENTEŞE KİTİ HINGES	513048	513048	513048	513048	513048	513048
MEKANİZMA MECHANISM	513028	513028	513028	513028	513028	513028
MAKAS ARM	513051	513052	513052	513052	513052	513052
İLAVE KİLİTLEME ADDITIONAL FASTENING	-	513016	-	513016	513016	513016 (2 AD)
İLAVE MAKAS * ADDITIONAL ARM	-	-	-	-	513017	513017

*KANAT 60 KG'DAN AĞIR İSE KULLANILIR.

*IF THE WEIGHT OF VENT IS 60 KG, YOU HAVE TO USE ADDITIONAL ARM.

NOT: AKILLI ÇİFT AÇILIMDA KANAT ÖNCE VASİSTAS SONRA NORMAL AÇILIR.

NOTE: LOGICAL TILT&TURN MEANS TILT FIRST.

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TABLO 5: 170 KG KAPASİTELİ GİZLİ MENTEŞELİ ÇİFT AÇILIM SETLERİ

TABLE 5: TILT AND TURN OPENING KITS FOR HIDDEN VENTS UP TO 170 KG

SET KODU KIT CODE	SAĞA AÇILAN RIGHT HAND				SOLA AÇILAN LEFT HAND			
	503023	503024	503025	503026	503031	503032	503033	503034
KANAT ENİ (W) KANAT YÜKS. (H) SASH WIDTH AND HEIGHT	430-640 600-1200	641-1000 1201-2500	1001-1300 600-2500	1301-1700 1201-2500	430-640 600-1200	641-1000 1201-2500	1001-1300 600-2500	1301-1700 1201-2500
KOL CREMONE	613023	613023	613023	613023	613023	613023	613023	613023
MENTEŞE VE MAKAS KİTİ-SAĞ ** HINGES AND ARMS KIT - RIGHT	513053	513054	513054	513054	-	-	-	-
MENTEŞE VE MAKAS KİTİ-SOL ** HINGES AND ARMS KIT - LEFT	-	-	-	-	513055	513056	513056	513056
MEKANİZMA MECHANISM	513027	513027	513027	513027	513027	513027	513027	513027
İLAVE KİLİTLEME ADDITIONAL FASTENING	-	513016	513016	513016 (2 ADET)	-	513016	513016	513016 (2 ADET)
İLAVE MAKAS * ADDITIONAL ARM	-	-	513017	513017	-	-	513017	513017

TABLO 6: 170 KG KAPASİTELİ GİZLİ MENTEŞELİ AKILLI ÇİFT AÇILIM SETLERİ

TABLE 6: LOGICAL TILT AND TURN OPENING KITS FOR HIDDEN VENTS UP TO 170 KG

SET KODU KIT CODE	SAĞA AÇILAN RIGHT HAND				SOLA AÇILAN LEFT HAND			
	503027	503028	503029	503030	503035	503036	503037	503038
KANAT ENİ (W) KANAT YÜKS. (H) SASH WIDTH AND HEIGHT	430-640 600-1200	641-1000 1201-2500	1001-1300 600-2500	1301-1700 1201-2500	430-640 600-1200	641-1000 1201-2500	1001-1300 600-2500	1301-1700 1201-2500
KOL CREMONE	613020	613020	613020	613020	613020	613020	613020	613020
MENTEŞE VE MAKAS KİTİ-SAĞ ** HINGES AND ARMS KIT - RIGHT	513057	513058	513058	513058	-	-	-	-
MENTEŞE VE MAKAS KİTİ-SOL ** HINGES AND ARMS KIT - LEFT	-	-	-	-	513059	513060	513060	513060
MEKANİZMA MECHANISM	513028	513028	513028	513028	513028	513028	513028	513028
İLAVE KİLİTLEME ADDITIONAL FASTENING	-	513016	513016	513016 (2 ADET)	-	513016	513016	513016 (2 ADET)
İLAVE MAKAS * ADDITIONAL ARM	-	-	513017	513017	-	-	513017	513017

*KANAT 60 KG'DAN AĞIR İSE KULLANILIR.

*IF THE WEIGHT OF VENT IS 60 KG, YOU HAVE TO USE ADDITIONAL ARM.

**KANAT AÇILIM YÖNÜNE GÖRE (SAĞ/SOL) SET SEÇİMİ YAPILMALIDIR.

**YOU HAVE TO CHOOSE YOUR KIT AS OPENING SIDE OF YOUR VENT.

NOT: AKILLI ÇİFT AÇILIMDA KANAT ÖNCE VASİSTAS SONRA NORMAL AÇILIR.

NOTE: LOGICAL TILT&TURN MEANS TILT FIRST.

FERMO

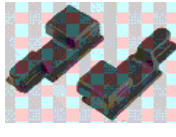
SYSTEM

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TABLO 8: TEK AÇILIM İÇİN KİLİTLEME SETLERİ
TABLE 8: LOCKING KITS FOR SIDE HUNG OPENING

KOD CODE	ÜRÜN TANIMI PRODUCT DESCRIPTION	ÇİFT MAÇALI KOL KİLİTLEME SETİ / DOUBLE RAIL HANDLE LOCKING KIT			
		L<1000 H<1400	L<1000 H>1400	L>1000 H<1400	L>1000 H>1400
613011	ÇİFT MAÇALI KOL TWO-WAY CREMONE	1	1	1	1
643004	ÇİFT MAÇALI KOL BAĞLANTISI TWO-WAY CREMONE CONNECTION	1	1	1	1
733002	KİLİTLEME PİMİ LOCKING PIN	2	4	4	10
733009	SABİT KARŞILIK FIXED STRIKER	2	6	6	14
733003	KÖŞE İLETİM PARÇASI CORNER DEVICE	-	2	2	4
732012	KANAT SARKMA TAKOZU CHOCK FOR VENTS	1	1	1	1

ÇİFT MAÇALI KOL TWO-WAY CREMONE  613011	KOL BAĞLANTISI CREMONE CONNECTION  643004	SABİT KARŞILIK FIXED STRIKER  733009	KÖŞE İLETİM PARÇASI CORNER DEVICE  733003	KANAT TAKOZU CHOCK FOR VENT  732012
---	---	--	--	---

TABLO 9: GİZLİ DIŞA AÇILIM MAKASLARI
TABLE 9: HIDDEN OUTER OPENING ARMS

KOD CODE	ÜRÜN TANIMI PRODUCT DESCRIPTION	MAKAS ARM (mm)	DIŞA TERS VASİSTAS AÇILIM TOP-HUNG OPENING				DIŞA NORMAL AÇILIM SIDE-HUNG OPENING			
			MAX.AÇI M.ANGLE	MAX.YÜK M.HEIGHT	MAX.GN M.WIDTH	MAX.AĞ MAX.W(kg)	MAX.AÇI M.ANGLE	MAX.YÜK M.HEIGHT	MAX.GN M.WIDTH	MAX.AĞ MAX.W(kg)
443004	10" KÜÇÜK MAKAS 10" SMALL ARM	259	50°	650	1500	50	50° 84°	1500	650	35
443005	16" ORTA MAKAS 16" MEDIUM ARM	412	30° 50°	800	1500	100 55	30° 50°/90°	1600	700	60 42
443006	22" GENİŞ MAKAS 22" LARGE ARM	567	20° 45°	1500	1700	100 80	-	-	-	-
443007	26" BÜYÜK MAKAS 26" BIG ARM	711	15°	2000	1700	100	-	-	-	-

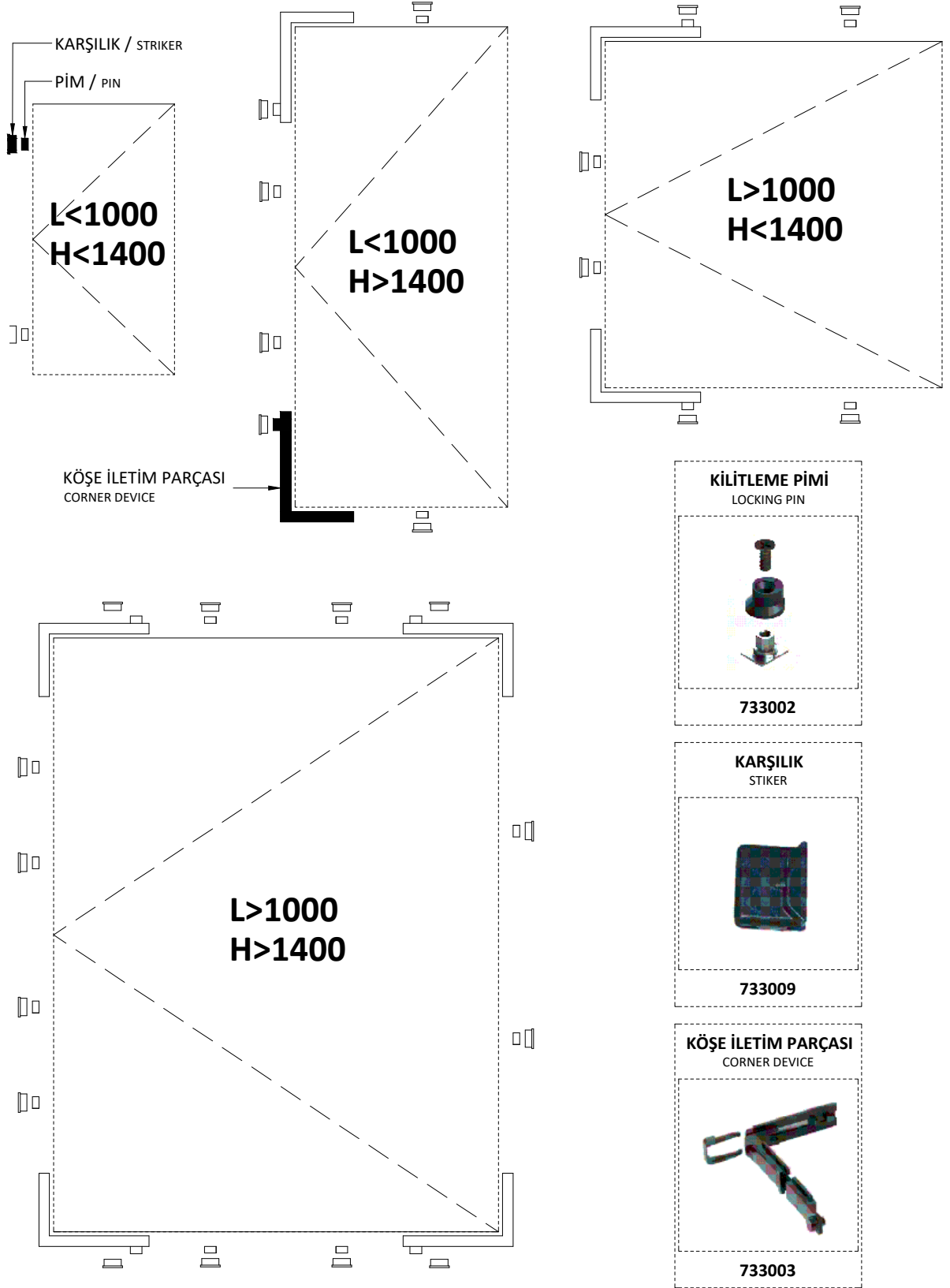
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ŞEMA 1: TEK AÇILIM İÇİN KİLİTLEME ŞEMALARI SCHEME 1: LOCKING SCHEMES FOR SIDE HUNG OPENING



AKSESUARLAR / ACCESSORIES

FERMOŞA

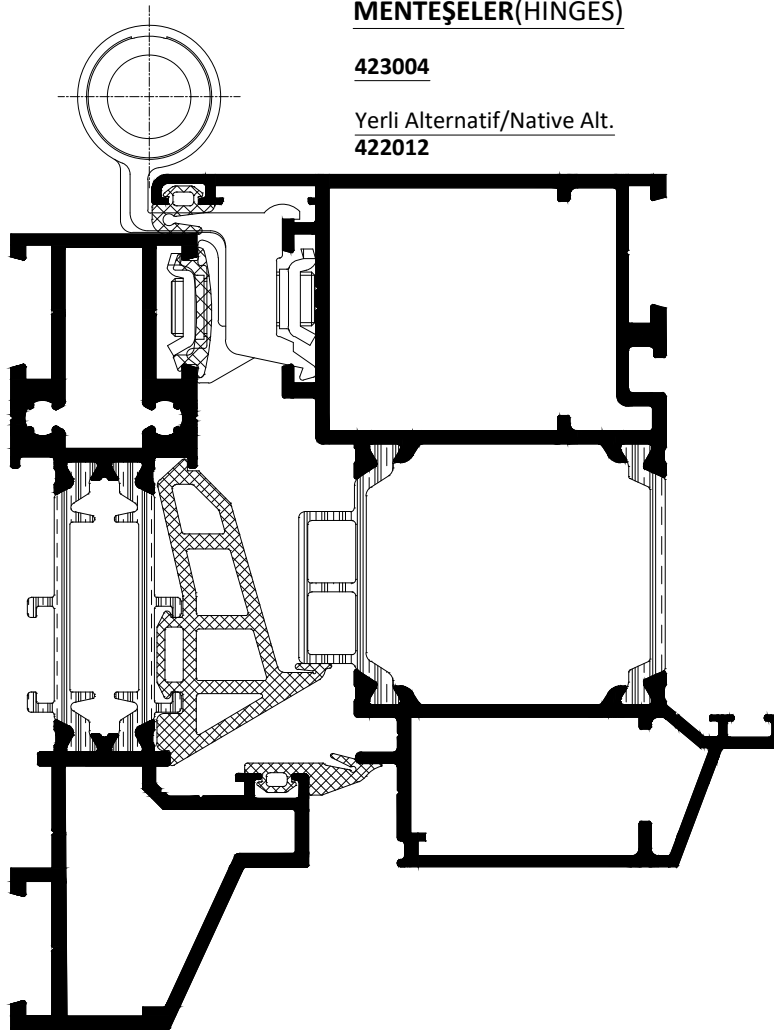
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BİNİLİ KAPILAR İÇİN MENTEŞE BAĞLANTI DETAYLARI HINGE CONNECTION DETAILS FOR THE STEP HINGE DOORS

İÇE AÇILIR BİNİLİ KAPILAR / INWARD OPENNING STEP HINGE DOORS



MENTEŞELER(HINGES)

423004

Yerli Alternatif/Native Alt.

422012

FERMOSA

SYSTEM

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SMARTNESS 37 HINGED System

PENCERE MENTEŞESİ (85 KG)
WINDOW HINGE



*KAPASİTE: 85KG (3AD)
*CAPACITY: 85 KG (3 PCS)

413004

PENCERE MENTEŞESİ
WINDOW HINGE



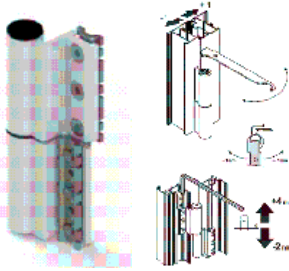
412013*

POLYAMİD TİJ
POLYAMIDE CONNECTION ROD



733007

AYARLI KAPI MENTEŞESİ (100 KG)
ADJUSTABLE DOOR HINGE



*KAPASİTESİ: 120 KG (3 AD)
*CAPACITY: 120 KG (3 PCS)

423004

AYARLI KAPI MENTEŞESİ
ADJUSTABLE DOOR HINGE



422012*

POLYAMİD TİJ KESME-DELME MAKİNESİ (MANUEL)
POLYAMIDE ROD CUTTING AND DRILLING MACHINE



943086

TEK AÇILIM GİZLİ MENTEŞESİ (SOL)
SIDE HUNG HIDDEN HINGE FOR LEFT HAND



*SOLA AÇILAN KANAT İÇİNDİR.
*IT IS USED WITH LEFT HAND OPENING SASH.

513062

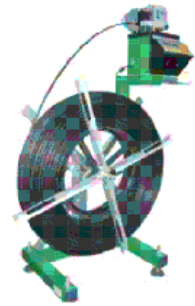
TEK AÇILIM GİZLİ MENTEŞESİ (SAĞ)
SIDE HUNG HIDDEN HINGE FOR RIGHT HAND



*SAĞA AÇILAN KANAT İÇİNDİR.
*IT IS USED WITH RIGHT HAND OPENING SASH.

513061

POLYAMİD TİJ KESME-DELME MAKİNESİ (YARI OTOMATİK)
ROD CUTTING AND DRILLING MACHINE



943087

AKSESUARLAR / ACCESSORIES

FERMOŞA

SYSTEM

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SMARTNESS 37 HINGED System

ÇİFT MAÇALI KOL
TWO-WAY CREMONE



613011

ÇİFT MAÇALI ANAHTARLI KOL
TWO-WAY CREMONE WITH KEY



613012

ÇİFT MAÇALI KOL
TWO-WAY CREMONE



613008

ÇİFT MAÇALI KOL
TWO-WAY CREMONE



613013

ÇİFT MAÇALI ANAHTARLI KOL
TWO-WAY CREMONE WITH KEY



613014

ÇİFT MAÇALI KOL
TWO-WAY CREMONE



613015

SÖKÜLEBİLİR KOL
AWAY CREMONE



613004

SÖKÜLEBİLİR KOL SAPI
PULL HANDLE FOR AWAY CREMONE



613005

ÇİFT MAÇALI ANAHTARLI KOL
TWO-WAY CREMONE WITH KEY



613016

FERMO

SYSTEM

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SMARTNESS 37 HINGED System

KAPI KOLU
DOOR HANDLE



623002

KAPI KOLU
DOOR HANDLE



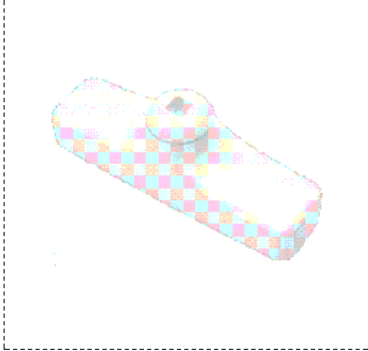
623004

ÇİFT MAÇALI KOL
TWO-WAY CREMONE



612018*

SÖKÜLEBİLİR KOL
AWAY CREMONE



612016*

SÖKÜLEBİLİR KOL SAPI
PULL HANDLE FOR AWAY CREMONE



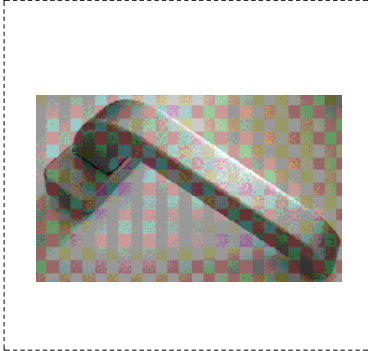
612017*

BAREL ROZETİ
CYLINDER COVER PLATE



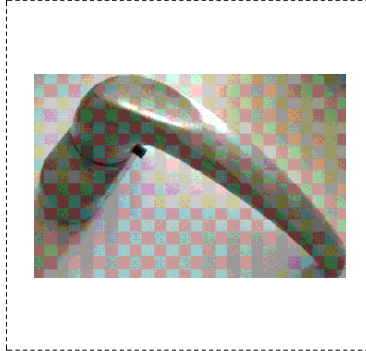
622130*

KAPI KOLU
DOOR HANDLE



622134*

KAPI KOLU
DOOR HANDLE



622135*

BAREL ROZETİ
CYLINDER COVER PLATE



622136*

AKSESUARLAR / ACCESSORIES

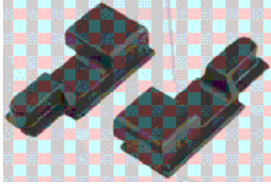
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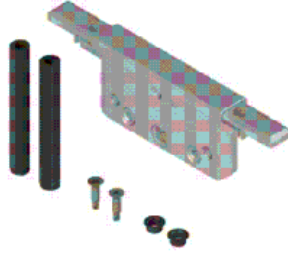
SMARTNESS 37 HINGED System

ÇİFT MAÇALI KOL BAĞLANTILARI
TWO-WAY DRIVE ROD COMPONENTS



643004

İKİ YÖNLÜ KOL MEKANİZMASI
TWO-WAY MECHANISM FOR OUTWARD OPENING



*613032 İLE ÇALIŞIR.
*IT WORKS WITH 613032.

643005

KANAT SARKMA TAKOZU
CHOCK FOR VENTS



732012*

ÇİFT MAÇALI KOL BAĞLANTILARI
TWO-WAY DRIVE ROD COMPONENTS



642003*

SABİT KARŞILIK
FIXED STRIKER



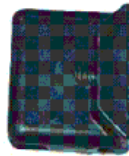
733009

AYARLI PİM
ADJUSTABLE FASTENING PAWL



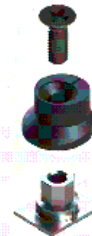
733002

SABİT KARŞILIK
FIXED STRIKER



732009*

AYARLI PİM
ADJUSTABLE FASTENING PAWL



732002*

FERMO

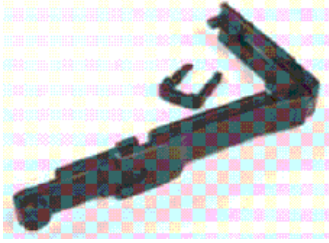
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SMARTNESS 37 HINGED System

KÖŞE İLETİM PARÇASI
CORNER DEVICE



733003

KÖŞE İLETİM PARÇASI
CORNER DEVICE



732003*

TAHLİYE KAPAĞI
DRAINAGE SLOT COVER



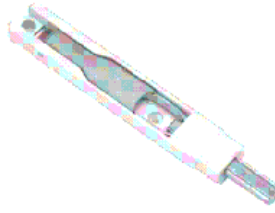
322022*

KANALLI KAPI SÜRGÜSÜ (220mm)
GROOVE DOOR BOLT



742001*

KANALLI PENCERE SÜRGÜSÜ (140mm)
GROOVE WINDOW BOLT



742002*

2.KANAT İÇİN İKİ YÖNLÜ SÜRGÜ SETİ
TWO-WAY LEVER BOLT KIT FOR SECONDARY SASH



743001

HEMYÜZ KAPI SÜRGÜSÜ (220mm)
FLUSH DOOR BOLT



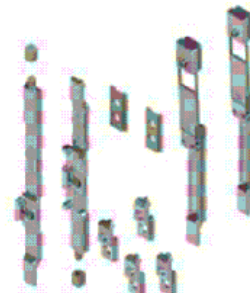
742004*

HEMYÜZ PEN. SÜRGÜSÜ (140mm)
FLUSH WINDOW BOLT



742003*

2.KANAT İÇİN TEK YÖNLÜ SÜRGÜ SETİ
ONE-WAY BOLT KIT FOR SECONDARY SASH



743002

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ÇİFT MAÇALI KOL İLE KİLİTLEME SETİ
KIT FOR TWO-WAY SASH CLOSING



773001

ÇİFT MAÇALI KOL İLE KİLİTLEME SETİ
KIT FOR TWO-WAY SASH CLOSING



772001*

VASİSTAS MANDALI
TWIN CATCH



753006

VASİSTAS MAKAS 150 MM
ARM FOR BOTTOM-HUNG 150 MM



453001

VASİSTAS MAKAS 150 MM
ARM FOR BOTTOM-HUNG 150 MM



452005*

VASİSTAS MANDALI
TWIN CATCH



752005

VASİSTAS MAKAS 250 MM
ARM FOR BOTTOM-HUNG 250 MM



453002

VASİSTAS MAKAS 250 MM
ARM FOR BOTTOM-HUNG 250 MM



452004*

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DİLLİ KİLİT
LOCK WITH RAIL



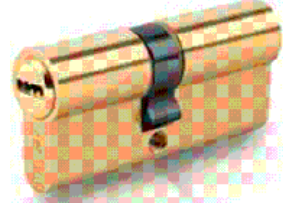
712010

MAKARALI KİLİT
LOCK WITH ROLLER



712016

120mm BAREL
120mm CYLINDER



722044

DİLLİ KİLİT KARŞILIĞI
STRIKER FOR LOCK WITH RAIL



732021

MAKARALI KİLİT KARŞILIĞI
STRIKER FOR LOCK WITH ROLLER



732022

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KAPI KİLİTLEME SETİ DOOR LOCKING KIT



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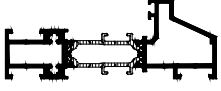
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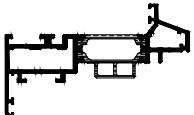
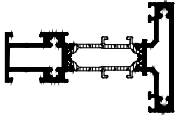
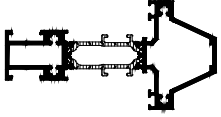
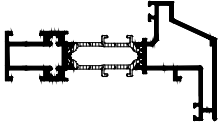
SMARTNESS 37 HINGED System

KULLANIM ŞARTLAR

TERMS OF SERVICE



Profiller, folyolu muhafaza edilmeli, folyoları inşaat bitiminde çıkartılmalıdır. Kireç ve çimento gibi inşaat malzemeleri alüminyum yüzeylerle temas etmemelidir. Profiller binaya uygulandıktan sonra düzenli aralıklarla temizlenmelidir. Profillerin temizliği, hafifçe sabunlu ılık su ve/veya bu suyla ıslatılmış yumuşak bir bez ile yapılmalı, deterjan, çamaşır suyu, zımpara, tel fırça ve aşındırıcı, alkali, asidik temizleyici kullanılmamalıdır. Sistem için önerilen aksesuar ve sarf malzemeleri katalogda belirtilen biçimde uygulanmalı ve tüm aksesuarları eksiksiz olarak kullanılmalıdır. Sistemin katalogda belirtilen fitilleme, silikonlama, su tahliyesi ve havalandırma metodlarına uyulmalıdır. İlave her türlü uygulama için Burak Alüminyum'dan destek ve onay alınmalıdır.



GARANTİ KOŞULLARI!

Profiller, yukarıda belirtilen şartlara uygun biçimde kullanılmış ve hiçbir şekilde mekanik hasara veya deformasyona uğramamış ise, herhangi bir kusur durumunda, garantimiz yalnız kusurlu parçaların de-montajı, tekrar üretimi, tekrar eloksali ve tekrar yerine takılması ile sınırlı olacaktır. Yukarıda bahsedilmeyen konular iş hukukuna tabidir. Mimari sistem katalogunda belirtilmeyen veya Burak Alüminyum'un onay vermediği aksesuar ve sarf malzemesi kullanımından doğabilecek her türlü sorumluluk uygulamacı firmaya aittir. Mimari sistem katalogunda belirtilen detay ve sistem çözümleri haricindeki uygulamalar için Burak Alüminyum'un onayı alınmalıdır. Aksi taktirde bu uygulamalardan meydana gelebilecek problem ve aksaklıklardan Burak Alüminyum sorumlu değildir.

Profiles must be protected with folio tapes and they must be taken out when the structure was finished. Building materials as similar lime and cement must not be touched with the aluminium surfaces. The profiles must be cleaned periodically after the structure was finished. Cleaning of profiles must be done by the fabric that was damped with warm water and soap. Don't use detergent, chlorine water, emery, wire brush, abrasive, base, acidic cleaner.

Accessories and consumables should be applied as shown at the catalogue and used completely. Glazing, siliconing, water drainage and ventilation methods specified on the catalogue should be applied completely. Any type of the additional methods should be approved by Burak Aluminium.

TERMS OF WARRANTY

If the profiles was used according to terms of service and they have no mechanical damage or deformation, in any defect situation, our warranty is limited by disassembly, re-product, re-eloxal, re-assembly of faulty pieces. These are subjected to la bor law. Builder is responsible for all conditions by using of accessories and consumables that did not confirmed by Burak Aluminium are not mentioned in catalogue of Architectural System. Confirmation must be taken from Burak Aluminium for applications without details and system solutions that are mentioned in catalogue of architectural sytem. If not Burak Aluminium is not responsible because of any wrong applications.

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Fax : + 90 288 436 13 63