



# F50-ENERGY

YÜKSEK YALITIMLI GIYDİRME CEPHE SİSTEMİ  
HIGH INSULATED CURTAIN WALL SYSTEM



KATALOGDA BULUNAN MARKA VE ÜRÜNLER, SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş. BÜNYESİNDE OLUŞTURULMUŞ FİKİR ESERLERİ OLUP TÜRK PATENT ENSTİTÜSÜ TARAFINDAN TESCİLLENMİŞTİR. HİÇ BİR SURETLE İZİNSİZ ÜRETİLEMEZ VEYA ÇOĞALTILAMAZ.

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**Sistem** **Al**  
A L Ü M İ N Y U M



# Sistem

AL

A L Ü M İ N Y U M



**SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.** 1994 yılında 1 adet 210 ton/ay 800 tonluk kapasitesiyle İstanbul Merter'de 750 m<sup>2</sup>'lik alanda alüminyum profil imalatına başlamıştır. 1998 yılına kadar burada imalatına devam eden firma daha sonra İstanbul Hadımköy'deki yerine taşınmıştır. Yeni anlayış içerisinde, 2013 Yılında Çorlu'da **300.000 m<sup>2</sup>** üzerine kurulan **70.000 m<sup>2</sup>**'lik kapalı alanda yeni yerinde günün koşullarına göre modernize edilen tesisimiz, 1.100 ton/ay kapasiteli 2.750 tonluk presimizin ilavesi ile yıllık üretim kapasitesini **50.000 ton/yıla** çıkarmıştır. Sistem Alüminyum kalıp üretiminden başlayıp ekstrüzyon imalatı, elektrostatik toz boya, ahşap kaplama, eloksal, mekanik işlem, kompozit panel imalatı ve nihai uygulamaları bünyesinde bulunduran entegre bir tesistir.

Kalıphanemiz; CNC işleme merkezleri, modern tezgâhlar ve kalifiye elemanlarla mevcut üretimimizi desteklemektedir. Müşteri özel profillerinin kalıp üretimini de modern ekipmanlarla burada gerçekleştirilmektedir. **18.500** çeşidin üstünde ürün yelpazesi ile sektöründeki yerini her geçen gün daha da güçlendirmektedir.

Yıllık kapasitesi **19.000** ton olan Statik Toz Boya Tesisimizde standart RAL renklerinin yanı sıra müşterimizin özel renk talepleri de karşılanmaktadır. Çorlu'da devreye alınan yeni boyahane ünitemizle 8000 mm boya sahip profiller proses edilebilmektedir. 2006 yılında devreye alınan Elokسال Tesisimize ilave olarak Çorlu'da devreye alınan son teknolojiye sahip, müşteri özel renklerinin de çalışıldığı yeni eloksal tesisimizle birlikte **yıllık kapasitesi 24.000 ton/yıl** ulaşmıştır. Alternatif yüzey kaplaması olarak 2010 yılında faaliyete geçen Ahşap Transfer Kaplama bölümümüzde özel renk ve desen çalışmaları yapılabilmektedir. 2010 yılında kurulan Mekanik İşlem Merkezimizle müşterilerimizden gelen talepler doğrultusunda profil yüzeyine delme, havşalı delme, boşaltma, CNC işlemleri, hassas kesim, açılı kesim, punch ile delme, matkapla delme, fitil v.b. işlemleri uygulanabilmektedir.

Üretim kapasitesinin büyük bölümünü ihracata ayıran firmamız yurt içinde de aynı kalitede hizmet vermektedir. Bu amaçla tümüyle kendi imkân, teknoloji ve **AR-GE** çalışmaları neticesinde **ALUTECH SYSTEM SERIES** markası altında giydirme cephe sistemlerini, yalıtımlı-yalıtımsız doğrama, sürme, ışıklık, çelik takviyeli cephe, kompoze ve taş kaplama alt taşıyıcı sistemlerini piyasaya sürmüştür. Sektöre sunulan sistemler her aşamada mühendislik testlerinde geçirilmiş ve Avrupa (EN) normlarında tüm aksesuarlarla uyumu sağlanmıştır. Şirketimiz, misyonu gereği müşteri memnuniyetini baz aldığından; gerek optimum çözümler sunan profil dizaynlarımızla, gerek montaj kolaylığı sağlayan detaylarımızla gerekse malzeme kalite ve tedarik hızımızla ayrıcalıklı hizmet vermeyi ilke kabul etmiştir. Ayrıca farklı tasarım ve uygulamalara cevap verebilecek şekilde cephelerin vazgeçilmez parçası olan, **Alüminyum Kompozit Panel (ALUTECHBOND)** tesislerimizde üretilmektedir. Dış cephe ve iç cephe uygulamaları için metalik renkli, mat renkli ve desenli renk seçeneklerinde farklı kompozit paneller mevcut olup istenilen ölçülerde panel üretimi yapılabilmektedir. Yıllık **4.200.000 m<sup>2</sup>** kapasitesi olan iki üretim hattı ile projelerinize optimum çözüm sunmaya hazırız. **ALUTECHBOND Alüminyum Kompozit Panel** -50°C'den +80°C'ye kadar olan sıcaklıklarda kullanılabilir. Ürünümüz **SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.** güvencesiyle üretilmekte olup, garanti süresi 20 yıldır.

Alüminyum profil sektöründe sürekli gelişmeyi ve kalıcı olmayı hedefleyen firmamız kalite sistem çalışmalarıyla da bu amaca ulaşmada hızlı adımlarla ilerlemektedir. **CE, TSE**, statik toz boya uygulamaları için **Qualicoat**, eloksal uygulamaları için **Qualinoad** belgelerine sahip olan firmamız ayrıca; **ISO 9001, ISO 14001, ISO 45001** ve **ISO/EC 27001** Bilgi Güvenliği Yönetim Sistemi gibi sistem belgelerine sahiptir. Ayrıca **SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.** temin ettiğiniz malzemeler içinde **REACH** ve **ROHS** kısıtlamasında bulunan kimyasalların (ağır metaller) yasal sınırlar içinde bulunduğunu teyit etmektedir. Tüm ürünlerimiz için müşterilerimize her türlü mühendislik mimari uyum konusunda teknik hizmet vermekten onur duyuyoruz. Yeni ürünler ve hizmetlerimizle birlikte çalışmak dileğiyle.

Saygılarımızla

# Sistem<sup>Al</sup>

A L Ü M İ N Y U M

**SİSTEM ALUMINUM IND. and TRA. INC.** It has started to produce aluminum profiles in 1994, with a capacity of 800 tons with 1 press machine of 210 tons/month on 750 m<sup>2</sup> area in Istanbul/Merter. The company had continued its production there until 1998 and then moved to its place in Istanbul/Hadımköy. With the new perspectives, our facility has been modernized with the conditions of modern time on its new place in Çorlu over an area of **300.000 m<sup>2</sup>** with **70.000 m<sup>2</sup>** of closed space and with the addition of new 2.750 tons press machine with capacity of 1.100 tons/month, it has increased the production capacity to **50.000 tons/year**. Sistem Aluminum is an integrated plant which includes all of the processes starting with mold production, continuing with extrusion production, electrostatic powder coating, wood siding, anodized coatings, mechanical process and composite panel production; all the way to final applications.

Our die house supports our current production with CNC processing centers, modern branches and qualified staff. Mold production for special customer profiles is also executed here with modern equipment. It strengthens its place in the industry everyday with its range over **18.500** products.

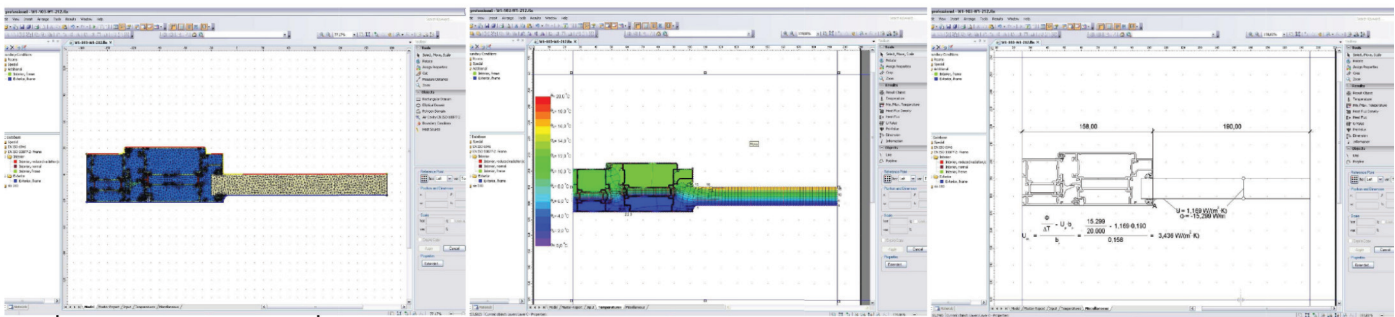
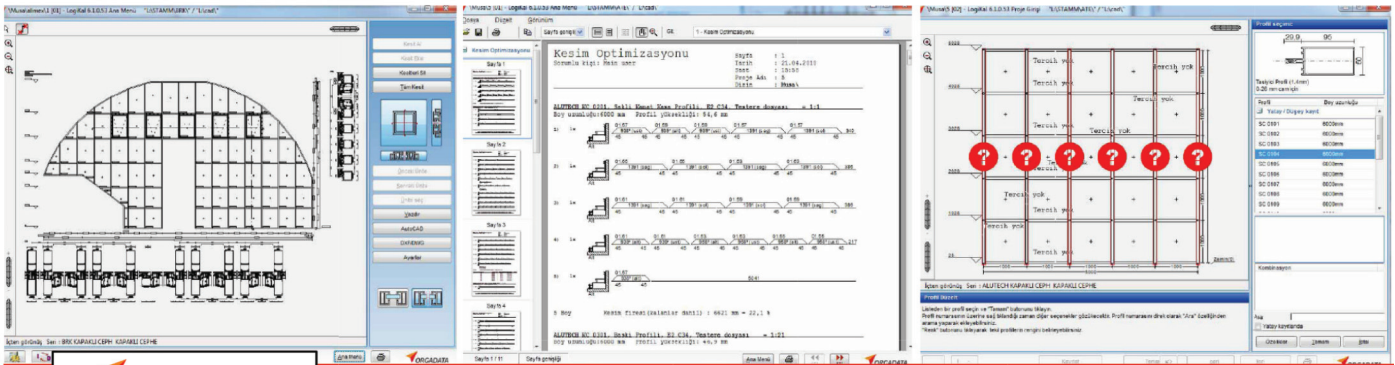
We also provide special color requests from our customers in addition to standard RAL colors, within our Static Powder Paint Facility with **19.000** tons of annual capacity. With our new Powder Coating unit becoming operational in Çorlu, we will be able to process profiles 8000 mm in length. Together with the new anodizing facility becoming operational in Çorlu with the latest technology and where special color requests from our customers are studied, in addition to our Anodizing Facility that became operational in 2006, our annual capacity will be **24.000 tons/year**. As an alternative surface coating, within our Wooden Transfer Coating department, which became operational in 2010, we can work on special colors and designs. Together with the Machining Center, which became operational in 2010, we are able to conduct processes such as profile surface drilling, countersink drilling, unloading, CNC processes, precision cut, angled cut, punch drilling, drilling, cord etc.

Our company allocates a large part of its production capacity for exportation and also serves with the same quality in domestic markets. With this purpose, it has released curtain wall systems, isolated-nonisolated frames, sliding, skylight, steel reinforced facade, composite and stone faced sub-carrier systems, under the brand of **ALUTECH SYSTEM SERIES**, as a result of entirely their own efforts, technology and **R & D** activities. Systems presented to the industry have been tested with engineering tests at every stage and compliance with all accessories in European (EN) standards is provided. Our company, which is based on customer satisfaction as of the nature of its mission; adopted the principle of providing exceptional service with the profile designs that provide optimum solutions, with ease of installation with our details and with quality of materials and supply speed. Besides that, **Aluminum Composite Panel (ALUTECHBOND)**, which is an irreplaceable part of facades, as it can respond to different designs and applications, is produced in our facility. For exterior and interior applications, different composite panels with the options of metallic color, matte color, and patterned colors are available and panels can be produced in the required measurements. With two production lines that have an annual capacity of **4.2 million m<sup>2</sup>**, we are ready to offer the optimum solutions for your projects. **ALUTECHBOND Aluminum Composite Panels** can be used at temperatures ranging from minus 50°C to plus 80°C Our product is produced under the guarantee of **SİSTEM ALÜMİNYUM IND. AND TRA. INC.** and has a warranty period of 20 years.

Our company, which aims to be permanent and improve continuously in Aluminum profile industry, is advancing at a rapid pace in achieving this objective with its quality system studies. Our company, which has **CE, TSE, Qualicoat** certificates for static powder coating applications and **Qualinoad** certificates for anodizing applications, also system certificates such as **ISO 9001, ISO 14001, ISO 45001** and **ISO / EC 27001** Information Security Management System certificates. Besides, **SİSTEM ALUMINUM IND. And. TRA. INC.** confirms that the chemicals in the materials provided to you within **REACH** and **ROHS** restrictions (heavy metals) are within legal limits. We are honored to provide technical service to our customers for all of our products with all kinds of engineering and architectural compliance. With all wishes to work together with our new products and services.

Best Regards.





# 3 Adımda Teknik Kataloglar Cebinizde!

**Tüm teknik kataloglar,  
ihtiyacınız olduğu her an yanınızda.**

Mobil uygulamamızı indirin, hem şirketimiz ile ilgili tüm güncel bilgileri edinin, hem de ihtiyacınız olan tüm teknik bilgileri, ciltlerce kalın kataloglar yerine cebinizde taşıyın.

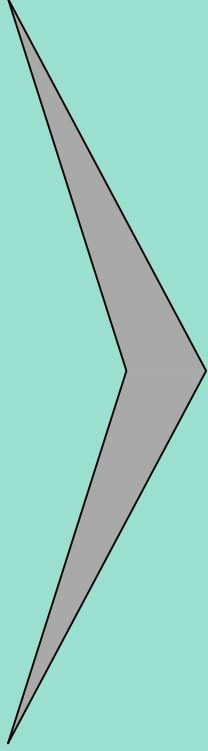


- 1** Aşağıdaki kare kodları telefon veya tabletinize okutun, uygulamayı indirin.
- 2** Uygulamanın kataloglar menüsünden istediğiniz katalogu seçin, dilerseniz cihazınıza indirin.
- 3** Cihazınıza indirdiğiniz katalogları, internet bağlantınız olmasa dahi, dilediğiniz zaman dilediğiniz yerde görüntüleyin.



# TEKNİK ÖZELLİKLER

# TECHNICAL PROPERTIES



► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.  
SİSTEM ALÜMİNYUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



**İÇİNDEKİLER****INDEX**

<b>TEKNİK ÖZELLİKLER / TECHNICAL PROPERTIES</b> .....	<b>3</b>
<b>TERMAL HESAP SONUÇLARI / THERMAL CALCULATION RESULTS</b> .....	<b>4</b>
<b>TEST RAPORU SONUÇLARI / TEST REPORT RESULTS</b> .....	<b>5 ... 7</b>
<b>SİSTEMİN ÖNE ÇIKAN ÖZELLİKLERİ / PROMINENT PROPERTIES OF THE SYSTEM</b> .....	<b>8 ... 15</b>
<b>&gt; PROFİLLER / PROFILES</b>	
<b>STATİK DEĞERLER TABLOSU / TABLE OF THE STATIC VALUES</b> .....	<b>24</b>
<b>DİKME PROFİLLERİ / MULLION PROFILES</b> .....	<b>26 ... 34</b>
<b>KAYIT PROFİLLERİ / TRANSOM PROFILES</b> .....	<b>35 ... 39</b>
<b>KANAT PROFİLLERİ / VENT PROFILES</b> .....	<b>40 ... 43</b>
<b>BASKI-KAPAK PROFİLLERİ / PRESSURE CAP-COVER CAP PROFILES</b> .....	<b>44 ... 49</b>
<b>ALÜMİNYUM AKSESUAR PROFİLLERİ / PROFILES OF ALUMINIUM ACCESORIES</b> .....	<b>50 ... 52</b>
<b>&gt; DETAYLAR / DETAILS</b>	
<b>KAPAKLI SİSTEM / CAPPED CURTAIN WALL</b> .....	<b>53 ... 75</b>
<b>ENTEĞRE SİSTEM / INTEGRATED CURTAIN WALL</b> .....	<b>76-93 &amp; 98-115</b>
<b>YARI KAPAKLI SİSTEM / SEMI-CAPPED CURTAIN WALL</b> .....	<b>94-97 &amp; 116-119</b>
<b>CAM KALINLIKLARINA GÖRE DETAYLAR / DETAILS ACCORDING TO THE GLASS THICKNESSES</b> .....	<b>120 ... 139</b>
<b>&gt; AKSESUARLAR / ACCESSORIES</b>	
<b>EPDM FİTİLLER / EPDM GASKETS</b> .....	<b>146 ... 149</b>
<b>ISI BARIYERLERİ / INSULATION BARS</b> .....	<b>150</b>
<b>KÖŞE TAKOZLARI / CORNER CLEATS</b> .....	<b>151, 152</b>
<b>MAKASLAR/ FRICTION STAYS</b> .....	<b>153, 154</b>
<b>KİTLEME AKSESUARLARI / LOCKING ACCESSORIES</b> .....	<b>155, 156</b>
<b>CEPHE KOLLARI / FACADE HANDLES</b> .....	<b>157</b>
<b>BAĞLANTI PARÇALARI / CONNECTION PIECES</b> .....	<b>158, 159</b>
<b>AÇILIM MOTORLARI / OPENING MOTORS</b> .....	<b>160, 161</b>
<b>MONTAJ TALİMATLI AKSESUARLAR / ACCESSORIES WITH FABRICATION MANUAL</b> .....	<b>162 ... 182</b>

## ÜRÜN KONSEPTİ PRODUCT CONCEPT

F50 - ENERGY ; kapaklı, yarı kapaklı ve silikon derzli cam cephe seçeneklerinin tümünü tek sistem altında ve yüksek performanslı olarak sunan yeni nesil giydirme cephe sistemidir.

### YENİLİKÇİ TASARIM

Tasarımda dik köşeli ve kalın hatlar sistemde konvansiyonel bir görüntüye neden olmaktadır. Bu duruma karşı F50 - ENERGY'de ince profil kesitleri, kıvrımlı yüzey ve eğimli kenarların yanında büyük radyüslü köşeler tercih edildi. Bunlar yapılırken sistemin kullanım kolaylığı ve imalat özelliklerinden de feragat edilmedi.

### ENERJİ TASARRUFU

Çevreye duyarlılık ve enerji tasarrufu konuları gün geçtikçe önem kazanmakta olduğundan F50 - ENERGY'de ısı yalıtım özellikleri üst düzeyde tutuldu. Alüminyum, yapısı gereği soğuk bir materyal olmasına rağmen gelişen malzeme çeşitliliği, dizayn yöntemleri ve teknolojilerle artık oldukça yalıtkan bir yapı haline dönüştürülebilmektedir.

F50 - ENERGY tamamen günümüz ihtiyaçlarına uygun şekilde performans odaklı olarak tasarlandı. Yüksek termal ve hava-su sızdırmazlık performanslarının yanı sıra, geniş kullanım seçenekleri ve kolay imalat özellikleri de sistemin öne çıkan yanlarındandır.

### GELİŞTİRİLEBİLİRLİK

F50 - ENERGY, genel sistem konsepti olarak kolaylıkla genişletilebilir yapıdadır. Bu sayede eklenecek yeni çözümlerinin sisteme adaptesi hızlı biçimde yapılabilmektedir.

F50 - ENERGY ; is the new generation curtain wall system that combines capped, two sided and four sided silicone curtain wall in a single system.

### INNOVATIVE DESIGN

General structure looks like conventional with vertical corner and thick lines in design. Conversely the corners with huge radius preferred with thin profile sections, curly surface and pitched edges. But ease of use and manufacturing specifications did not abandoned.

### ENERGY SAVING

Subjects of environment sensitivity and energy saving become important day by day. For this reason thermal insulation specifications was become on high level. In spite of aluminium is a cold material in accordance with its structure, it can be as insulative composite structure by variability of materials, design methods and technologies.

F50 - ENERGY was designed exactly performance-focused as requirements of present day. Important sides of F50 - ENERGY are high performances of thermal and air-water tightness, variously usage options, easy manufacturing specifications.

### IMPROVABILITY

F50 - ENERGY has the developable system concept as general. In this way adaptation of new system solutions can be done quickly.

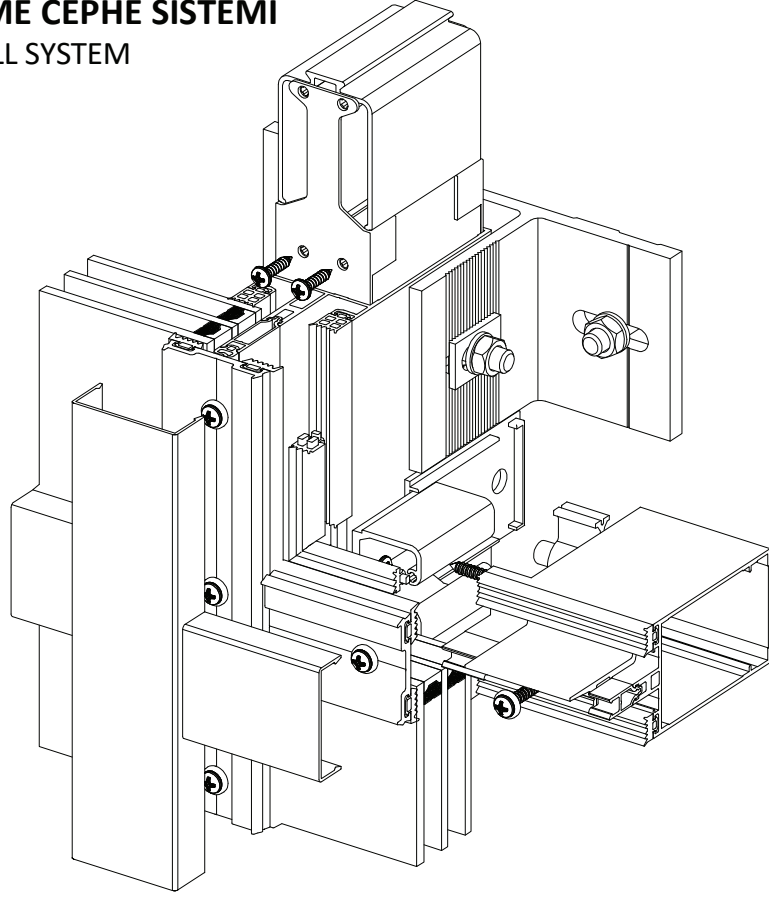
## YÜKSEK YALITIMLI GİYDİRME CEPHE SİSTEMİ HIGH INSULATED CURTAIN WALL SYSTEM

### İMALAT KOLAYLIĞI

F50 - Energy sisteminin sahip olduğu aksesuarlar mümkün olduğunca tek tipe indirgenerek standartlaşmaya önem verildi. Daha az çeşitte ve ortak kullanımda olan bu aksesuarların bir getirisi olarak farklı tiplerdeki ürünleri aynı aksesuarları kullanarak ortaya çıkarmak mümkün hale gelmektedir.

### EASE OF MANUFACTURING

Accessories of F50 - ENERGY was mostly standardized. These accessories used generally common with each other. By this method, different types of products is manufactured with the same accessories.



### TEKNİK ÖZELLİKLER

#### TECHNICAL PROPERTIES

PROFİL GENİŞLİKLERİ / PROFILE WIDTHS :	50 mm
DİKME DERİNLİKLERİ / MULLION DEPTHS :	35,55,75,95,115,135,155,175,195,215
KAYIT DERİNLİKLERİ / TRANSOM DEPTHS :	40,60,80,100,120,140,160,180,200,220
PROFİL ET KALINLIĞI / PROFILE WALL THICKNESS :	1,6 mm - 2,8 mm
MAX. CAM KALINLIĞI / MAX. GLASS THICKNESS :	44 mm
ISI BARIYERLERİ / INSULATION BARS :	4 mm - 28 mm
ISI YALITIM DEĞERİ (Uf) / THERMAL INS. VALUE (Uf) :	1,7 W/m <sup>2</sup> K - 2,9 W/m <sup>2</sup> K

### KULLANIM SEÇENEKLERİ

#### APPLICATION ALTERNATIVES

KAPAKLI CEPHE / CAPPED CURTAIN WALL :	●
SİLİKON DERZLİ CAM CEPHE / FOUR SIDED SILICONE CURTAIN WALL :	●
YARI KAPAKLI CEPHE / TWO SIDED CURTAIN WALL :	●
DIŞA TERS VASİSTAS G.K. / TOP HUNG OUTWARD OPENING HIDDEN VENT :	●
DIŞA PARALEL AÇILIM G.K. / PARALLEL OUTWARD OPENING HIDDEN VENT :	●

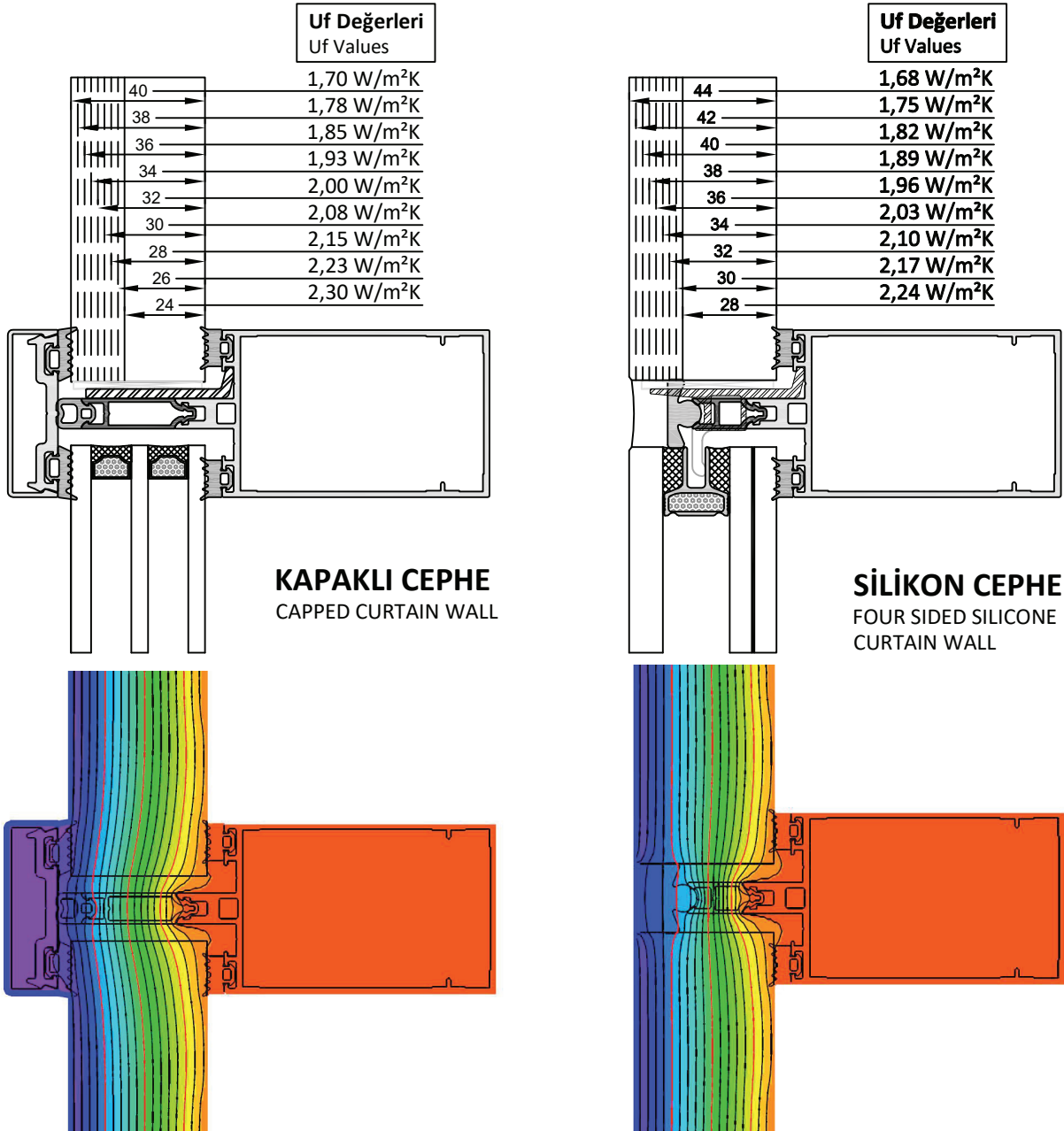
## ISI YALITIM DEĞERLERİ THERMAL INSULATION VALUES

Kış şartlarını düşündüğümüzde; iç bölgede yer alan taşıyıcı cephe profillerinin sahip olduğu iç mekan ısısının soğuk olan dış ortama kaçıışı ne kadar az olursa, sistem o kadar yalıtımlıdır denilebilir. Bu noktada sistemin termal performansı, kullanılan cam kalınlığı ile doğrudan ilgilidir. Dolayısıyla camlar kalınlaştıkça ısı iletim katsayısı (Uf) düşer ve ısı yalıtım performansı artar.

Aşağıdaki sistem kesitleri üzerinde Uf değerinin cam kalınlığına bağlı olarak ne ölçüde değiştiği görülmektedir.

Little heat transfer from the warm profiles at the inside to the outside cold area means; "more heat insulation" at the winter conditions. The main affect for the insulation level is glass thickness. So, when the glass thickness is higher, the insulation value (Uf) will be lower.

You may see below; the Uf value variations according to the glass thickness.



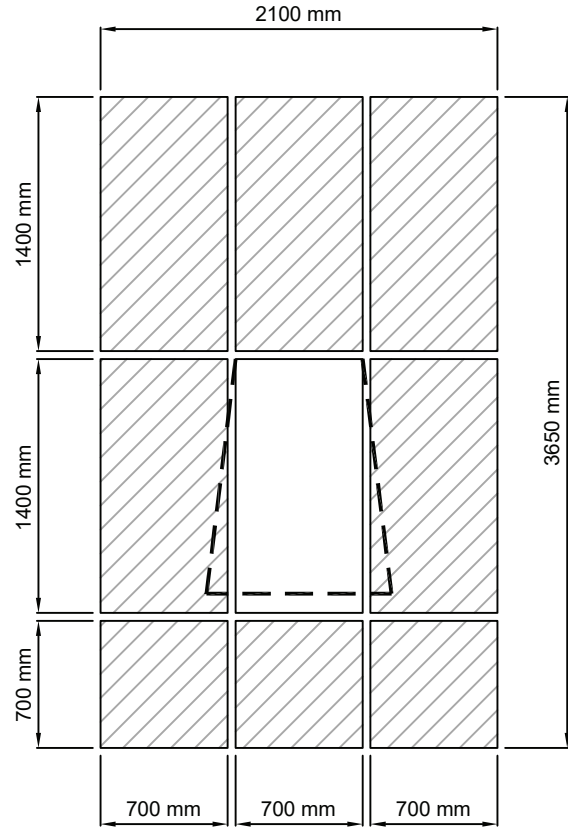
## HAVA-SU-RÜZGAR PERFORMANS TEST SONUÇLARI - 1

### AIR-WATER-WIND PERFORMANCE TEST RESULTS - 1

- F50-Energy kapaklı cephe sistemiyle gerçekleştirilen hava-su-rüzgar performans test sonuçlarıdır.  
There are the air-water-wind performance test results with the F50-Energy capped curtain wall system.

### Test Numunesinin Ebatları

Test Sample Dimensions



Kapaklı Cephe / Capped Curtain Wall

Genişlik / Width: **2150 mm**

Yükseklik / Height: **3650 mm**

### KAPAKLI CEPHE TEST SONUÇLARI

#### CAPPED CURTAIN WALL TEST RESULTS

HAVA GEÇİRGENLİĞİ - EN 12152  
(AIR PERMEABILITY)

**A1**  
(150 Pa)

**A2**  
(300 Pa)

**A3**  
(450 Pa)

**A4**  
(600 Pa)

**AE**  
(750 Pa)

SU SIZDIRMAZLIĞI - EN 12154  
(WATERTIGHTNESS)

**R4**  
(150 Pa)

**R5**  
(300 Pa)

**R6**  
(450 Pa)

**R7**  
(600 Pa)

**RE...**  
(750+ Pa)

**RE1500**  
(1500 Pa)

RÜZGAR YÜKÜNE DAYANIM - EN 13116  
(RESISTANCE TO WIND LOAD)

**2000 Pa** ( Emniyet Testi: 3000 Pa )

\*\* Akredite kuruluştan onaylı orijinal belge görseline kataloğun sonundaki "sertifikalar" bölümünden ulaşılabilir. / Paper image approved from accredited society can be reached at the end of the catalogue "certificates" section.

\* Daha detaylı bilgi için, lütfen test raporlarını isteyiniz. / For further information, please ask for the test report s.

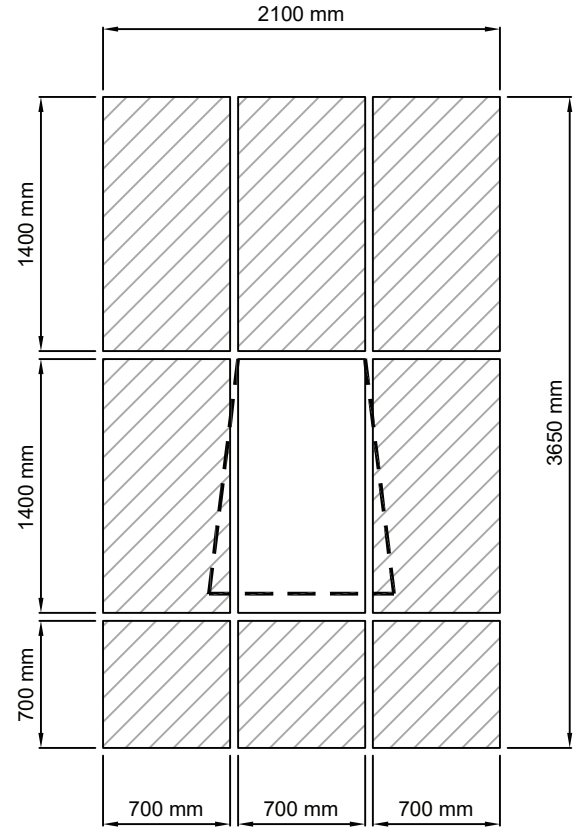
## HAVA-SU-RÜZGAR PERFORMANS TEST SONUÇLARI - 2 AIR-WATER-WIND PERFORMANCE TEST RESULTS - 2

- F50-Energy silikon derzli cam cephe sistemiyle gerçekleştirilen hava-su-rüzgar performans test sonuçlarıdır. / There are the air-water-wind performance test results with the F50-Energy four sided silicone curtain wall system.



### Test Numunesinin Ebatları

Test Sample Dimensions



Silikon Cam Cephe / Foursided Curtain Wall

Genişlik / Width: **2150 mm**

Yükseklik / Height: **3650 mm**

### SİLİKON DERZLİ CAM CEPHE TEST SONUÇLARI

#### FOUR SIDED SILICONE CURTAIN WALL TEST RESULTS

HAVA GEÇİRGENLİĞİ - EN 12152  
(AIR PERMEABILITY)

**A1**  
(150 Pa)

**A2**  
(300 Pa)

**A3**  
(450 Pa)

**A4**  
(600 Pa)

**AE**  
(750 Pa)

SU SIZDIRMAZLIĞI - EN 12154  
(WATERTIGHTNESS)

**R4**  
(150 Pa)

**R5**  
(300 Pa)

**R6**  
(450 Pa)

**R7**  
(600 Pa)

**RE...**  
(750+ Pa)

**RE1200**  
(1200 Pa)

RÜZGAR YÜKÜNE DAYANIM - EN 13116  
(RESISTANCE TO WIND LOAD)

**2000 Pa** ( Emniyet Testi: 3000 Pa )

\*\* Akredite kuruluştan onaylı orijinal belge görseline katalogun sonundaki "sertifikalar" bölümünden ulaşılabilir. / Paper image approved from accredited society can be reached at the end of the catalogue "certificates" section.

\* Daha detaylı bilgi için, lütfen test raporlarını isteyiniz. / For further information, please ask for the test report s.

## AKUSTİK PERFORMANS TEST SONUÇLARI

### ACOUSTIC PERFORMANCE TEST RESULTS

- F50-Energy kapaklı ve entegre cephe sistem çözümleriyle gerçekleştirilen akustik test sonuçlarıdır.  
There are the acoustic test results with the F50-Energy capped and integrated curtain wall systems.



Kapaklı Cephe / Capped Curtain Wall  
Genişlik / Width: **2150 mm**  
Yükseklik / Height: **2820 mm**



Entegre Cephe / Integrated Curtain Wall  
Genişlik / Width: **2150 mm**  
Yükseklik / Height: **2820 mm**

## KAPAKLI CEPHE TEST SONUÇLARI

### CAPPED CURTAIN WALL TEST RESULTS

AKUSTİK PERFORMANS - EN 10140-2  
(ACOUSTIC PERFORMANCE) EN 717-1

Rw (C ; Ctr) = **34** (-2; -5) dB

## SİLİKON DERZLİ CAM CEPHE TEST SONUÇLARI

### FOUR SIDED SILICONE CURTAIN WALL TEST RESULTS

AKUSTİK PERFORMANS - EN 10140-2  
(ACOUSTIC PERFORMANCE) EN 717-1

Rw (C ; Ctr) = **33** (-1; -3) dB

\*\* Akredite kuruluştan onaylı orijinal belge görseline kataloğun sonundaki "sertifikalar" bölümünden ulaşılabilir. / Paper image approved from accredited society can be reached at the end of the catalogue "certificates" section.

\* Daha detaylı bilgi için, lütfen test raporlarını isteyiniz. / For further information, please ask for the test report s.



# F50-ENERGY

YÜKSEK YALITIMLI GİYDİRME CEPHE SİSTEMİ  
HIGH INSULATED CURTAIN WALL SYSTEM

## SİSTEMİN ÖNE ÇIKAN ÖZELLİKLERİ PROMINENT PROPERTIES OF THE SYSTEM

- 1. KOLAY VİDALAMA**  
EASY SCREW
- 2. AYNI KASADA YALITIMLI VEYA YALITIMSIZ KANAT KULLANILABİLME İMKANI**  
INSULATED AND UNINSULATED VENT PROFILES CAN BE USING WITH THE SAME FRAME
- 3. CAM CEPHEDE SICAK KENAR ANTI YOĞUŞMA ÇITASI KULLANIMI**  
WARM EDGE SPACER USAGE IN FOURSIDED SILICONE CURTAIN WALL
- 4. DIŞA PARALEL AÇILIR KANAT**  
PARALEL OUTWARD OPENING VENT
- 5. ÖZEL DİLATASYON KAPAKLARI**  
SPECIAL DILATATION PLUGS
- 6. KONDENS YOLU İÇİN ÖZEL BAĞLANTI PARÇASI**  
SPECIAL CONNECTION PIECE FOR THE CONDENSATION LINE
- 7. VULKANİZE İÇ KÖŞE PARÇALARI**  
VULCANISED INNER CORNER PIECES

## KOLAY VİDALAMA

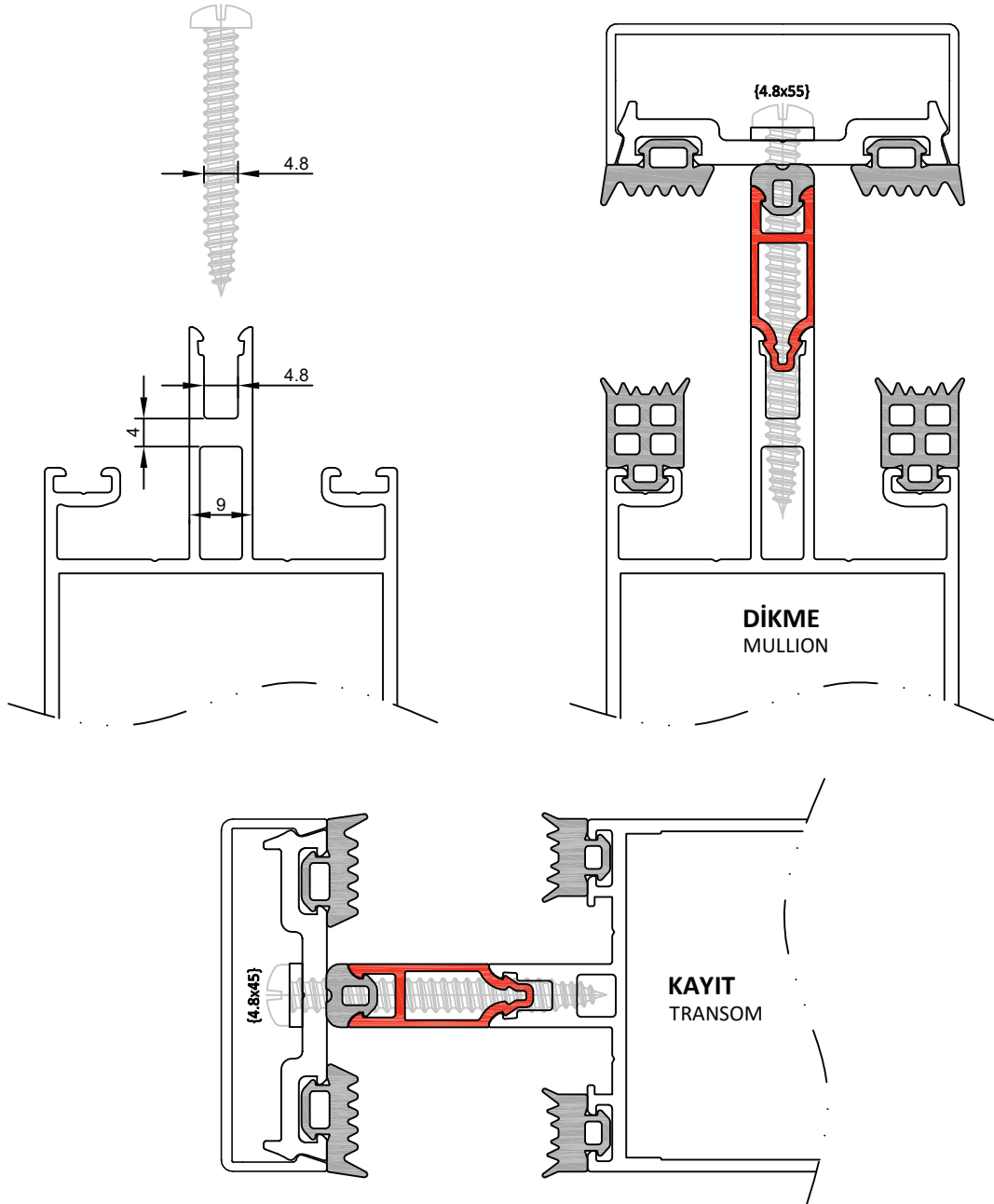
### EASY SCREW

Cephede montaj vidaları üzerine binen yükleri azaltmak; hem vidanın kırılma riskini minimize ettiğinden güvenliği artırmakta hem de vidalamanın daha rahat yapılabilmesi sayesinde imalat hızını artırmaktadır.

F50 - Energy sisteminin gaga yapısı 4.8mm'lik vidaların gaga duvarlarını ısırmadan sadece temas ederek ilerlemesine ve son noktada 4mm'lik dolu profil etine bağlanarak yüksek bir tutunma mukavemeti elde edilmesine imkan sağlamaktadır.

Reducing applied forces on the screw provides minimizing screw breaking risks so it has more safety and increasing fabrication speed.

F50 - Energy system has unique beak structure suitable to the 4.8mm screws. When managing the application, screws barely contact the beak walls and completely pass through into the 4mm solid aluminium wall. So it provides high pull strength.



## ▲ F50-ENERGY

### AYNI KASADA YALITIMLI VEYA YALITIMSIZ KANAT KULLANILABİLME İMKANI INSULATED AND UNINSULATED VENT PROFILES CAN BE USING WITH THE SAME FRAME

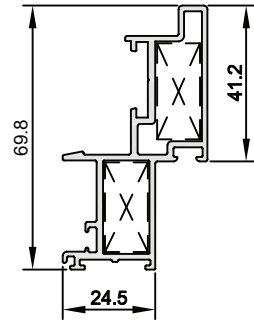
Cephe sistemlerinde kanat bölgeleri termal açıdan en zayıf bölgelerdir. Bu bölgede yaşanan terleme sorunları genellikle kasa yalıtımındaki zafiyetlerden ötürü gerçekleşmektedir.

F50 - Energy sisteminde kasa profilleri her zaman ve mutlaka ısı yalıtımlıdır. Bu nedenle kanat profili yalıtımsız bile kullanılmış olsa yoğuşma problemi yaşanma ihtimali minimum seviyededir.

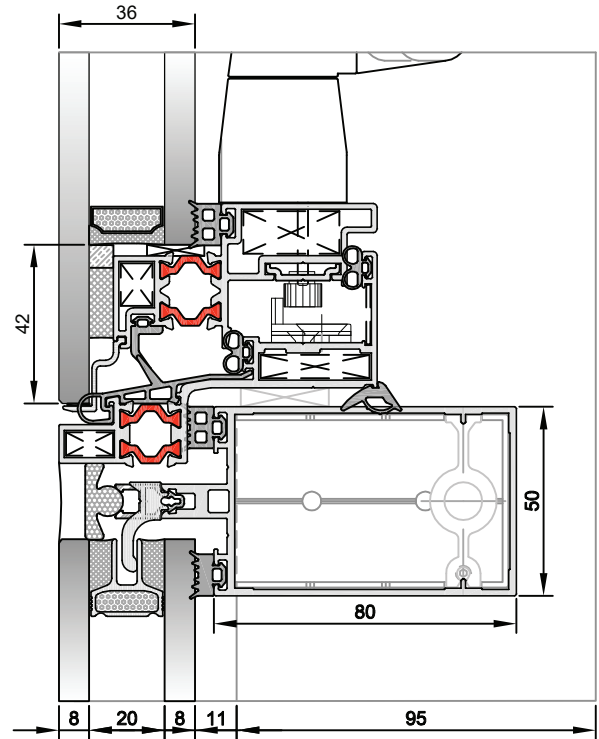
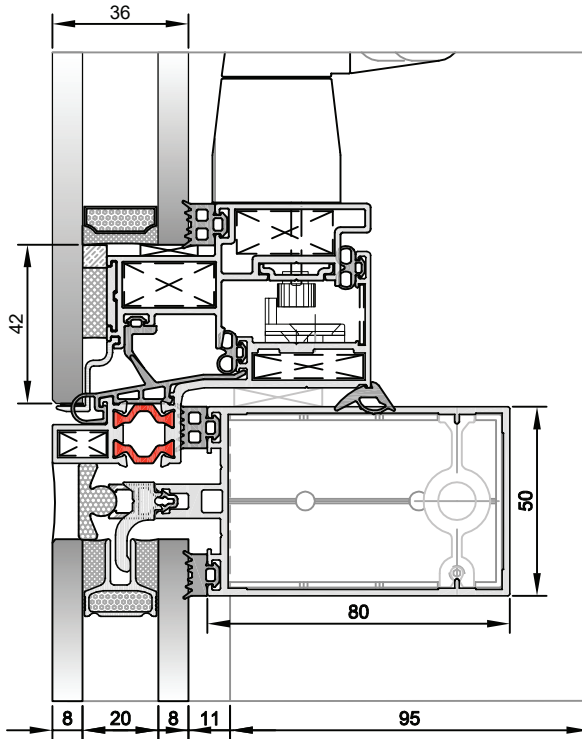
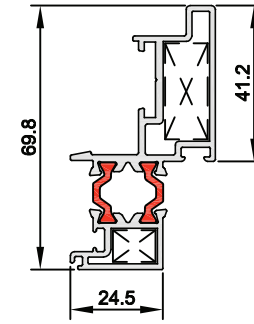
Thermally the weakest point in the curtain wall systems are opening vent areas. The condensation problems are usually result from the heat insulation issues on the frame.

F50 - Energy system's frame profiles are always heat insulated. Even uninsulated vent applications, the condensation risk is minimum.

Isı Yalıtımsız Kanat  
Uninsulated Vent



Isı Yalıtımlı Kanat  
Heat Insulated Vent



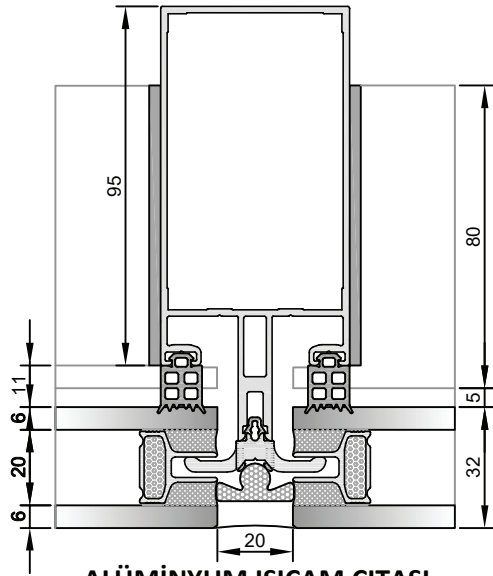
## CAM CEPHEDE SICAK KENAR ANTI YOĞUŞMA ÇITASI KULLANIMI WARM EDGE SPACER USAGE IN FOURSIDED SILICONE CURTAIN WALL

Silikon cam cephelerde ısı yalıtımını sağlayan en büyük etmen camdır. Alüminyum ısıcam çitaları iç ve dış camlar arasında ısı köprüsü oluşturduğundan soğuk bölgelerde iç ortamın hızla ısı kaybetmesine neden olur.

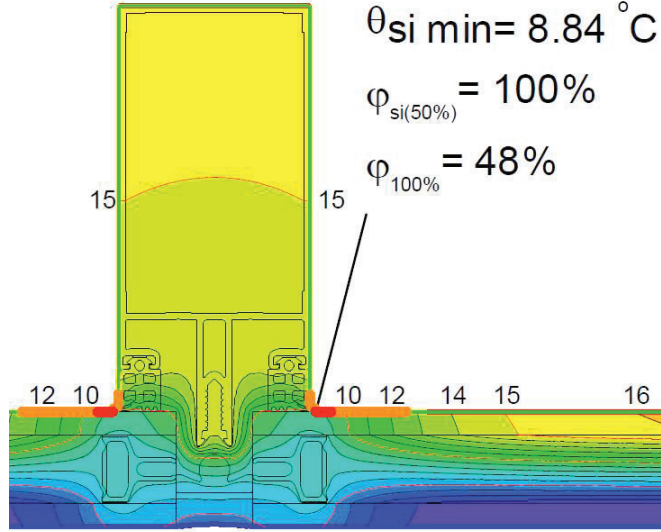
F50 - Energy sistemi sahip olduğu özel plastik kilitleme yuvaları sayesinde pvc malzemeden yapılmış olan sıcak kenar ısıcam çitalarının sorunsuz ve performanslı şekilde kullanımına imkan sağlamaktadır.

The biggest factor about thermal performance is glass. Standart aluminium spacer causes thermal bridge between inside and outside glass. Therefore especially in the low outside temperature conditions, inside area lose heat energy quickly.

F50 - Energy system's special plastic locking pieces provide completely thermally broke glass structure with using pvc based warm edge spacers. The result of this spacer solution condensation risks drop significantly.

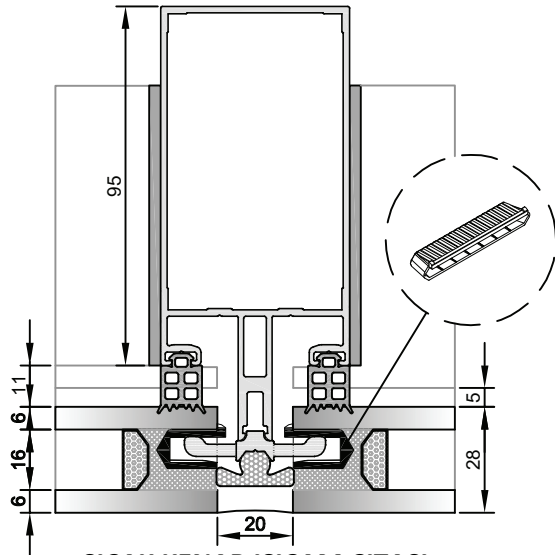


ALÜMİNYUM ISICAM ÇITASI  
STANDARD ALUMINIUM SPACER

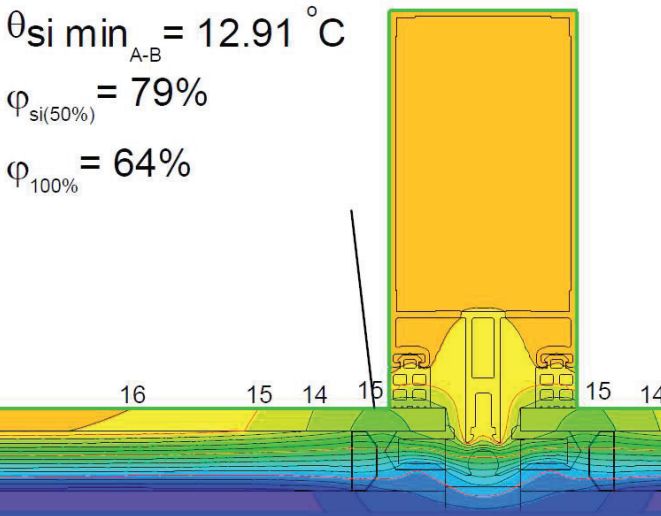


\* Kırmızıyla işaretli olan bölgelerde yoğuşma görülmektedir.  
There is condensation at the red marked areas.

Ug: 1,4 W/m<sup>2</sup>K değerinde cam ile 0°C dış ortam, 20°C iç ortam ve %50 bağıl nem koşullarına göre sistemde yoğuşma görülmemesi için minimum iç profil yüzey sıcaklığının (Q<sub>si min.</sub>); 9,2°C olan yoğuşma başlangıç noktasının altında olmaması gerekir.  
Without the condensation, glass Ug: 1,4 W/m<sup>2</sup>K at 0°C outside weather, 20°C inside weather and %50 relative humidity conditions, minimum inside profile surface temperature (Q<sub>si min.</sub>), should be under the dewpoint beginning of 9,2°C.



SICAK KENAR ISICAM ÇITASI  
WARM EDGE SPACER



\* Hiçbir noktada yoğuşma görülmemektedir.  
There is no condensation at any point.

## ▲ F50-ENERGY

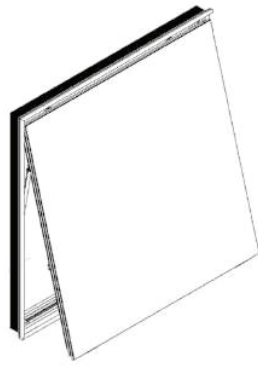
### DIŞA PARALEL AÇILIR KANAT PARALEL OUTWARD OPENING VENT

Konvansiyonel cephe uygulamalarında dışa açılır kanatlar ters vasistas şeklinde uygulanmaktadır. Bu tip kanatlar maliyet yönünden avantajlı konumdayken havalandırma ve estetik görünüm yönlerinden dezavantajlı durumdadır.

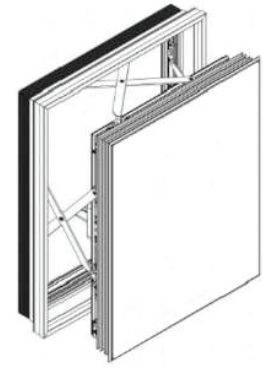
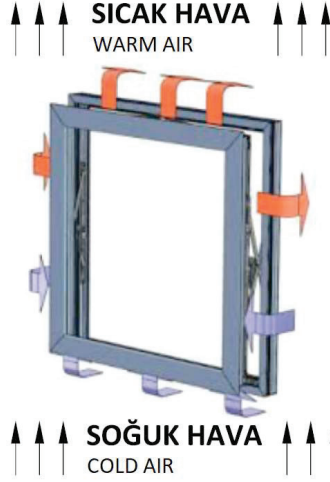
Ters vasistas tip kanatlarda cepheye dışarıdan bakıldığında açık olan kanat bölümlerinde ışığın farklı kırılmasına ve o bölümde sanki delik varmış hissi oluşmasına neden olur. Havalandırma konusunda ise, oda içerisinde ısınan hava yukarı yönde hareket etmek isteyeceğinden paralel açılım kanatlarda hava tahliye hızı ters vasistasla oranla 3 kat fazladır. Bu da odanın çok daha hızlı havalanması anlamına gelmektedir.

Top hung outward opening hidden vent is the conventional low cost solution for the curtain walls. But it has disadvantages related to ventilation and aesthetic appearance.

When the vent is open, the outside appearance of the top hung hidden vent is the sort of hole feeling. For the ventilation, warm air wants to move higher so the paralel opening vents has more exhaust space at the top. Therefore it provides 3 times better air release speed and faster ventilation capability than top hung opening vents.

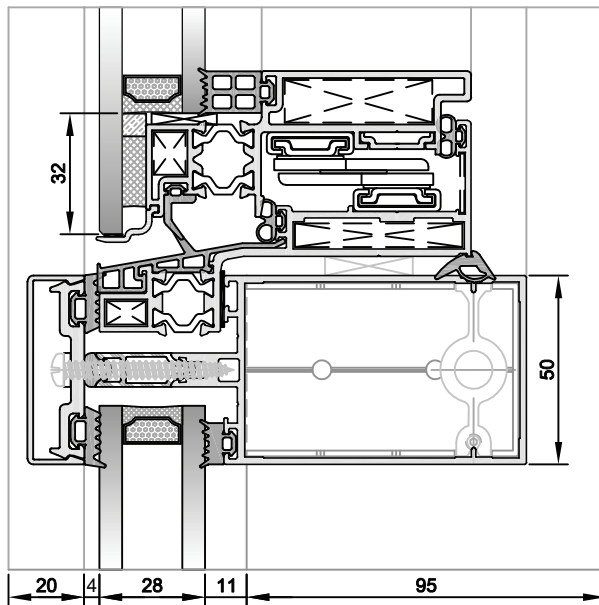


**Dışa Ters Vasistas Açılım**  
Top hung outward opening



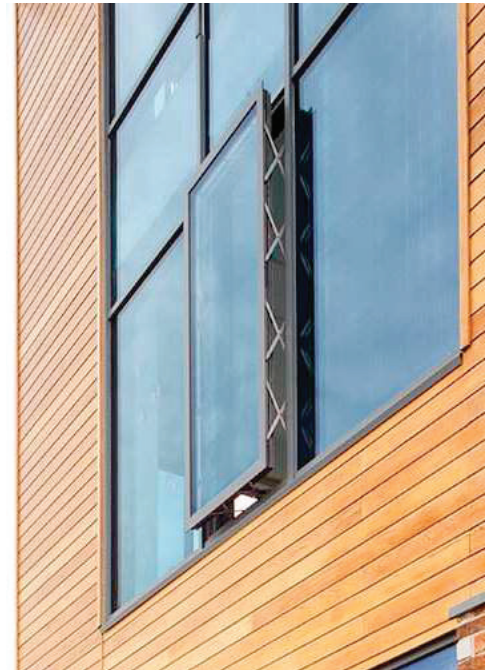
**Dışa Paralel Açılım**  
Paralel Outward Opening

#### PARALEL KANAT DETAYI / PARALEL VENT DETAIL:



\*\* ÇEVRESEL KİTLEME YAPILABİLMEKTEDİR. /  
CAPABLE TO CIRCUMFERENCE MULTILOCKING.

#### ÖRNEK UYGULAMA / SAMPLE APPLICATION:



## ÖZEL DİLATASYON KAPAKLARI SPECIAL DILATATION PLUGS

### 1. BOŞLUKSUZ SİLİKON UYGULAMASI /

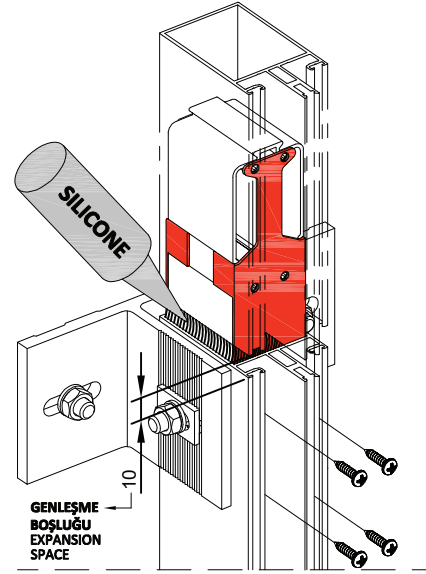
GAP FREE SILICONE APPLICATION

Genleşme boşluğuna silikon uygulaması yapılırken, silikonun bir kısmı profil içerisine düşerek boşluklara neden olmaktadır.

F50 - Energy sisteminin sahip olduğu dilatasyon kapakları sayesinde genleşme bölgesindeki silikon boşlukları engellenmekte ve kolay biçimde mükemmel bir hava-su izolasyonu sağlanabilmektedir.

When applying the silicone, some of the silicone drop into the mullion profile. It causes gap between bottom and top profiles.

F50-Energy system has special dilatation plugs and they prevent being gaps at the silicone application process and can be provided perfect air-water isolation at expansion spaces.



### 2. GENLEŞME GÜRÜLTÜSÜ ENGELLEME /

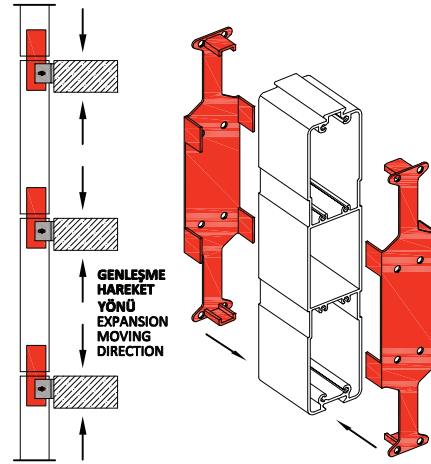
PREVENTING EXPANSION NOISE

Gündüz ısınan taşıyıcı profiller akşam üstünden itibaren ısılarını kaybederek eski hallerine dönmeye çalışırlar. Bu hareket esnasında dilatasyon bölgesinde metal metale sürtünmelerden kaynaklı tıkırtı benzeri rahatsız edici sesler oluşur.

F50 - Energy sisteminin sahip olduğu özel dilatasyon kapakları sayesinde, genleşme esnasındaki sürtünmeler metaller ile plastik kapaklar arasında oluşmaktadır. Bu da ses izolasyonu anlamına gelmektedir.

A reason of metal & metal friction, there is some disturbing noise according to the day-night temperature differences at the dilatation area.

F50-Energy system has special dilatation plugs and they provide the friction between metals & plastics. Consequently it means sound isolation.



### 3. KATLAR ARASI SES İZOLASYONU /

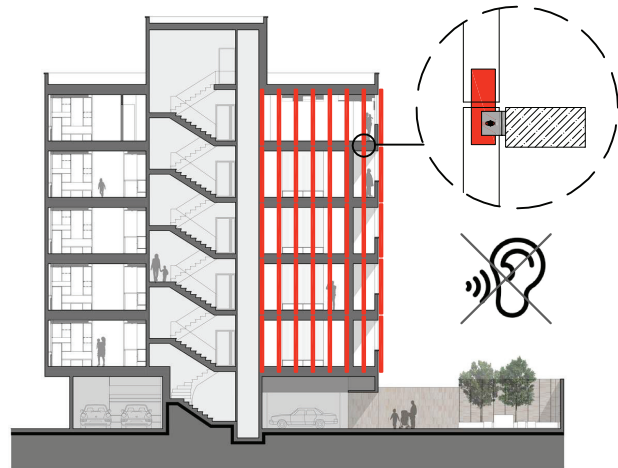
SOUND ISOLATION BETWEEN FLOORS

Dilatasyon bölgesinde metal metale temas eden bir ilişki varsa, ortamda oluşan ses dalgaları taşıyıcılara çarptığında titreşim oluşturmakta ve bu titreşimler yine taşıyıcılar aracılığıyla alt ve üst katlara gürültü olarak iletilmektedir.

F50 - Energy sisteminin sahip olduğu özel dilatasyon kapakları sayesinde, sürtünmeler metaller ile plastik kapaklar arasında gerçekleştiğinden ses dalgalarının oluşturduğu titreşimler sönümlemekte, beraberinde taşıyıcılar içerisindeki boşluklardaki yankı oluşumu engellemektedir.

When the noise inside the room crash at the supporter profiles cause sound vibrations and they transmit up and down floors as a disturbing noise.

F50-Energy system has special dilatation plugs and they provide the friction between metals & plastics. Therefore sound vibration level dramatically drops and prevent being echo inside the supporter profiles.



## ▲ F50-ENERGY

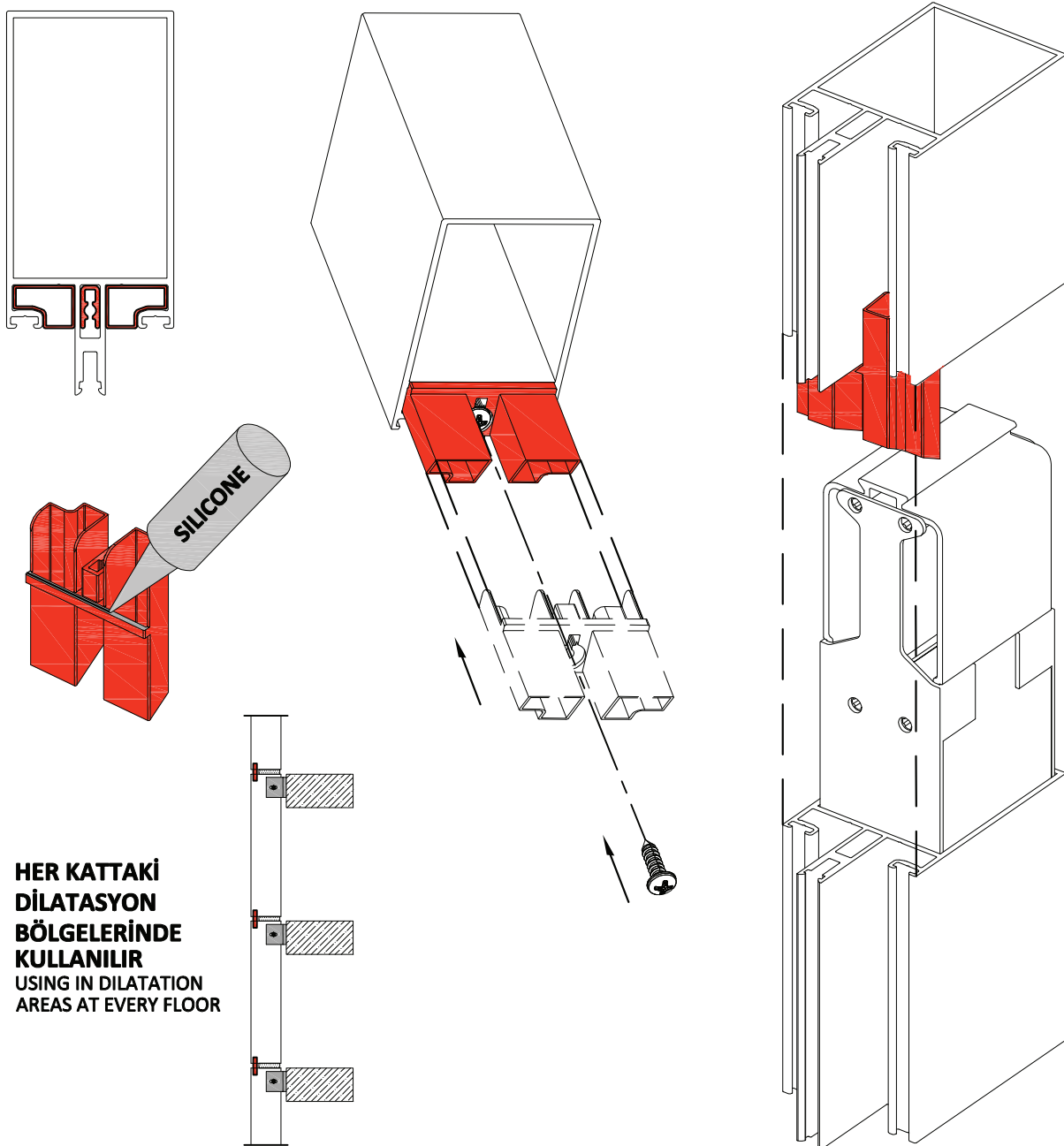
### KONDENS YOLU İÇİN ÖZEL BAĞLANTI PARÇASI SPECIAL CONNECTION PIECE FOR THE CONDENSATION LINE

Yapıda özellikle kış aylarında iç ve dış ortam sıcaklık farklarından ötürü yoğuşma suları oluşmakta ve kondens kanalları aracılığıyla cephenin en alt bölümünden dışarı atılmaktadır. Oluşan yoğuşma suları üst katlarda damlamalar şeklinde görülürken, aşağılara inildikçe birleşerek debisi olan bir su akışı haline gelirler.

F50 - Energy sisteminin sahip olduğu özel kondens yolu bağlantı parçası sayesinde suyun akışı kesintisiz ve sızdırmaz bir biçimde gerçekleşebilmektedir.

Especially in winter, system has condensation water which lunge with the condensation line because of the inside and outside temperature differences. These condensation water drop from top to bottom and when reach the lower levels they become a water stream.

F50 - Energy system's special connection piece provides uninterrupted and sealed water stream at the condensation line.



**HER KATTAKI  
DİLATASYON  
BÖLGELERİNDE  
KULLANILIR  
USING IN DILATATION  
AREAS AT EVERY FLOOR**

## VULKANİZE İÇ KÖŞE PARÇALARI

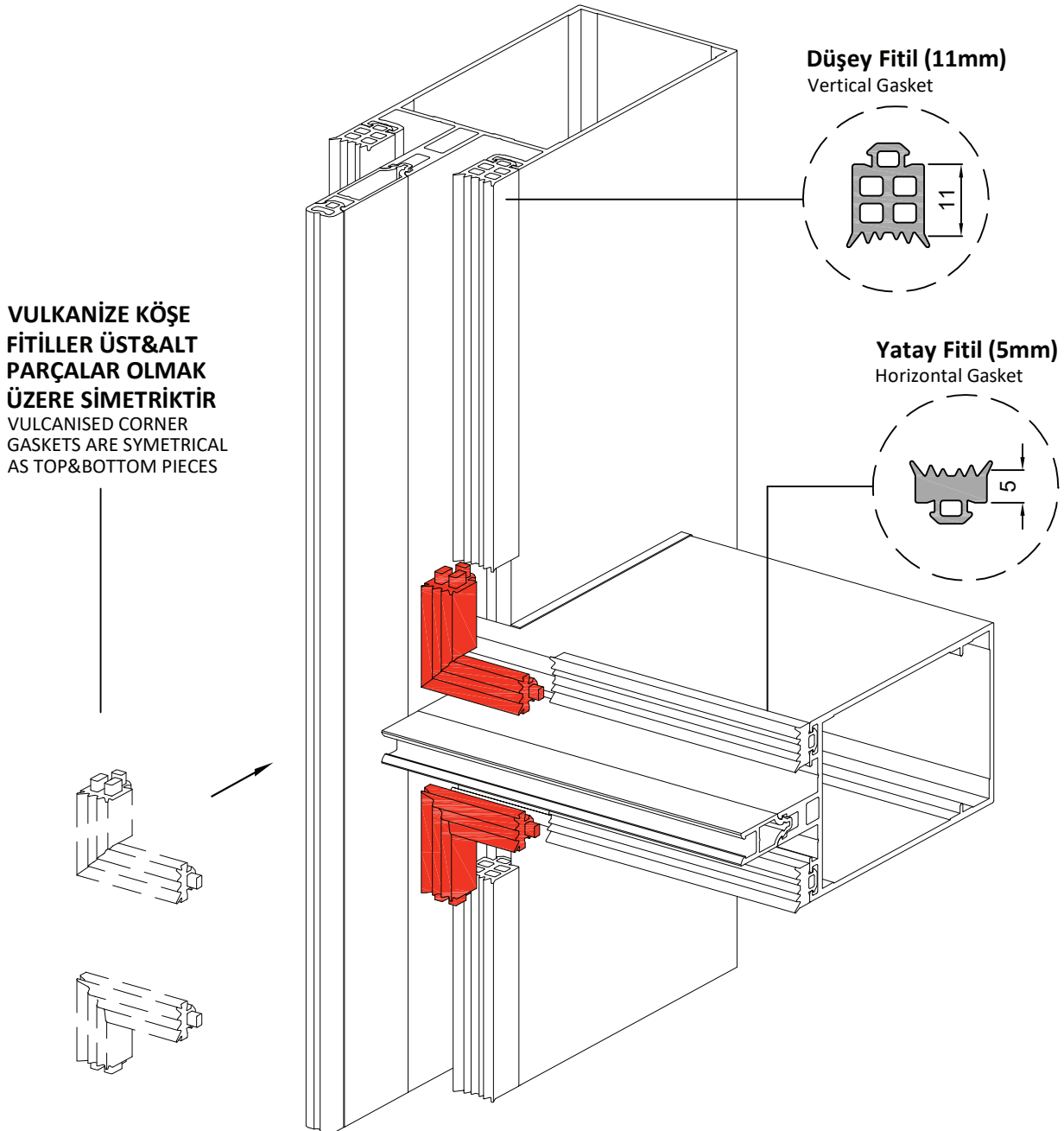
### VULCANISED INNER CORNER PIECES

Cephe sistemlerinde tahliyelerden ve kondens boşluklarından giren hava sistem içerisinde dolmaktadır. Bu noktada havanın iç ortama geçişini engelleyen tek unsur, sistemin iç bini fitilleridir.

F50 - Energy sisteminin sahip olduğu özel vulkanize fitiller sayesinde, düşeyden gelen 11mm'lik fitil ile yataydan gelen 5mm'lik fitil köşelerde kusursuz biçimde birleşmektedir. Köşe birleşim noktalarının eksiz ve yekpare biçimde dönülmesi sayesinde hem imalat yönünden hız&kolaylık sağlanmakta hem de işçilikten kaynaklanabilecek olası hataların önüne geçilmektedir.

Air coming from outside to inside with draine holes and condensation channel is rounding in the curtain wall. The only thing to prevent air passing into the system is the inner gaskets.

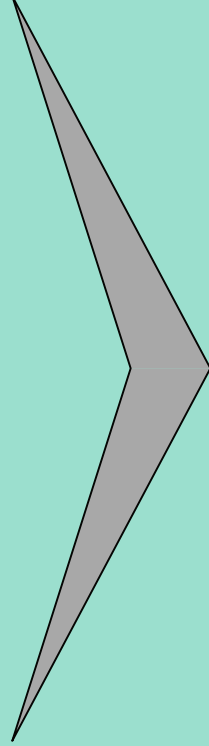
F50 - Energy system's special vulcanised corner pieces provide uninterrupted corner line between vertical gasket with 11mm thickness and horizontal gasket with 5mm thickness. These excellent corner connection also provides speed&easy manufacturing and prevents potential workmanship mistakes.





# PROFİL FİHRİSTİ

## PROFILE INDEX


















► KATALOGDA BELİRTİLEN TÜM PROFİL AĞIRLIKLARI TEORİK OLUP PROFİLLERİN PRES(HAM) HALLERİNE AİTTİR. ISI BARIYERİ ÇEŞİDİNE VEYA PROFİL YÜZEYİNDEKİ BOYA KALINLIKLARINA BAĞLI OLARAK AĞIRLIK FARKLILIKLARI OLUŞABİL MEKTEDİR. WEIGHTS IN THIS CATALOGUE ARE THEORETICAL AND BELONG TO MILL FINISH SURFACE. ACCORDING TO THE INSULATION BAR TYPE OR THICKNESSES OF THE PAINT ON THE PROFILE SURFACE, THERE COULD BE WEIGHT DIFFERENCES.
















► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR. SİSTEM ALÜMİNYUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



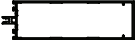
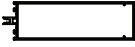
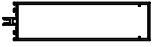
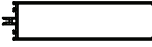


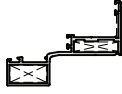
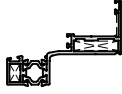
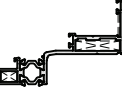
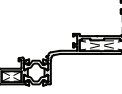
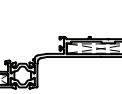
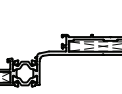
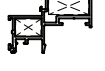
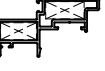

**PROFİL FİHRİSTİ / PROFILE INDEX**

PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP101</b>	<b>DİKME PROFİLİ (35 mm/1.7 mm)</b> MULLION PROFILE		<b>1,283</b>	<b>26</b>
<b>FP102</b>	<b>DİKME PROFİLİ (55 mm/1.7 mm)</b> MULLION PROFILE		<b>1,467</b>	<b>26</b>
<b>FP103</b>	<b>DİKME PROFİLİ (55 mm/2 mm)</b> MULLION PROFILE		<b>1,568</b>	<b>26</b>
<b>FP104</b>	<b>DİKME PROFİLİ (75 mm/1.7 mm)</b> MULLION PROFILE		<b>1,651</b>	<b>27</b>
<b>FP105</b>	<b>DİKME PROFİLİ (75 mm/2 mm)</b> MULLION PROFILE		<b>1,785</b>	<b>27</b>
<b>FP106</b>	<b>DİKME PROFİLİ (95 mm/1.7 mm)</b> MULLION PROFILE		<b>1,835</b>	<b>27</b>
<b>FP107</b>	<b>DİKME PROFİLİ (95 mm/2 mm)</b> MULLION PROFILE		<b>2,001</b>	<b>27</b>
<b>FP108</b>	<b>DİKME PROFİLİ (115 mm/1.7 mm)</b> MULLION PROFILE		<b>2,081</b>	<b>28</b>
<b>FP109</b>	<b>DİKME PROFİLİ (115 mm/2 mm)</b> MULLION PROFILE		<b>2,343</b>	<b>28</b>
<b>FP110</b>	<b>DİKME PROFİLİ (135 mm/1.7 mm)</b> MULLION PROFILE		<b>2,291</b>	<b>29</b>
<b>FP111</b>	<b>DİKME PROFİLİ (135 mm/2 mm)</b> MULLION PROFILE		<b>2,684</b>	<b>29</b>
<b>FP112</b>	<b>DİKME PROFİLİ (155 mm/1.8 mm)</b> MULLION PROFILE		<b>2,594</b>	<b>30</b>
<b>FP113</b>	<b>DİKME PROFİLİ (155 mm/2 mm)</b> MULLION PROFILE		<b>2,963</b>	<b>30</b>
<b>FP114</b>	<b>DİKME PROFİLİ (175 mm/2.1 mm)</b> MULLION PROFILE		<b>3,004</b>	<b>31</b>
<b>FP115</b>	<b>DİKME PROFİLİ (175 mm/2.1 mm)</b> MULLION PROFILE		<b>3,327</b>	<b>31</b>

## PROFİL FİHRİSTİ / PROFILE INDEX

PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP116</b>	<b>DİKME PROFİLİ (195 mm/2.3 mm)</b> MULLION PROFILE		<b>3,449</b>	<b>32</b>
<b>FP117</b>	<b>DİKME PROFİLİ (195 mm/2.3 mm)</b> MULLION PROFILE		<b>3,756</b>	<b>32</b>
<b>FP118</b>	<b>DİKME PROFİLİ (215 mm/2.4 mm)</b> MULLION PROFILE		<b>3,915</b>	<b>33</b>
<b>FP119</b>	<b>DİKME PROFİLİ (215 mm/2.4 mm)</b> MULLION PROFILE		<b>4,283</b>	<b>33</b>
<b>FP125</b>	<b>KÖŞE DÖNÜŞ PROFİLİ (75 mm)</b> CORNER PROFILE		<b>2,366</b>	<b>34</b>
<b>FP126</b>	<b>KÖŞE DÖNÜŞ PROFİLİ (95 mm)</b> CORNER PROFILE		<b>2,681</b>	<b>34</b>
<b>FP151</b>	<b>KAYIT PROFİLİ (5.5 mm)</b> TRANSOM PROFILE		<b>0,567</b>	<b>35</b>
<b>FP152</b>	<b>KAYIT PROFİLİ (20 mm/1.7 mm)</b> TRANSOM PROFILE		<b>0,933</b>	<b>35</b>
<b>FP153</b>	<b>KAYIT PROFİLİ (40 mm/1.7 mm)</b> TRANSOM PROFILE		<b>1,123</b>	<b>35</b>
<b>FP154</b>	<b>KAYIT PROFİLİ (50 mm/1.6 mm)</b> TRANSOM PROFILE		<b>1,161</b>	<b>35</b>
<b>FP155</b>	<b>KAYIT PROFİLİ (60 mm/1.7 mm)</b> TRANSOM PROFILE		<b>1,308</b>	<b>36</b>
<b>FP156</b>	<b>KAYIT PROFİLİ (80 mm/1.7 mm)</b> TRANSOM PROFILE		<b>1,515</b>	<b>36</b>
<b>FP157</b>	<b>KAYIT PROFİLİ (100 mm/1.7 mm)</b> TRANSOM PROFILE		<b>1,699</b>	<b>36</b>
<b>FP158</b>	<b>KAYIT PROFİLİ (120 mm/1.7 mm)</b> TRANSOM PROFILE		<b>1,884</b>	<b>36</b>
<b>FP159</b>	<b>KAYIT PROFİLİ (140 mm/2 mm)</b> TRANSOM PROFILE		<b>2,289</b>	<b>37</b>
















**PROFİL FİHRİSTİ / PROFILE INDEX**

PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP160</b>	<b>KAYIT PROFİLİ (160 mm/1.6 mm)</b> TRANSOM PROFILE		<b>2,227</b>	<b>37</b>
<b>FP161</b>	<b>KAYIT PROFİLİ (160 mm/2.1 mm)</b> TRANSOM PROFILE		<b>2,601</b>	<b>38</b>
<b>FP162</b>	<b>KAYIT PROFİLİ (180 mm/2.1 mm)</b> TRANSOM PROFILE		<b>2,828</b>	<b>38</b>
<b>FP163</b>	<b>KAYIT PROFİLİ (200 mm/2.1 mm)</b> TRANSOM PROFILE		<b>3,230</b>	<b>39</b>
<b>FP164</b>	<b>KAYIT PROFİLİ (220 mm/2.4 mm)</b> TRANSOM PROFILE		<b>3,785</b>	<b>39</b>
<b>FP165</b>	<b>KAYIT PROFİLİ (100 mm/1.7 mm)</b> TRANSOM PROFILE		<b>1,485</b>	<b>40</b>
<b>FP301</b>	<b>YALITIMSIZ KASA PROFİLİ</b> UNINSULATED FRAME PROFILE		<b>1,053</b>	<b>40</b>
<b>FP302</b>	<b>YALITIMLI KASA PROFİLİ</b> INSULATED FRAME PROFILE		<b>1,218</b>	<b>40</b>
<b>FP303</b>	<b>YALITIMLI KASA PROFİLİ</b> INSULATED FRAME PROFILE		<b>1,239</b>	<b>41</b>
<b>FP304</b>	<b>YALITIMLI KASA PROFİLİ</b> INSULATED FRAME PROFILE		<b>1,255</b>	<b>41</b>
<b>FP305</b>	<b>YALITIMLI KASA PROFİLİ</b> INSULATED FRAME PROFILE		<b>1,425</b>	<b>42</b>
<b>FP306</b>	<b>YALITIMLI KASA PROFİLİ</b> INSULATED FRAME PROFILE		<b>1,441</b>	<b>42</b>
<b>FP326</b>	<b>YALITIMSIZ KANAT PROFİLİ</b> UNINSULATED VENT PROFILE		<b>0,909</b>	<b>40</b>
<b>FP327</b>	<b>YALITIMSIZ KANAT PROFİLİ</b> UNINSULATED VENT PROFILE		<b>1,037</b>	<b>41</b>
<b>FP328</b>	<b>YALITIMLI KANAT PROFİLİ</b> INSULATED VENT PROFILE		<b>1,219</b>	<b>41</b>
















**PROFİL FİHRİSTİ / PROFILE INDEX**

PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP329</b>	<b>YALITIMSIZ KANAT PROFİLİ</b> UNINSULATED VENT PROFILE		<b>1,255</b>	<b>42</b>
<b>FP330</b>	<b>YALITIMLI KANAT PROFİLİ</b> INSULATED VENT PROFILE		<b>1,437</b>	<b>42</b>
<b>FP359</b>	<b>SPANDREL BÖLGE PANEL PROFİLİ</b> PANEL PROFILE FOR SPANDREL AREA		<b>0,437</b>	<b>43</b>
<b>FP360</b>	<b>SPANDREL BÖLGE PANEL PROFİLİ</b> PANEL PROFILE FOR SPANDREL AREA		<b>0,485</b>	<b>43</b>
<b>FP361</b>	<b>SPANDREL BÖLGE PANEL PROFİLİ</b> PANEL PROFILE FOR SPANDREL AREA		<b>0,468</b>	<b>43</b>
<b>FP362</b>	<b>SPANDREL BÖLGE PANEL PROFİLİ</b> PANEL PROFILE FOR SPANDREL AREA		<b>0,416</b>	<b>43</b>
<b>FP377</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,294</b>	<b>50</b>
<b>FP378</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,319</b>	<b>50</b>
<b>FP379</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,332</b>	<b>50</b>
<b>FP380</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,354</b>	<b>50</b>
<b>FP381</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,270</b>	<b>50</b>
<b>FP382</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,281</b>	<b>50</b>
<b>FP383</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,343</b>	<b>50</b>
<b>FP384</b>	<b>CAM ARASI KİTLEME PROFİLİ</b> LOCKING PR. FOR DOUBLE GLAZED GLASS		<b>0,340</b>	<b>50</b>
<b>FP390</b>	<b>CAM ALTI DESTEK PROFİLİ</b> GLAZING SUPPORT PROFILE		<b>0,277</b>	<b>50</b>








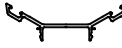







**PROFİL FİHRİSTİ / PROFILE INDEX**

PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP391</b>	<b>CAM ALTI DESTEK PROFİLİ</b> GLAZING SUPPORT PROFILE		<b>0,308</b>	<b>50</b>
<b>FP392</b>	<b>CAM ALTI DESTEK PROFİLİ</b> GLAZING SUPPORT PROFILE		<b>0,338</b>	<b>50</b>
<b>FP393</b>	<b>CAM ALTI DESTEK PROFİLİ</b> GLAZING SUPPORT PROFILE		<b>0,368</b>	<b>50</b>
<b>FP394</b>	<b>CAM ALTI DESTEK PROFİLİ</b> GLAZING SUPPORT PROFILE		<b>0,482</b>	<b>50</b>
<b>FP398</b>	<b>20mm ÖZEL ISICAM ÇITASI</b> 20mm SPECIAL GLASS SPACER		<b>0,240</b>	<b>43</b>
<b>FP399</b>	<b>YAPIŞMA YÜZEY PROFİLİ</b> BONDING SURFACE PROFILE		<b>0,109</b>	<b>43</b>
<b>FP400</b>	<b>KANAT CAM ALTI DESTEK PROFİLİ</b> GLAZING SUPPORT PROFILE FOR VENT		<b>0,078</b>	<b>51</b>
<b>FP401</b>	<b>KANAT CAM ALTI DESTEK PROFİLİ</b> GLAZING SUPPORT PROFILE FOR VENT		<b>0,112</b>	<b>51</b>
<b>FP426</b>	<b>BASKI KAPAK PROFİLİ</b> PRESSURE CAP PROFILE		<b>0,395</b>	<b>44</b>
<b>FP427</b>	<b>BASKI KAPAK PROFİLİ</b> PRESSURE CAP PROFILE		<b>0,496</b>	<b>44</b>
<b>FP428</b>	<b>BASKI KAPAK PROFİLİ</b> PRESSURE CAP PROFILE		<b>0,413</b>	<b>44</b>
<b>FP429</b>	<b>BASKI KAPAK PROFİLİ</b> PRESSURE CAP PROFILE		<b>0,494</b>	<b>44</b>
<b>FP430</b>	<b>BASKI KAPAK PROFİLİ</b> PRESSURE CAP PROFILE		<b>0,183</b>	<b>44</b>
<b>FP440</b>	<b>KAPAK PROFİLİ</b> CAP PROFILE		<b>0,043</b>	<b>44</b>
<b>FP441</b>	<b>KAPAK PROFİLİ (12 mm)</b> CAP PROFILE		<b>0,283</b>	<b>44</b>








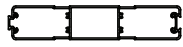





**PROFİL FİHRİSTİ / PROFILE INDEX**

PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP442</b>	<b>KAPAK PROFİLİ (15 mm)</b> CAP PROFILE		<b>0,308</b>	<b>44</b>
<b>FP443</b>	<b>KAPAK PROFİLİ (20 mm)</b> CAP PROFILE		<b>0,343</b>	<b>44</b>
<b>FP444</b>	<b>KAPAK PROFİLİ (25 mm)</b> CAP PROFILE		<b>0,403</b>	<b>44</b>
<b>FP445</b>	<b>KAPAK PROFİLİ (30 mm)</b> CAP PROFILE		<b>0,455</b>	<b>45</b>
<b>FP446</b>	<b>KAPAK PROFİLİ (50 mm)</b> CAP PROFILE		<b>0,745</b>	<b>45</b>
<b>FP447</b>	<b>KAPAK PROFİLİ (75 mm)</b> CAP PROFILE		<b>0,954</b>	<b>45</b>
<b>FP448</b>	<b>KAPAK PROFİLİ (100 mm)</b> CAP PROFILE		<b>1,273</b>	<b>45</b>
<b>FP449</b>	<b>KAPAK PROFİLİ (150 mm)</b> CAP PROFILE		<b>2,065</b>	<b>46</b>
<b>FP450</b>	<b>KAPAK PROFİLİ (200 mm)</b> CAP PROFILE		<b>3,006</b>	<b>46</b>
<b>FP461</b>	<b>KAPAK PROFİLİ (18.5 mm)</b> CAP PROFILE		<b>0,262</b>	<b>47</b>
<b>FP462</b>	<b>KAPAK PROFİLİ (30 mm)</b> CAP PROFILE		<b>0,397</b>	<b>47</b>
<b>FP463</b>	<b>KAPAK PROFİLİ (50 mm)</b> CAP PROFILE		<b>0,611</b>	<b>45</b>
<b>FP464</b>	<b>KAPAK PROFİLİ (75 mm)</b> CAP PROFILE		<b>0,753</b>	<b>47</b>
<b>FP465</b>	<b>KAPAK PROFİLİ (75 mm)</b> CAP PROFILE		<b>0,879</b>	<b>47</b>
<b>FP466</b>	<b>KAPAK PROFİLİ (100 mm)</b> CAP PROFILE		<b>1,214</b>	<b>47</b>

**PROFİL FİHRİSTİ / PROFILE INDEX**

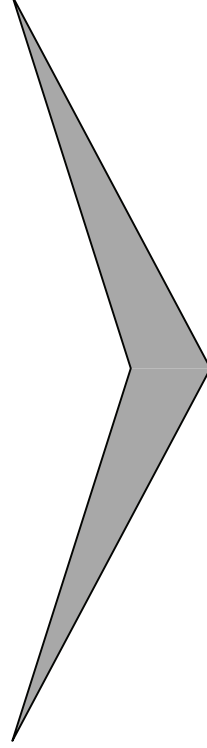
PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP467</b>	<b>KAPAK PROFİLİ (150 mm)</b> CAP PROFILE		<b>1,885</b>	<b>48</b>
<b>FP468</b>	<b>KAPAK PROFİLİ (200 mm)</b> CAP PROFILE		<b>2,779</b>	<b>48</b>
<b>FP479</b>	<b>DIŞ KÖŞE DÖNÜŞ KAPAK PROFİLİ</b> OUTER CORNER CAP PROFILE		<b>1,785</b>	<b>49</b>
<b>FP480</b>	<b>İÇ KÖŞE BASKI KAPAK PROFİLİ</b> INNER CORNER PRESSURE CAP PROFILE		<b>0,384</b>	<b>49</b>
<b>FP481</b>	<b>İÇ KÖŞE DÖNÜŞ KAPAK PROFİLİ</b> INNER CORNER CAP PROFILE		<b>0,251</b>	<b>49</b>
<b>FP482</b>	<b>AÇILI BASKI KAPAK PROFİLİ</b> ANGULAR PRESSURE CAP PROFILE		<b>0,524</b>	<b>49</b>
<b>FP483</b>	<b>AÇILI KAPAK PROFİLİ</b> ANGULAR CAP PROFILE		<b>0,562</b>	<b>49</b>
<b>FP484</b>	<b>AÇILI BASKI KAPAK PROFİLİ</b> ANGULAR PRESSURE CAP PROFILE		<b>0,614</b>	<b>49</b>
<b>FP485</b>	<b>AÇILI KAPAK PROFİLİ</b> ANGULAR CAP PROFILE		<b>0,674</b>	<b>49</b>
<b>FP488</b>	<b>CAM ÇITASI (24 mm)</b> GLAZING BEAD		<b>0,234</b>	<b>43</b>
<b>FP489</b>	<b>AÇILI CAM ÇITASI</b> ANGULAR GLAZING BEAD		<b>0,098</b>	<b>43</b>
<b>FP490</b>	<b>AÇILI CAM ÇITASI</b> ANGULAR GLAZING BEAD		<b>0,105</b>	<b>43</b>
<b>FP491</b>	<b>AÇILI CAM ÇITASI</b> ANGULAR GLAZING BEAD		<b>0,112</b>	<b>43</b>
<b>FP492</b>	<b>CAM ÇITASI (6 mm)</b> GLAZING BEAD		<b>0,096</b>	<b>43</b>
<b>FP493</b>	<b>CAM ÇITASI (14 mm)</b> GLAZING BEAD		<b>0,151</b>	<b>43</b>

**PROFİL FİHRİSTİ / PROFILE INDEX**

PROFİL NUM. PROFILE NO.	TANIM DESCRIPTION	ÇİZİM DRAWING	AĞIRLIK WEIGHT (kg/m)	SAYFA PAGE
<b>FP494</b>	<b>CAM ÇITASI (16 mm)</b> GLAZING BEAD		<b>0,179</b>	<b>43</b>
<b>FP495</b>	<b>CAM ÇITASI (18 mm)</b> GLAZING BEAD		<b>0,192</b>	<b>43</b>
<b>FP496</b>	<b>CAM ÇITASI (20 mm)</b> GLAZING BEAD		<b>0,207</b>	<b>43</b>
<b>FP497</b>	<b>CAM ÇITASI (22 mm)</b> GLAZING BEAD		<b>0,218</b>	<b>43</b>
<b>FP498</b>	<b>CAM ÇITASI (30 mm)</b> GLAZING BEAD		<b>0,270</b>	<b>43</b>
<b>FP499</b>	<b>ADAPTÖR PROFİLİ</b> ADAPTER PROFILE		<b>0,329</b>	<b>44</b>
<b>FP500</b>	<b>TİJ PROFİLİ</b> ROD PROFILE		<b>0,096</b>	<b>43</b>
<b>FP501</b>	<b>DİLATASYON PROFİLİ</b> DILATATION PROFILE		<b>3,864</b>	<b>52</b>
<b>FP502</b>	<b>GÜNEŞ KIRICILAR İÇİN BAĞLANTI PR.</b> CARRIER PROFILE FOR SUNBREAKERS		<b>3,533</b>	<b>52</b>
<b>FP506</b>	<b>U BAĞLANTI PROFİLİ</b> U CONNECTION PROFILE		<b>0,841</b>	<b>51</b>
<b>FP514</b>	<b>AÇILI U BAĞLANTI PROFİLİ</b> AĞGULAR U CONNECTION PROFILE		<b>0,947</b>	<b>51</b>
<b>FP520</b>	<b>KÖŞE TAKOZU</b> CORNER CLEAT		<b>1,974</b>	<b>51</b>
<b>FP521</b>	<b>KÖŞE TAKOZU</b> CORNER CLEAT		<b>2,366</b>	<b>51</b>

# PROFİLLER

# PROFILES



► KATALOGDA BELİRTİLEN TÜM PROFİL AĞIRLIKLARI TEORİK OLUP PROFİLLERİN PRES(HAM) HALLERİNE AİTTİR. ISI BARIYERİ ÇEŞİDİNE VEYA PROFİL YÜZEYİNDEKİ BOYA KALINLIKLARINA BAĞLI OLARAK AĞIRLIK FARKLILIKLARI OLUŞABİL MEKTEDİR. WEIGHTS IN THIS CATALOGUE ARE THEORETICAL AND BELONG TO MILL FINISH SURFACE . ACCORDING TO THE INSULATION BAR TYPE OR THICKNESSES OF THE PAINT ON THE PROFILE SURFACE, THERE COULD BE WEIGHT DIFFERENCES.

► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR. SİSTEM ALÜMİNYUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



**STATİK DEĞERLER TABLOSU**

TABLE OF THE STATIC VALUES

TAŞIYICI DÜŞEY PROFİLLER / MULLION PROFILES								
PR. NUMARASI PROFILE NO.	PR. DERİNLİĞİ PROFILE DEPTH	ET KALINLIĞI WALL THICKNESS	SIRT ET KALINLIĞI BACK WALL THICKNESS	Wx (cm <sup>3</sup> )	Wy (cm <sup>3</sup> )	Jx (cm <sup>4</sup> )	Jy (cm <sup>4</sup> )	AĞIRLIK WEIGHT (kg/m)
FP101	35mm	1.7mm	1.7mm	3,41	4,78	10,93	11,95	1,283
FP102	55mm	1.7mm	1.7mm	6,76	6,37	26,56	15,92	1,467
FP103	55mm	2mm	2mm	6,99	6,85	28,18	17,12	1,568
FP104	75mm	1.7mm	1.7mm	10,96	7,95	52,42	19,88	1,651
FP105	75mm	2mm	2mm	11,54	8,69	56,01	21,73	1,785
FP106	95mm	1.7mm	1.7mm	15,13	9,54	90,05	23,85	1,835
FP107	95mm	2mm	2mm	16,92	10,53	96,69	26,34	2,001
FP108	115mm	1.7mm	2mm	21,05	11,43	146,54	28,57	2,081
FP109	115mm	2mm	3mm	24,60	12,79	171,14	31,77	2,343
FP110	135mm	1.7mm	2.2mm	27,51	13,08	219,98	32,71	2,291
FP111	135mm	2.2mm	4mm	33,15	14,87	272,66	37,19	2,684
FP112	155mm	2.2mm	2.3mm	35,11	15,42	316,68	38,56	2,594
FP113	155mm	2.4mm	4.5mm	41,83	16,88	391,21	42,20	2,963
FP114	175mm	2.4mm	2.4mm	45,10	18,71	447,36	46,78	3,004
FP115	175mm	2.6mm	5mm	51,78	19,54	544,51	48,85	3,327
FP116	195mm	2.6mm	2.5mm	56,50	22,24	613,16	55,61	3,449
FP117	195mm	2.8mm	5mm	63,09	23,02	726,42	57,56	3,756
FP118	215mm	2.8mm	3mm	71,82	26,19	840,60	65,26	3,915
FP119	215mm	2.8mm	6mm	78,78	26,35	1002	65,87	4,283

YATAY KAYIT PROFİLLERİ / TRANSOM PROFILES								
PR. NUMARASI PROFILE NO.	PR. DERİNLİĞİ PROFILE DEPTH	ET KALINLIĞI WALL THICKNESS	SIRT ET KALINLIĞI BACK WALL THICKNESS	Wx (cm <sup>3</sup> )	Wy (cm <sup>3</sup> )	Jx (cm <sup>4</sup> )	Jy (cm <sup>4</sup> )	AĞIRLIK WEIGHT (kg/m)
FP151	5.5mm	1.7mm	1.7mm	0,38	1,33	0,56	3,32	0,567
FP152	20mm	1.7mm	1.7mm	1,40	3,18	2,91	7,95	0,933
FP153	40mm	1.7mm	1.7mm	4,12	4,82	11,79	12,05	1,123
FP154	50mm	1.7mm	1.7mm	5,69	5,37	18,59	13,43	1,161
FP155	60mm	1.7mm	1.7mm	7,78	6,41	28,79	16,02	1,308
FP156	80mm	1.7mm	1.7mm	11,77	8,16	56,17	20,41	1,515
FP157	100mm	1.7mm	1.7mm	16,13	9,75	94,45	24,38	1,699
FP158	120mm	1.7mm	2mm	20,99	11,34	145,28	28,34	1,884
FP159	140mm	2mm	2mm	28,95	14,49	225,73	36,21	2,289
FP160	160mm	1.6mm	2mm	32,34	14,24	287,61	35,61	2,227
FP161	160mm	2.1mm	2.1mm	36,81	17,00	322,46	42,51	2,601
FP162	180mm	2.1mm	2.1mm	44,37	18,93	431,76	47,33	2,828
FP163	200mm	2.1mm	3mm	57,86	21,31	634,38	53,27	3,230
FP164	220mm	2.4mm	3mm	70,03	25,84	832	64,60	3,785

## MALZEME TEKNİK ÖZELLİKLERİ / TECHNICAL PROPERTIES OF MATERIALS

Alüminyum profil üretim tesisimiz **ISO 9001** , **ISO 14001** , **OHSAS 18001** ve **ISO/IEC 27001** kalite güvence belgelerine sahiptir.

**1-Profil Hammaddesi** (Raw Material) : AA 6063 (AlMgSi 0.5 F22) , **EN 573-3**

**2-Mekanik Özellikler** (Mechanical Properties) : **EN 755-2**

Yoğunluk (Density) : 2.71 g/cm<sup>3</sup>  
Elastisite Modülü (Elasticity Modul) : 7000 kN/cm<sup>2</sup>  
Kopma Mukavemeti (Yield Strengh) : 215 N/mm<sup>2</sup>  
Akma Mukavemeti (Flow Strengh) : 160 N/mm<sup>2</sup>  
Uzama (Elongation) : minimum 6 %  
Sertlik (Hardness) : 70 HRB

**3-Bariyer Hammaddesi**

**a-PA 66 GF 25 (25 % cam elyaf takviyeli polyamid)** (25 % the manufactured from glass stiffened polyamid) :  
Eloksal ve toz boya işleminden **önce** yerleştirilir. (Placed into the aluminium profiles **before** anodic oxidation and powder coating.)

**b- PVC :**

Eloksal ve toz boya işleminden **sonra** yerleştirilir. (Placed into the aluminium profiles **after** anodic oxidation and powder coating.)  
PVC bariyerler, Polyamid bariyerlere göre 10 % daha ağırdır. (PVC insulation bars are 10 % heavier than Polyamid insulation bars .)

**4-Eloksal** (Anodic Oxidation)

Eloksalı Ürünler ile İlişkin Teknik Resim Standardı : **DIN 17611** , **EN 12371-1 (QUALANOD)**  
(The Standarts of Technical Delivery Terms Regarding Eloxal Products)  
Eloksal Tabakasının Kalınlığı (Thickness of Eloxal Coating) : 10-15 mikron, **EN ISO 2360**  
Daldırma ve Renklendirme Standardı (The Standarts of Immersion Coloring) : **DIN 50018**  
Tesbit İşlemi Standardı (Sealing Standarts) : **EN 12373-5** , **ISO 3210 (TS 2676)**

**5-Toz Boya Standartları** (The Standarts of Powder Coating )

Kalınlık (Thickness) : min. 60 mikron  
Adhezyon (Adhesion) : **EN ISO 2409**  
Esneklik (Elasticity) : **EN ISO 1519**  
Deformasyon (Deformation) : **EN ISO 6272-1**  
Sertlik (Hardness) : **EN ISO 2815**

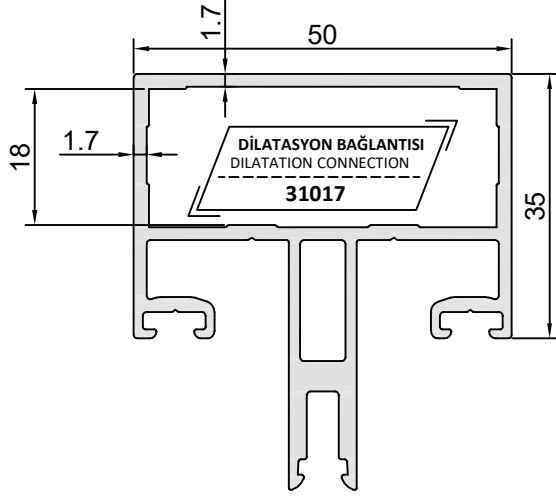
**6-Yüzey Görünümü** (Surface Appearance) : Gözle yapılacak kontrolde,yüzey üzerinde kaplanmış alan,çizik,pütürlük,kabarıklık,leke,soyulma vb. hatalar görülmemelidir. (By visual observation,there has been no defects seen on the surface,such as scratches cramped shapes,swellings,stain etc. on the exposed areas.)

**7-Tüm Fitiller** (All gaskets)

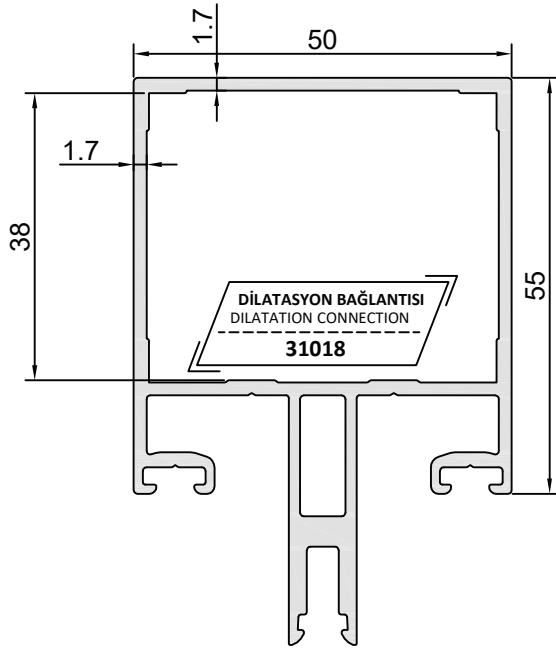
Hammadde (Raw material) : EPDM  
Derz fitilleri hammaddesi (Raw material of Gaskets for suture) : Silikon (Silicone)  
Ölçü Toleransları Standardı (Measurement Tolerances Standarts) : **DIN ISO 3302-1/E2**  
Kalite Kontrol Standardı (Quality Control Standart) : **RAL-GZ 716**

**8-Profil Tasarım ve Üretimindeki Ölçü Toleransları Standartları** : **EN 12020-2**

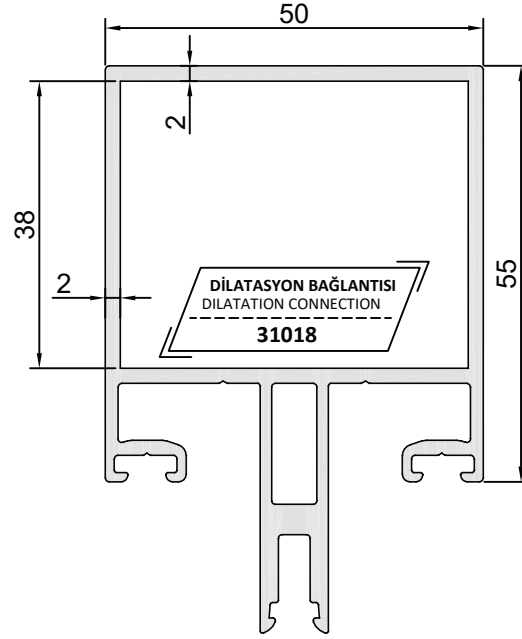
(Measurement Tolerances Standarts for Profile Design and Manufacturing)



<b>FP101</b>			
<b>Jx</b> (cm <sup>2</sup> )	<b>y</b> x	<b>Jy</b> (cm <sup>2</sup> )	
10,93		11,95	
<b>Wx</b> (cm <sup>2</sup> )		<b>Wy</b> (cm <sup>2</sup> )	
3,41		4,78	
<b>AĞIRLIK / WEIGHT</b> (KG/M.) 1,283			



<b>FP102</b>			
<b>Jx</b> (cm <sup>2</sup> )	<b>y</b> x	<b>Jy</b> (cm <sup>2</sup> )	
26,56		15,92	
<b>Wx</b> (cm <sup>2</sup> )		<b>Wy</b> (cm <sup>2</sup> )	
6,76		6,37	
<b>AĞIRLIK / WEIGHT</b> (KG/M.) 1,467			

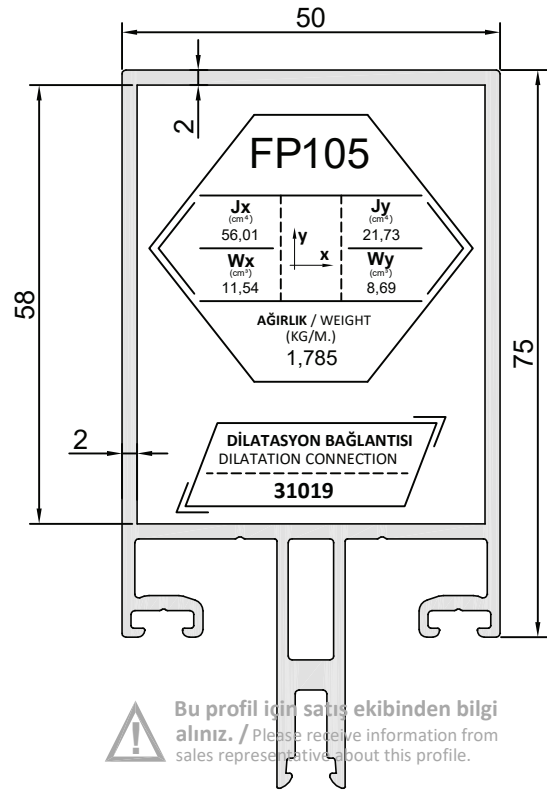
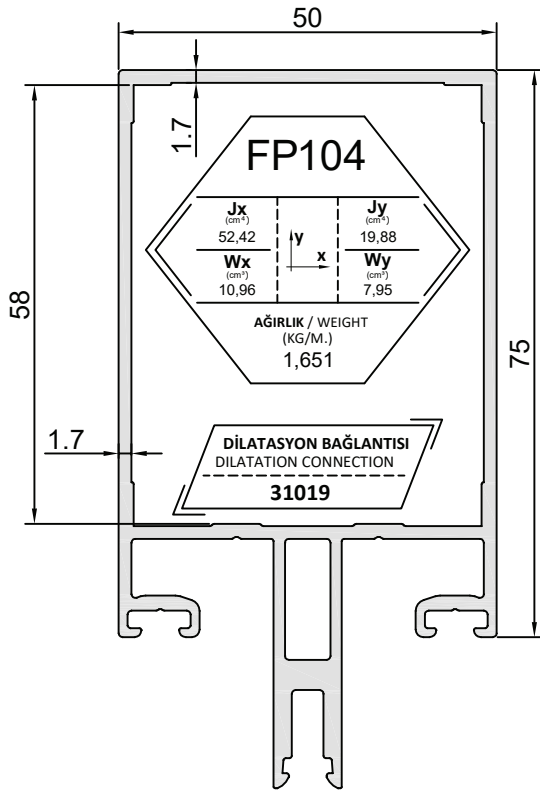


<b>FP103</b>			
<b>Jx</b> (cm <sup>2</sup> )	<b>y</b> x	<b>Jy</b> (cm <sup>2</sup> )	
28,18		17,13	
<b>Wx</b> (cm <sup>2</sup> )		<b>Wy</b> (cm <sup>2</sup> )	
6,99		6,85	
<b>AĞIRLIK / WEIGHT</b> (KG/M.) 1,568			

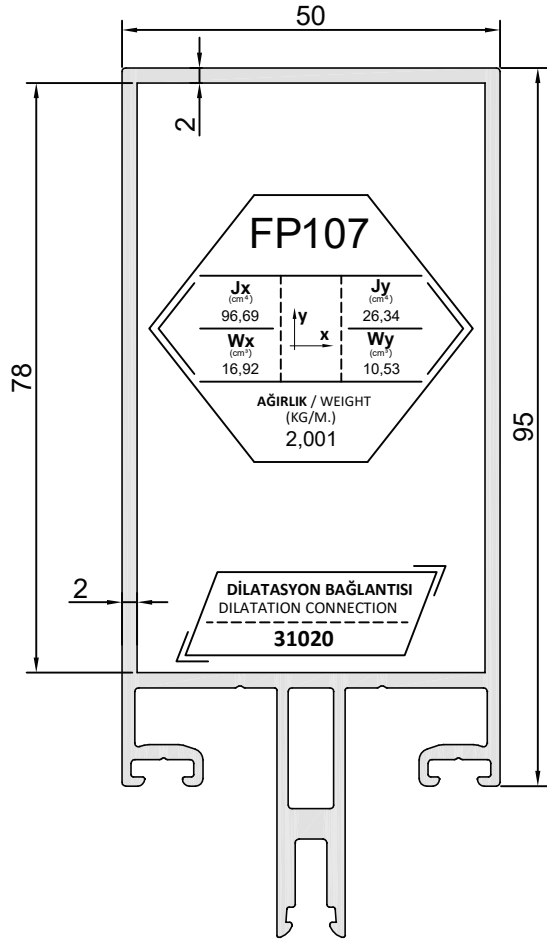
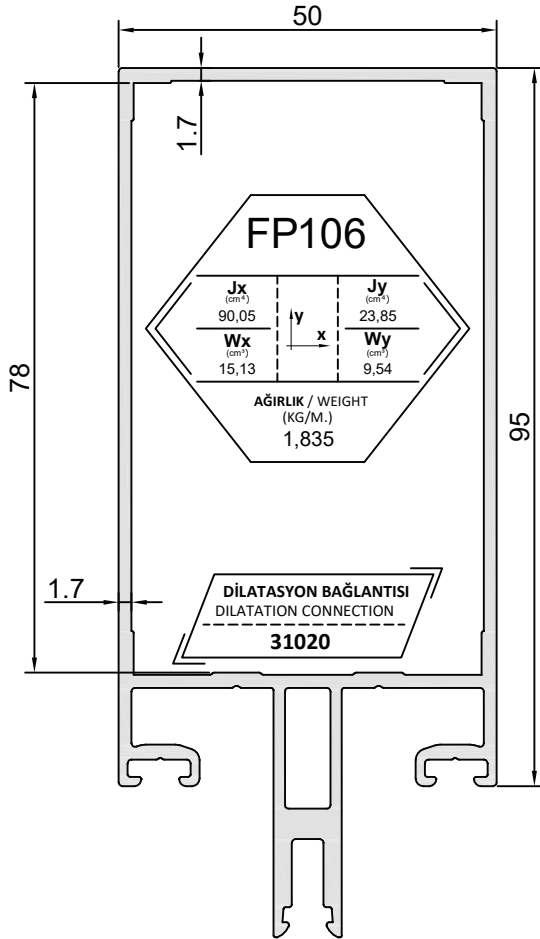


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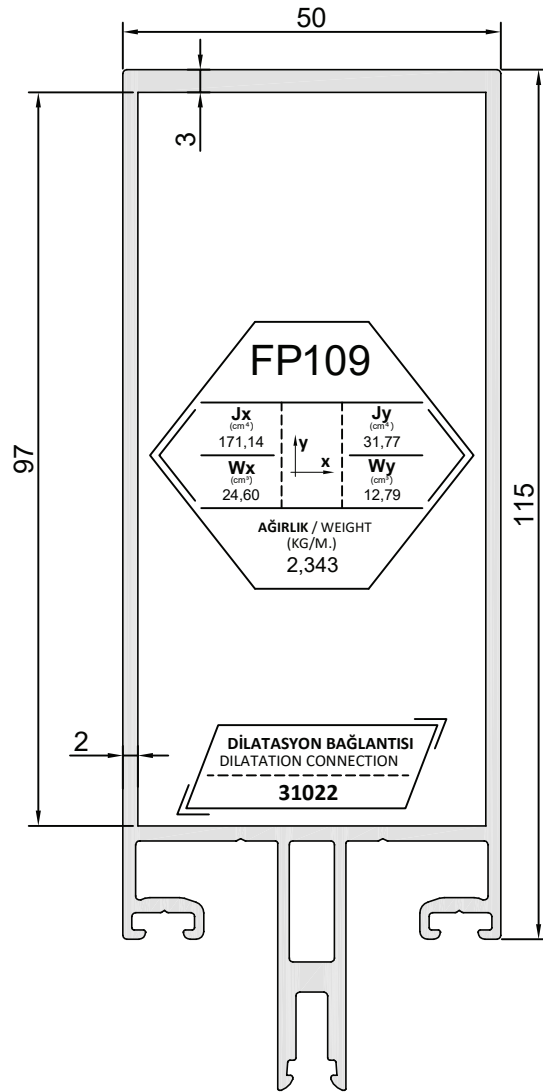
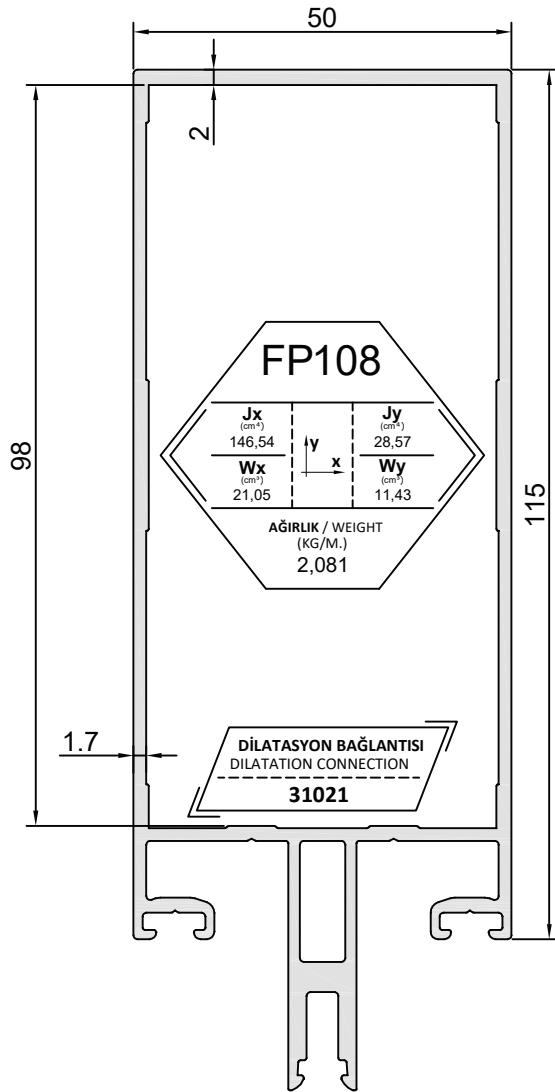
# F50-ENERGY



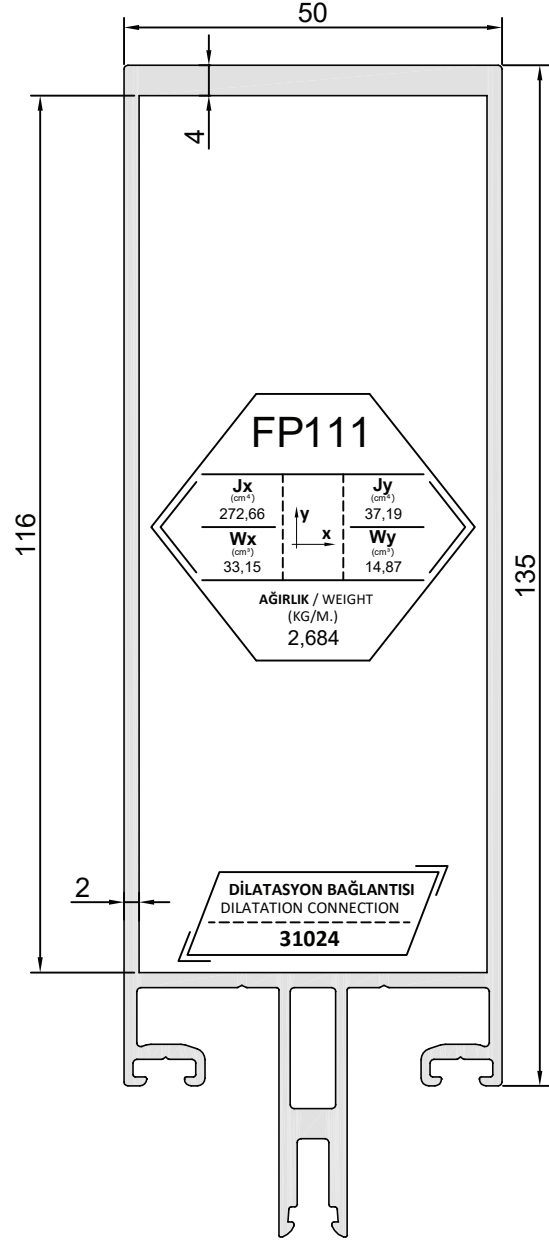
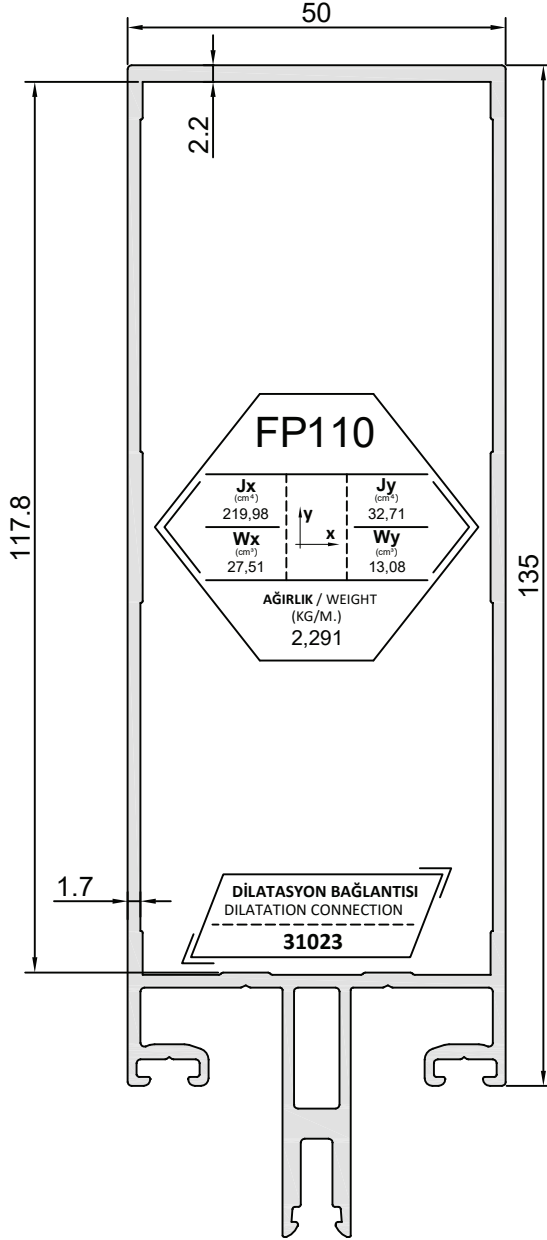
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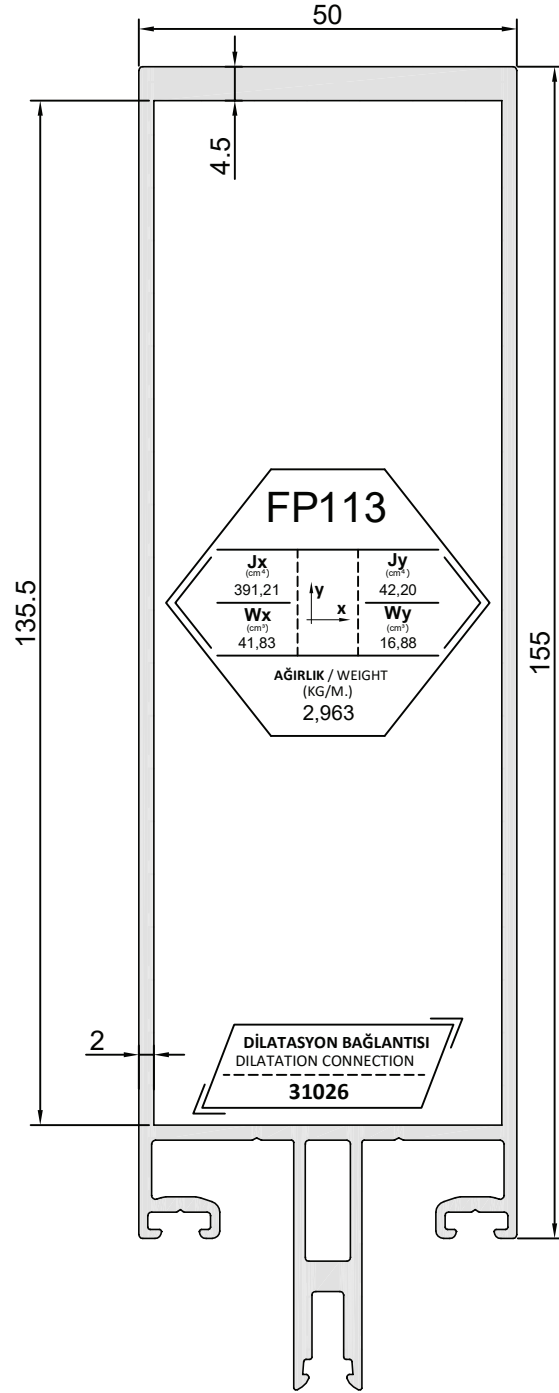
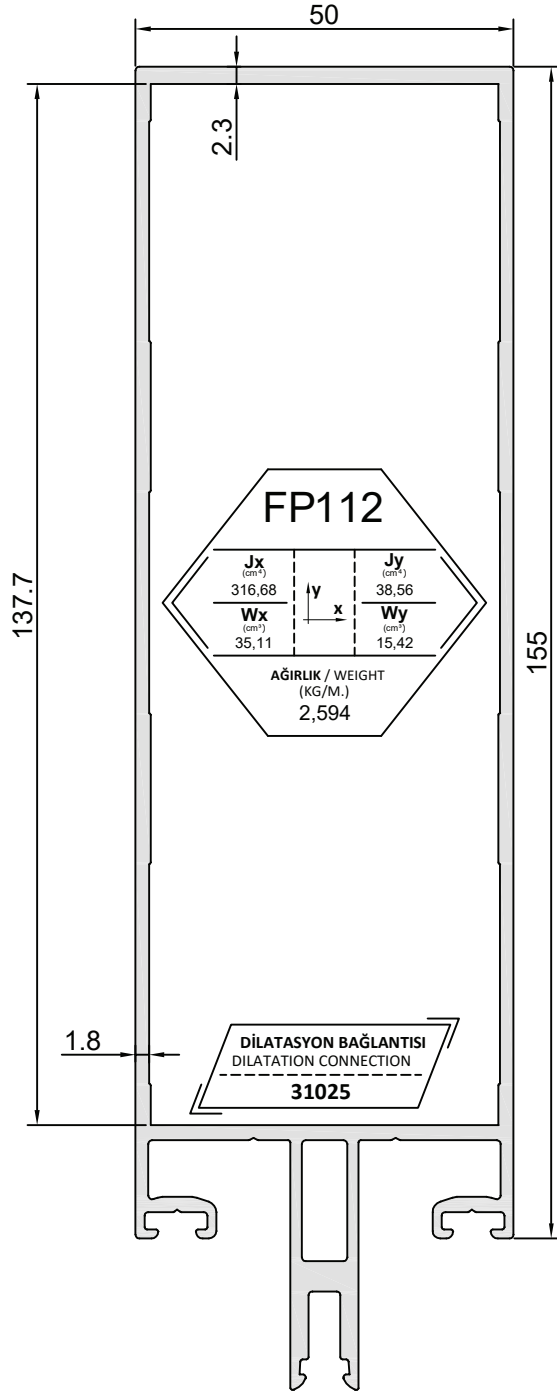
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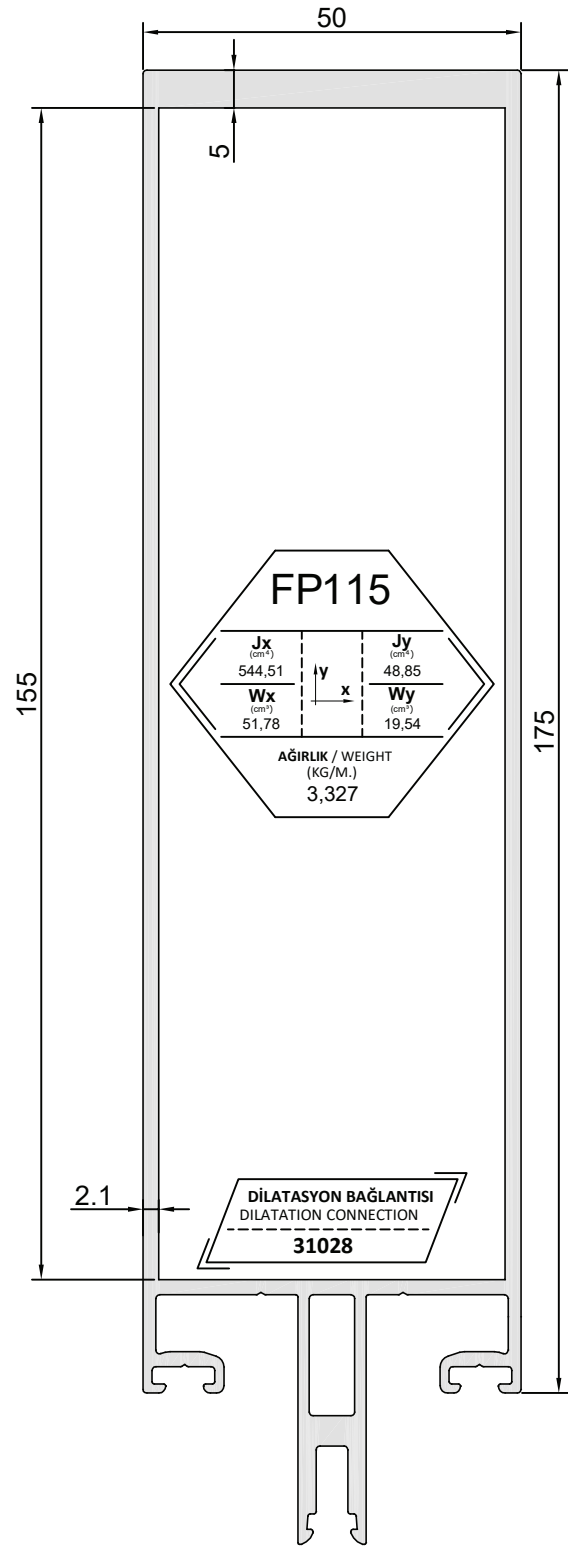
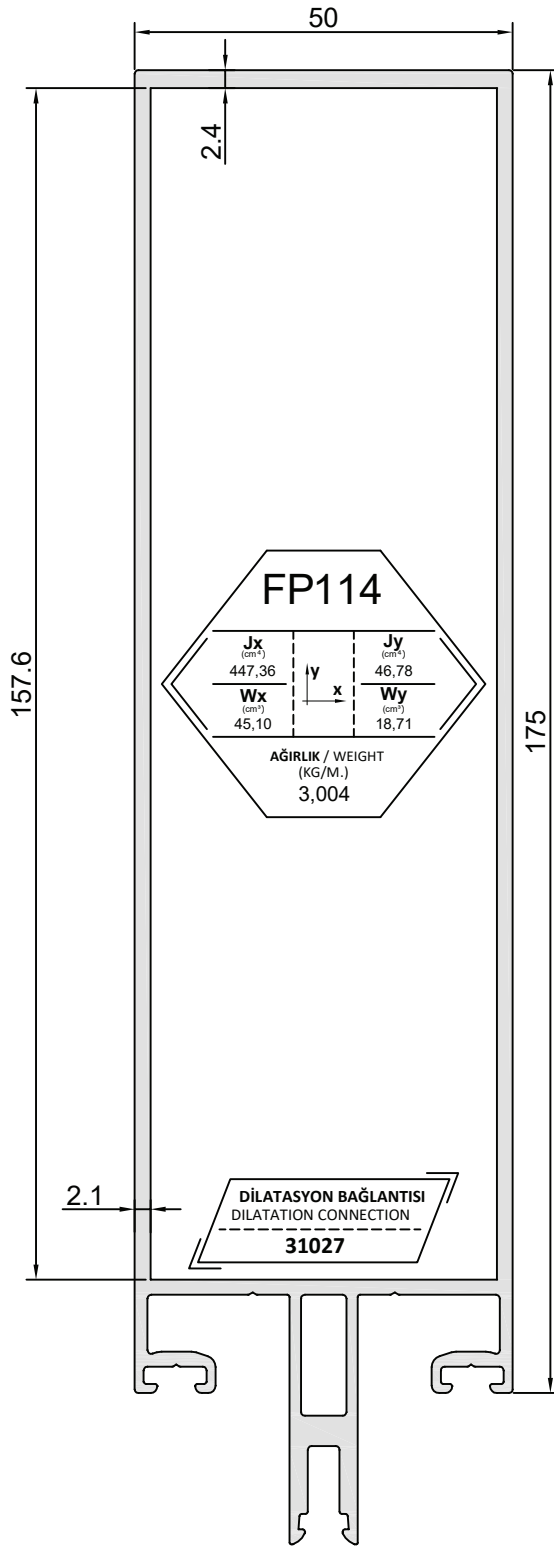


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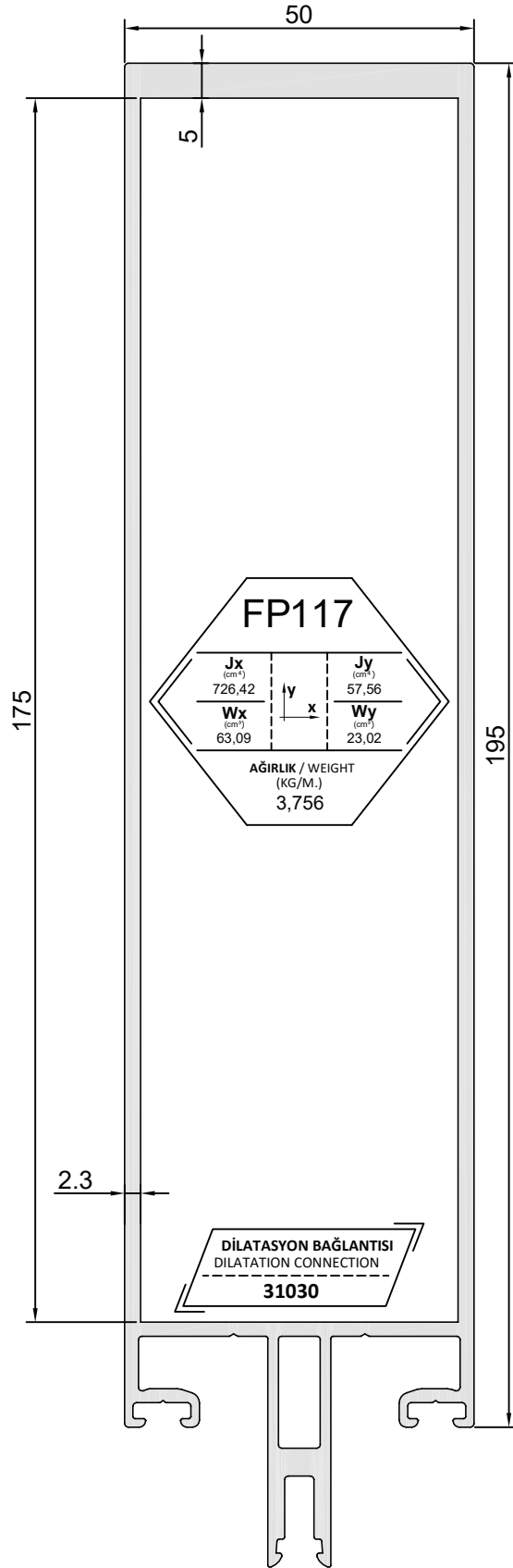
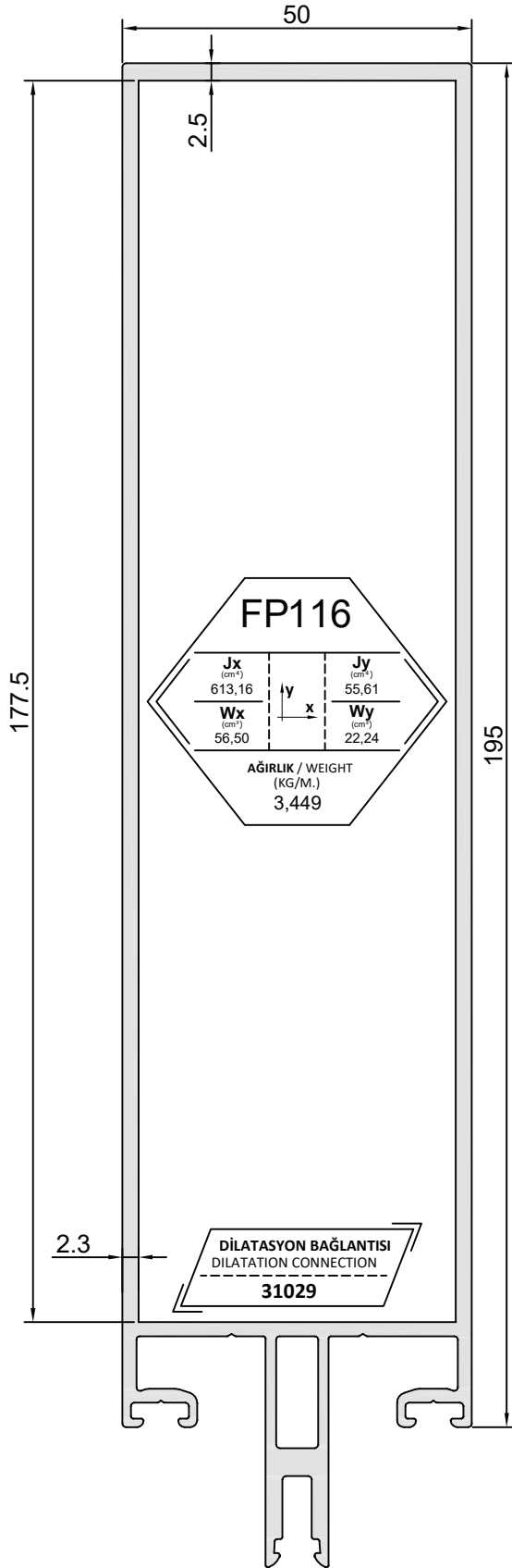


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# ▲ F50-ENERGY

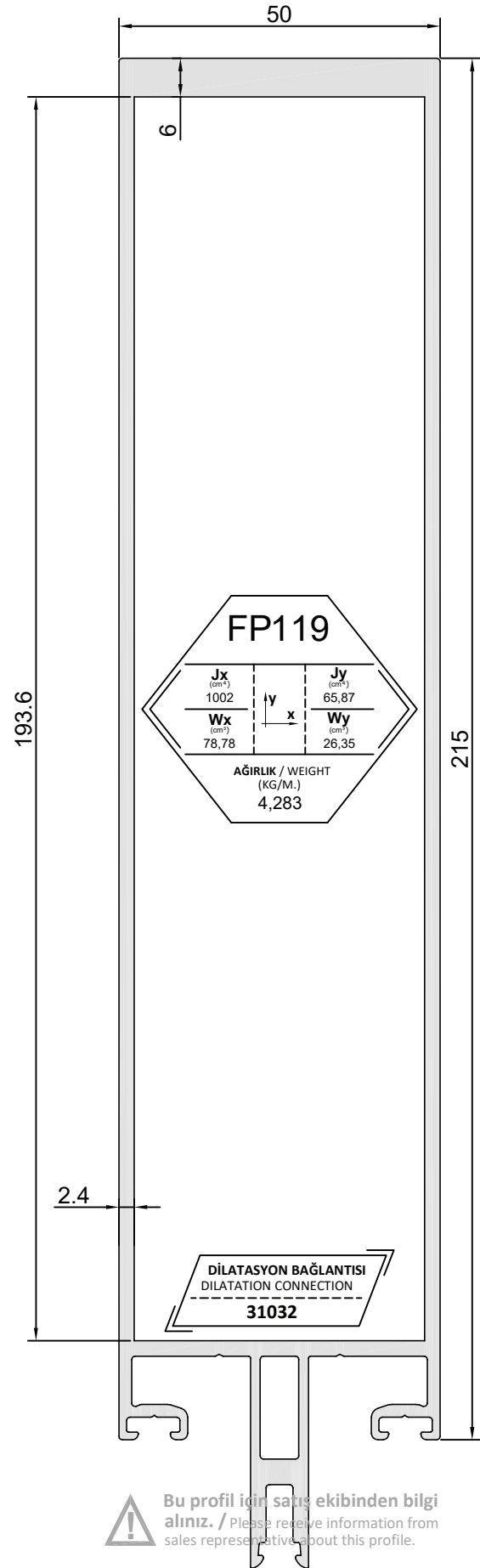
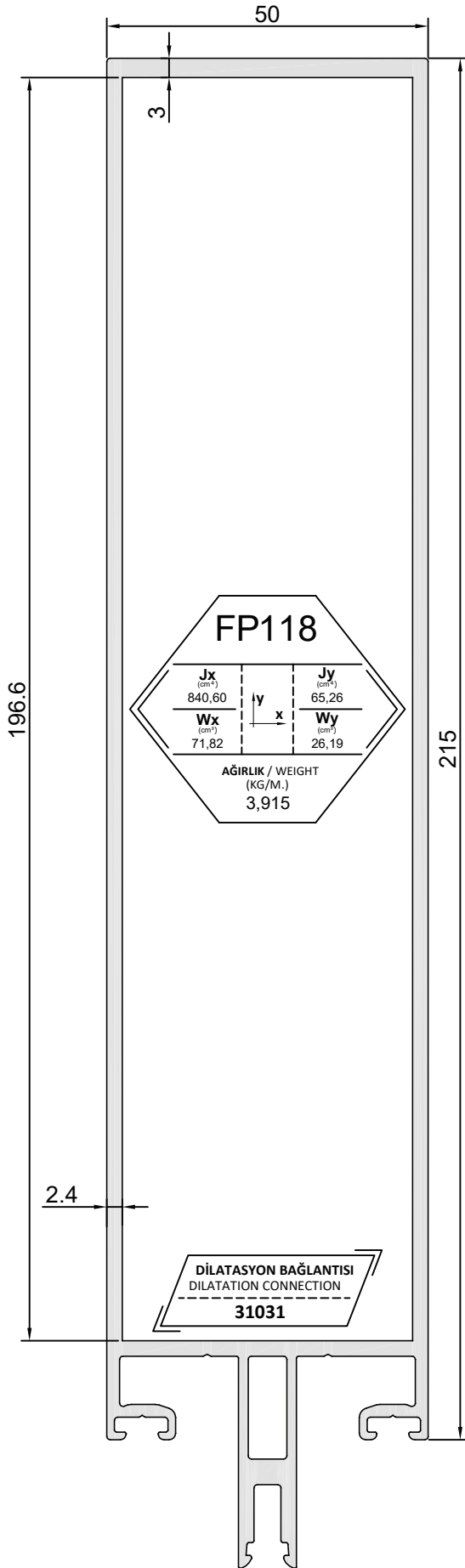


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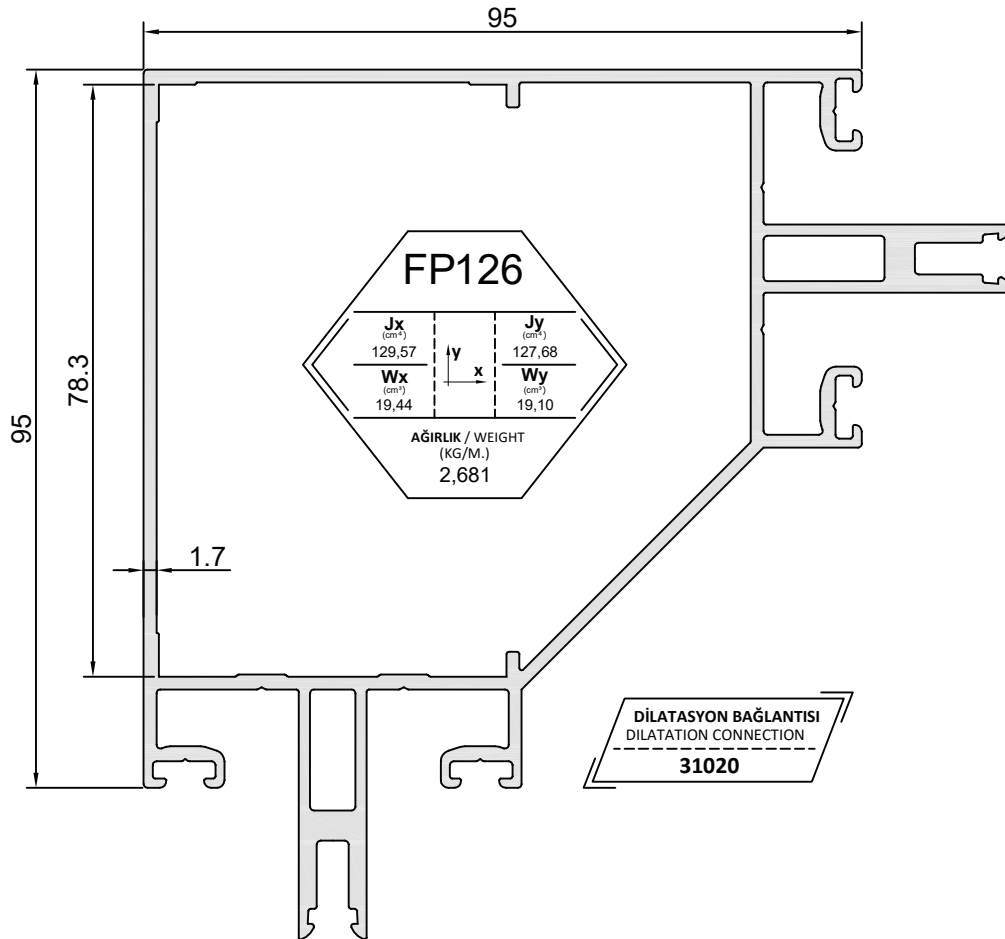
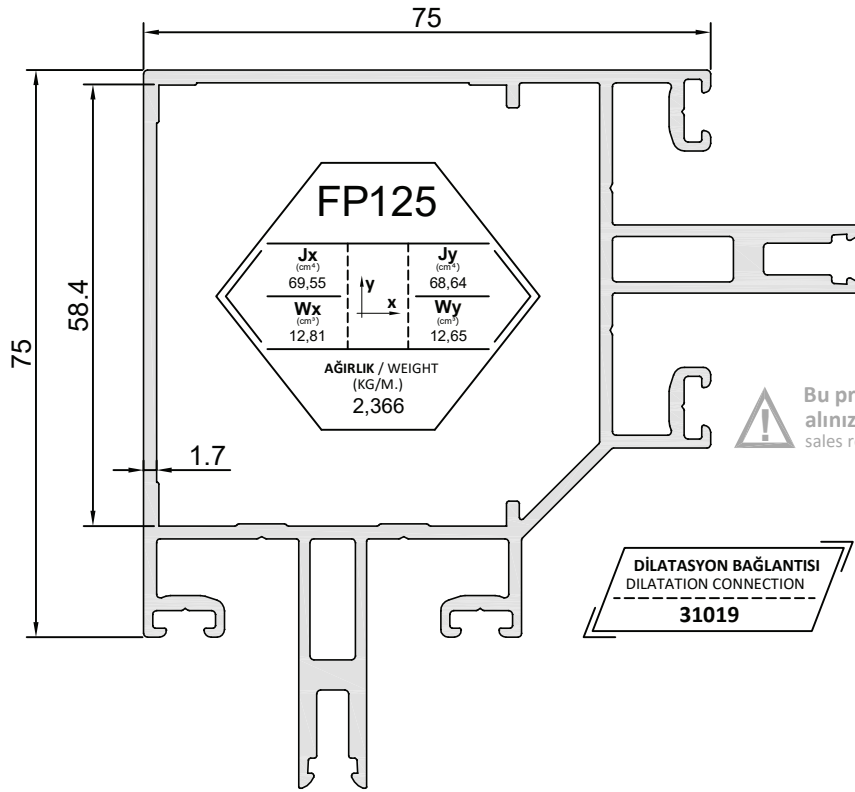


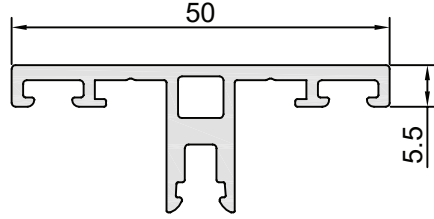
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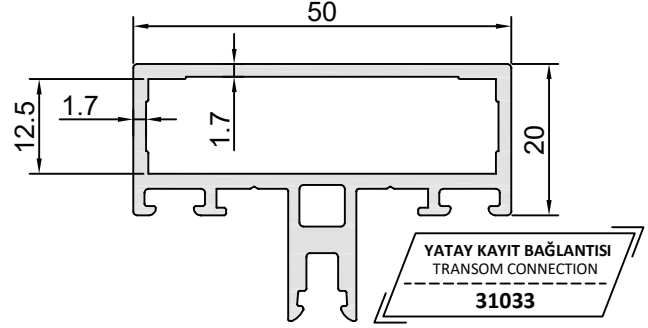


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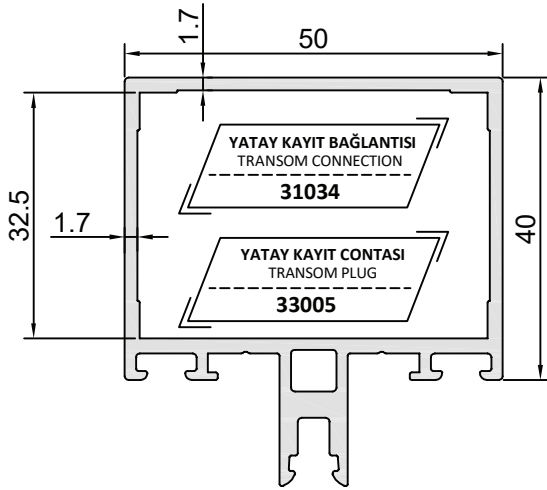
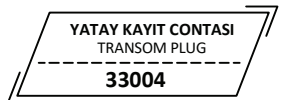




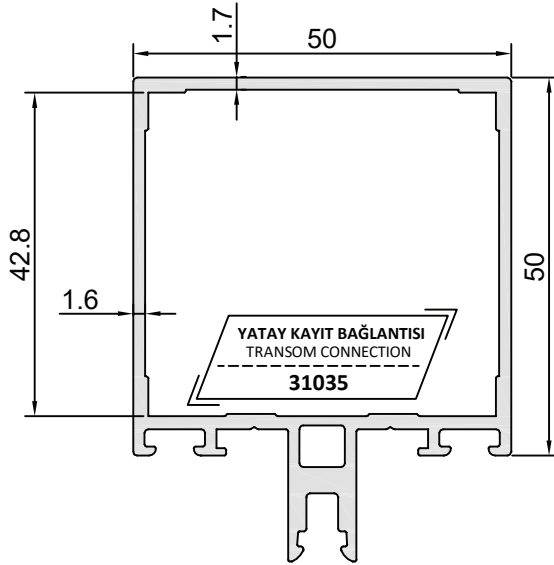
<b>FP151</b>			
$J_x$ (cm <sup>4</sup> )	$y$	$J_y$ (cm <sup>4</sup> )	$x$
0,56		3,32	
$W_x$ (cm <sup>3</sup> )		$W_y$ (cm <sup>3</sup> )	
0,38		1,33	
AĞIRLIK / WEIGHT (KG/M.) 0,567			



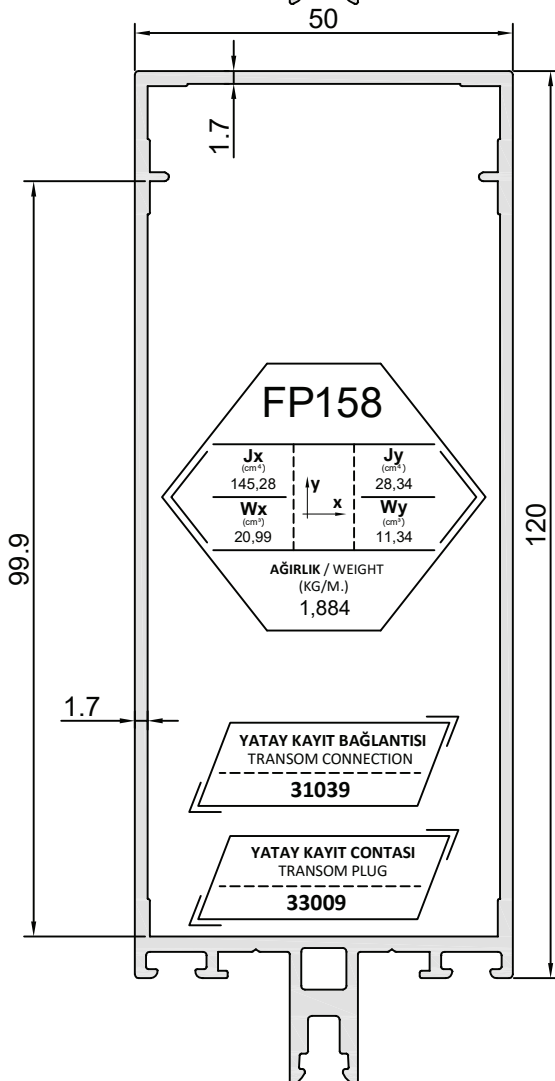
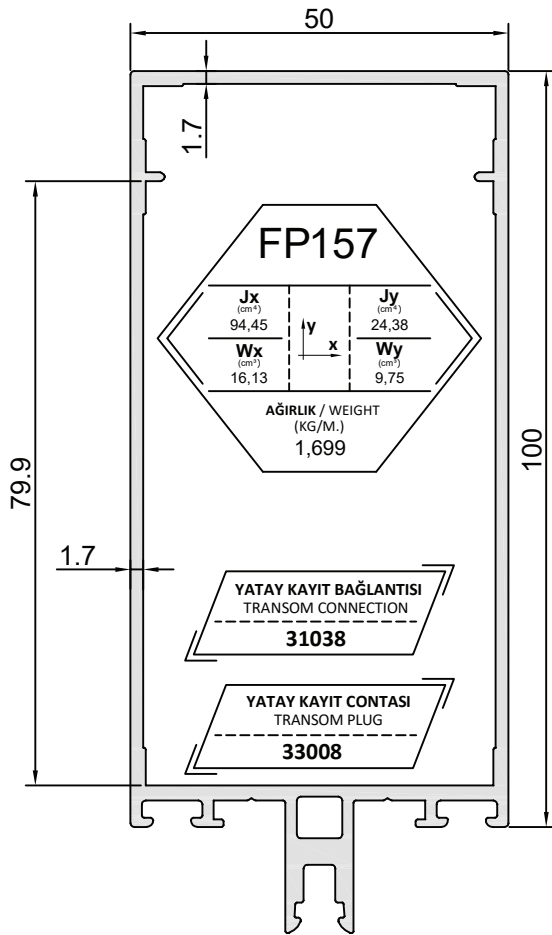
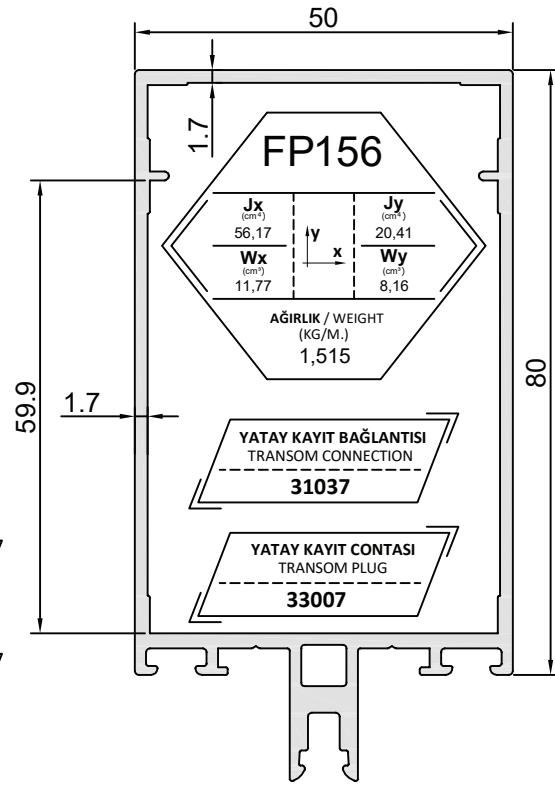
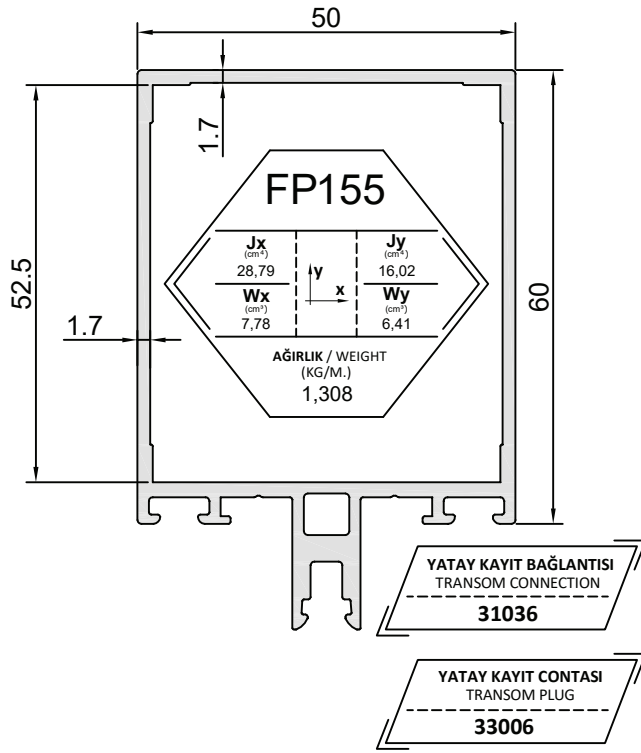
<b>FP152</b>			
$J_x$ (cm <sup>4</sup> )	$y$	$J_y$ (cm <sup>4</sup> )	$x$
2,91		7,95	
$W_x$ (cm <sup>3</sup> )		$W_y$ (cm <sup>3</sup> )	
1,40		3,18	
AĞIRLIK / WEIGHT (KG/M.) 0,933			

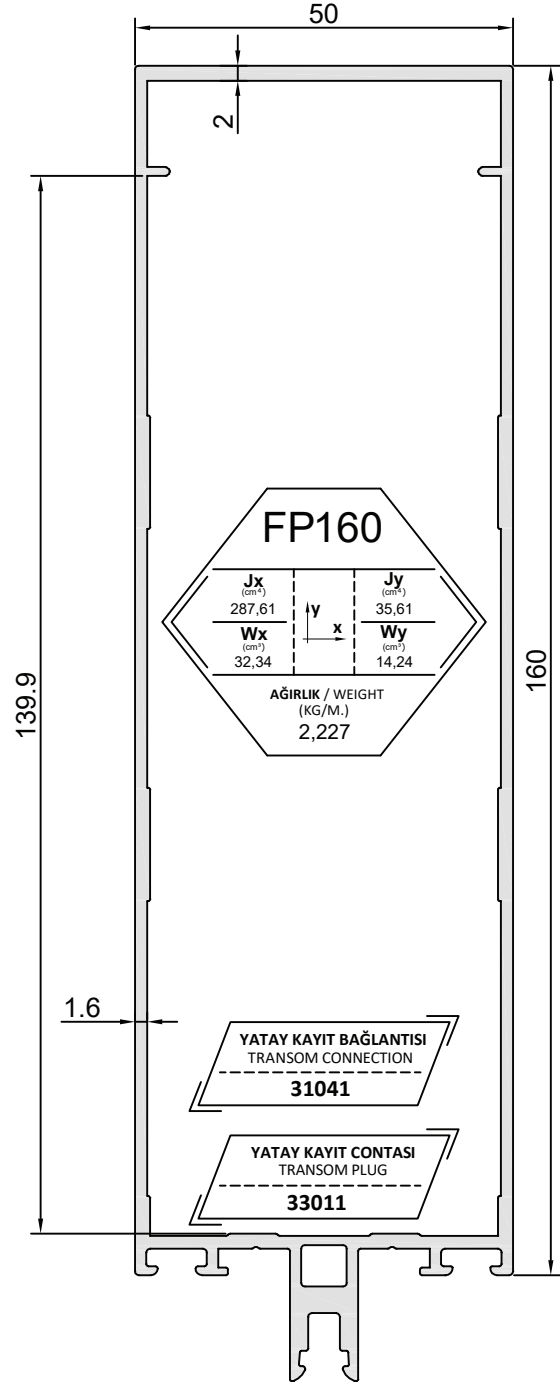
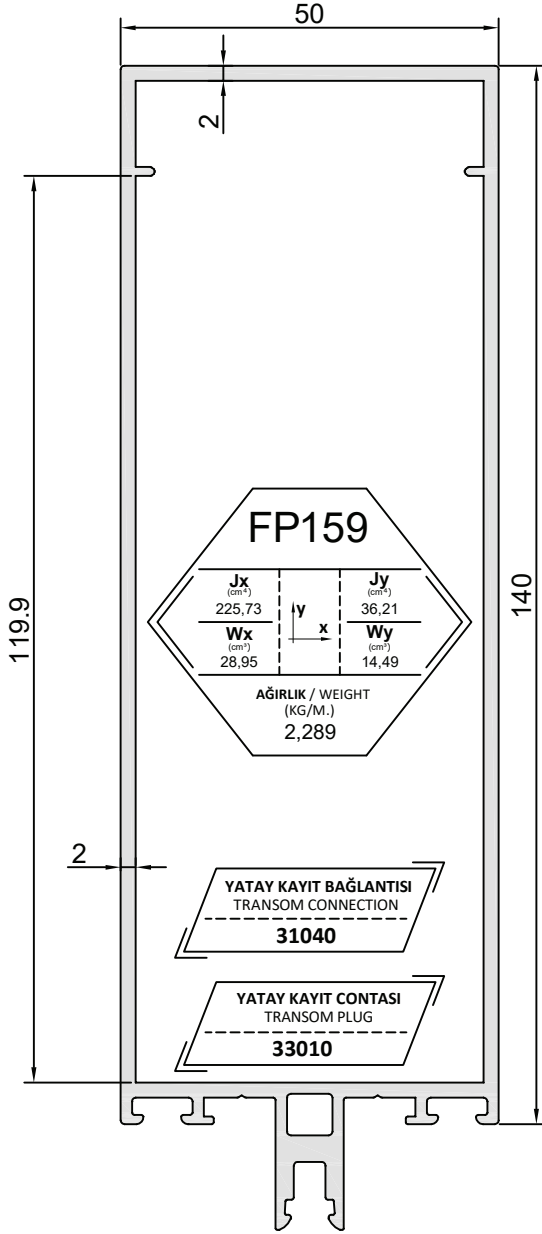


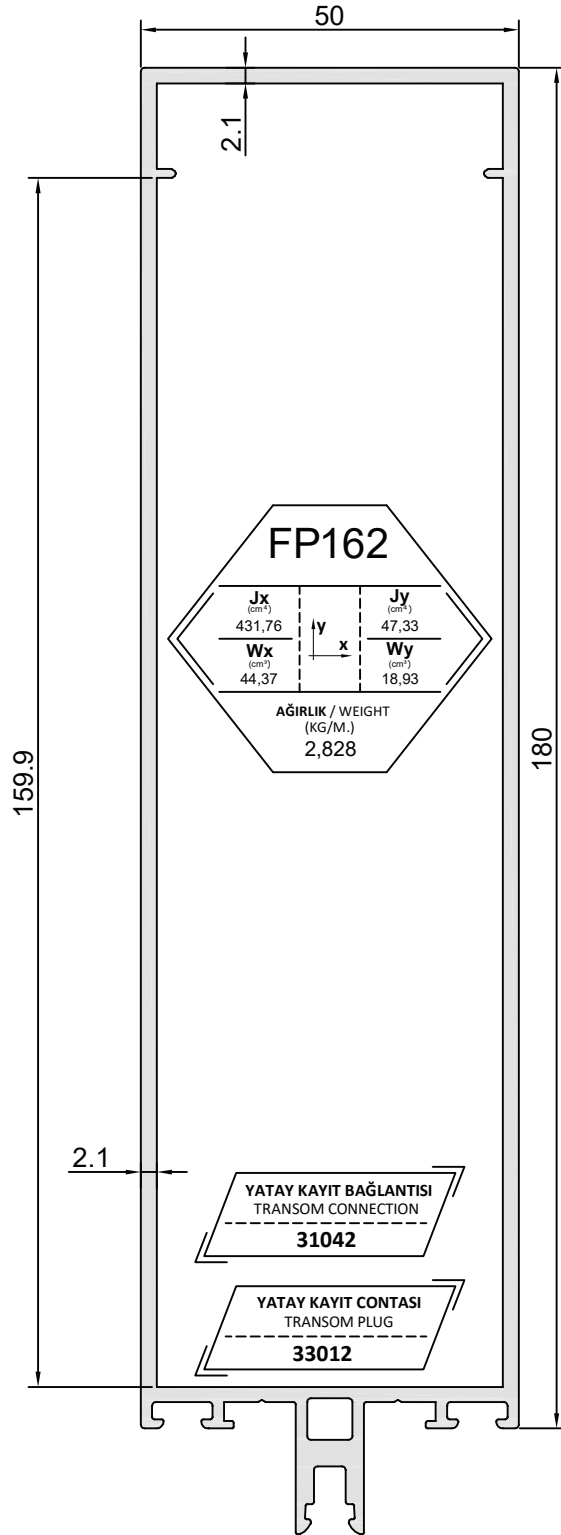
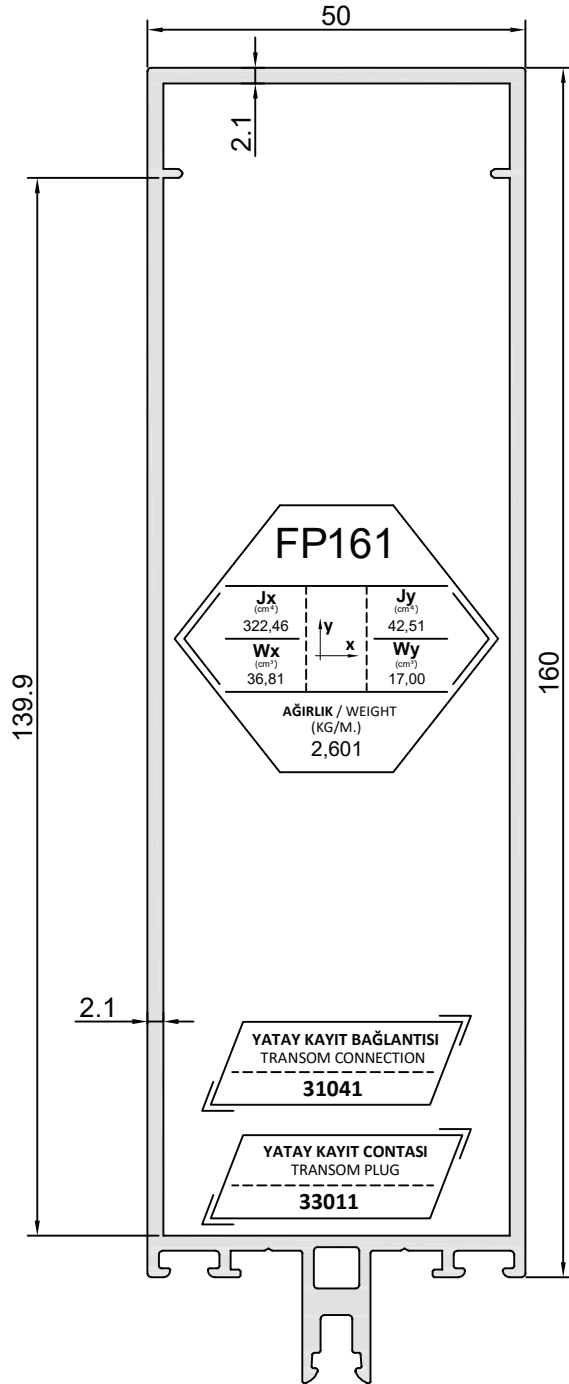
<b>FP153</b>			
$J_x$ (cm <sup>4</sup> )	$y$	$J_y$ (cm <sup>4</sup> )	$x$
11,79		12,05	
$W_x$ (cm <sup>3</sup> )		$W_y$ (cm <sup>3</sup> )	
4,12		4,82	
AĞIRLIK / WEIGHT (KG/M.) 1,123			



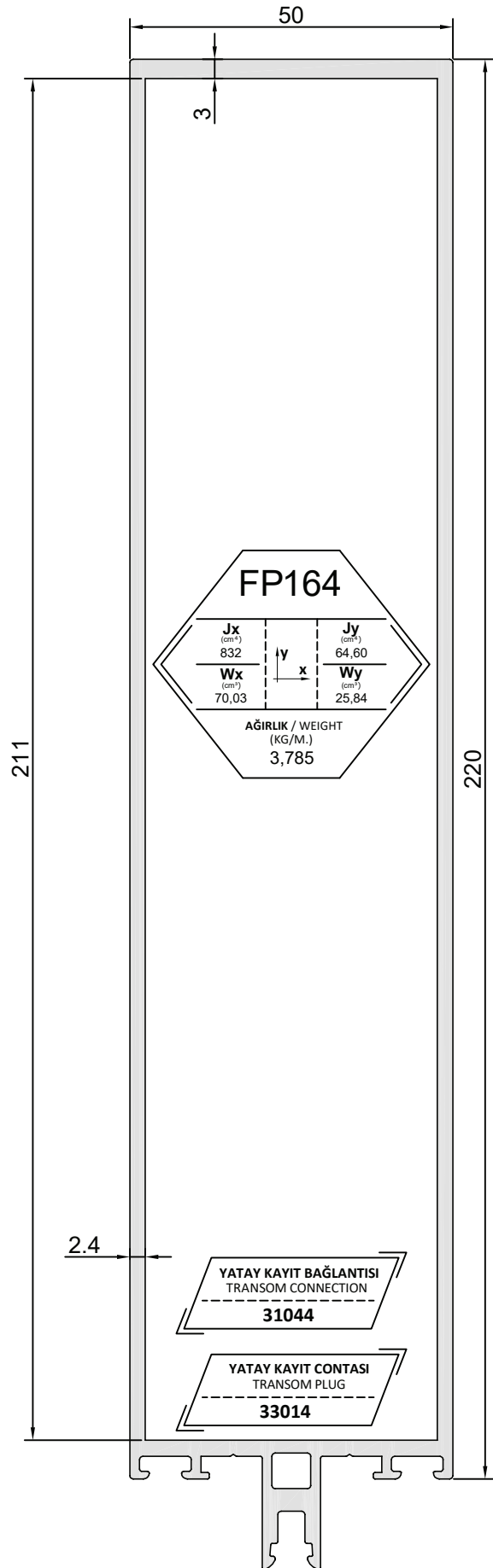
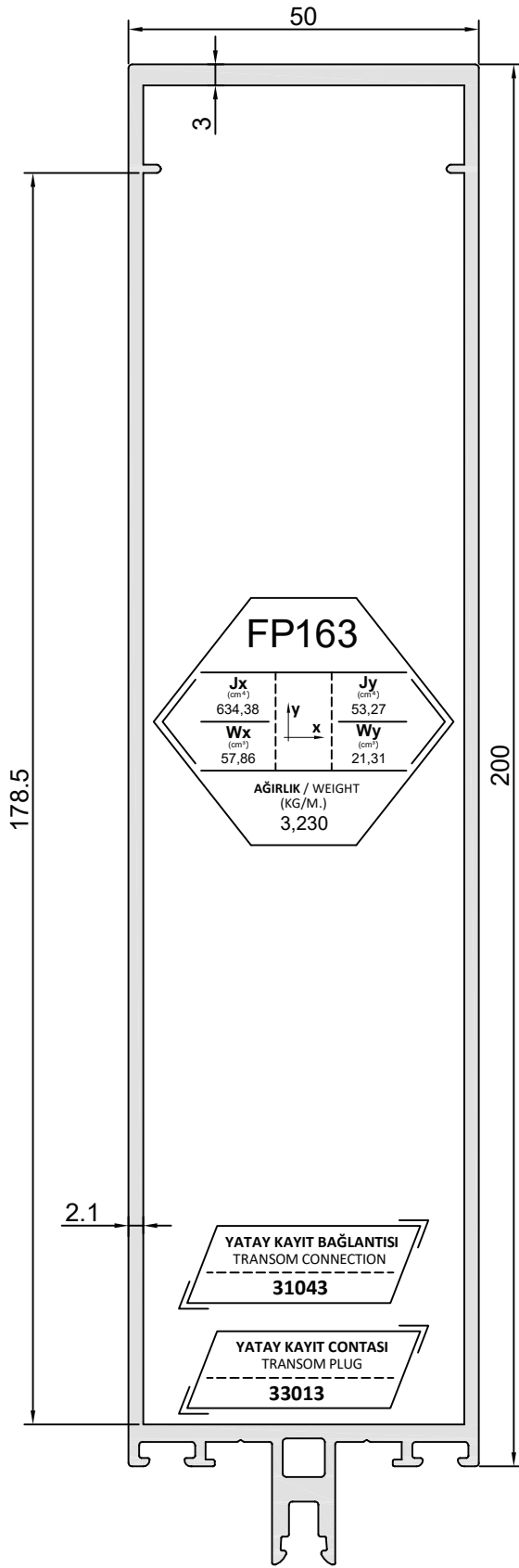
<b>FP154</b>			
$J_x$ (cm <sup>4</sup> )	$y$	$J_y$ (cm <sup>4</sup> )	$x$
18,59		13,43	
$W_x$ (cm <sup>3</sup> )		$W_y$ (cm <sup>3</sup> )	
5,69		5,37	
AĞIRLIK / WEIGHT (KG/M.) 1,161			

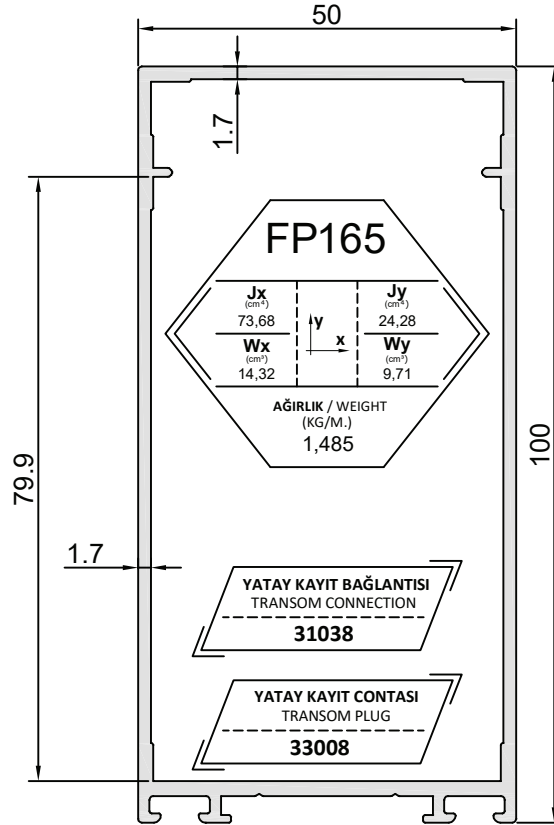
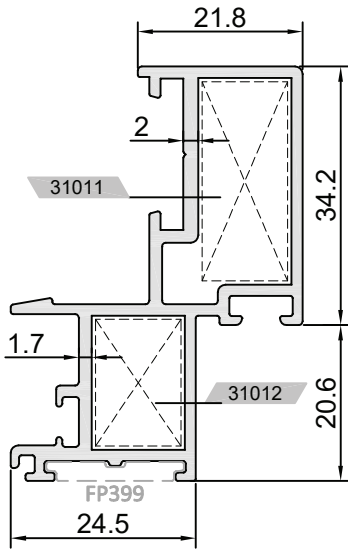
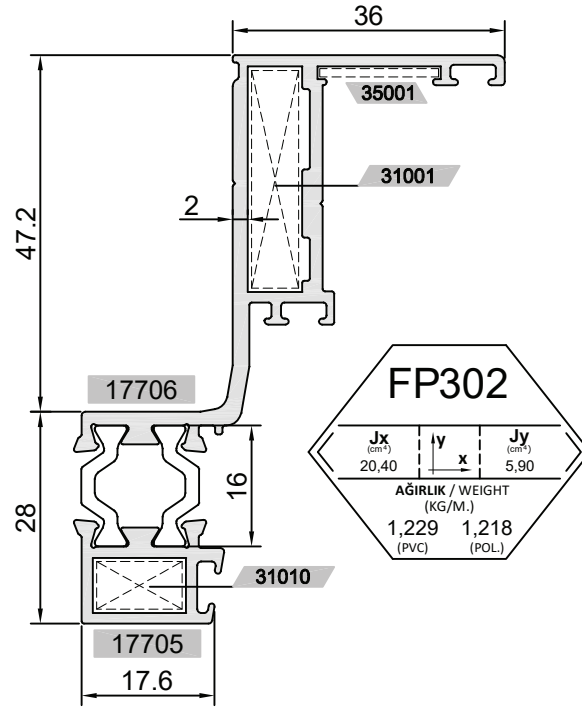
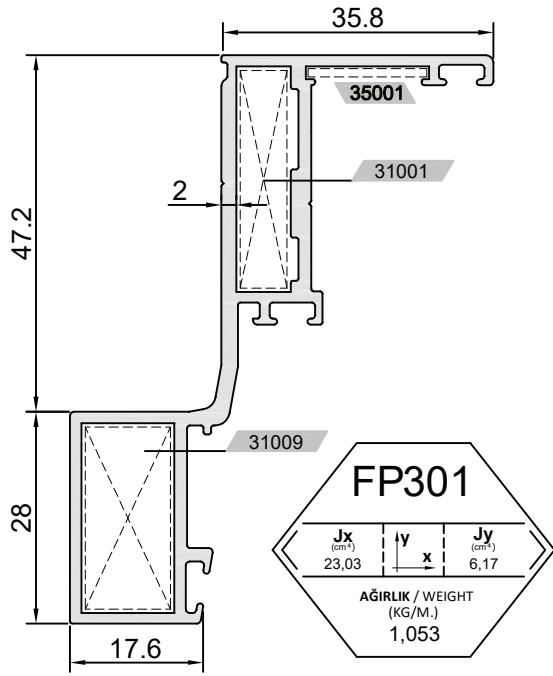


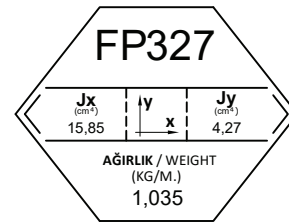
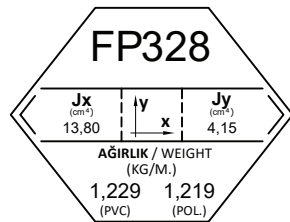
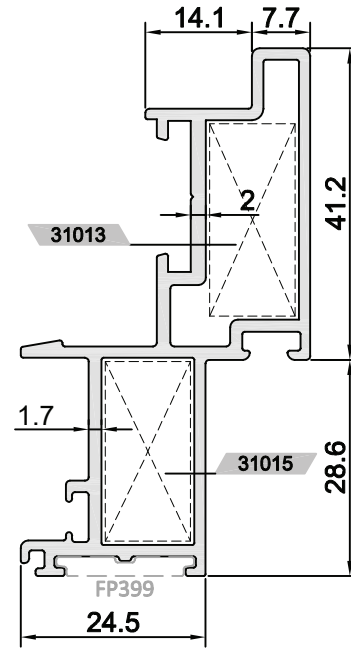
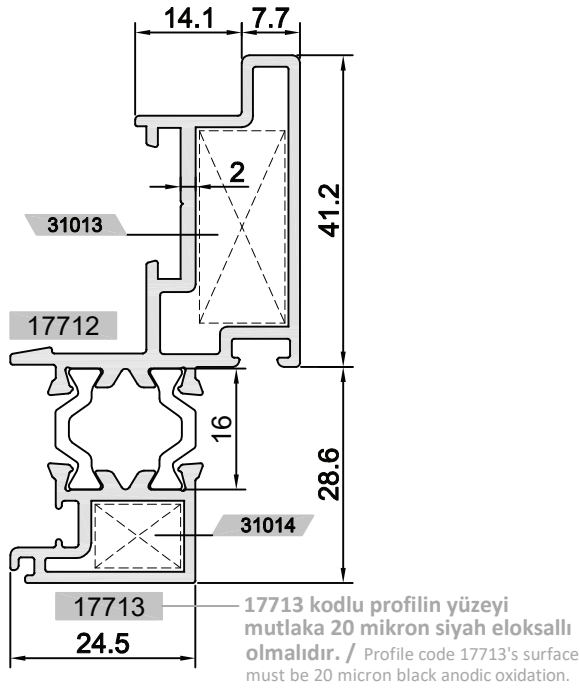
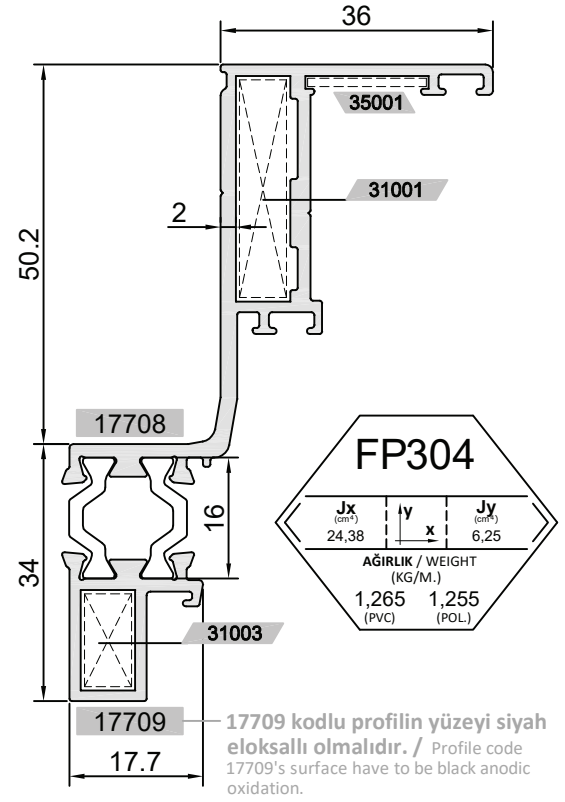
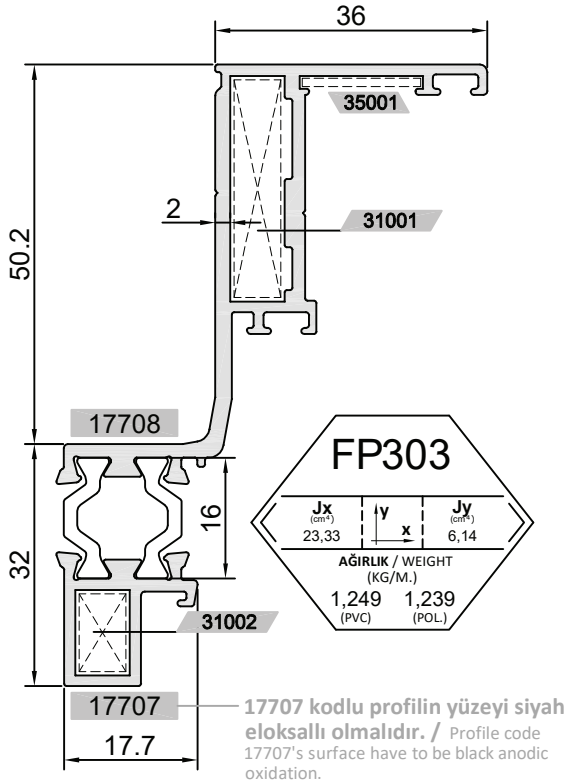


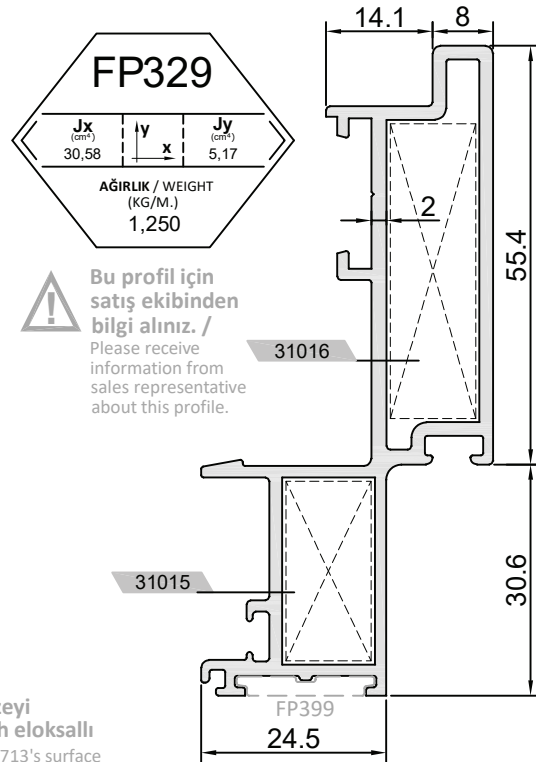
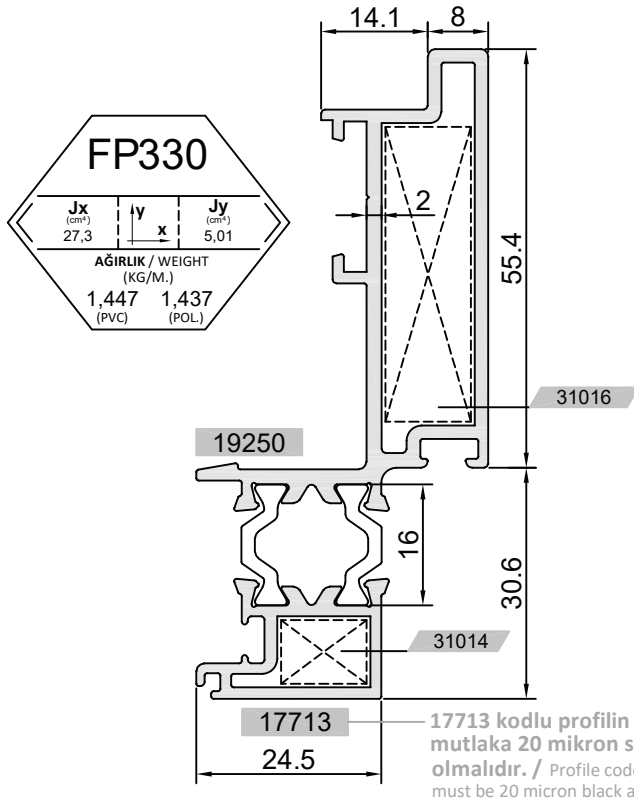
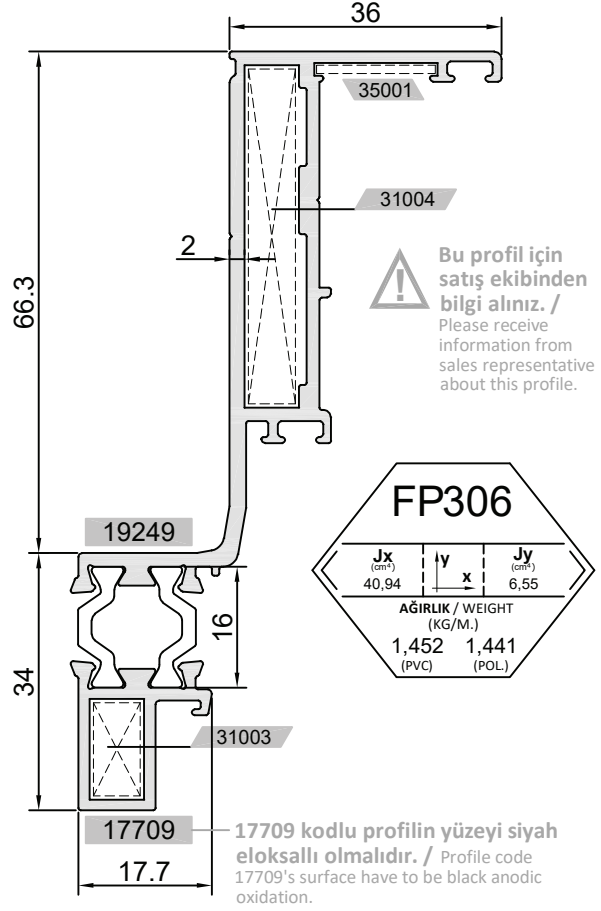
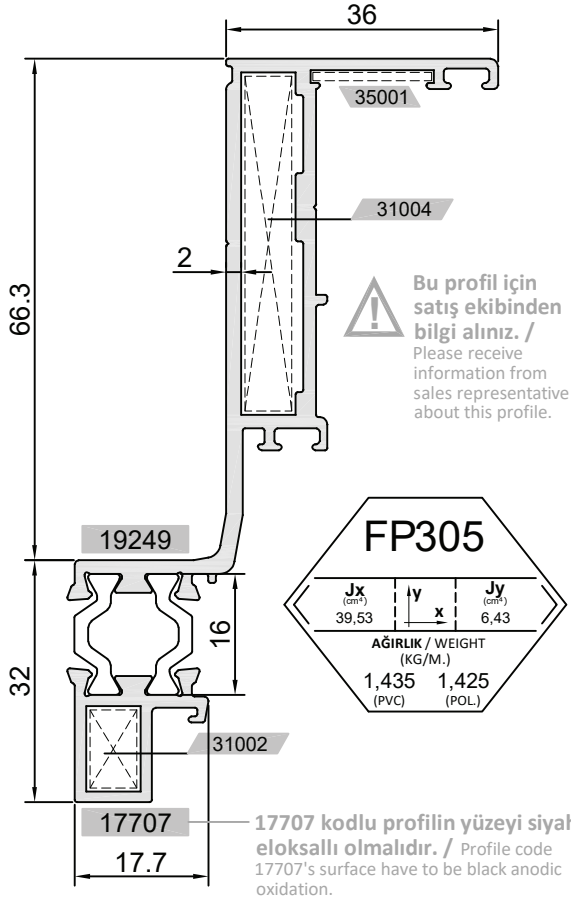


# ▲ F50-ENERGY

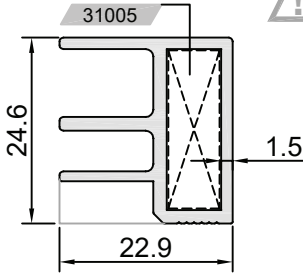








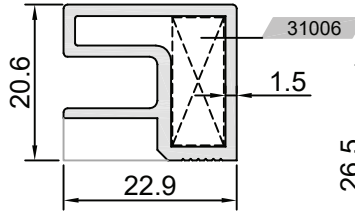
## F50-ENERGY



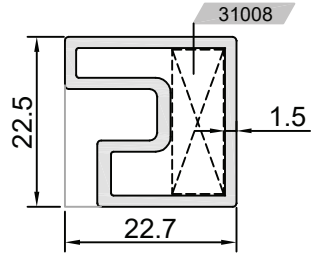
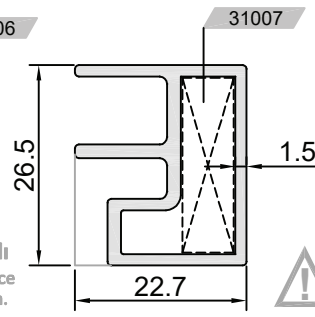
FP359 kodlu profilin yüzeyi mutlaka 20 mikron siyah eloksallı olmalıdır. / Profile code FP359's surface must be 20 micron black anodic oxidation.



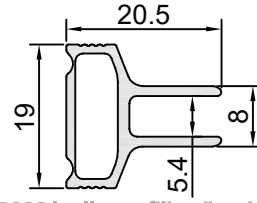
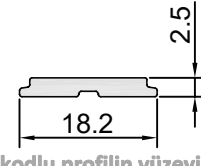
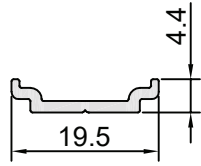
Bu profil için satış ekibinden bilgi alın. / Please receive information from sales representative about this profile.



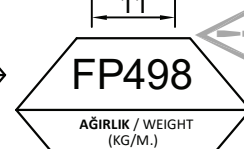
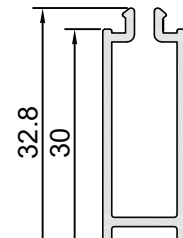
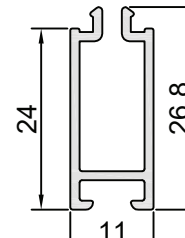
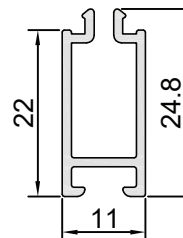
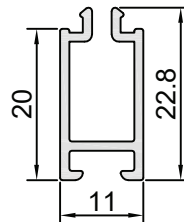
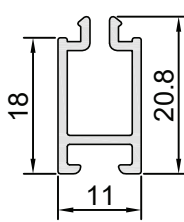
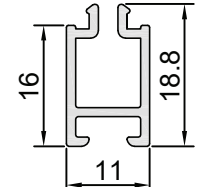
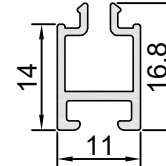
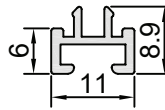
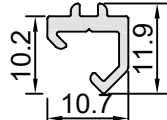
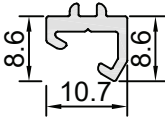
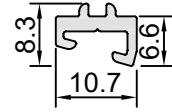
FP360 kodlu profilin yüzeyi mutlaka 20 mikron siyah eloksallı olmalıdır. / Profile code FP360's surface must be 20 micron black anodic oxidation.



Bu profil için satış ekibinden bilgi alın. / Please receive information from sales representative about this profile.

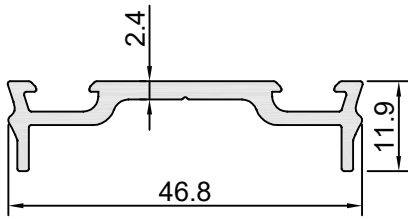
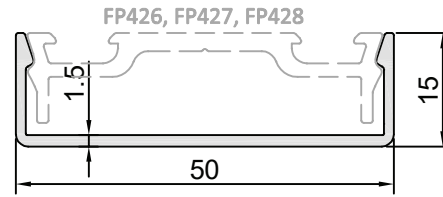
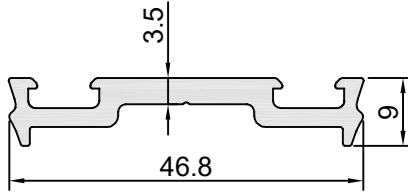
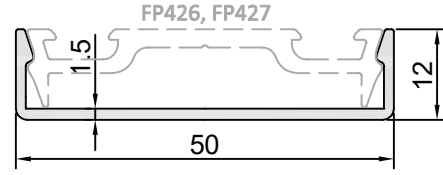
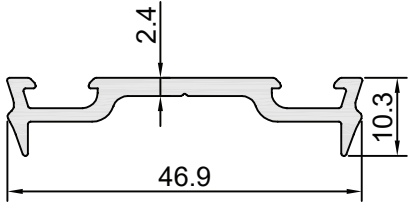


FP398 kodlu profilin yüzeyi mutlaka 20 mikron siyah eloksallı olmalıdır. / Profile code FP398's surface must be 20 micron black anodic oxidation.

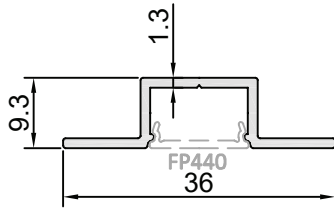
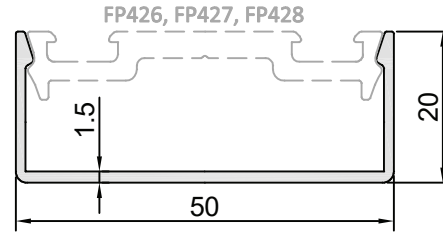
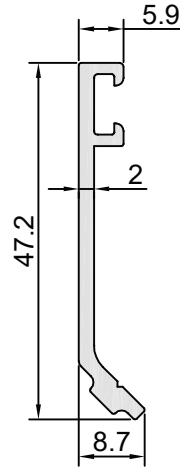
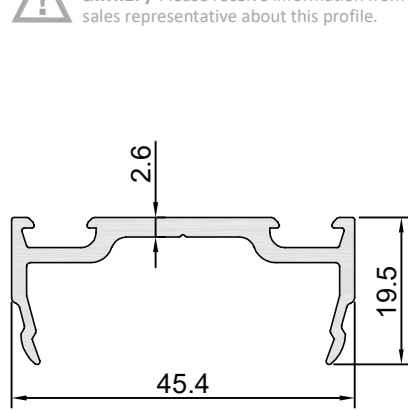


Bu profil için satış ekibinden bilgi alın. / Please receive information from sales representative about this profile.

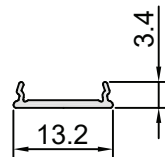
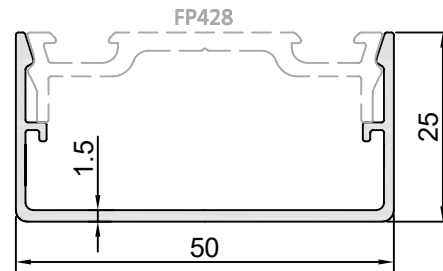


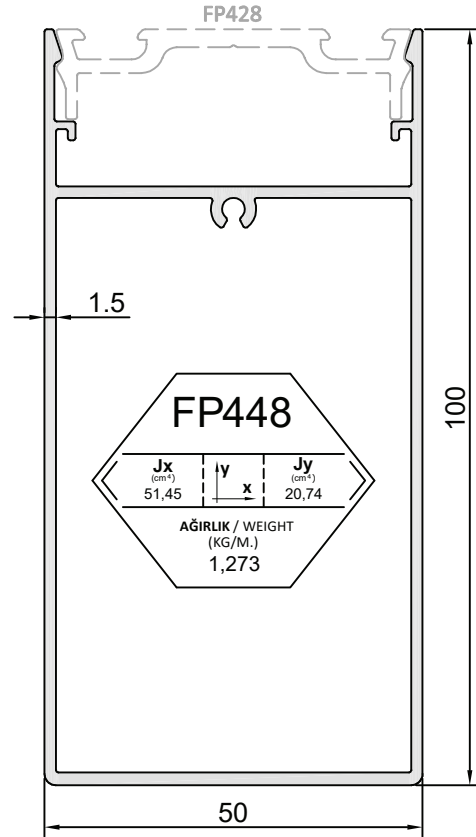
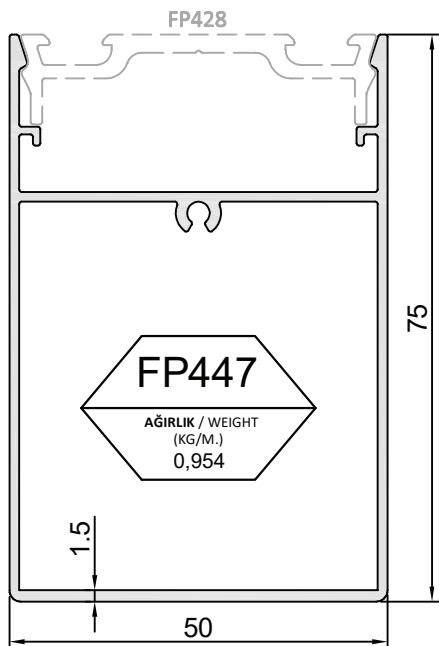
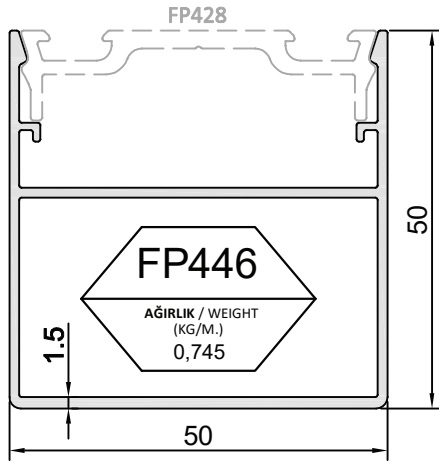
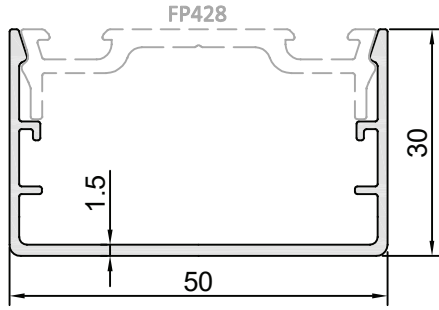


Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

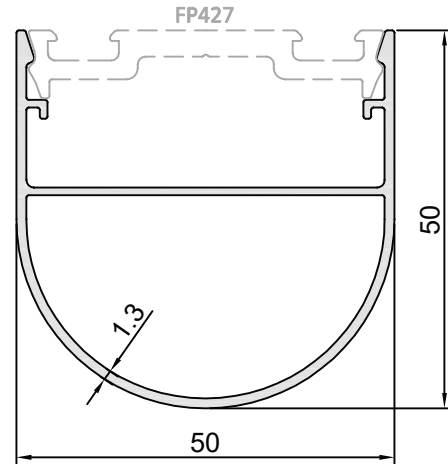


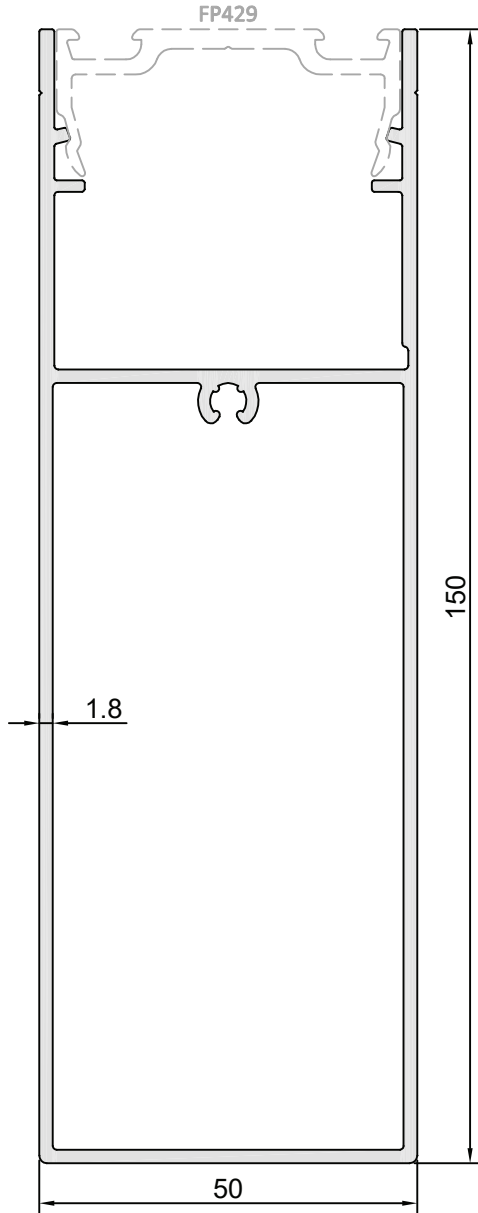
Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.





**!** Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

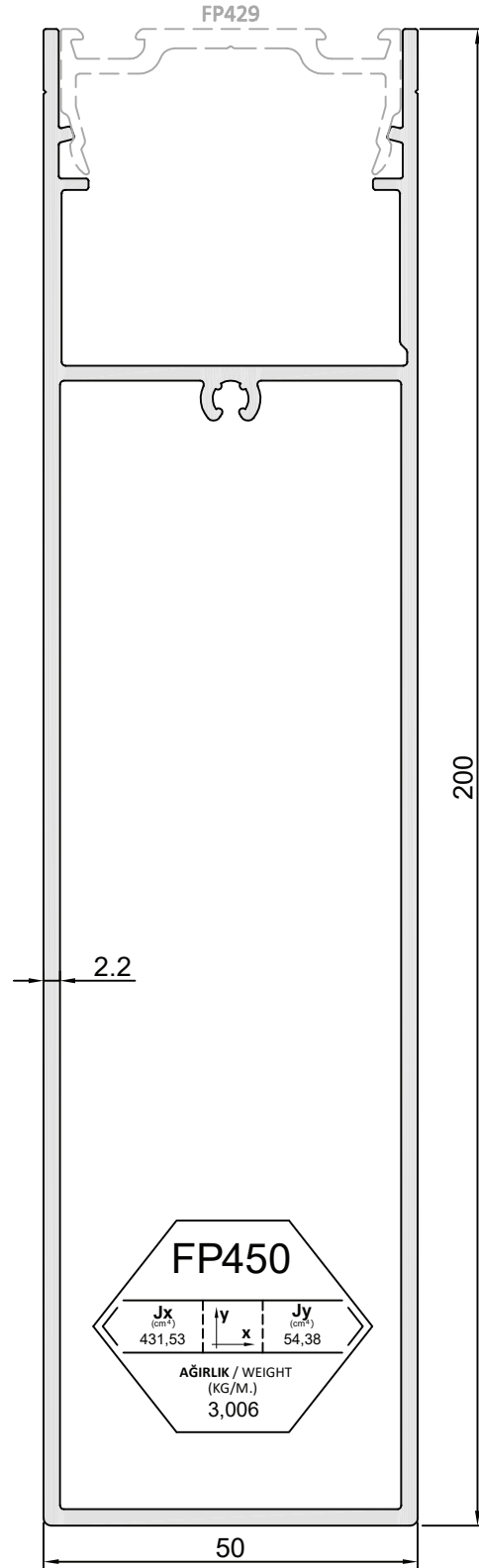




<b>FP449</b>		
$J_x$ (cm <sup>4</sup> )	$I_y$ x	$J_y$ (cm <sup>4</sup> )
166,24		36,07
<b>AĞIRLIK / WEIGHT</b> (KG/M.)		
2,065		



Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

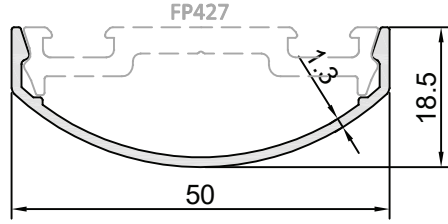


<b>FP450</b>		
$J_x$ (cm <sup>4</sup> )	$I_y$ x	$J_y$ (cm <sup>4</sup> )
431,53		54,38
<b>AĞIRLIK / WEIGHT</b> (KG/M.)		
3,006		

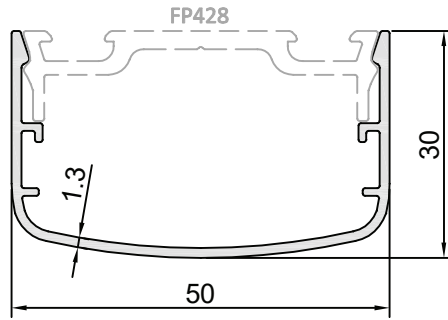


Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

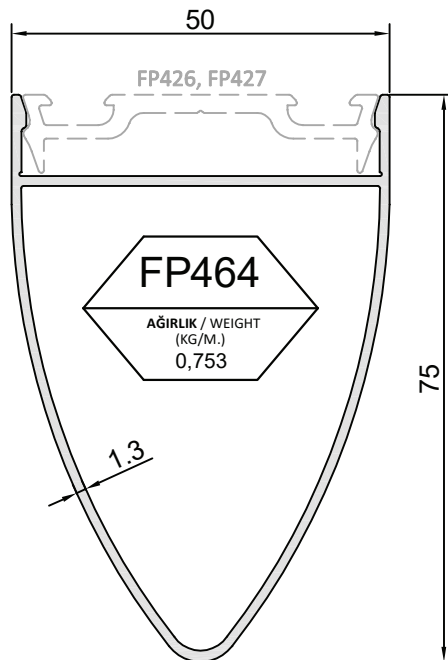
**F50-ENERGY**



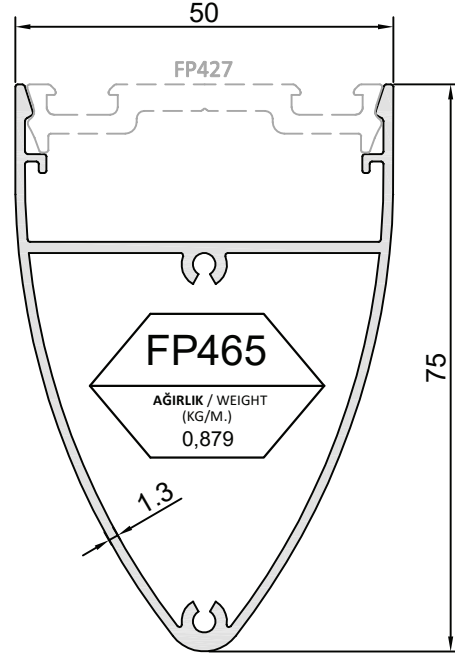
**FP461**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,262



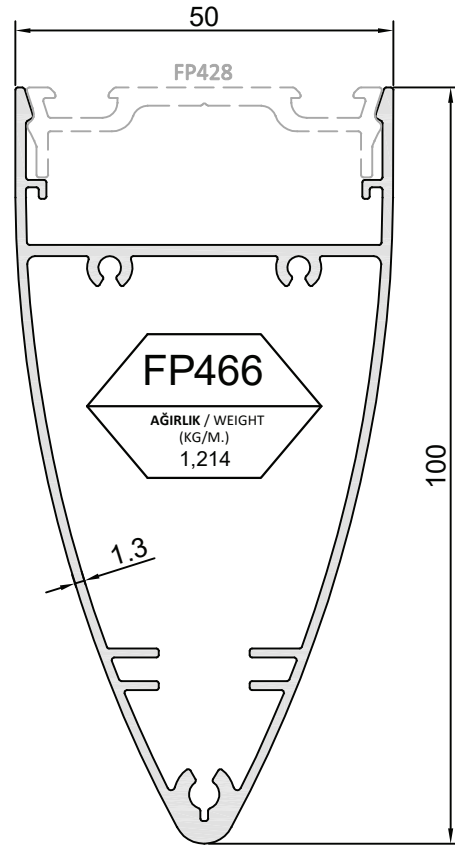
**FP462**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,397



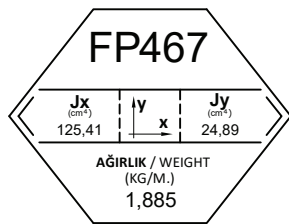
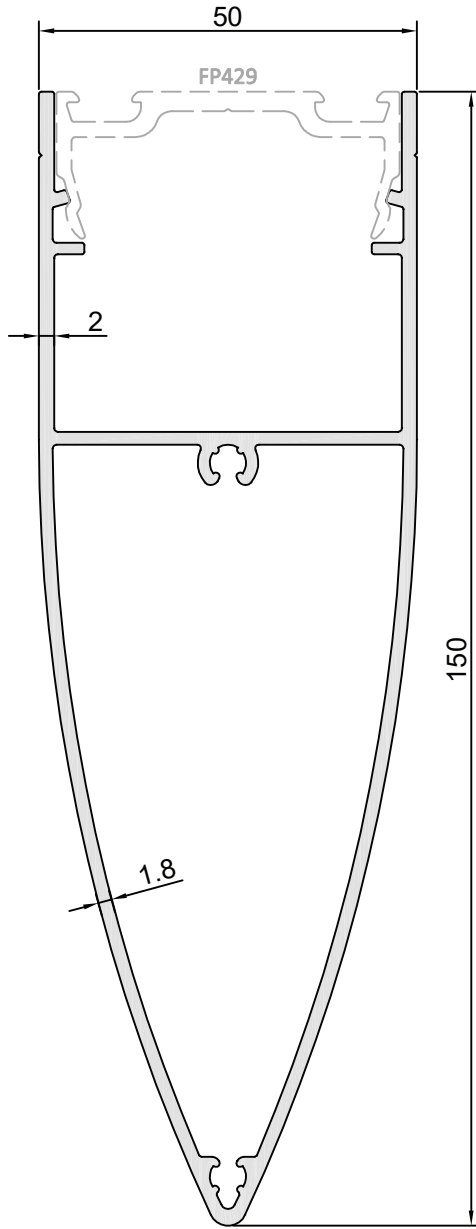
**FP464**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,753



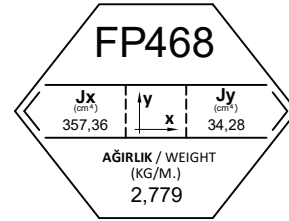
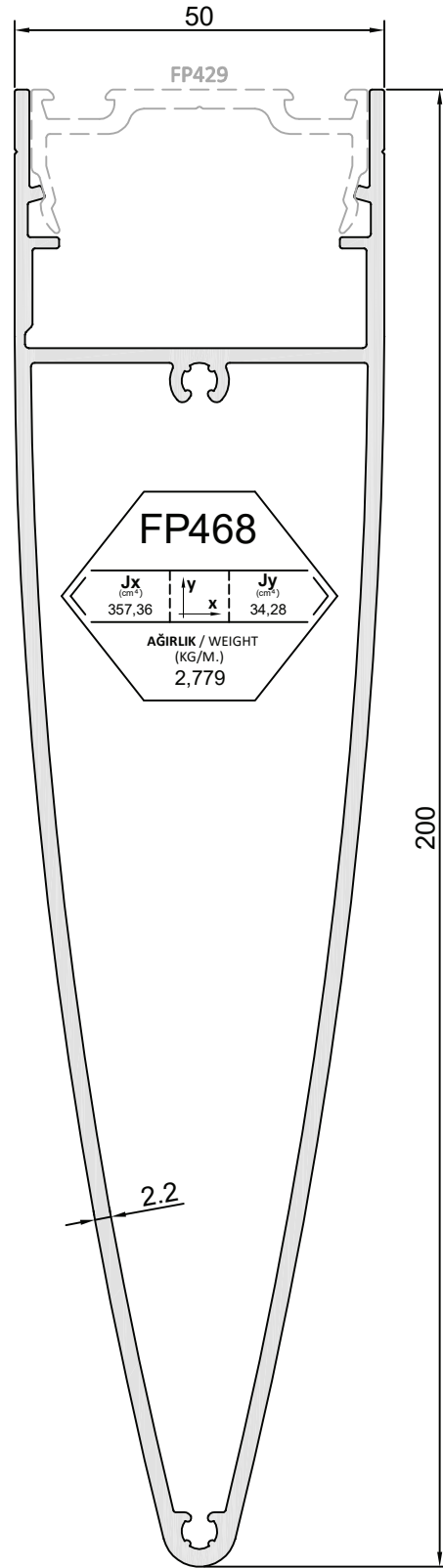
**FP465**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,879



**FP466**  
AĞIRLIK / WEIGHT  
(KG/M.)  
1,214



⚠ Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

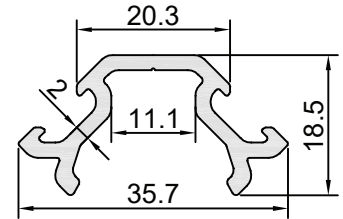
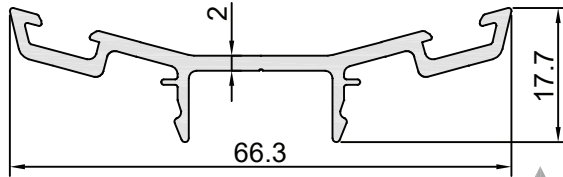
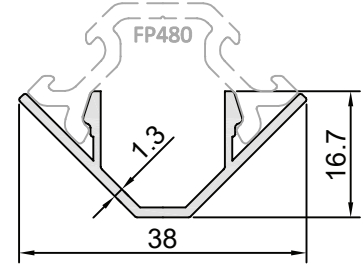
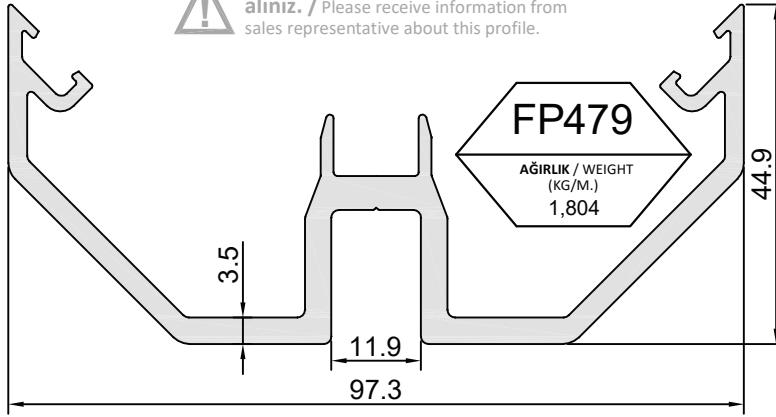


⚠ Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

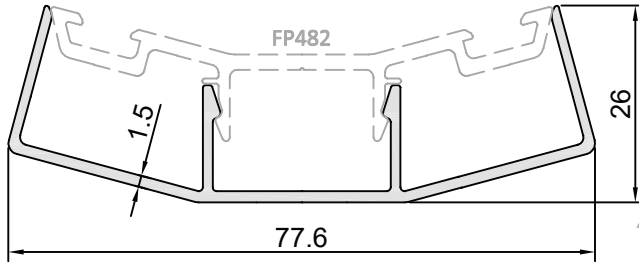
## ▲ F50-ENERGY



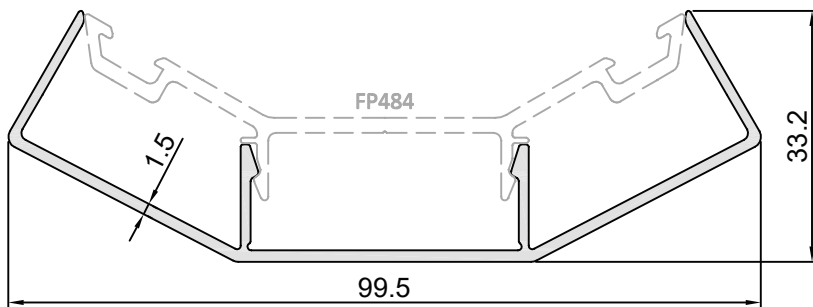
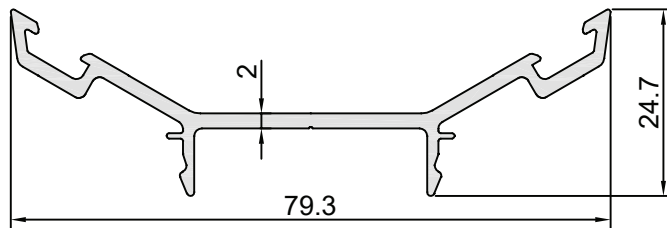
Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.



Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

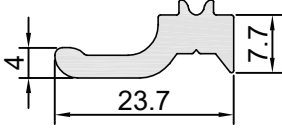


Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.

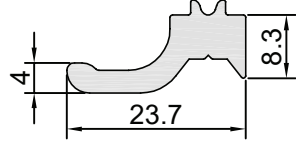


## ALÜMİNYUM AKSESUAR PROFİLLERİ

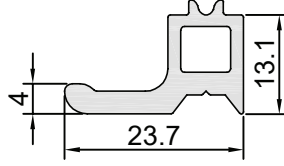
PROFILES OF ALUMINIUM ACCESSORIES



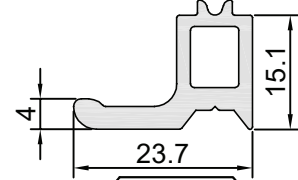
**FP377**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,294



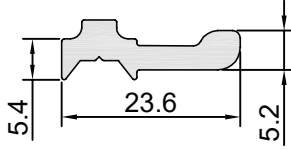
**FP378**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,319



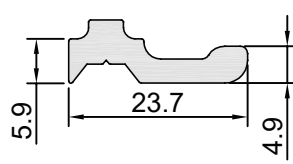
**FP379**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,332



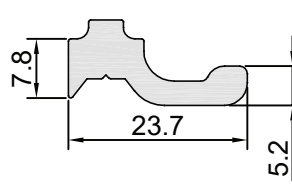
**FP380**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,354



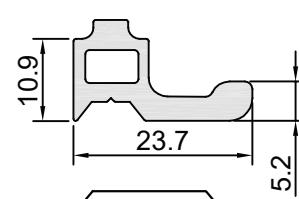
**FP381**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,270



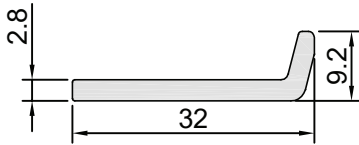
**FP382**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,281



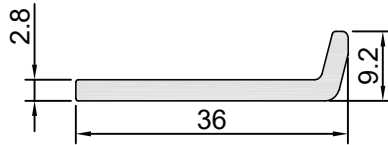
**FP383**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,343



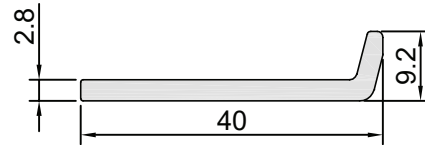
**FP384**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,340



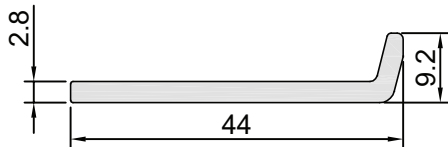
**FP390**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,277



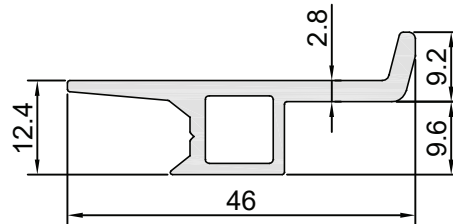
**FP391**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,308



**FP392**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,338



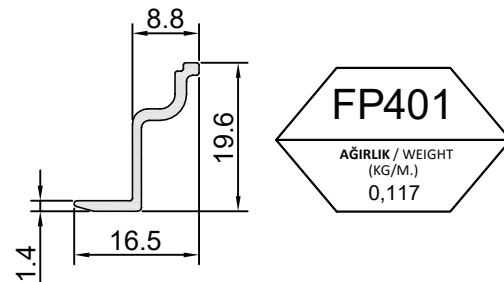
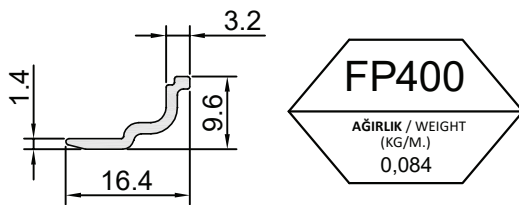
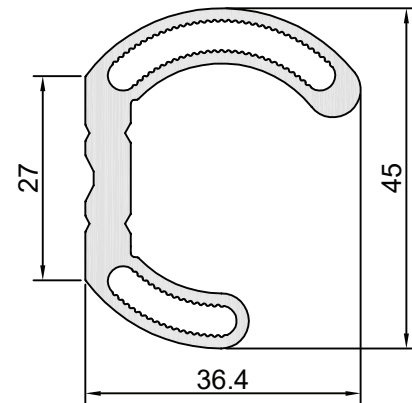
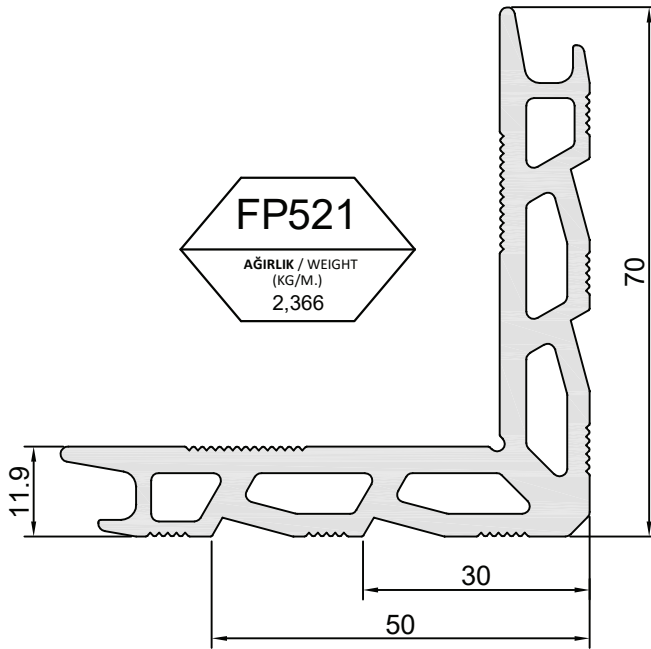
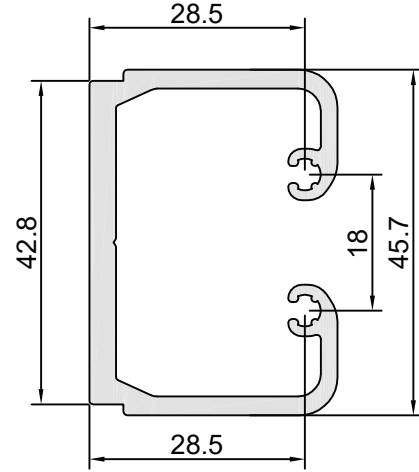
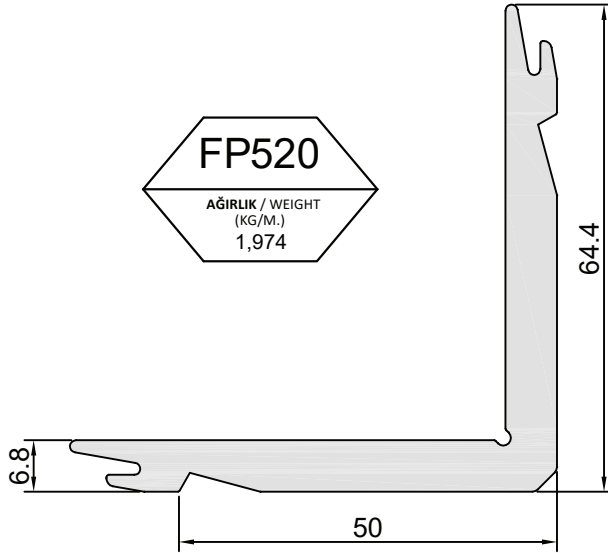
**FP393**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,368



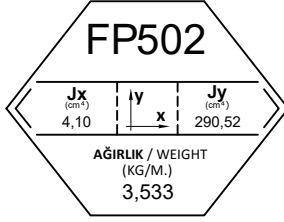
**FP394**  
AĞIRLIK / WEIGHT  
(KG/M.)  
0,482

## ALÜMİNYUM AKSESUAR PROFİLLERİ

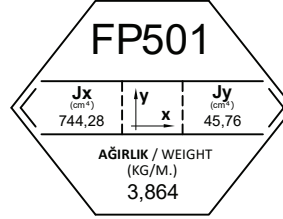
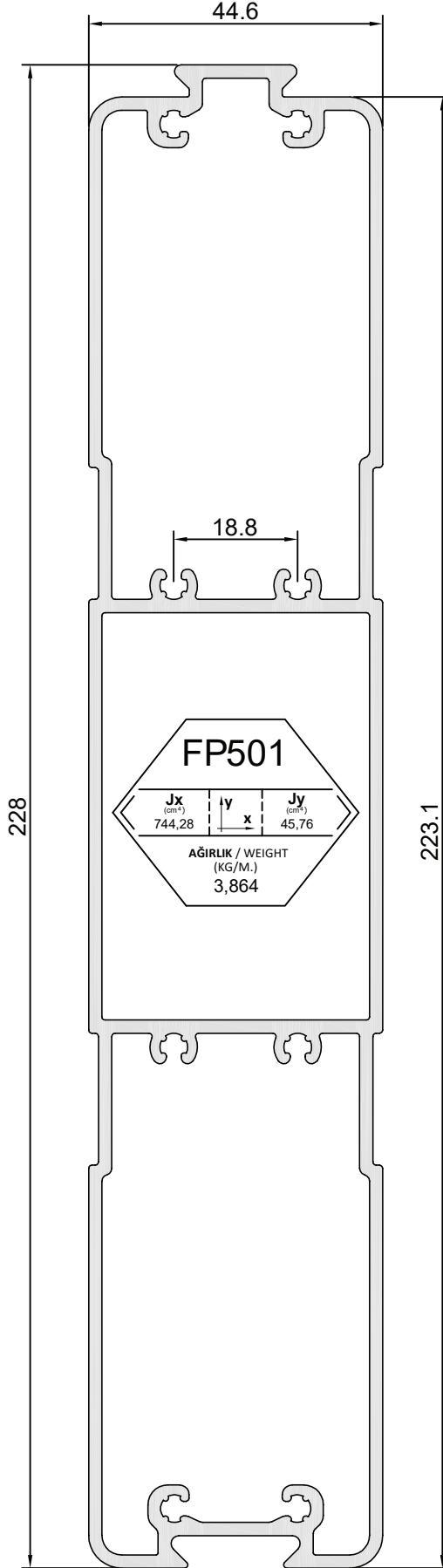
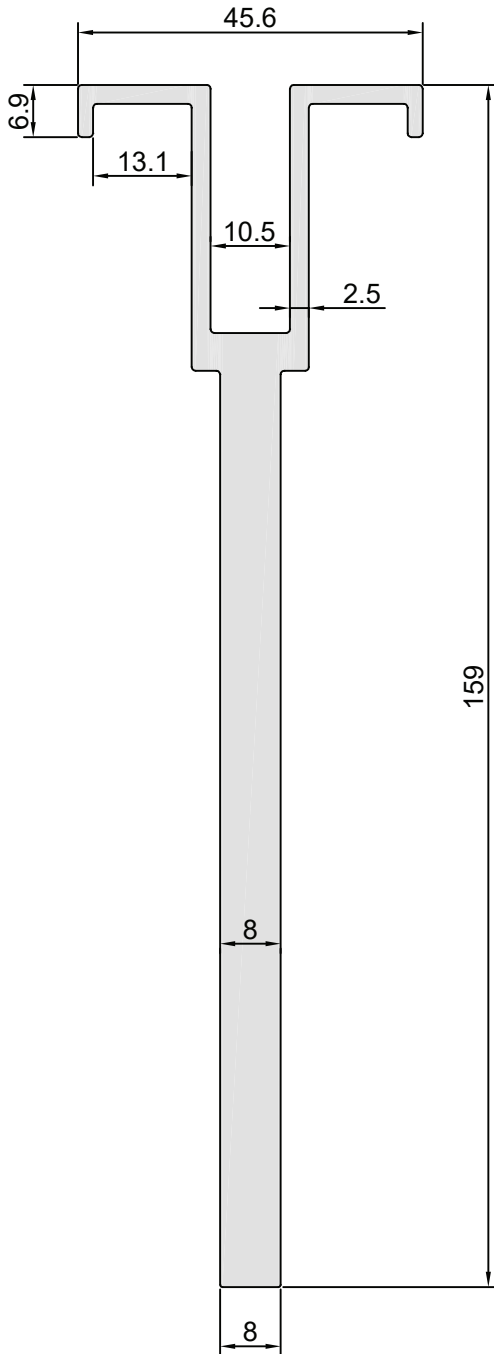
PROFILES OF ALUMINIUM ACCESSORIES



**ALÜMİNYUM AKSESUAR PROFİLLERİ**  
PROFILES OF ALUMINIUM ACCESSORIES



Bu profil için satış ekibinden bilgi alınız. / Please receive information from sales representative about this profile.













# DETAYLAR

# DETAILS

1. KAPAKLI CEPHE / CAPPED CURTAIN WALL
2. ENTEGRE CEPHE / INTEGRATED CURTAIN WALL
3. YARI-KAPAKLI CEPHE / SEMI-CAPPED CURTAIN WALL
4. CAM KALINLIKLARINA GÖRE SİSTEM DETAYLARI / SYSTEM DETAILS ACCORDING TO THE GLASS THICKNESSES

## TARAMA STİLLERİ / HATCH STYLES

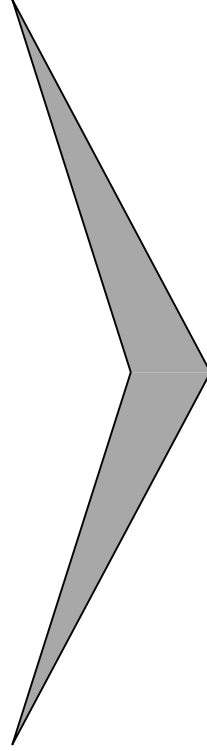
	EPDM FİTİL / EPDM GASKET		PVC PROFİL / PVC PROFILE
	STRÜKTÜREL SİLİKON / STRUCTURAL SILICONE		ÇELİK PROFİL / STEEL PROFILE
	MESAFE BELİRLEYİCİ / SPACE ADJUSTER		SU YALITIM MEMBRANI / WATERPROOFING MEMBRANE
	ALÜMİNYUM PROFİL / ALUMINIUM PROFILE		POLİETİLEN CONTA / POLYETHYLENE GASKET
	PROFİL PARÇA (Al) / PIECE OF PROFILE (Al)		TAŞYÜNÜ / ROCKWOOL
	ISI BARİYERİ / INSULATION BAR		CAM / GLASS

► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.  
SİSTEM ALÜMİNYUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



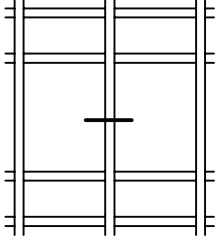
# KAPAKLI CEPHE

## CAPPED CURTAIN WALL

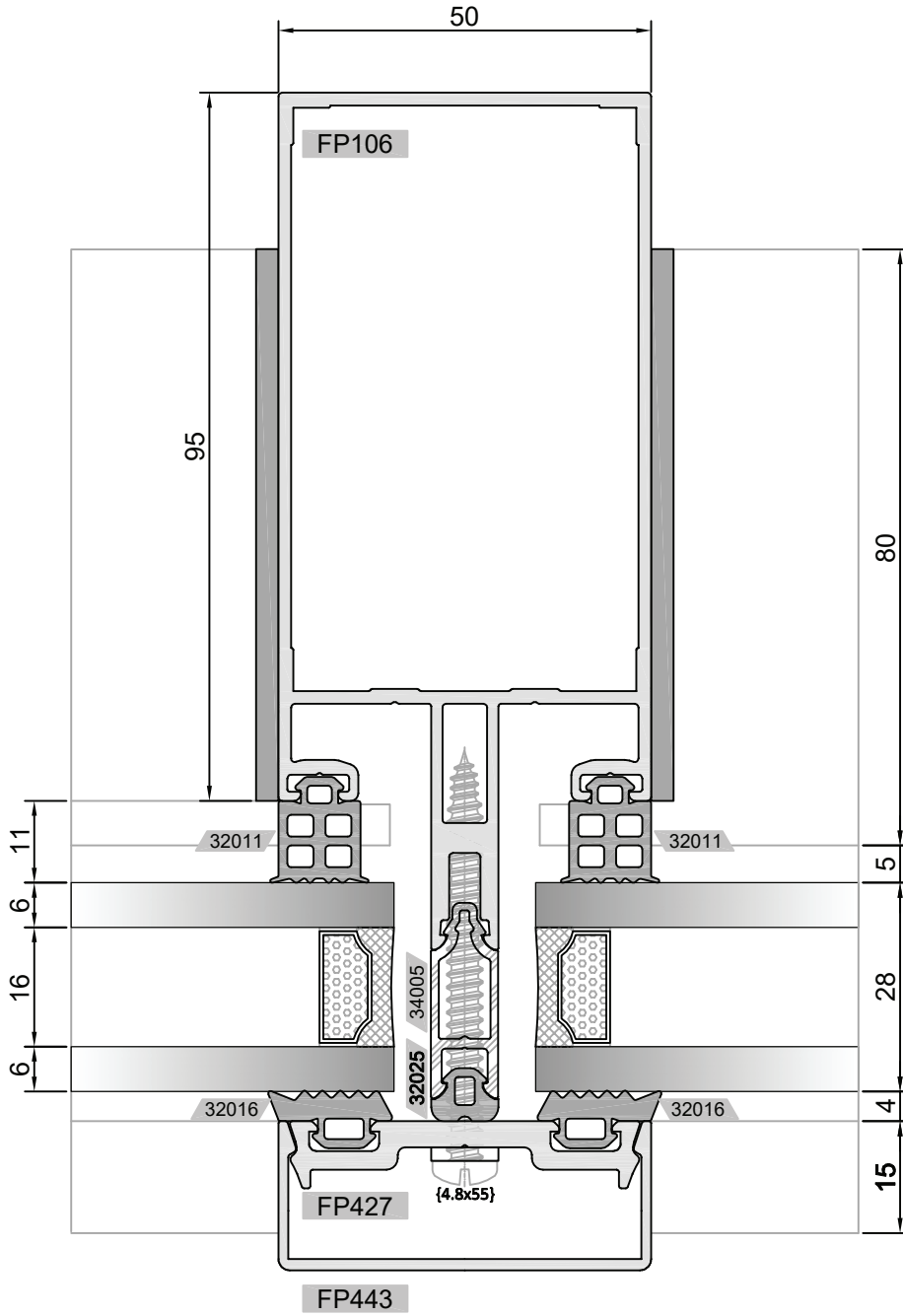


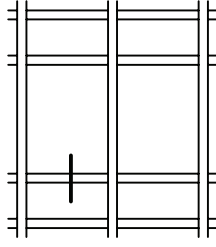
► **SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.**  
SİSTEM ALÜMİNYUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



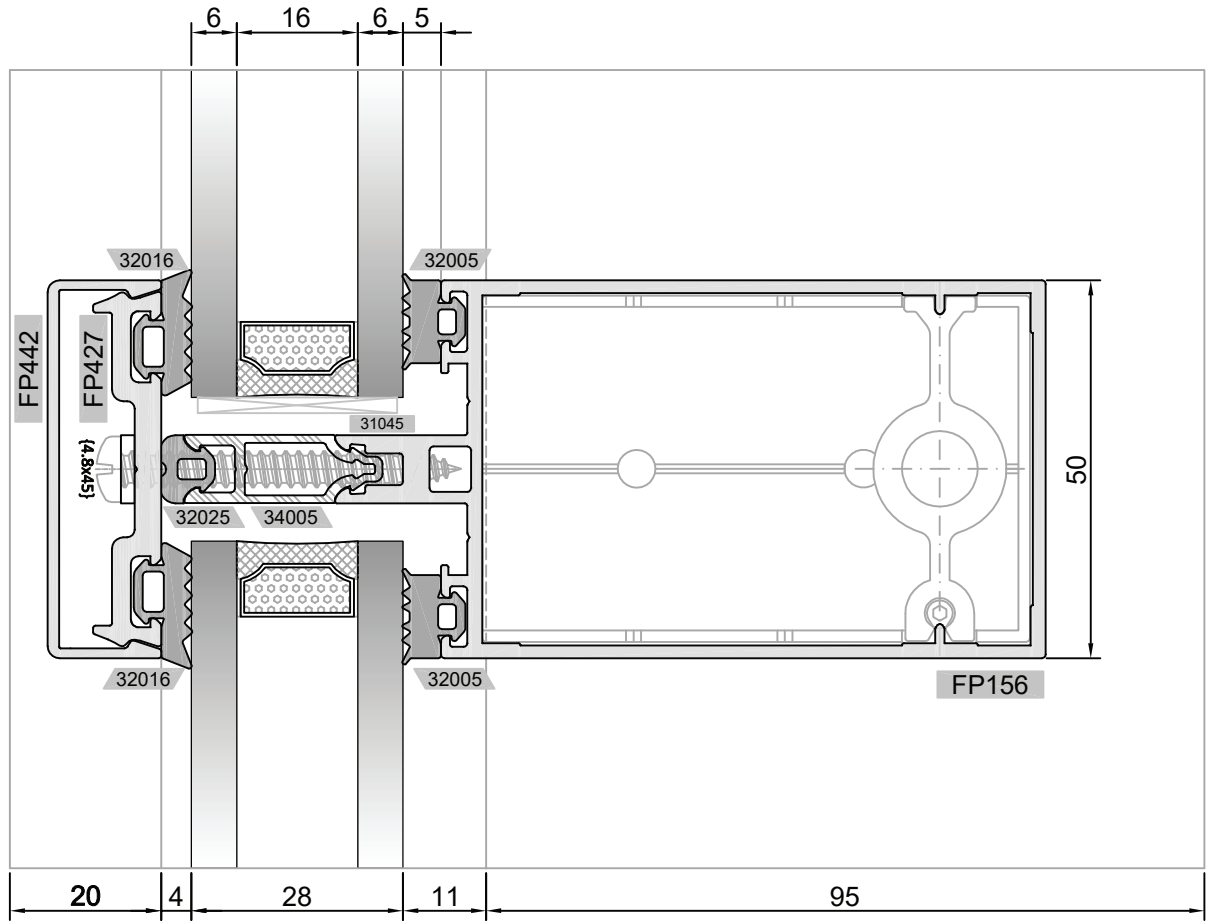


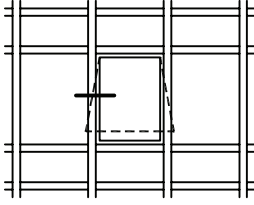
DÜŞEY DETAYI  
VERTICAL DETAIL





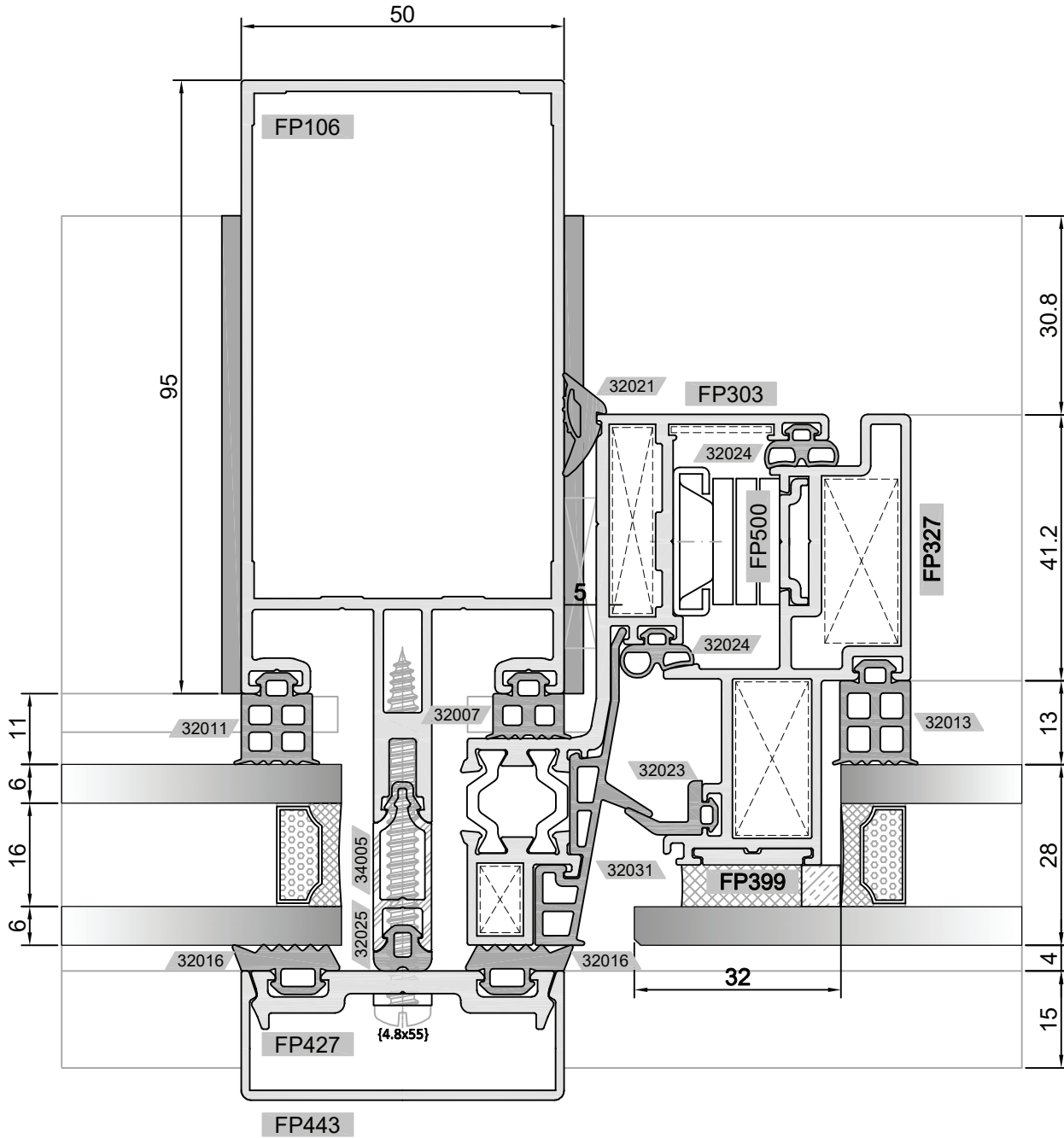
YATAY DETAYI  
HORIZONTAL DETAIL



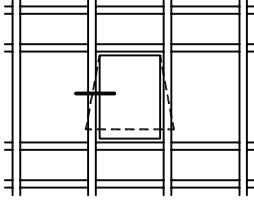


ALTERNATİF 1: YALITIMSIZ KANAT DETAYI  
ALTERNATIVE 1 : UNINSULATED VENT DETAIL

DÜŞEY DETAYI  
VERTICAL DETAIL

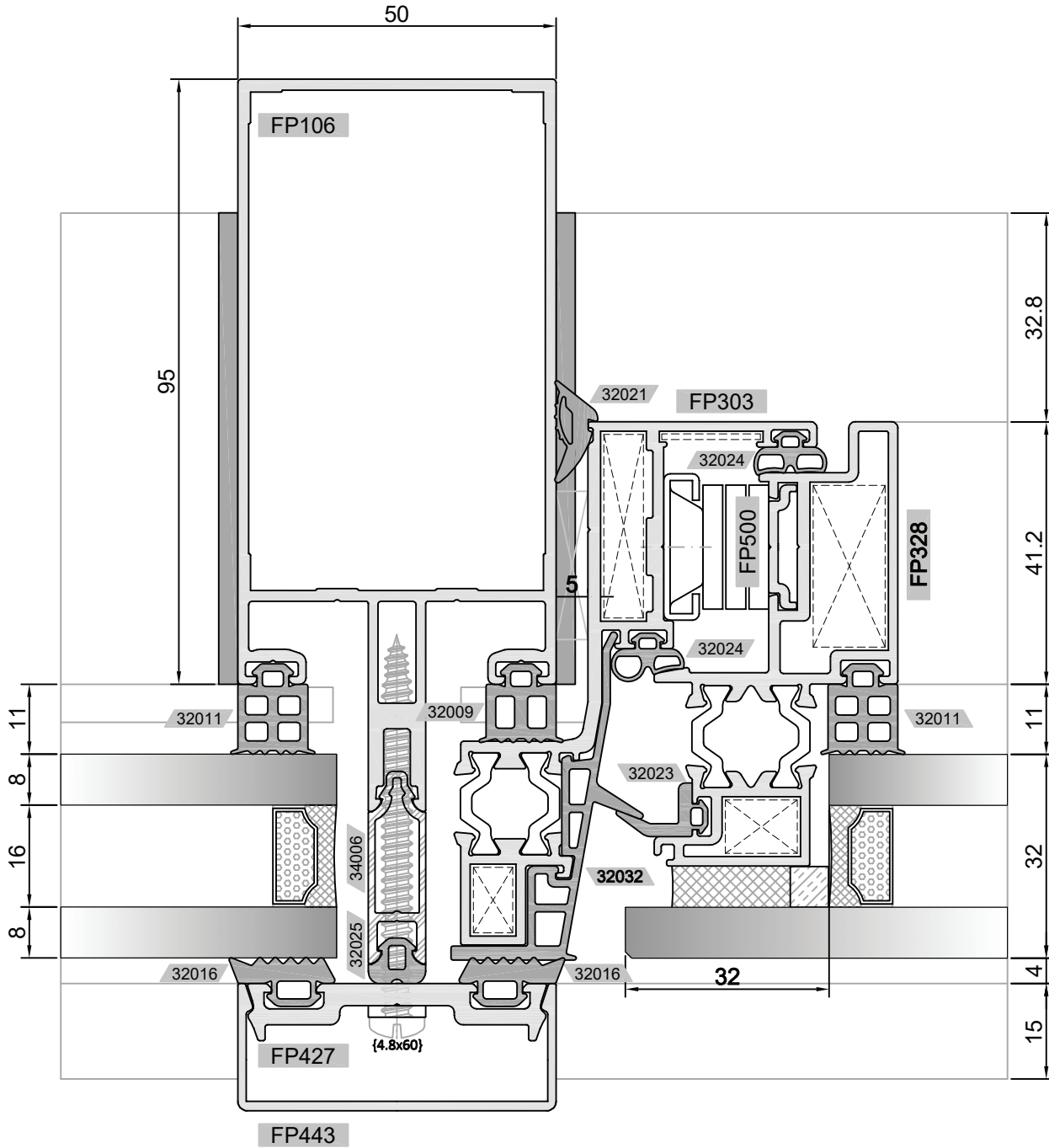


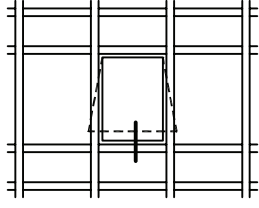




ALTERNATİF 2: YALITIMLI KANAT DETAYI  
ALTERNATIVE 2 : INSULATED VENT DETAIL

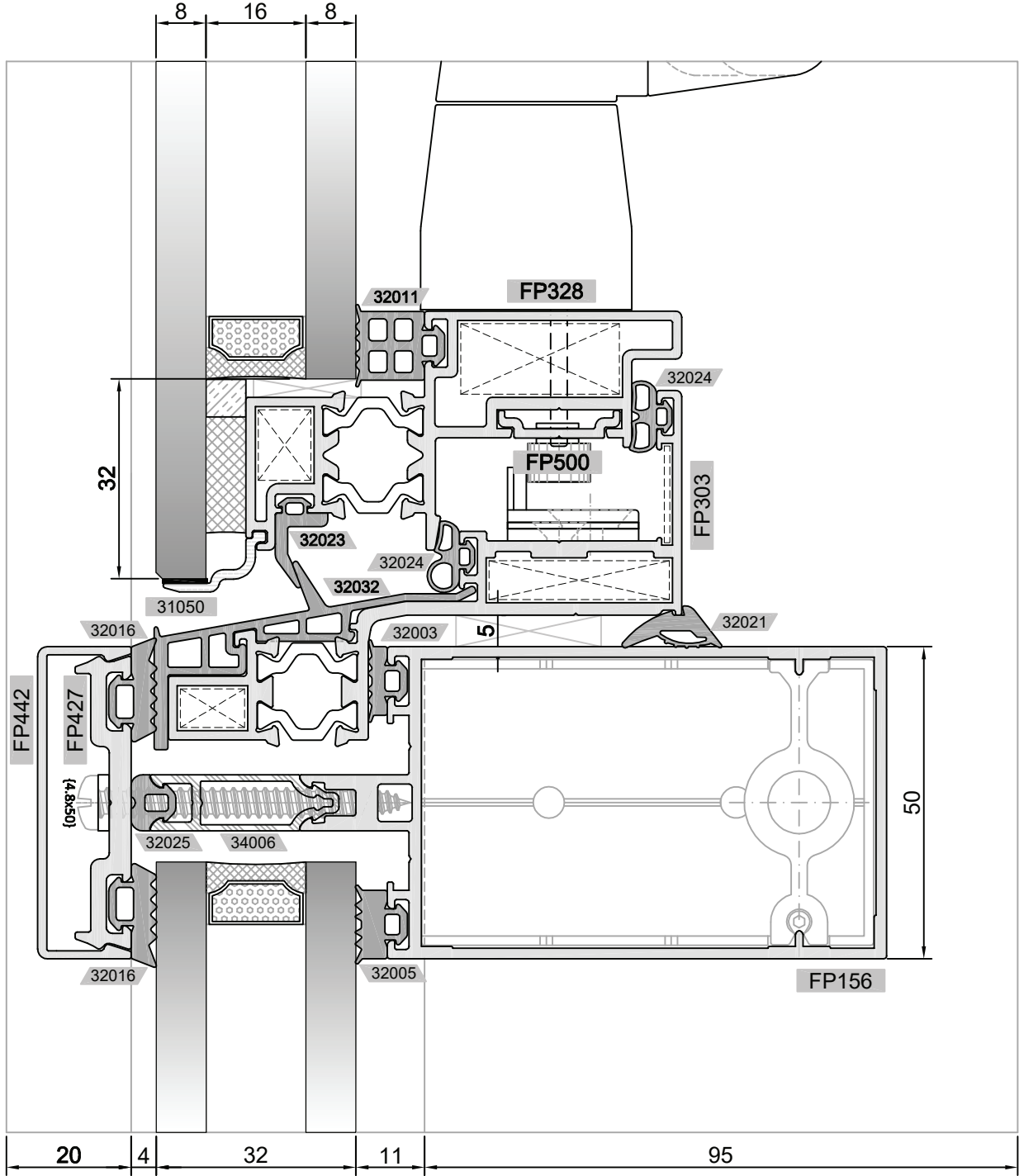
DÜŞEY DETAYI  
VERTICAL DETAIL

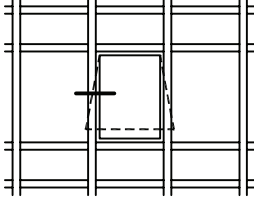




ALTERNATİF 2: YALITIMLI KANAT DETAYI  
ALTERNATIVE 2 : INSULATED VENT DETAIL

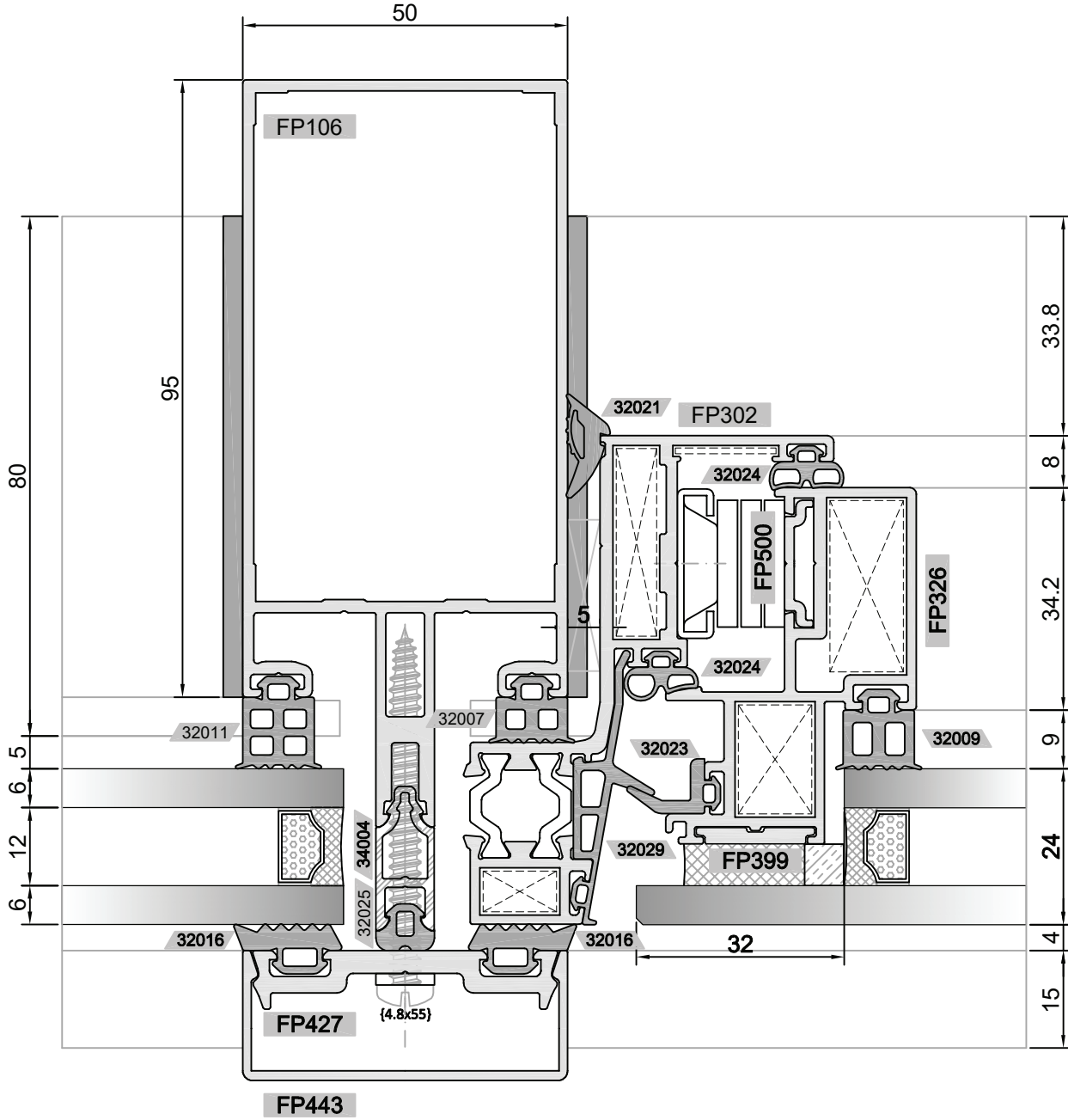
YATAY DETAYI  
HORIZONTAL DETAIL

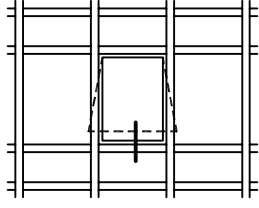




ALTERNATİF 3: EKONOMİK KANAT DETAYI  
ALTERNATIVE 3 : ECONOMICAL VENT DETAIL

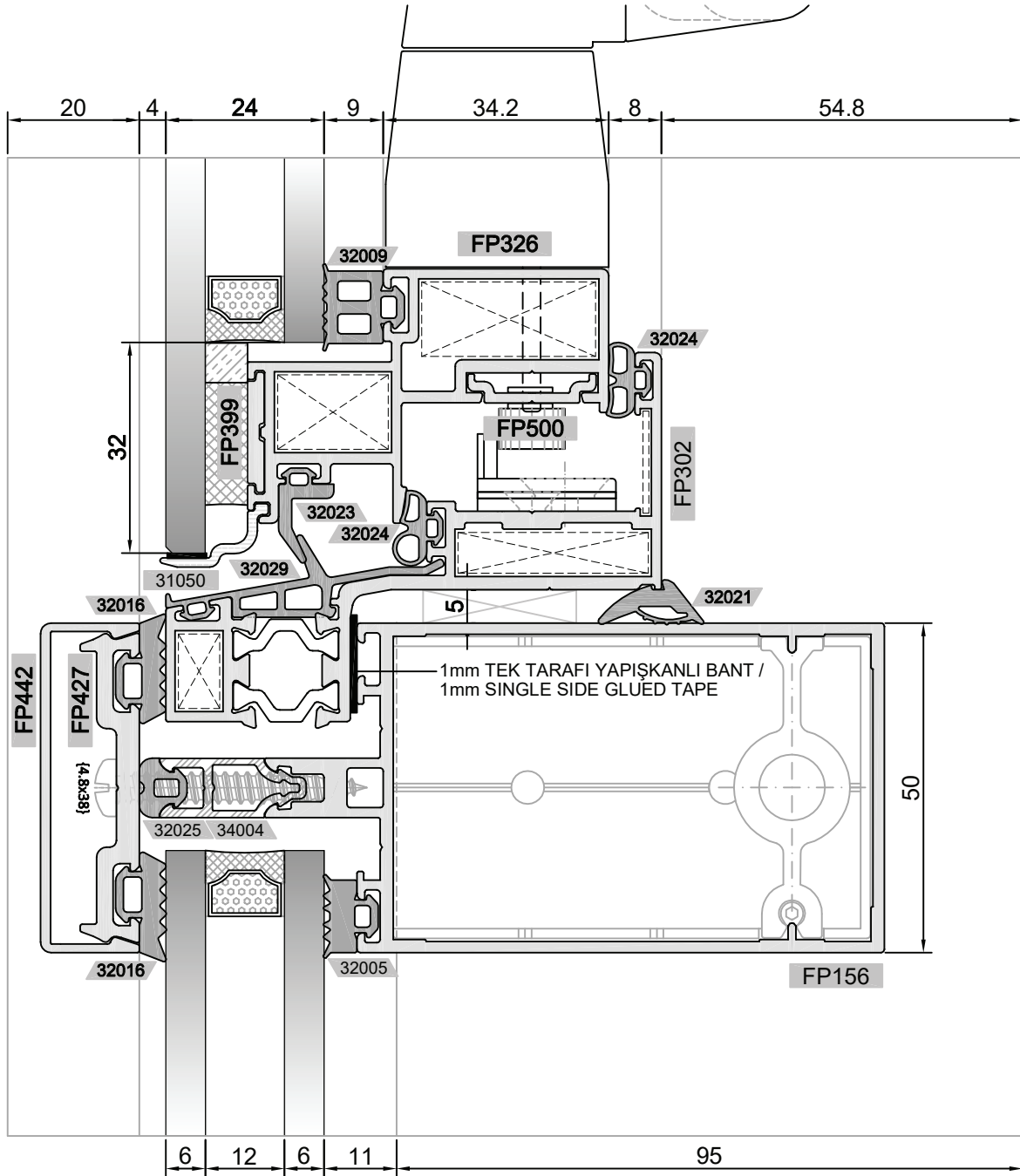
DÜŞEY DETAYI  
VERTICAL DETAIL

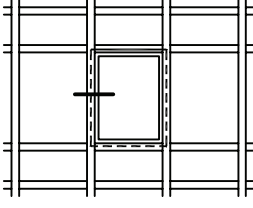




ALTERNATİF 3: EKONOMİK KANAT DETAYI  
ALTERNATIVE 3 : ECONOMICAL VENT DETAIL

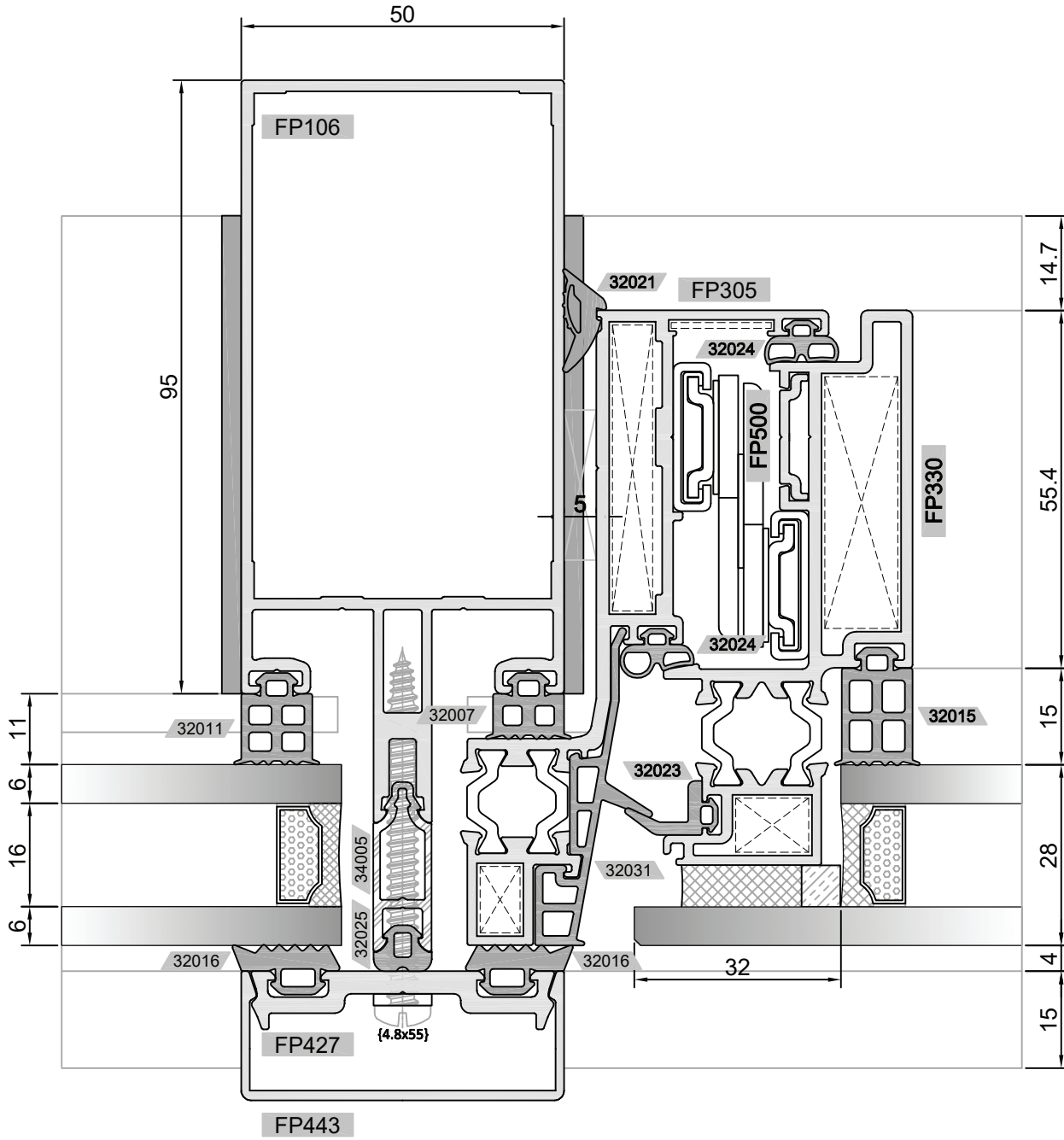
YATAY DETAYI  
HORIZONTAL DETAIL

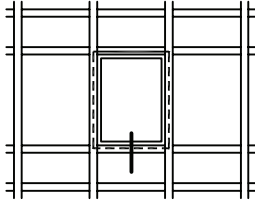




ALTERNATİF 1: YALITIMLI PARALEL AÇILIR KANAT DETAYI  
ALTERNATIVE 1 : PARALLEL OPENING INSULATED VENT DETAIL

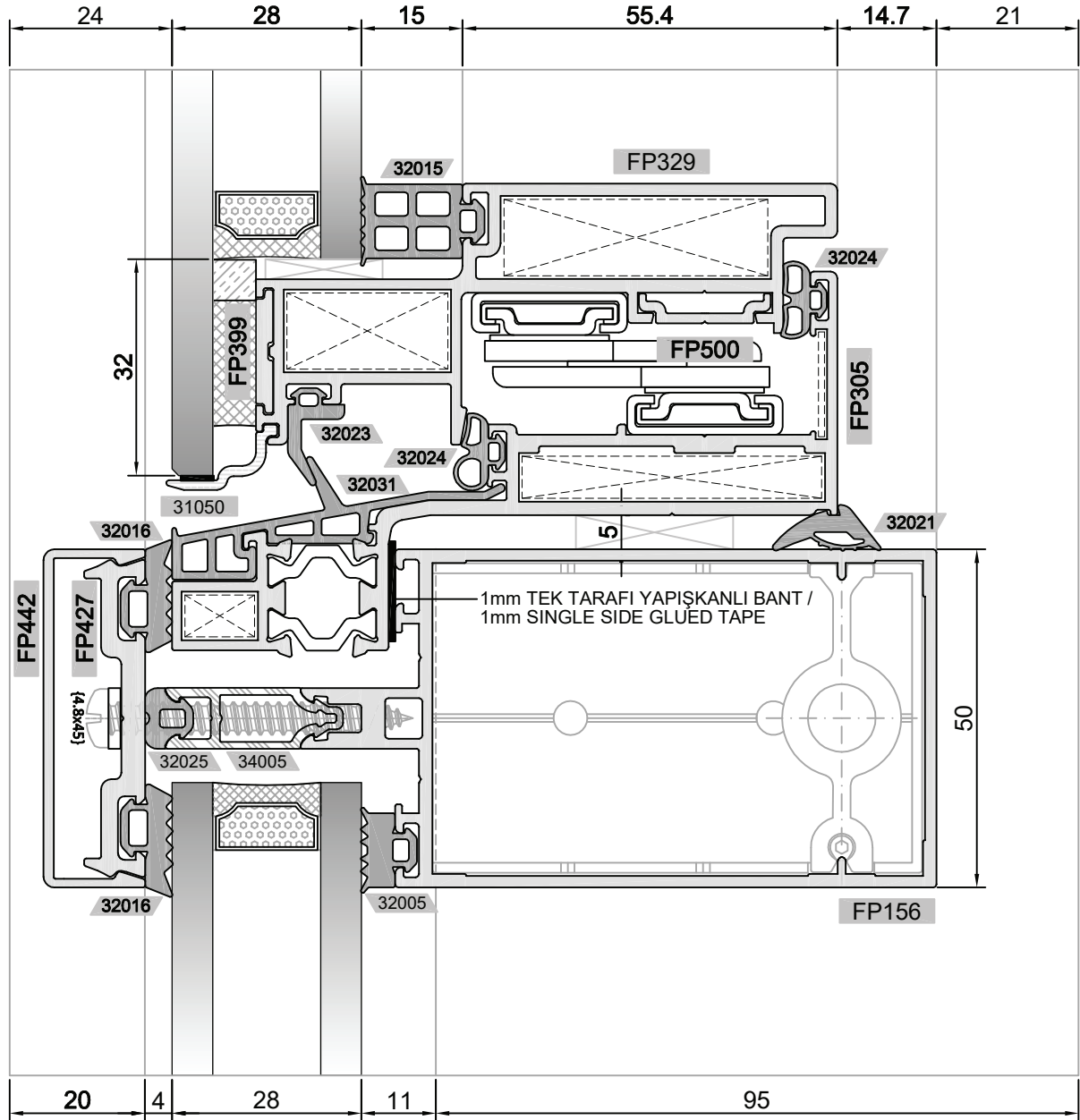
DÜŞEY DETAYI  
VERTICAL DETAIL

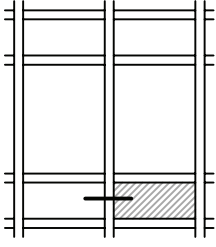




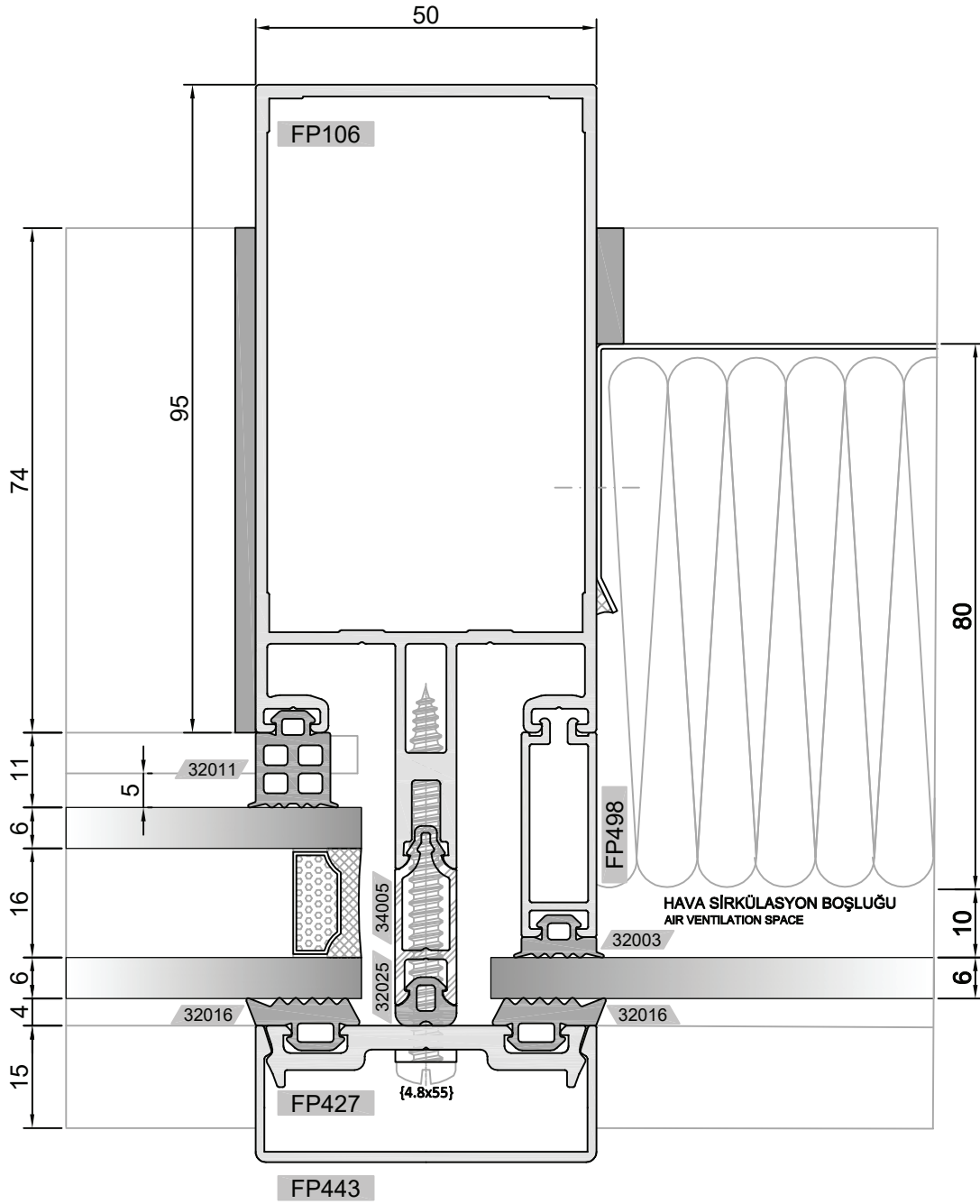
ALTERNATİF 2: YALITIMSIZ PARALEL AÇILIR KANAT DETAYI  
ALTERNATIVE 2 : PARALLEL OPENING UNINSULATED VENT DETAIL

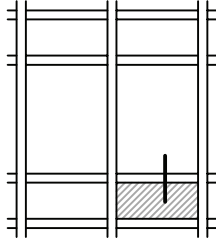
YATAY DETAYI  
HORIZONTAL DETAIL



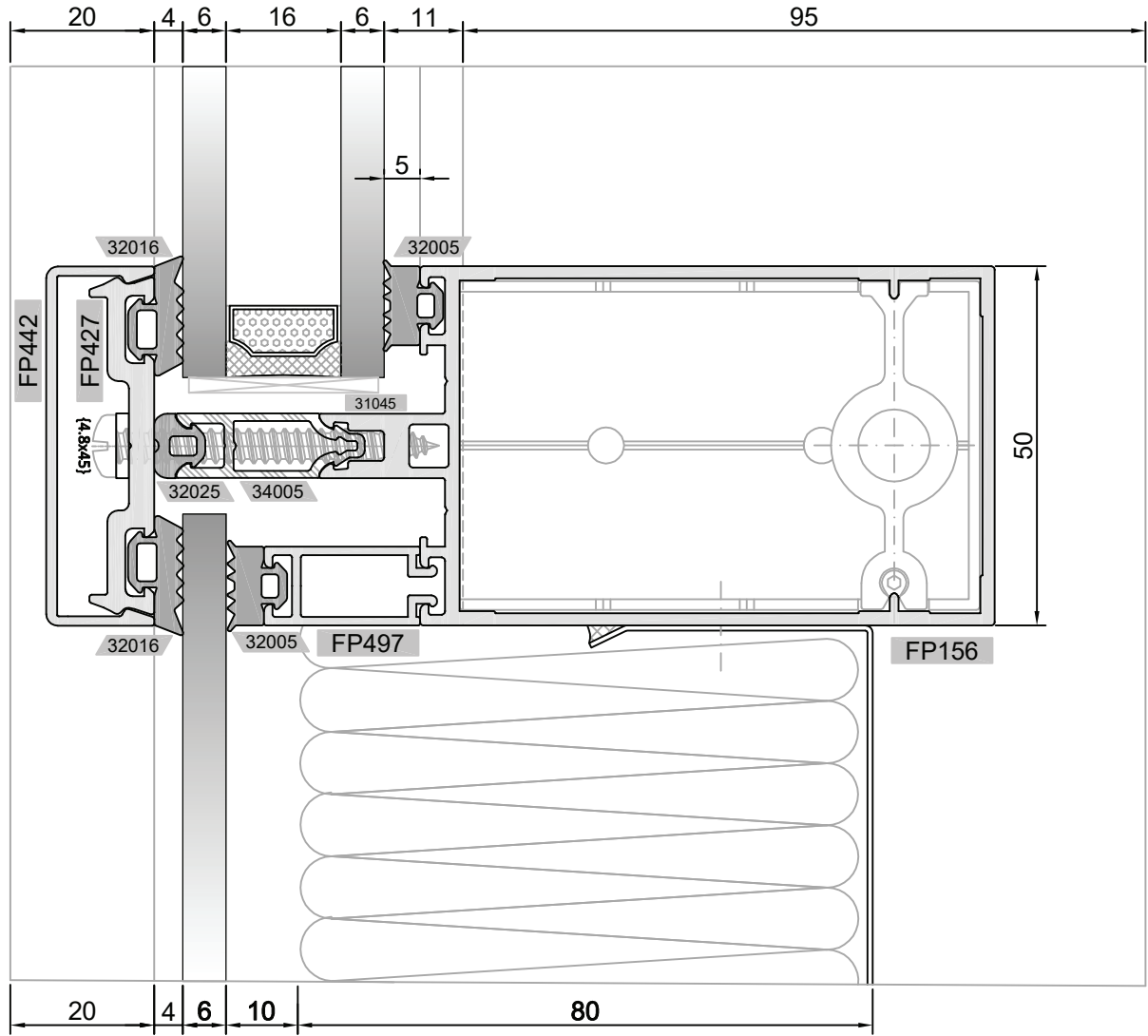


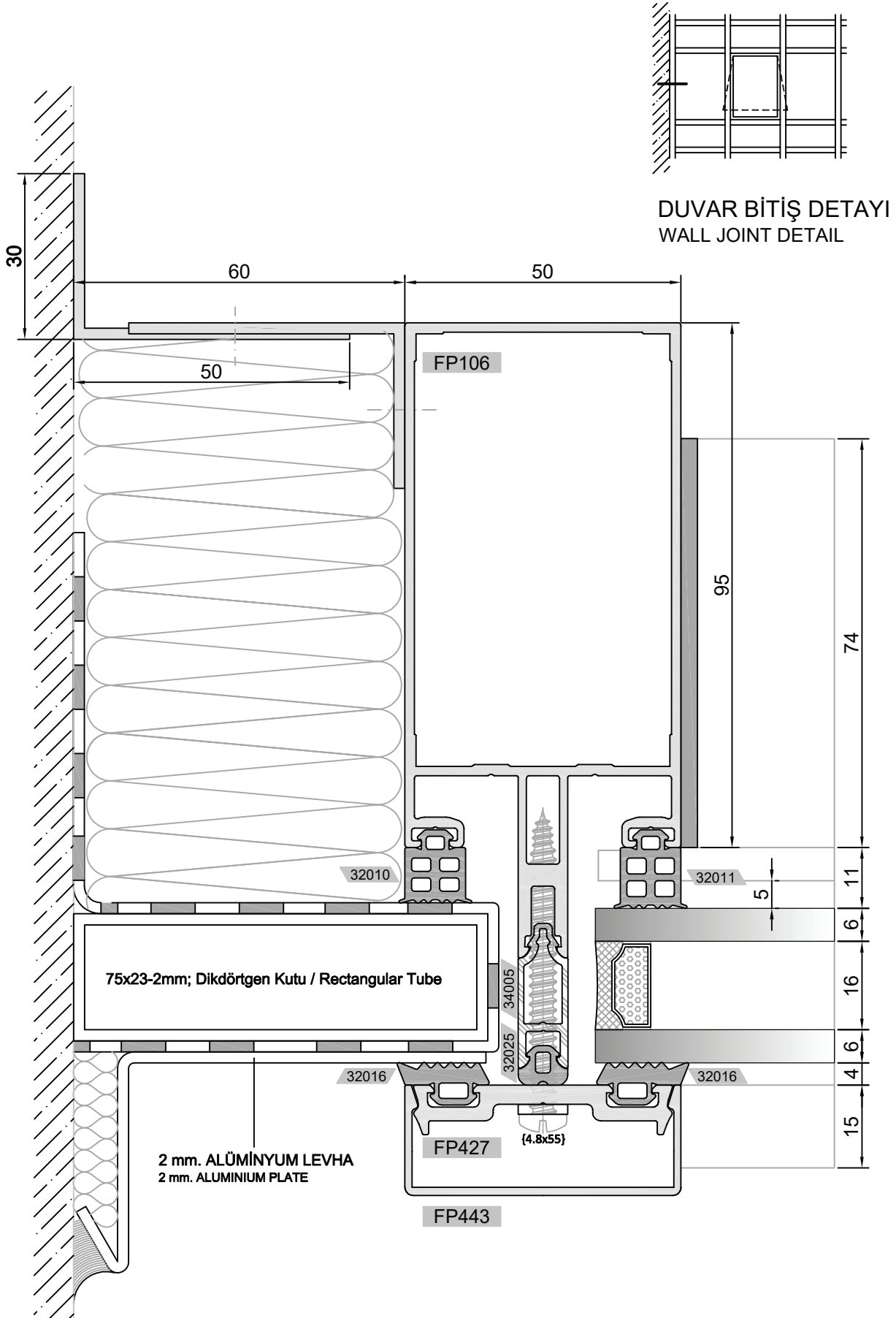
SPANDREL BÖLGE DÜŞEY DETAYI  
SPANDREL AREA VERTICAL DETAIL

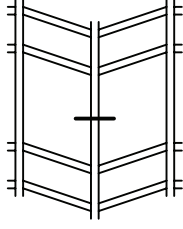




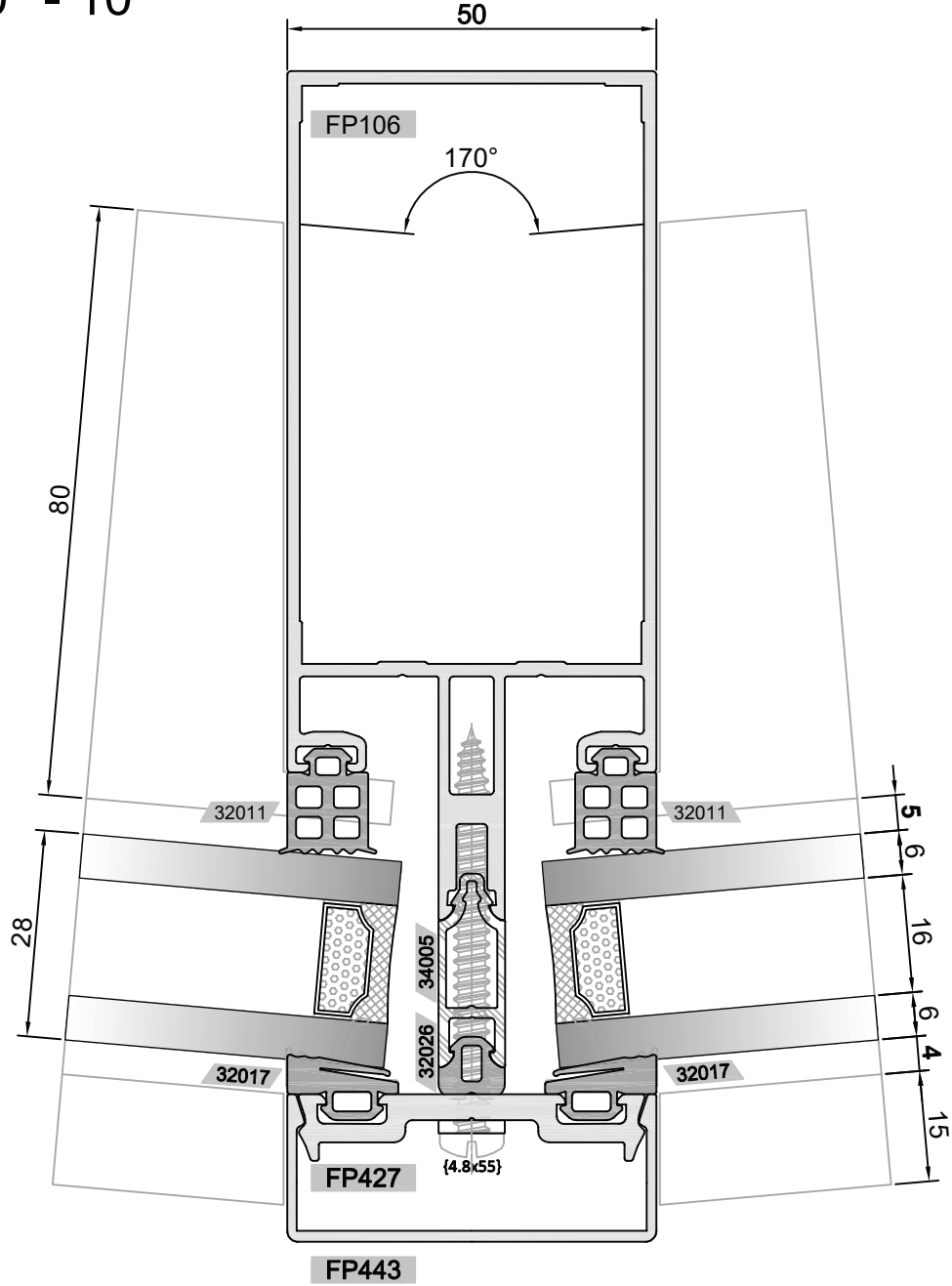
SPANDREL BÖLGE YATAY DETAYI  
SPANDREL AREA HORIZONTAL DETAIL

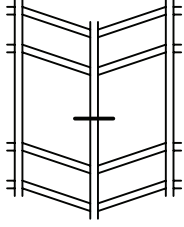




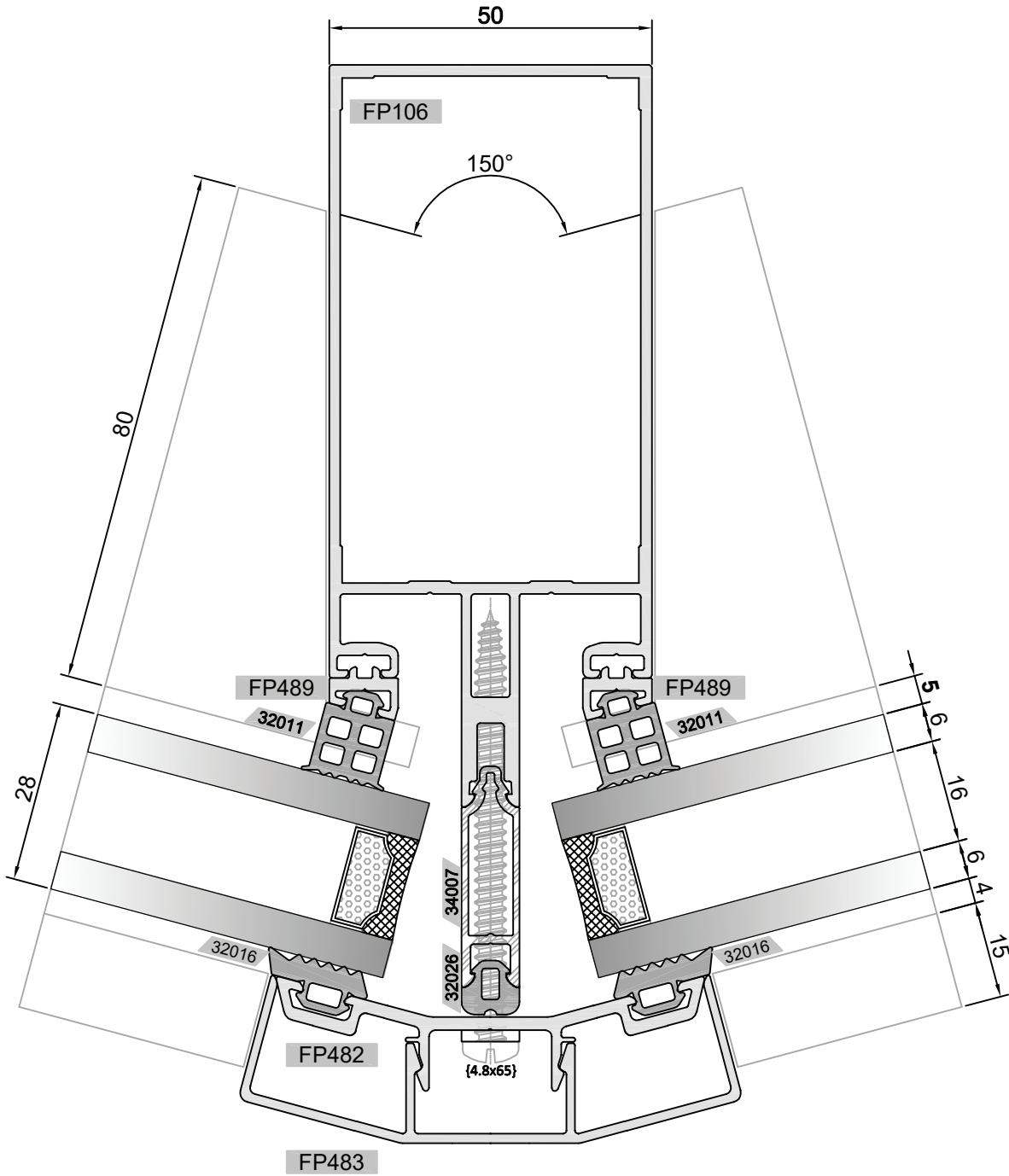


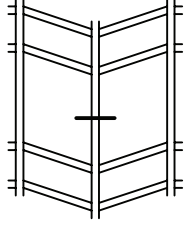
0° - 10°



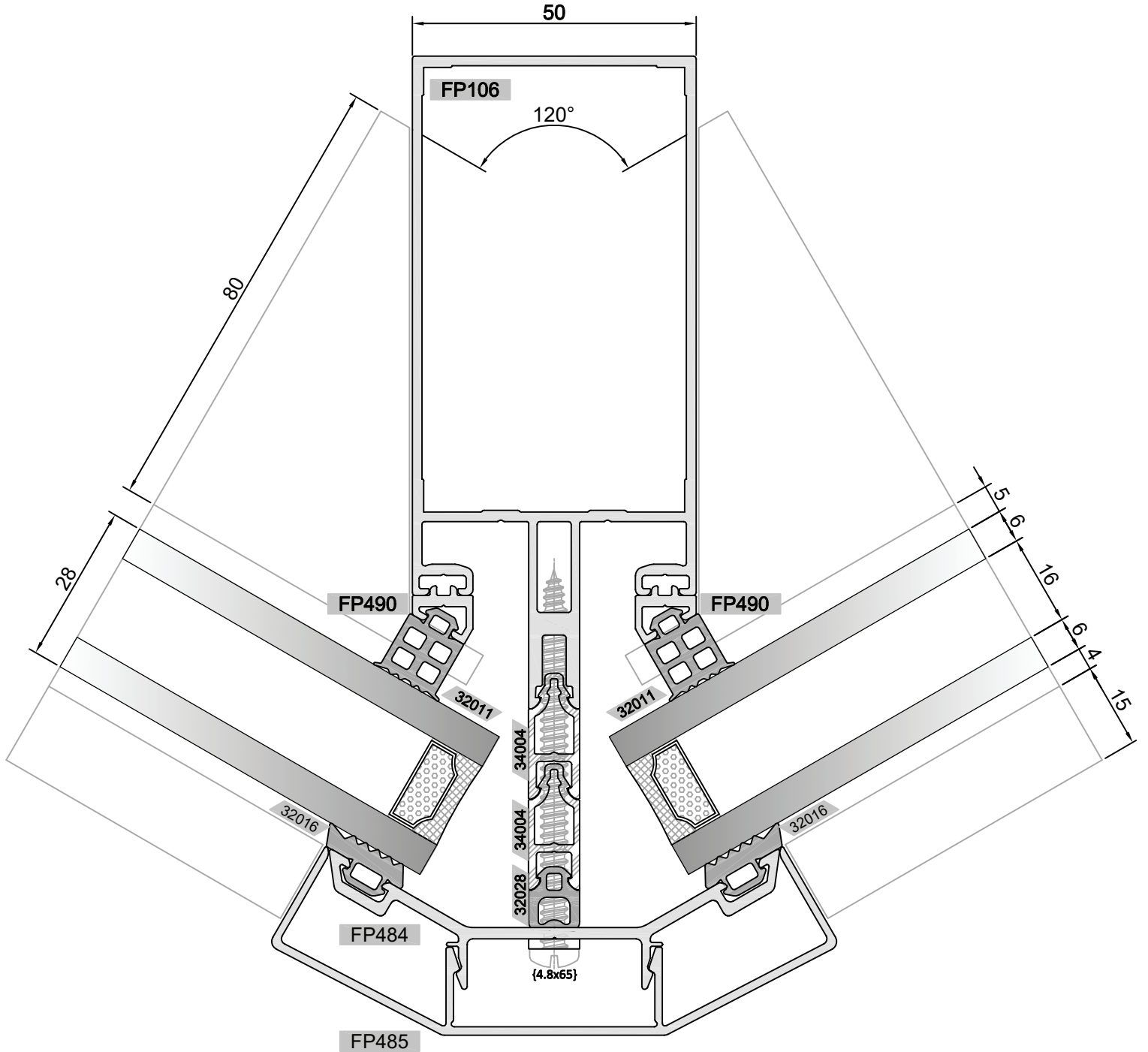


10° - 30°

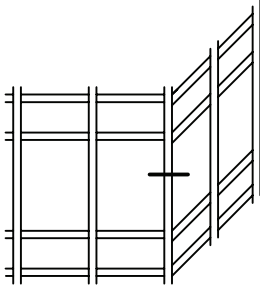




30° - 60°

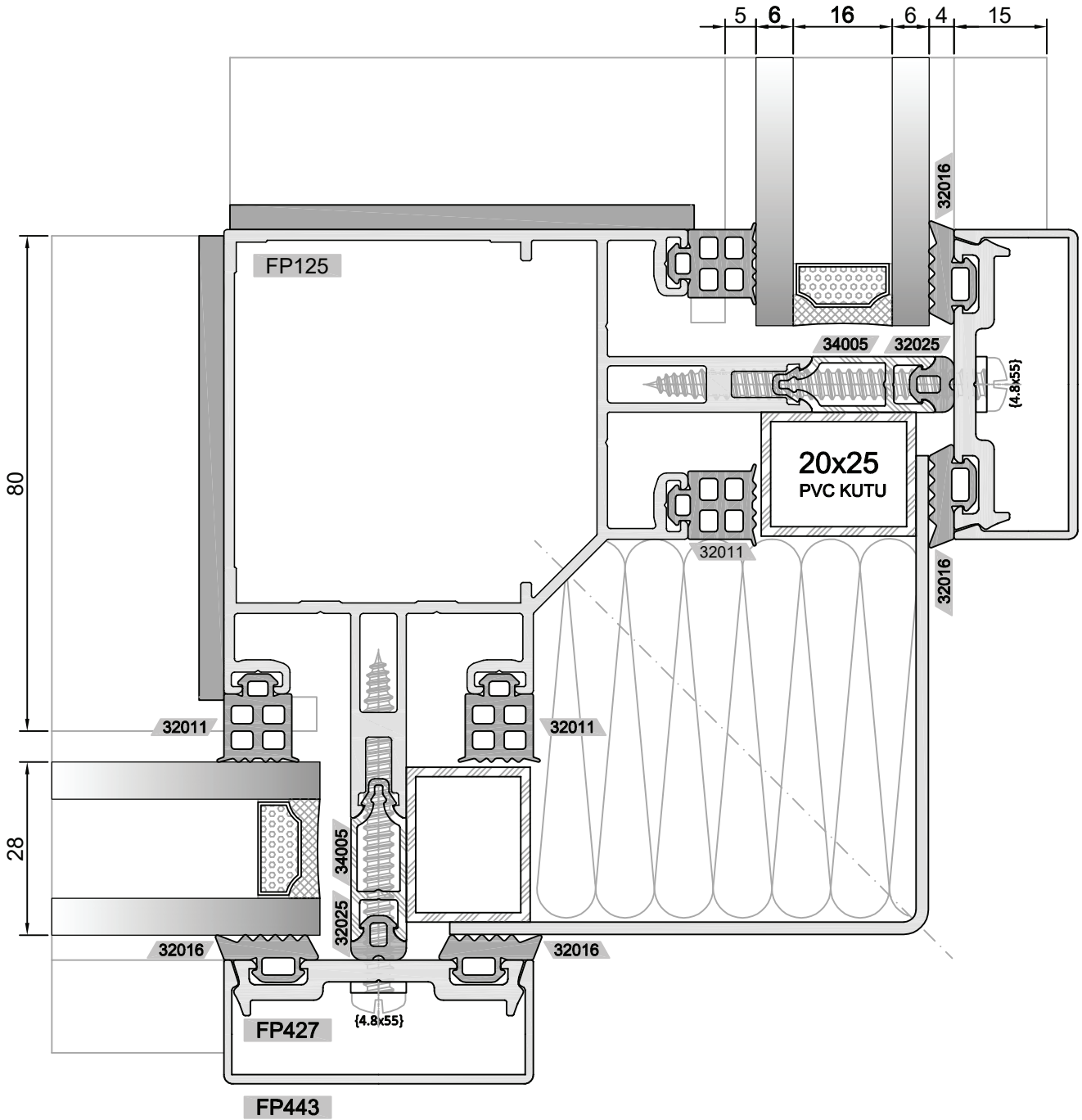


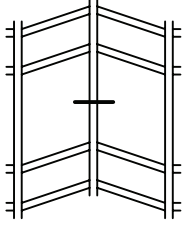




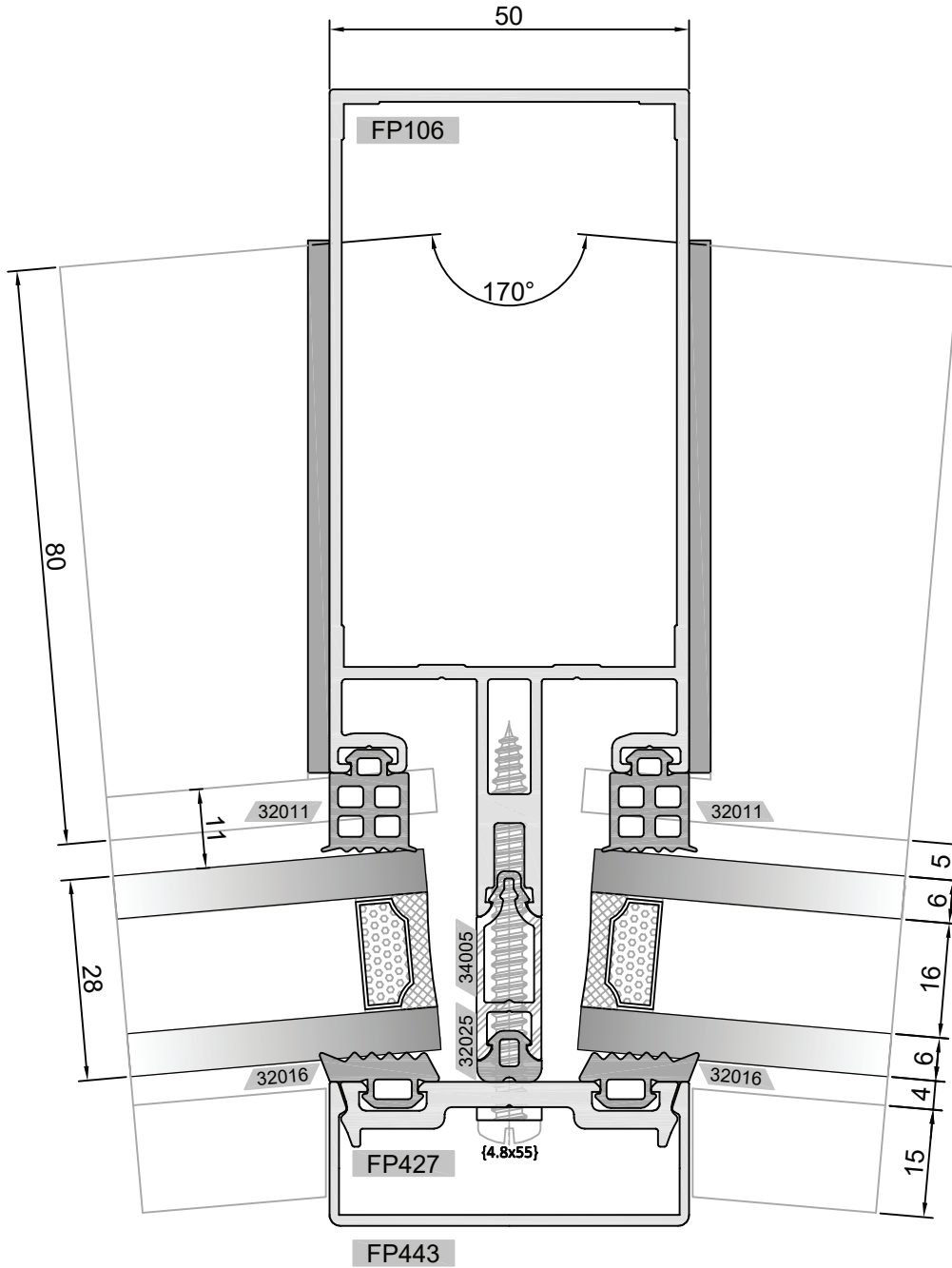
ALTERNATİF 2: ÇİFT KAPAKLI KÖŞE DETAYI  
ALTERNATIVE 2 : CORNER DETAIL WITH DOUBLE CAP

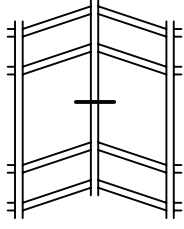
90°



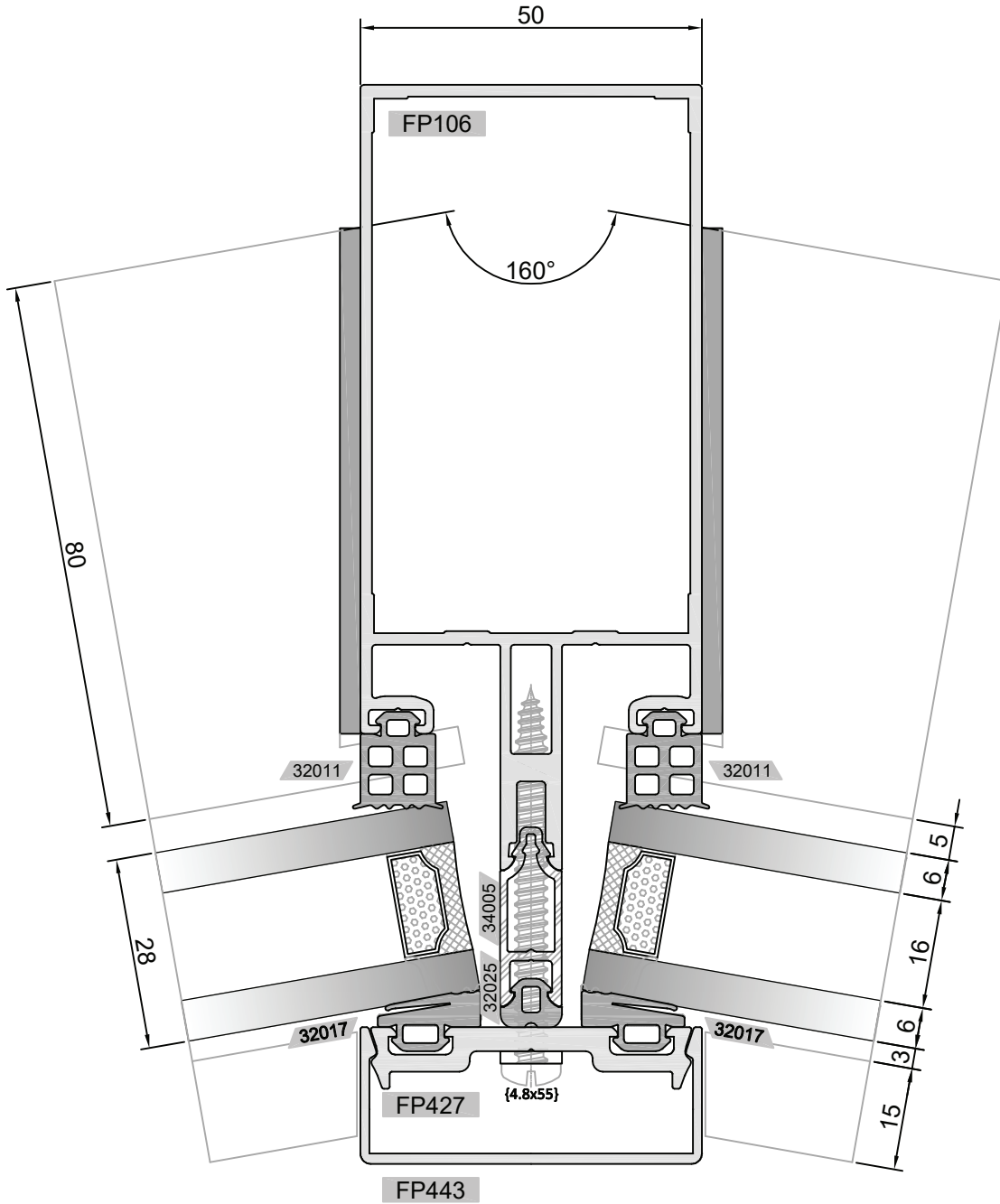


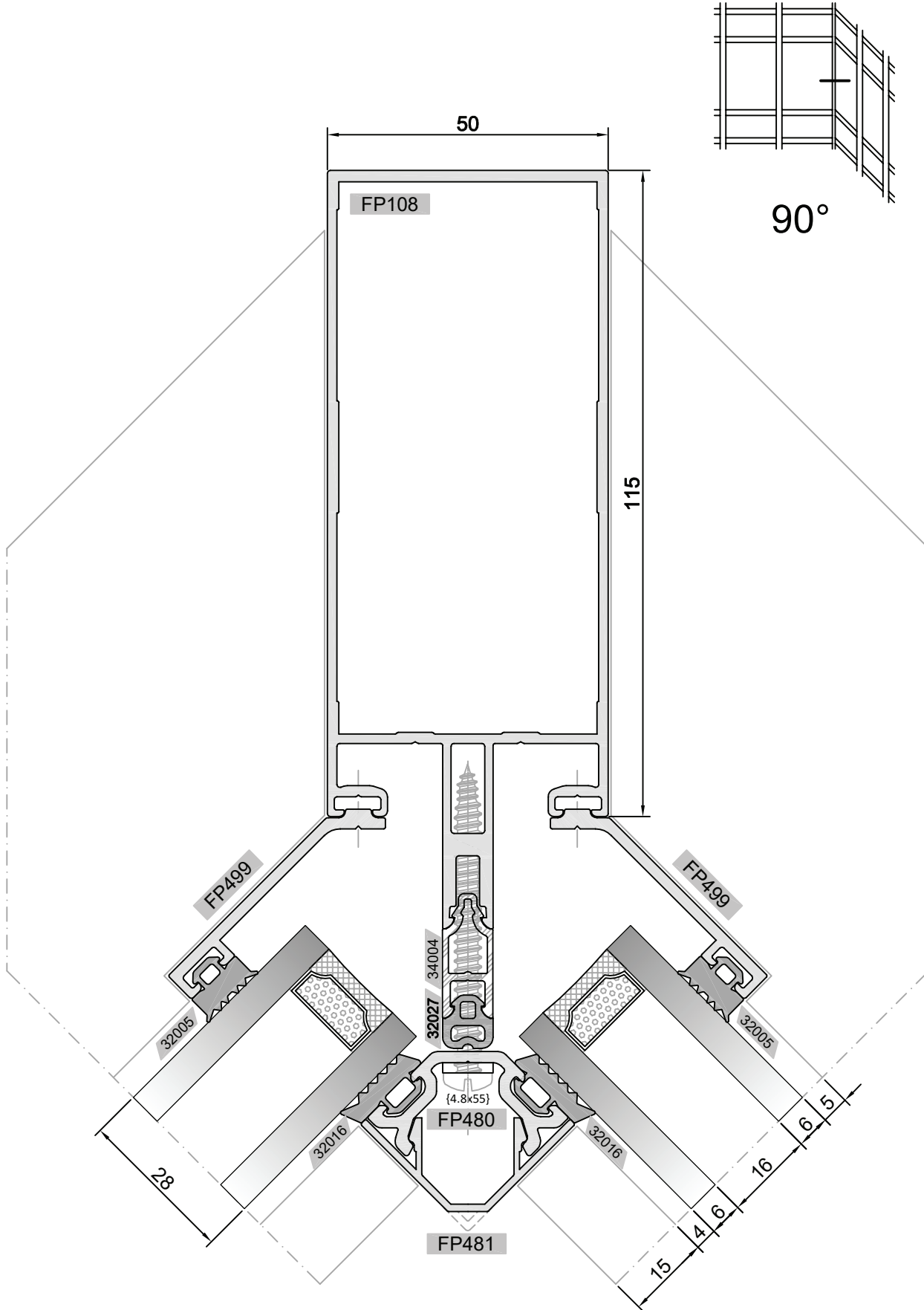
10° - 0°

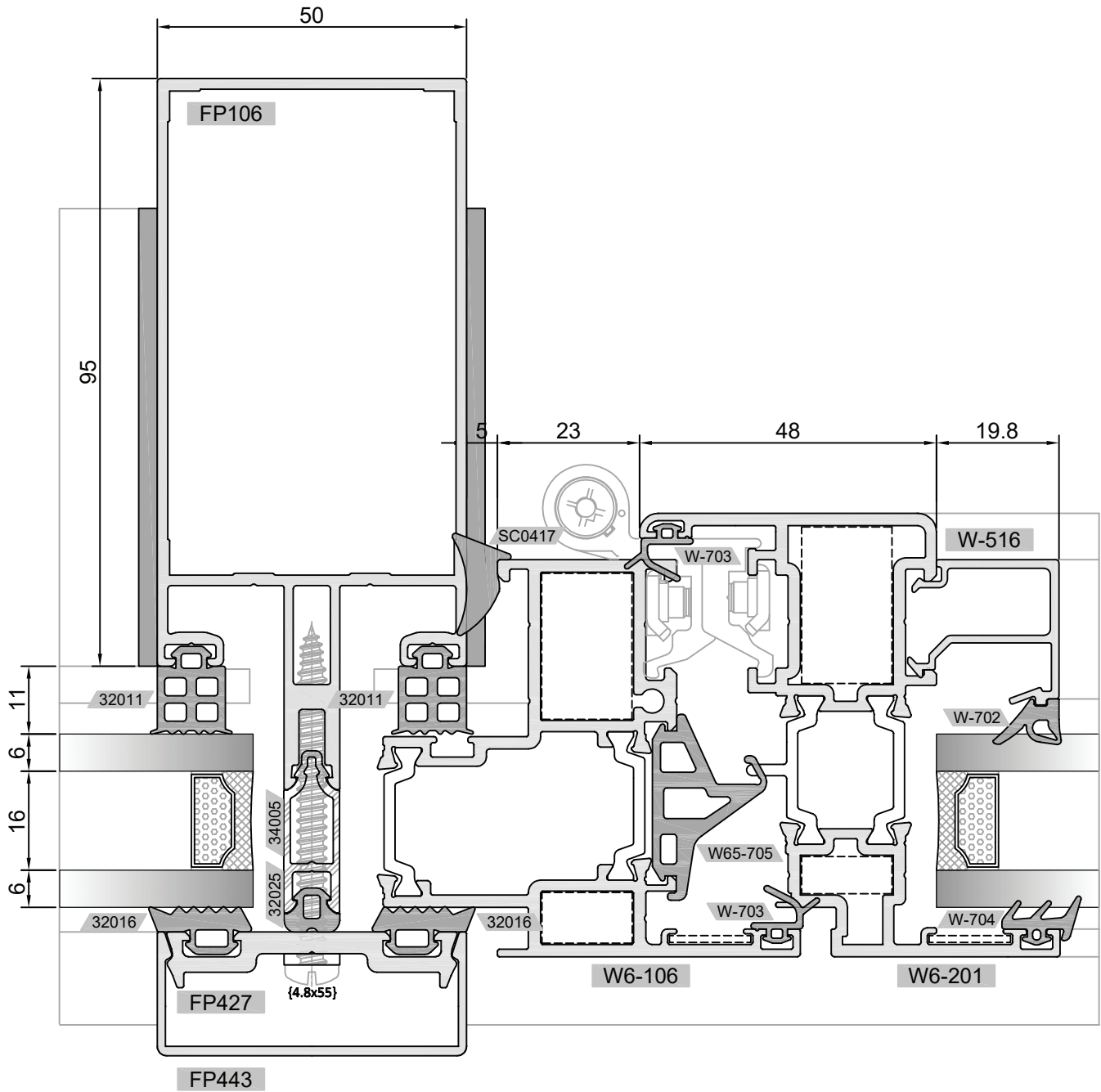
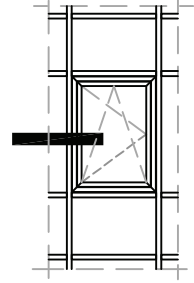


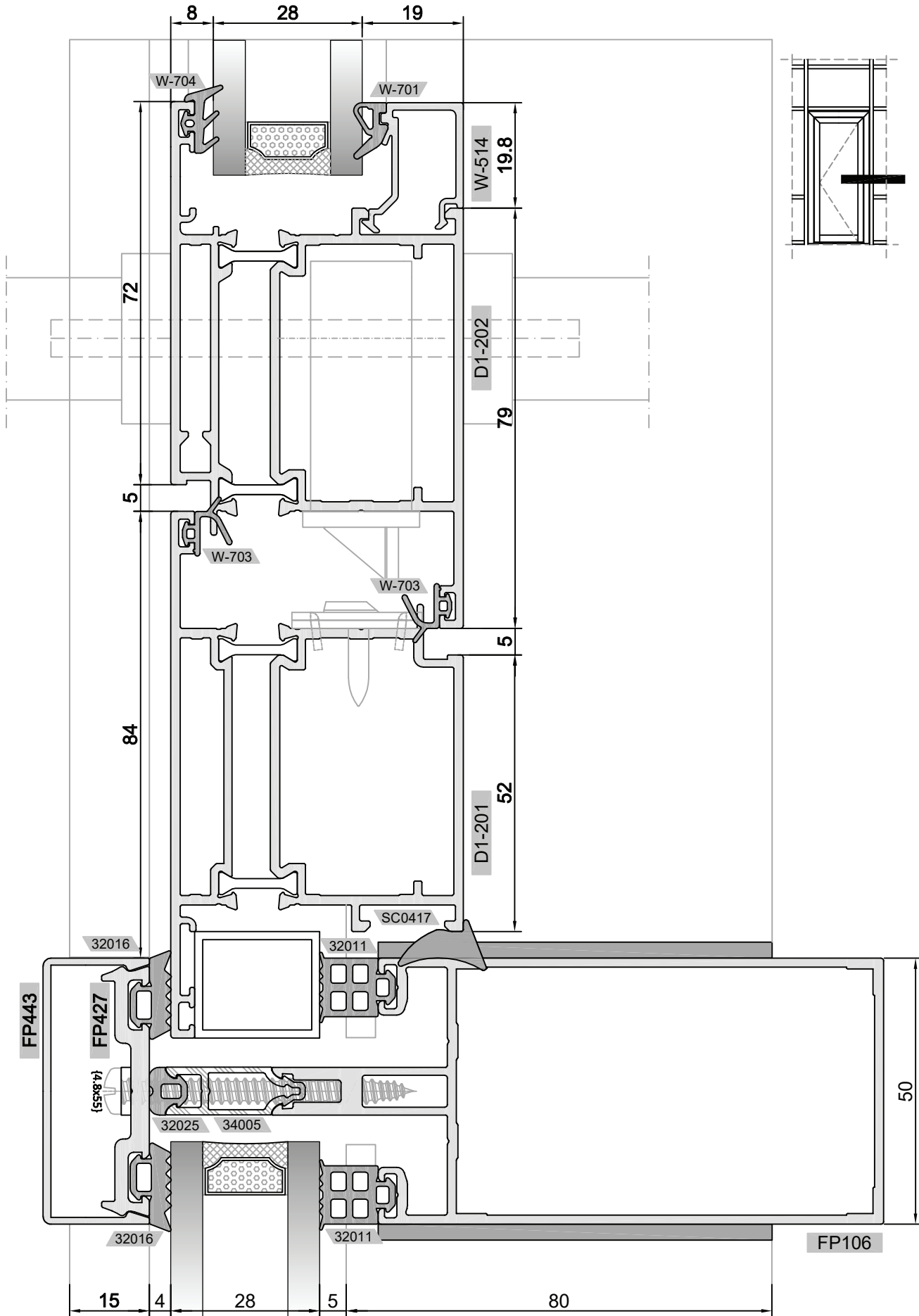


20° - 10°



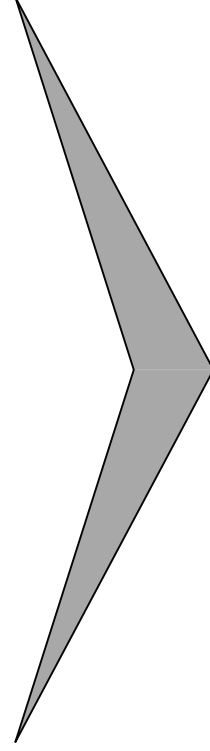






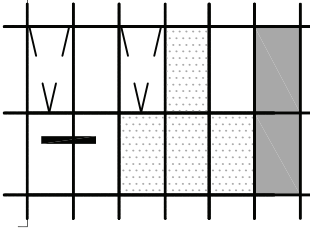


# ENTEĞRE CEPHE INTEGRATED CURTAIN WALL

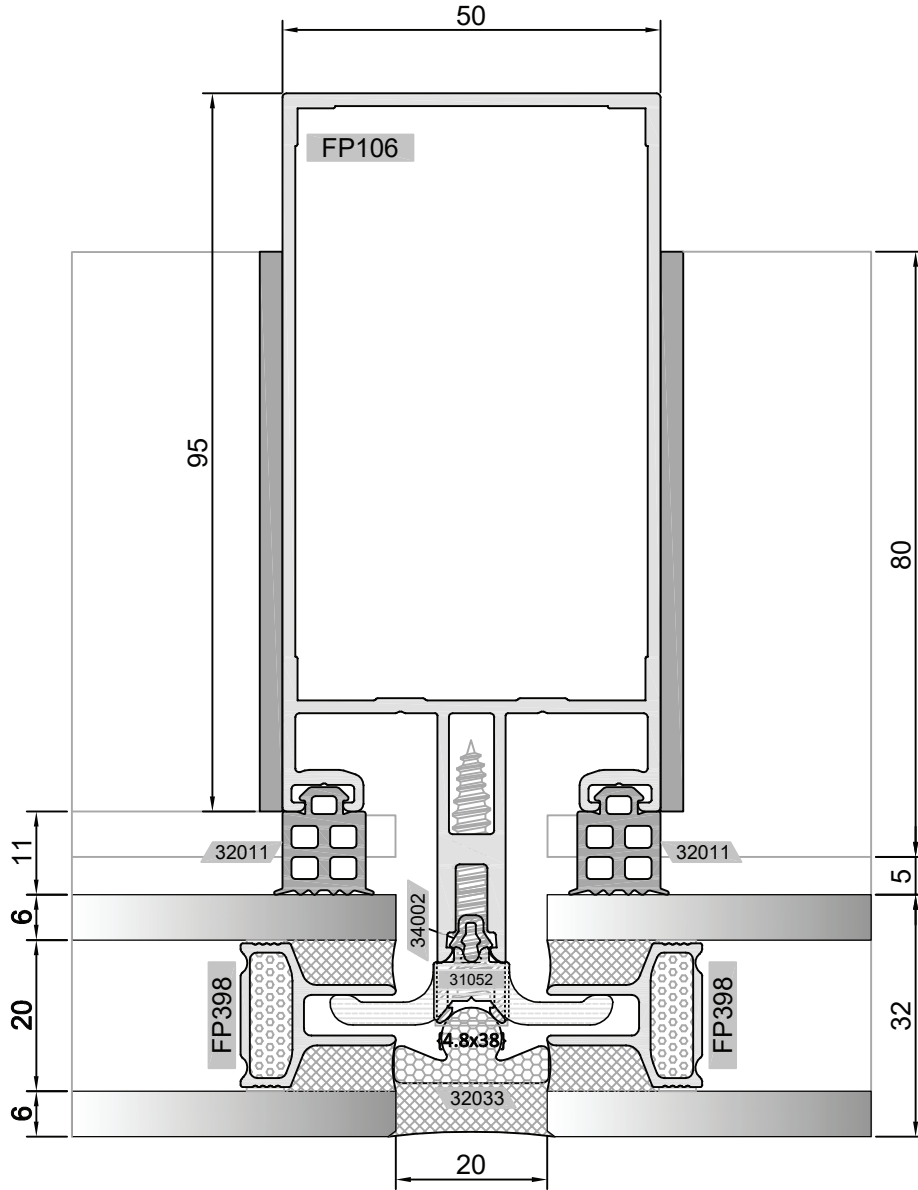


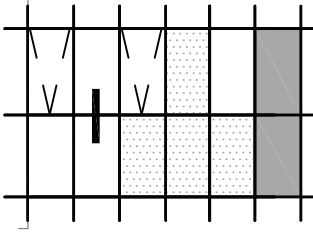
- \* 20mm STANDART  
ALÜMİNYUM ISICAM  
ÇİTASI  
20mm STANDARD  
ALUMINIUM SPACER



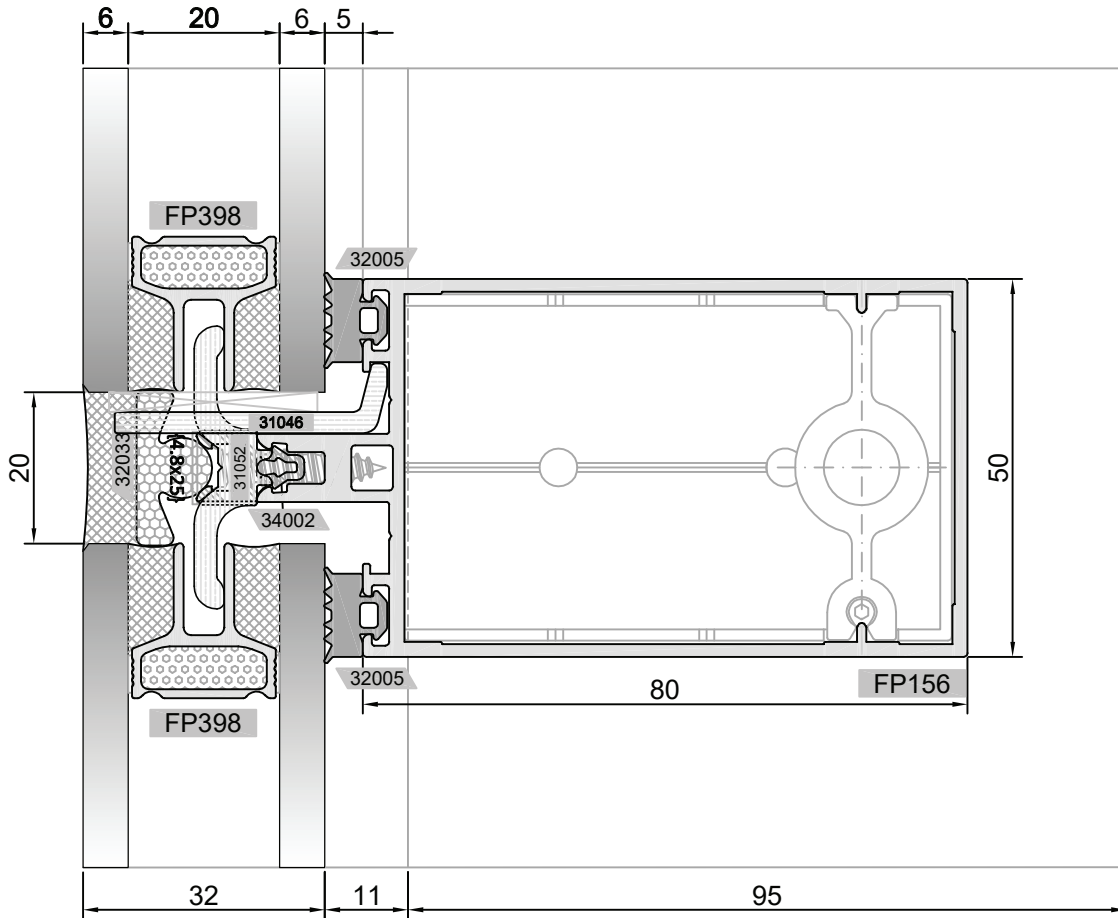


DÜŞEY DETAYI  
VERTICAL DETAIL

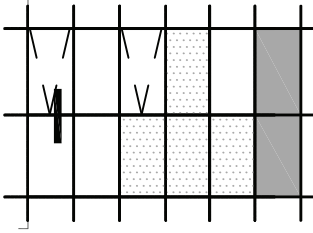




YATAY DETAYI  
HORIZONTAL DETAIL

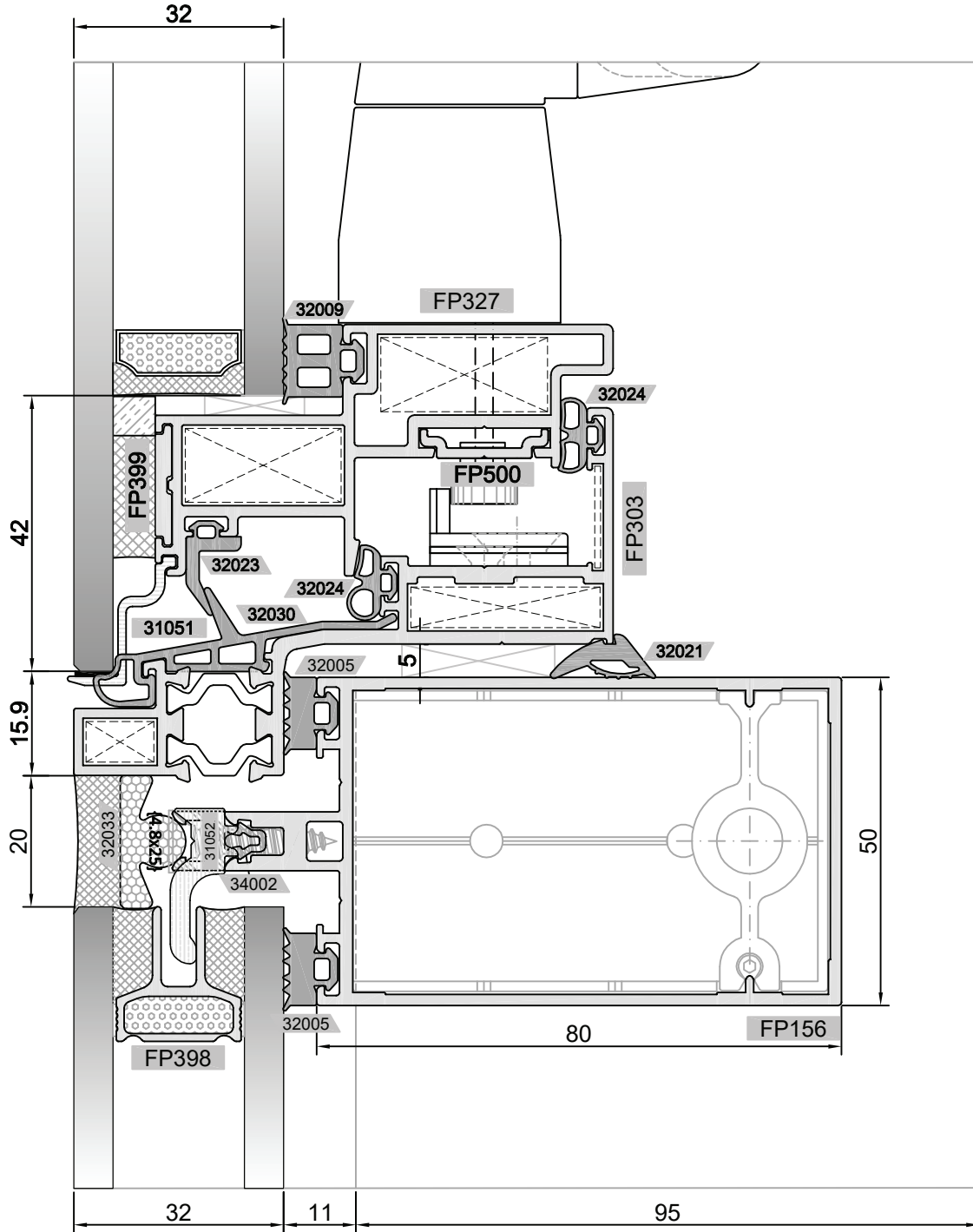


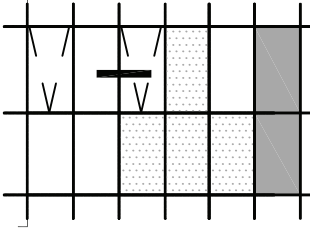




ALTERNATİF 1: YALITIMSIZ KANAT DETAYI  
ALTERNATIVE 1 : UNINSULATED VENT DETAIL

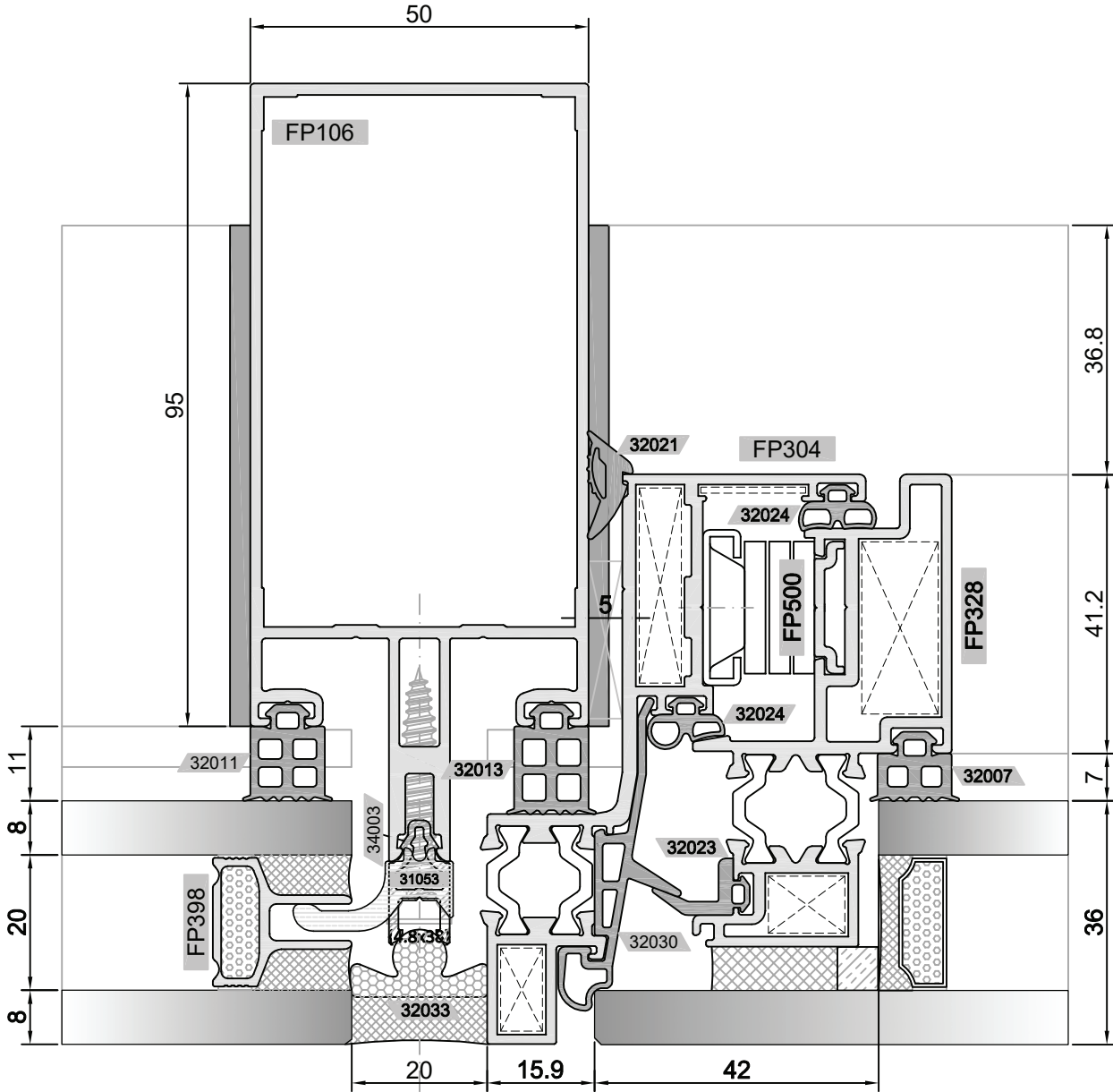
YATAY DETAYI  
HORIZONTAL DETAIL

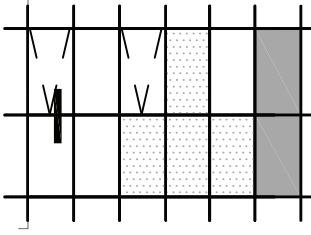




DÜŞEY DETAYI  
VERTICAL DETAIL

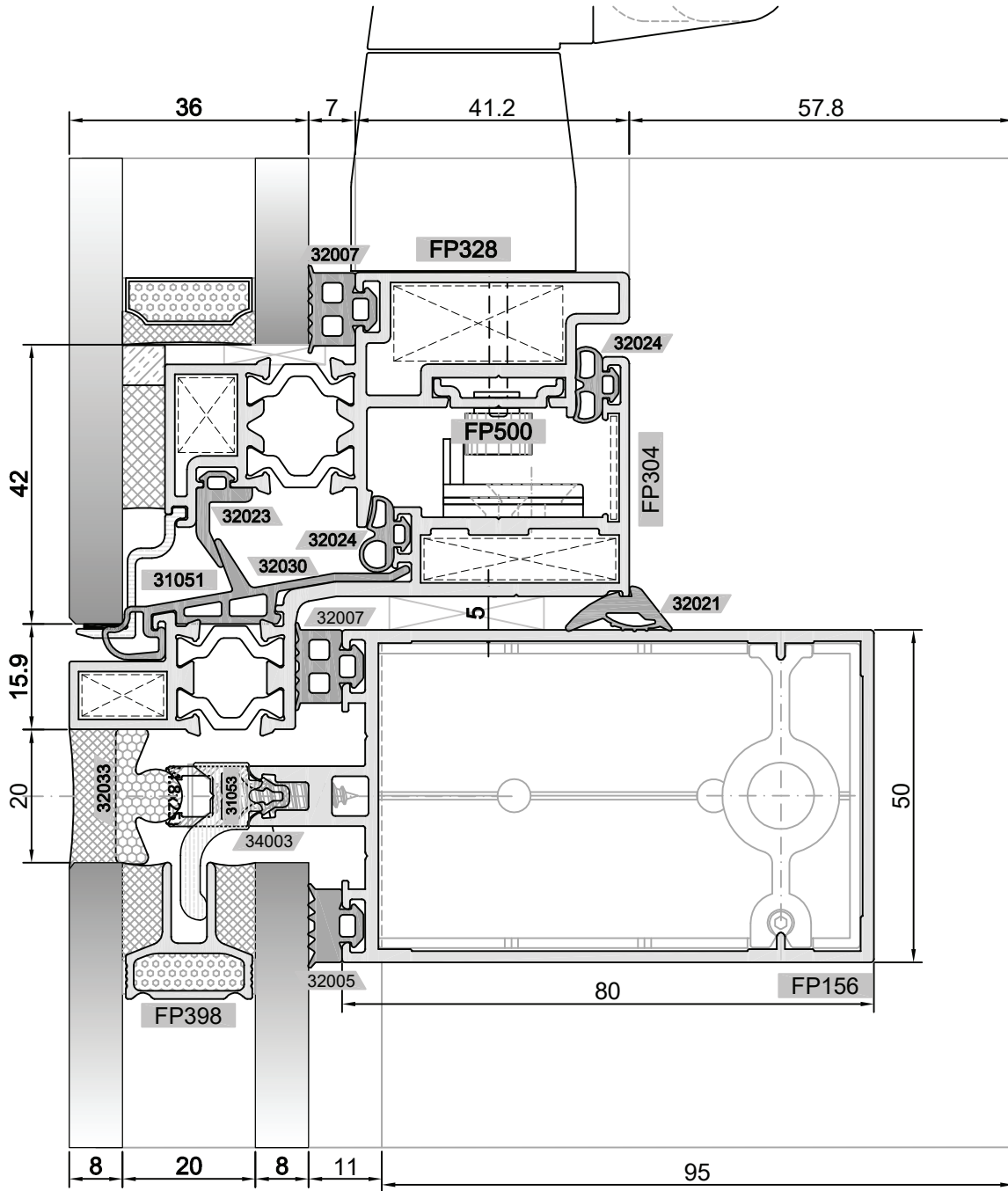
ALTERNATİF 2: YALITIMLI KANAT DETAYI  
ALTERNATIVE 2 : INSULATED VENT DETAIL



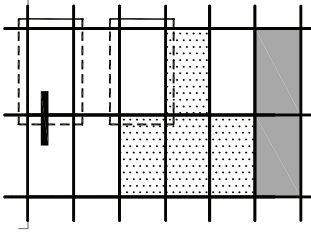


ALTERNATİF 2: YALITIMLI KANAT DETAYI  
ALTERNATIVE 2 : INSULATED VENT DETAIL

YATAY DETAYI  
HORIZONTAL DETAIL

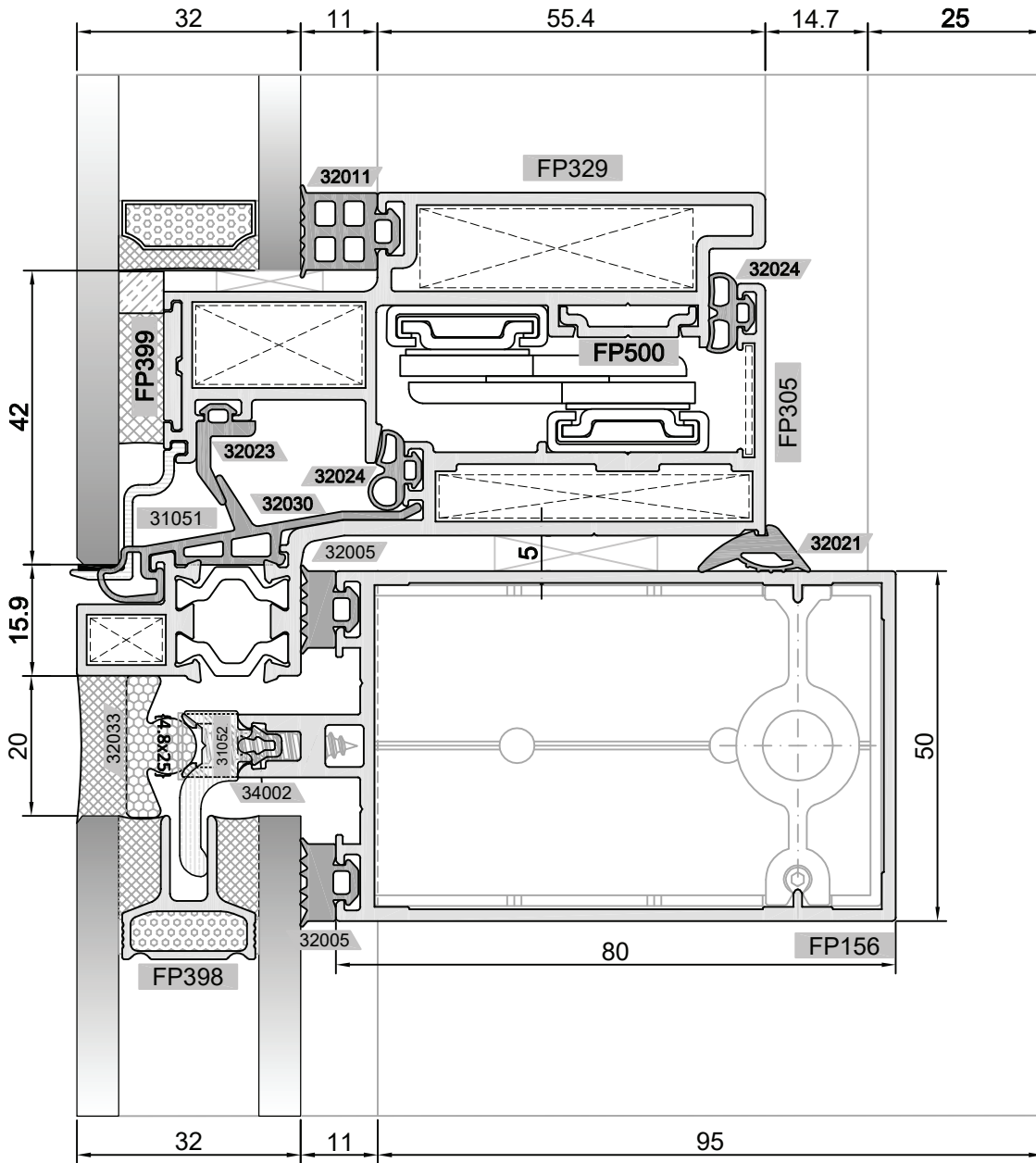


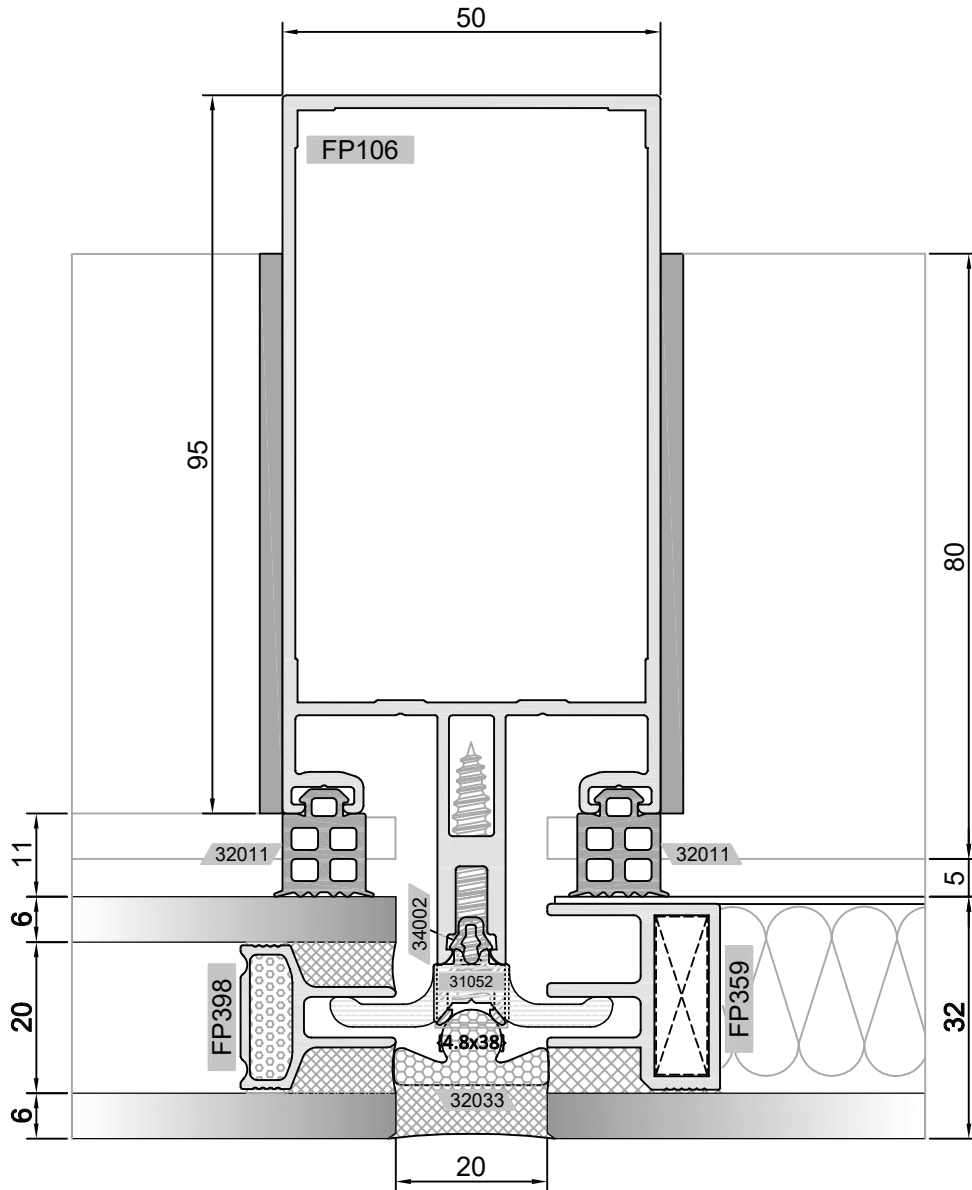
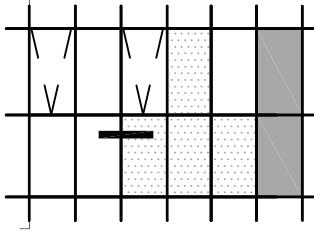


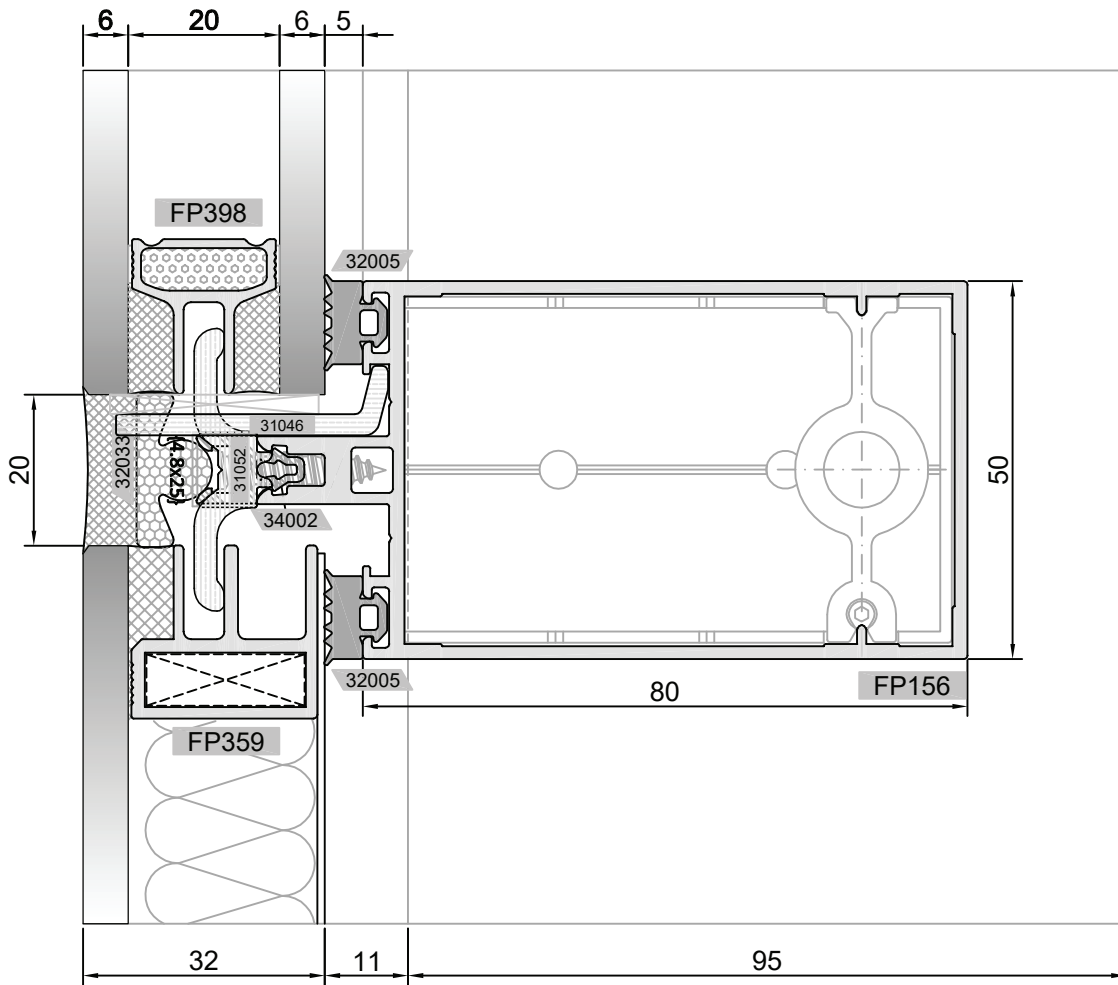
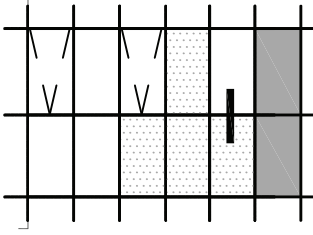


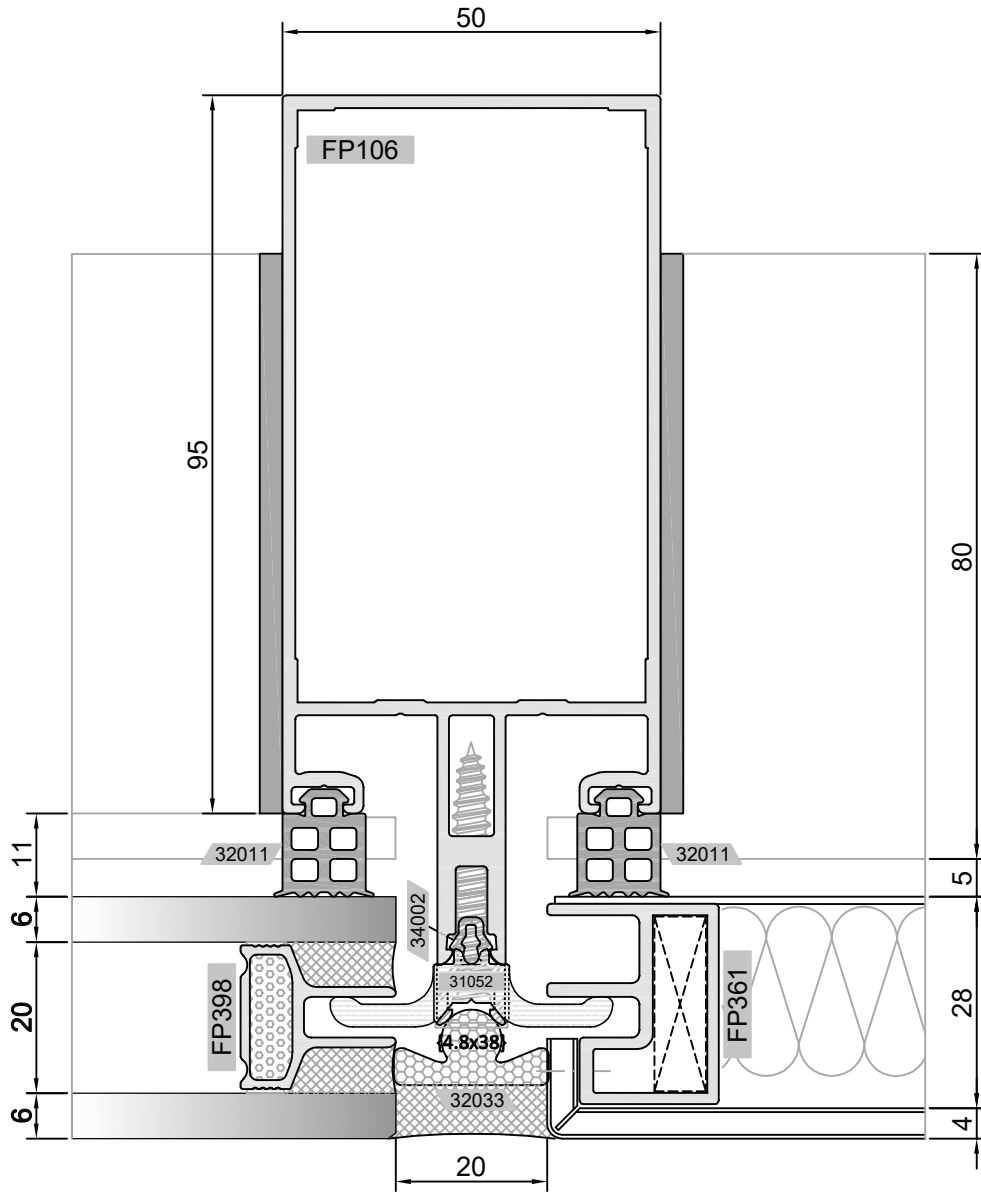
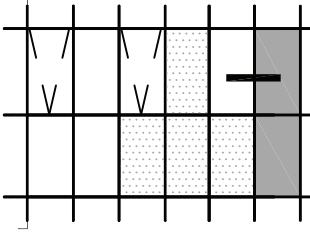
ALTERNATİF 2: YALITIMSIZ PARALEL AÇILIR KANAT DETAYI  
ALTERNATIVE 2 : PARALLEL OPENING UNINSULATED VENT DETAIL

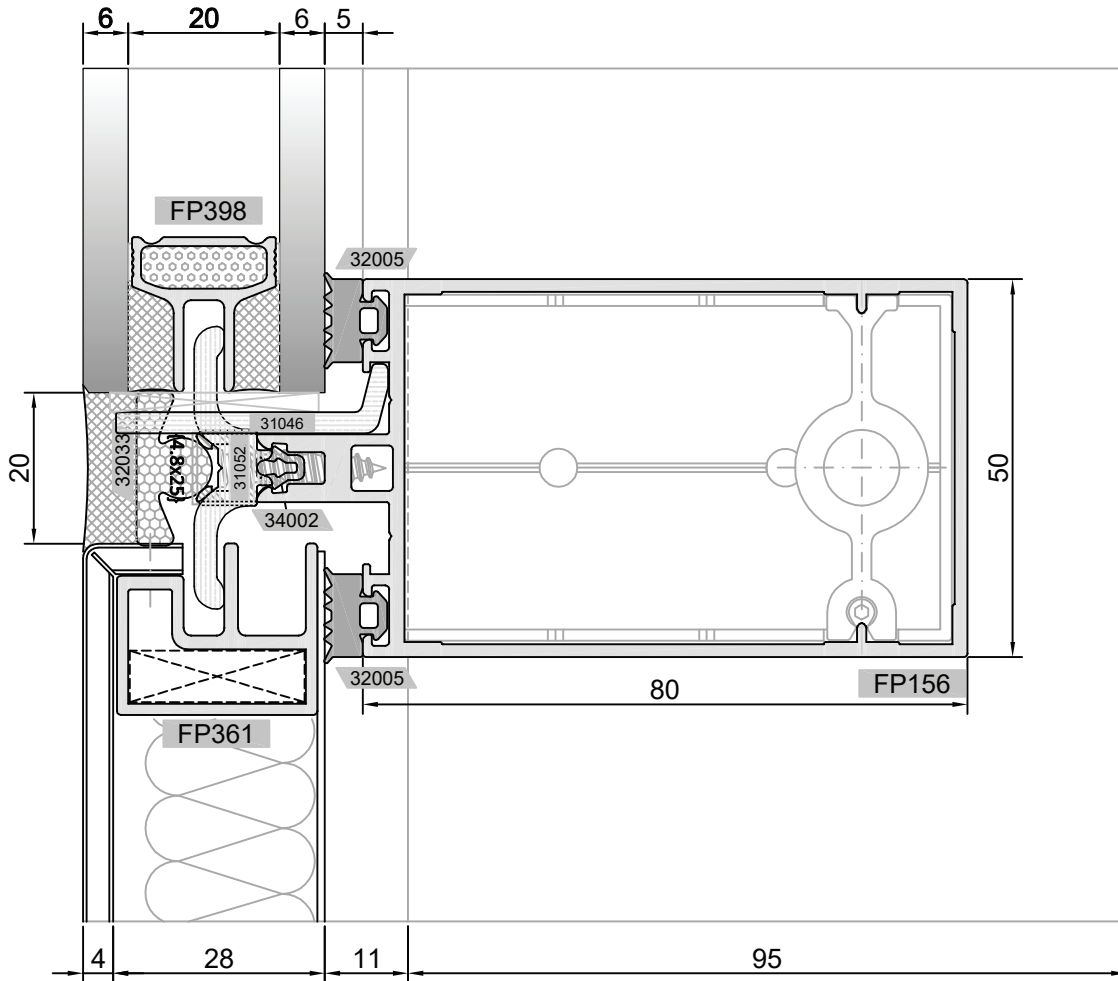
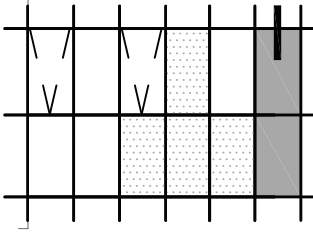
YATAY DETAYI  
HORIZONTAL DETAIL



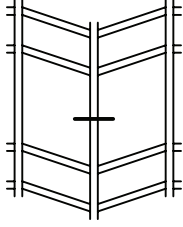




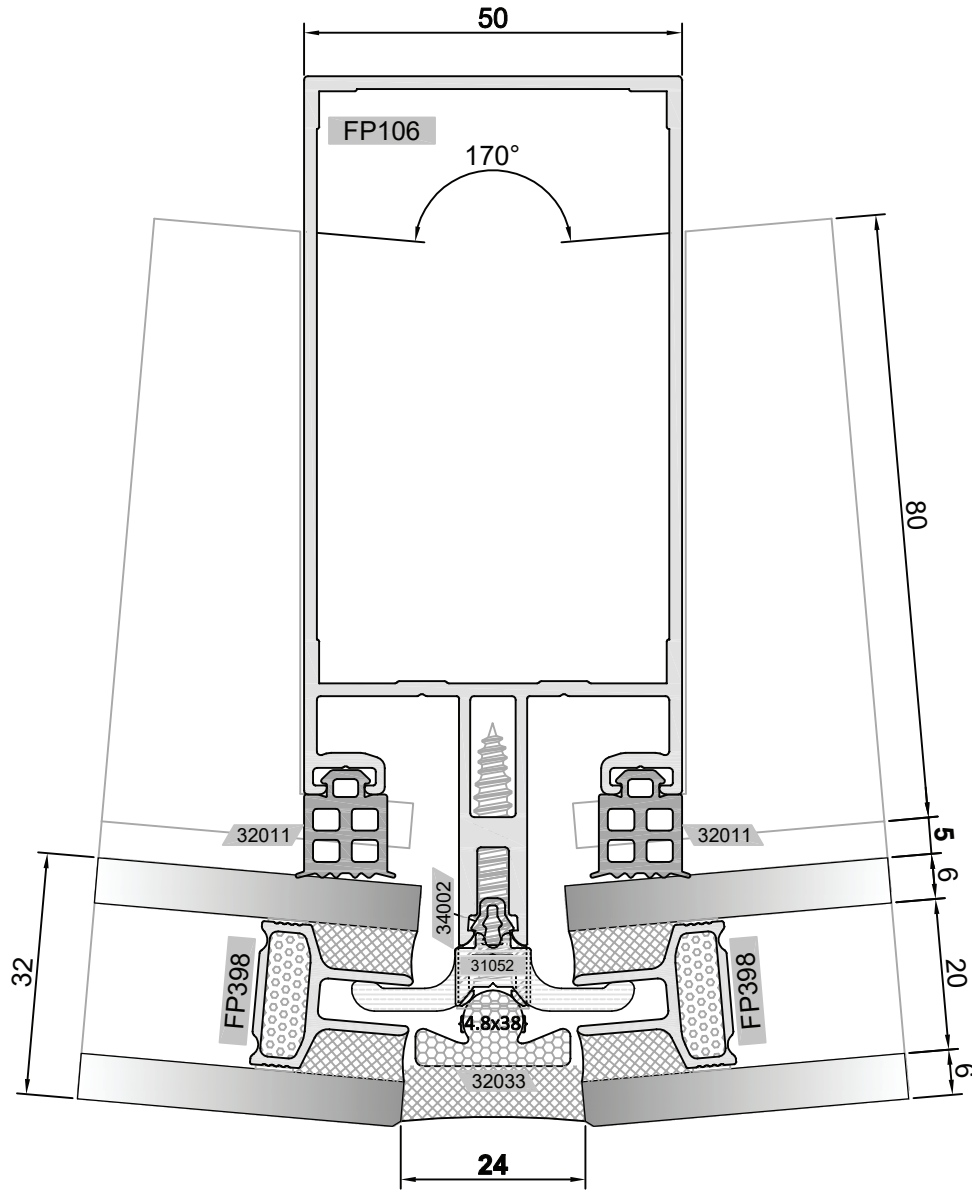


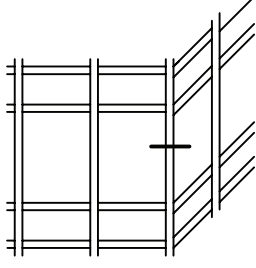




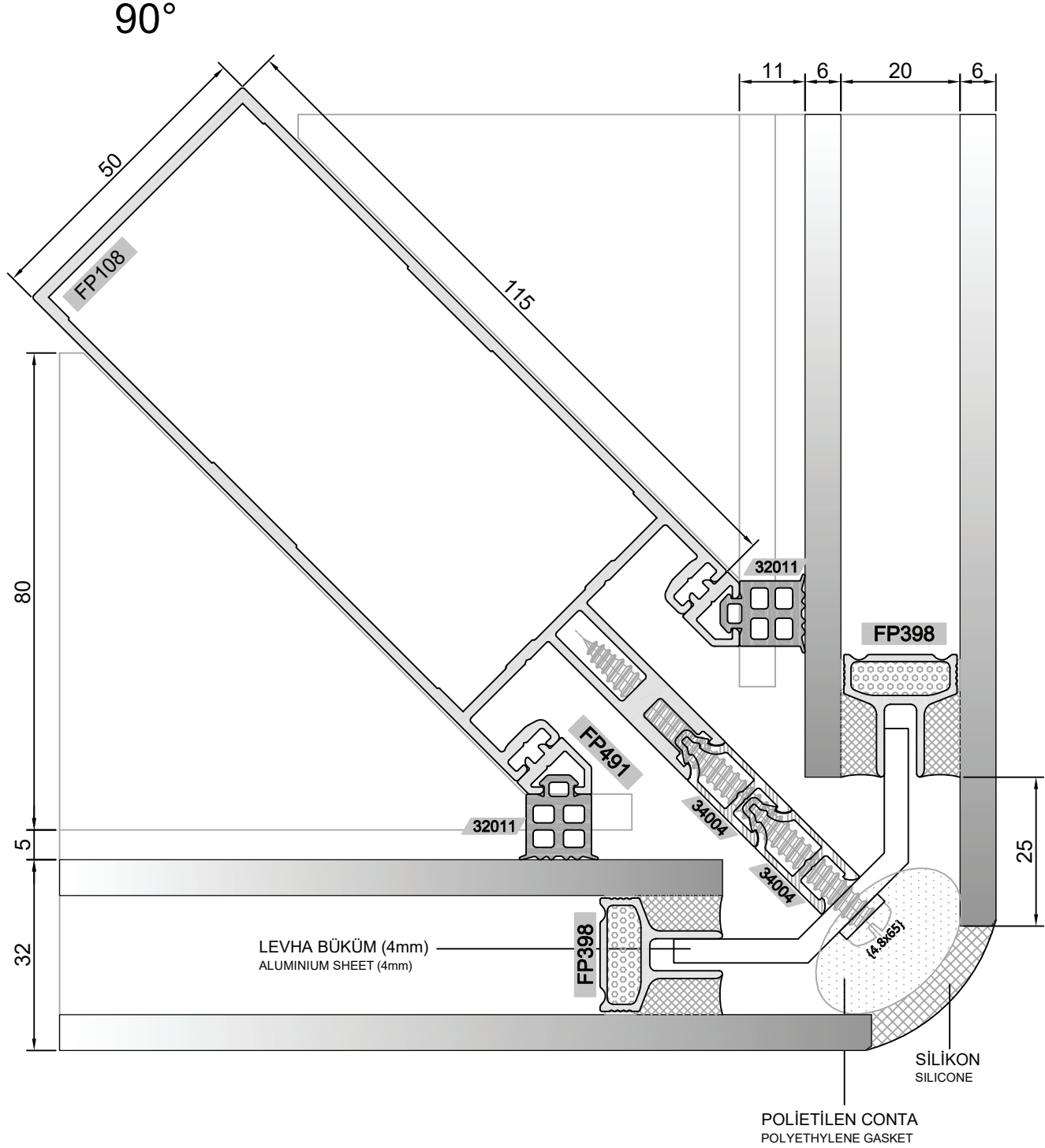


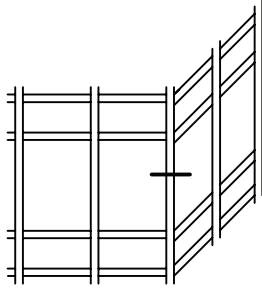
0° - 10°





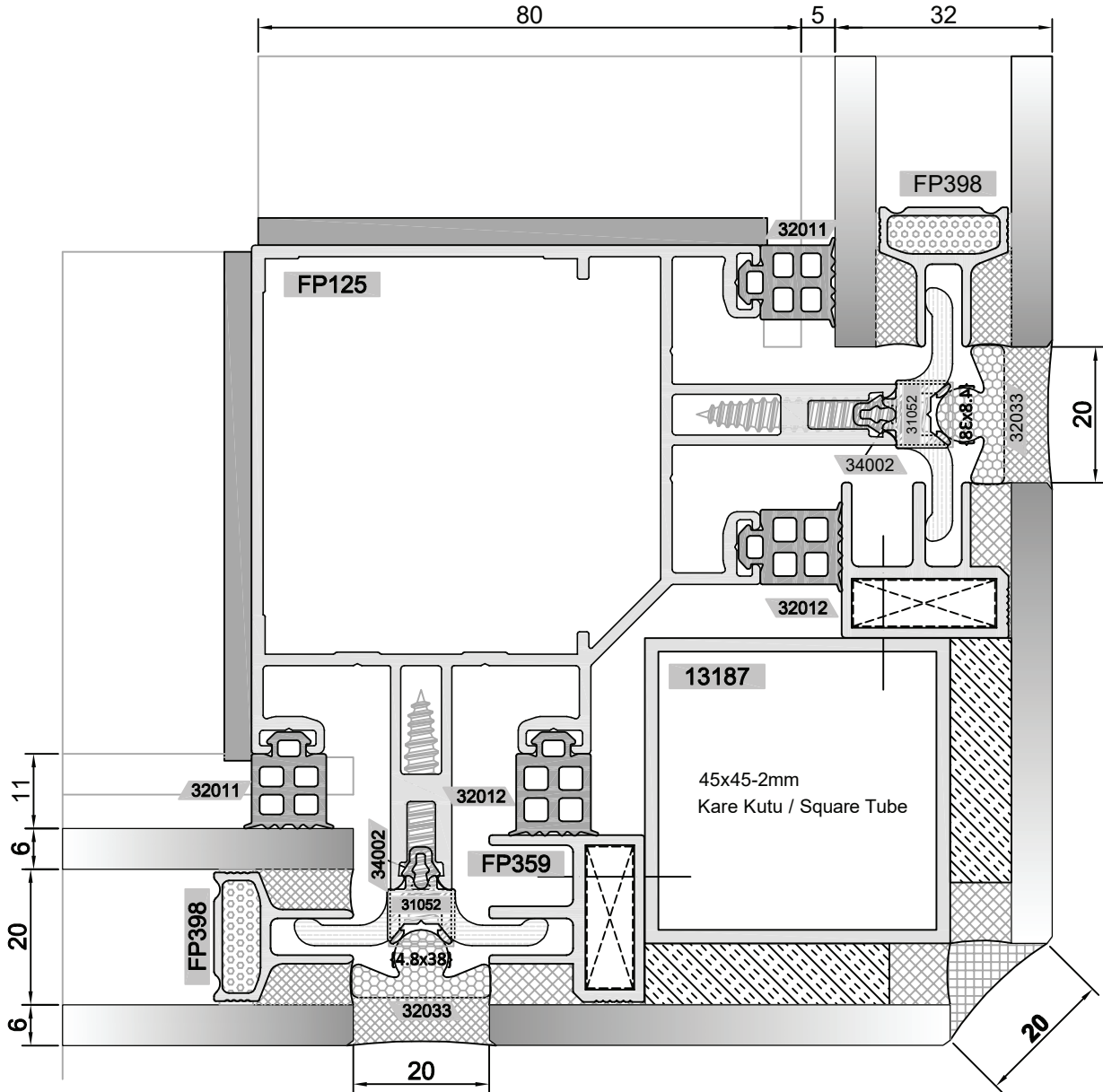
ALTERNATİF 1: TEK DİKMELİ KÖŞE DETAYI  
ALTERNATIVE 1 : CORNER DETAIL WITH SINGLE MULLION



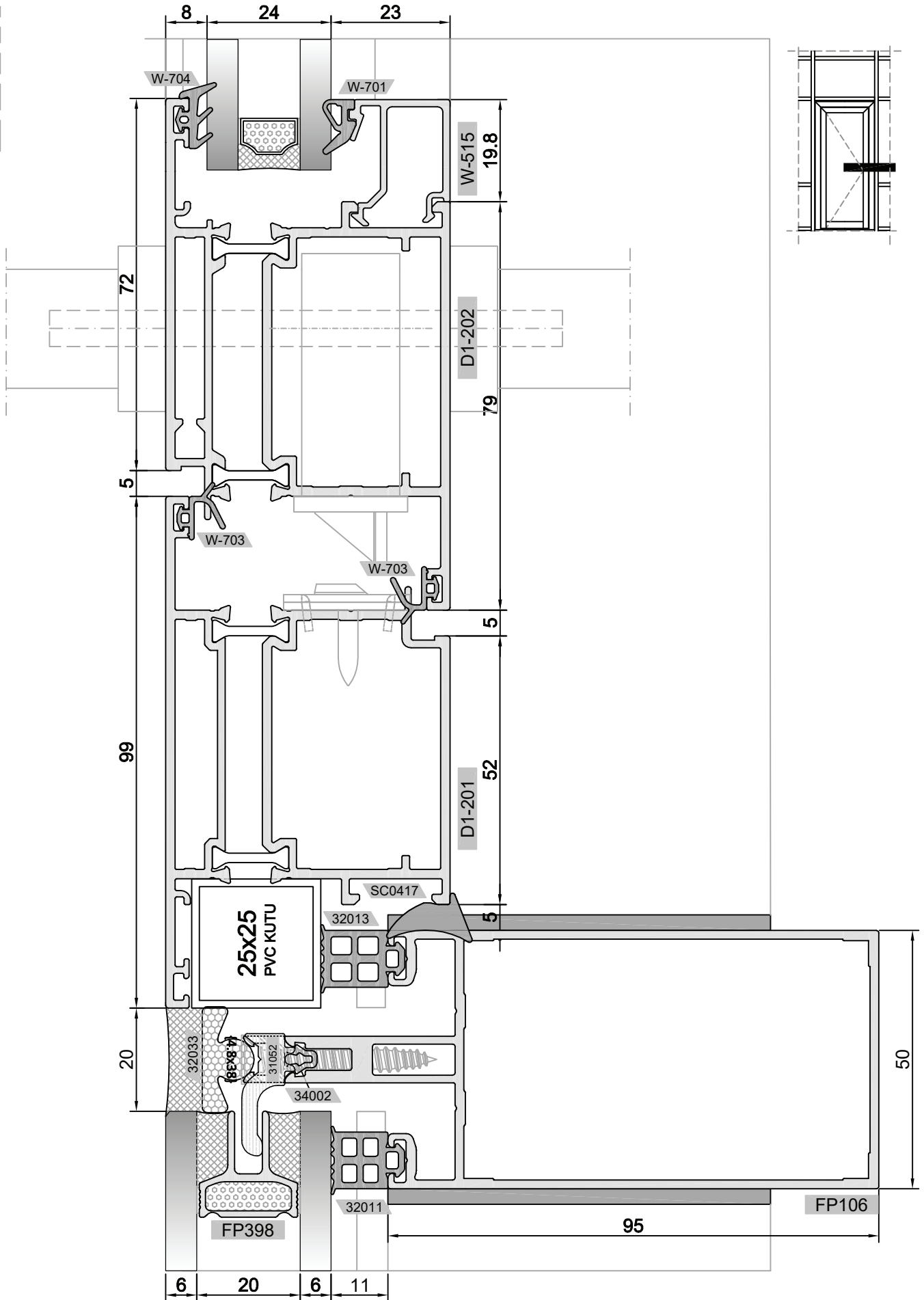


90°

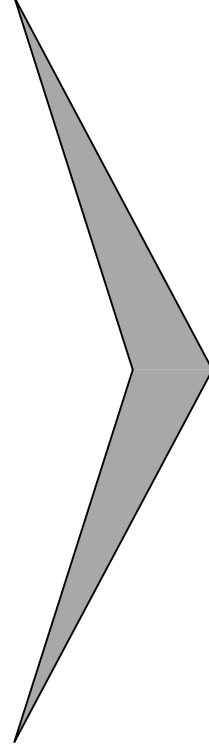
ALTERNATİF 2: ÇİFT DİKMELİ KÖŞE DETAYI  
ALTERNATIVE 2 : CORNER DETAIL WITH DOUBLE MULLION





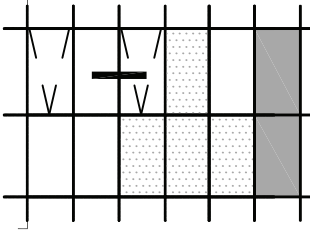


# YARI-KAPAKLI CEPHE SEMI-CAPPED CURTAIN WALL

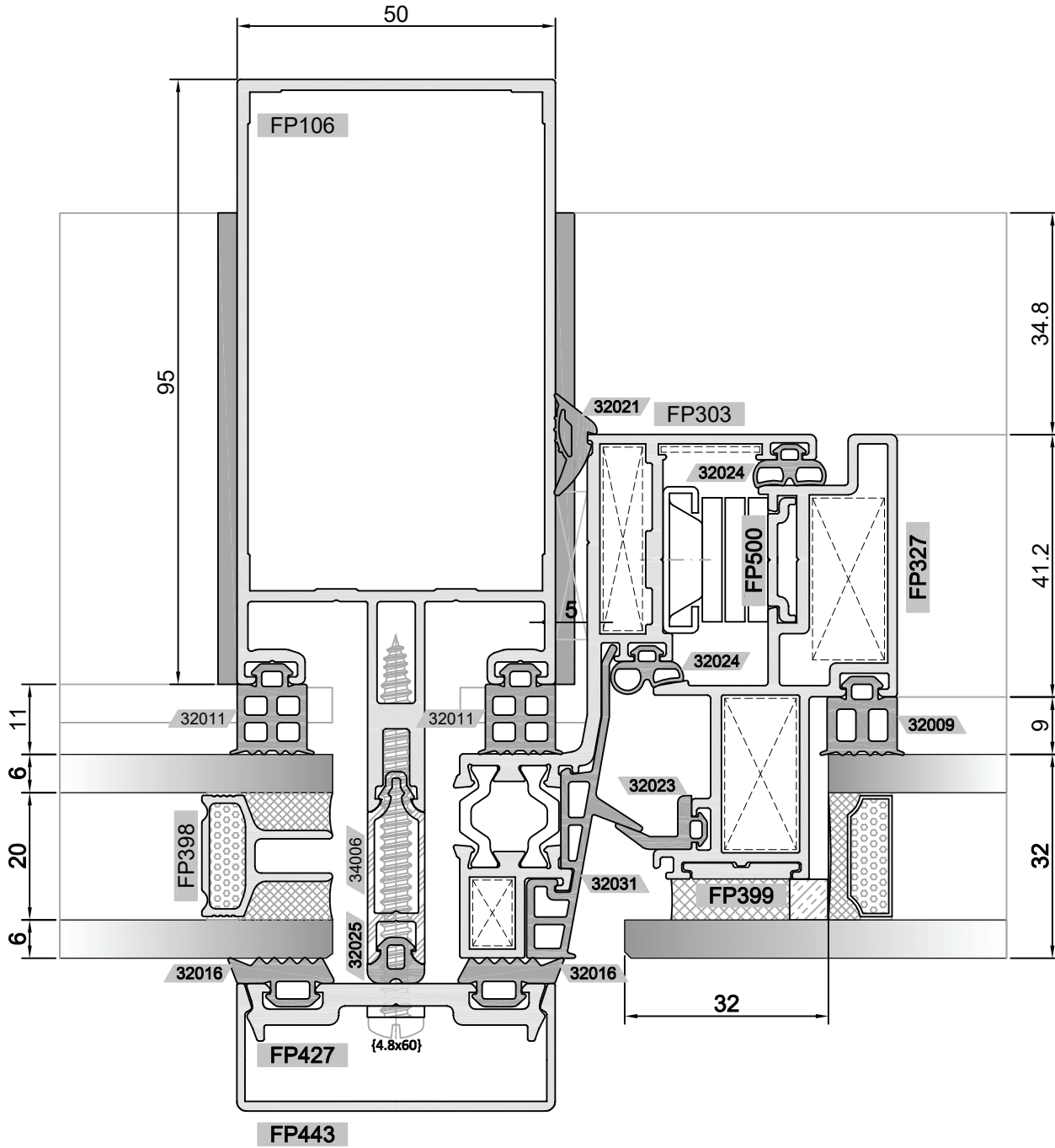


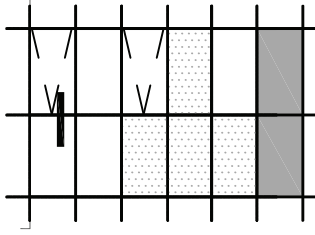
- \* 20mm STANDART  
ALÜMİNYUM ISICAM  
ÇİTASI  
20mm STANDARD  
ALUMINIUM SPACER



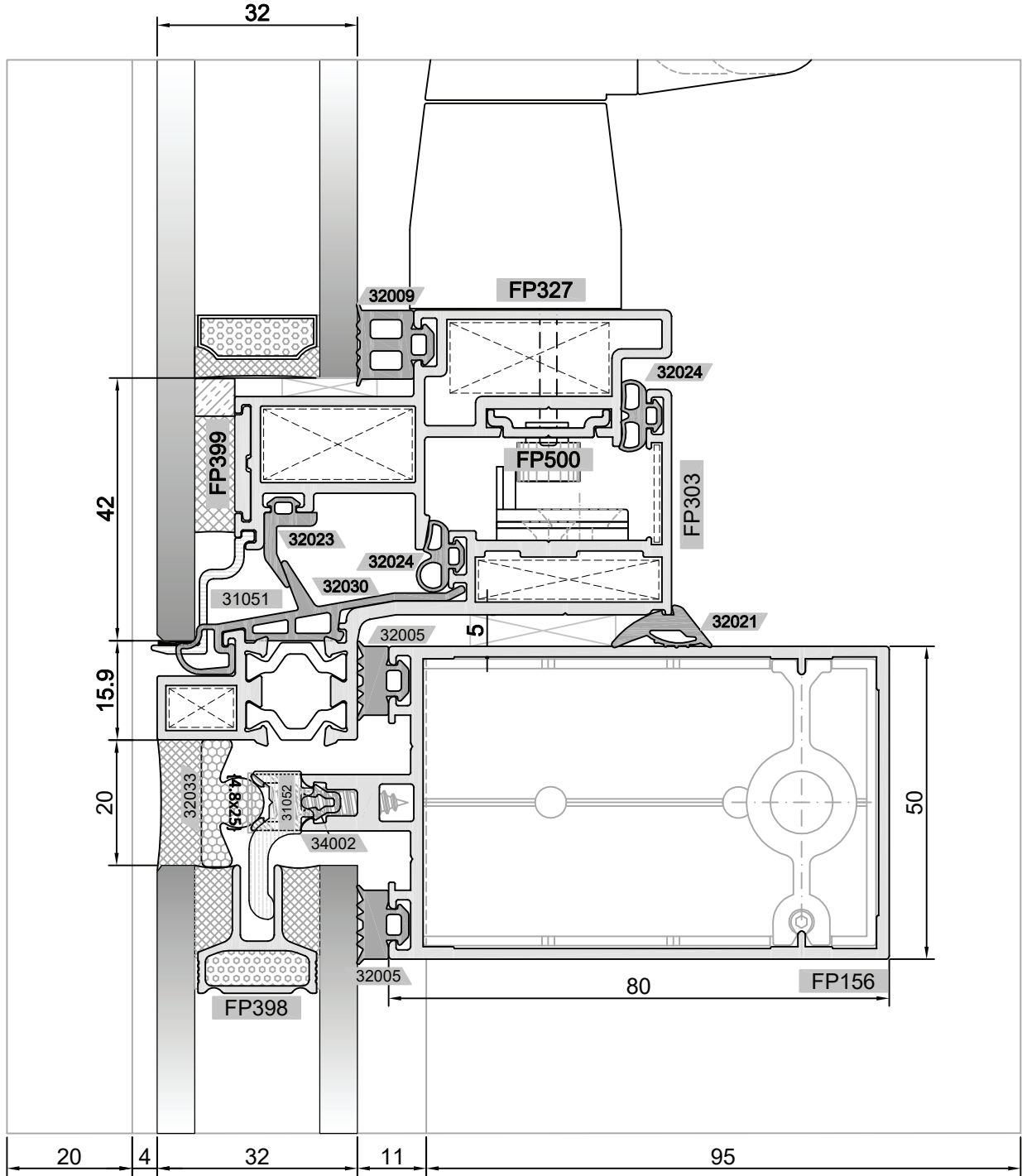


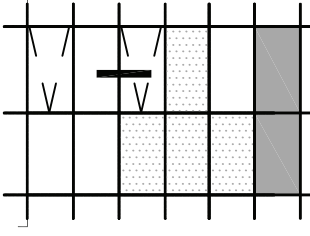
DÜŞEY DETAYI  
VERTICAL DETAIL



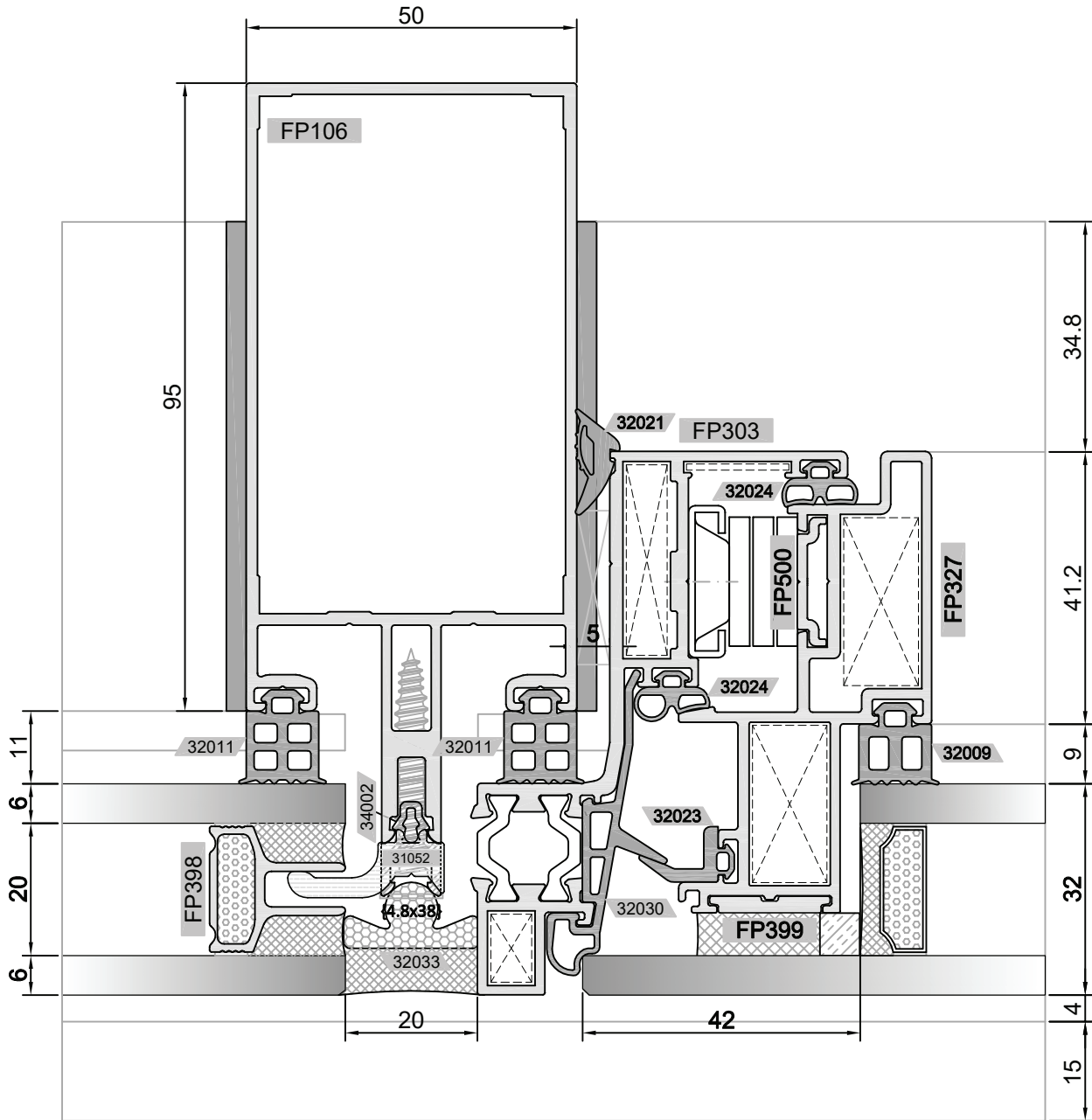


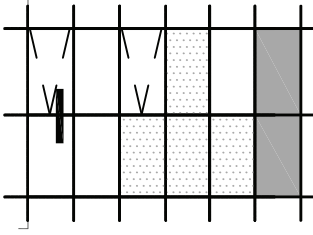
YATAY DETAYI  
HORIZONTAL DETAIL



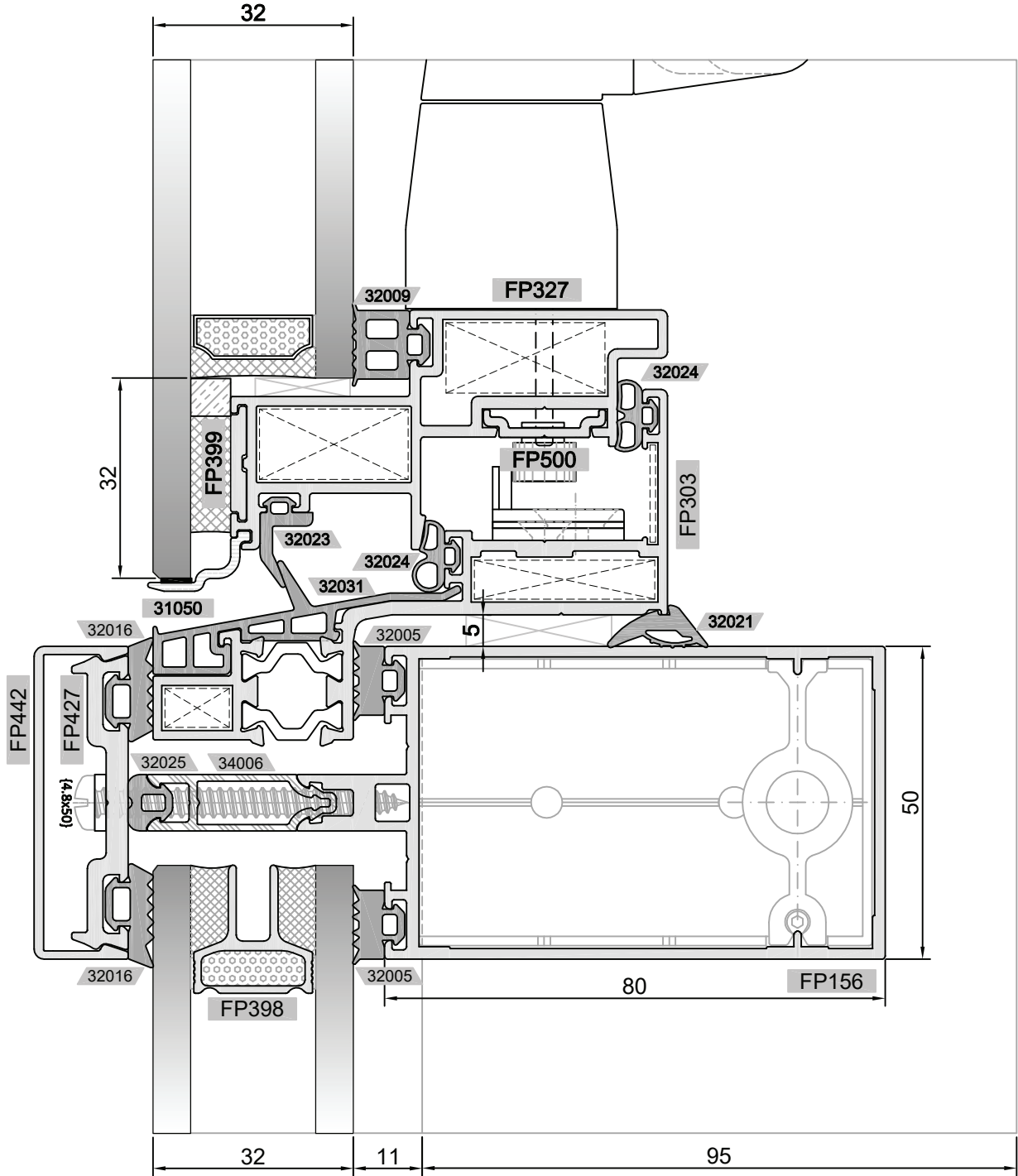


DÜŞEY DETAYI  
VERTICAL DETAIL

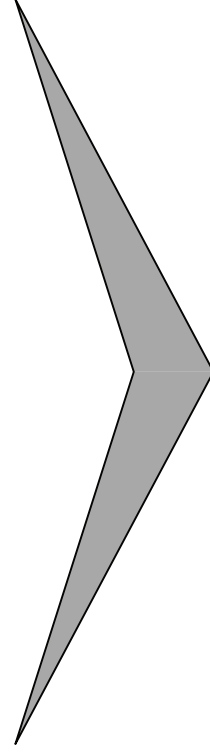




YATAY DETAYI  
HORIZONTAL DETAIL



# ENTEĞRE CEPHE INTEGRATED CURTAIN WALL

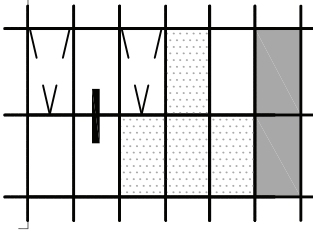


\* **16mm ÖZEL SICAK  
KENAR ISICAM ÇITASI**  
16mm SPECIAL WARM  
EDGE SPACER

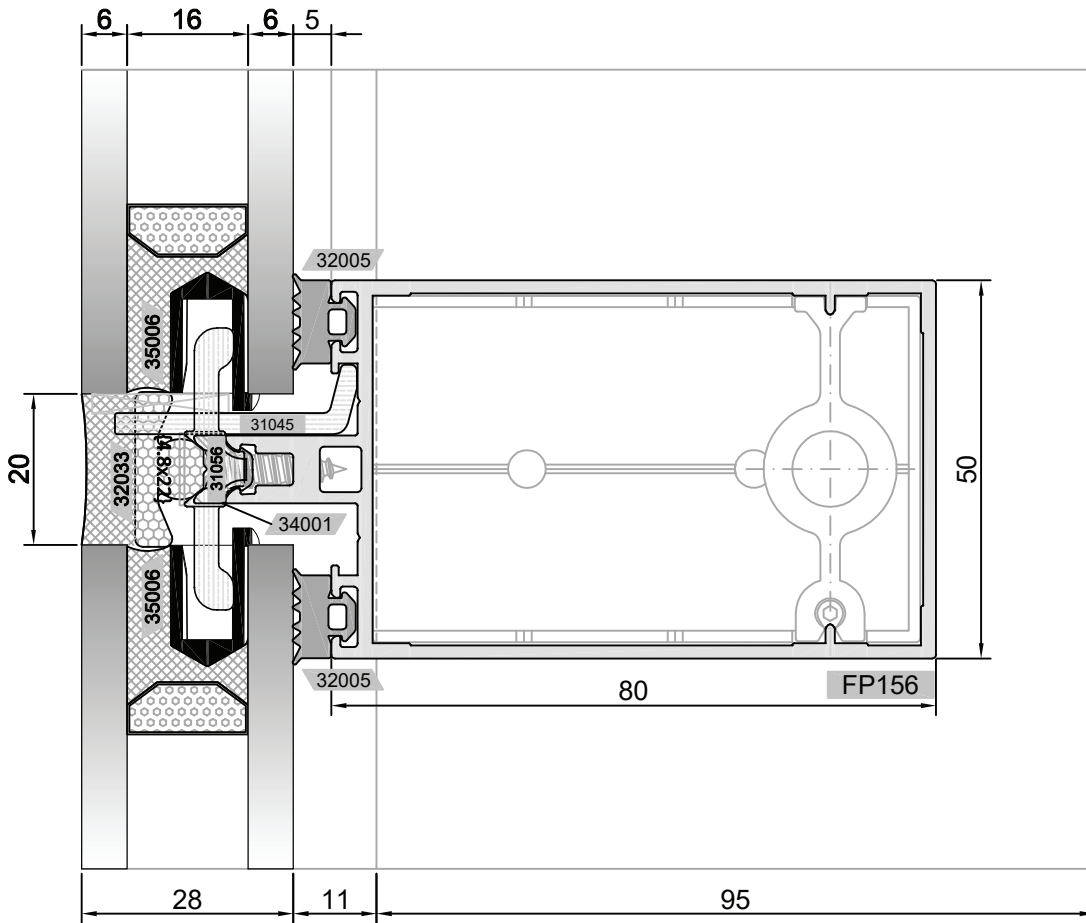
► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.  
SİSTEM ALUMINIUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.

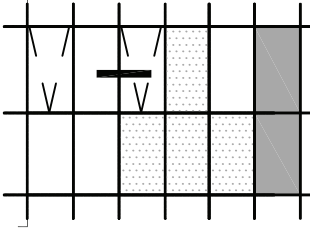






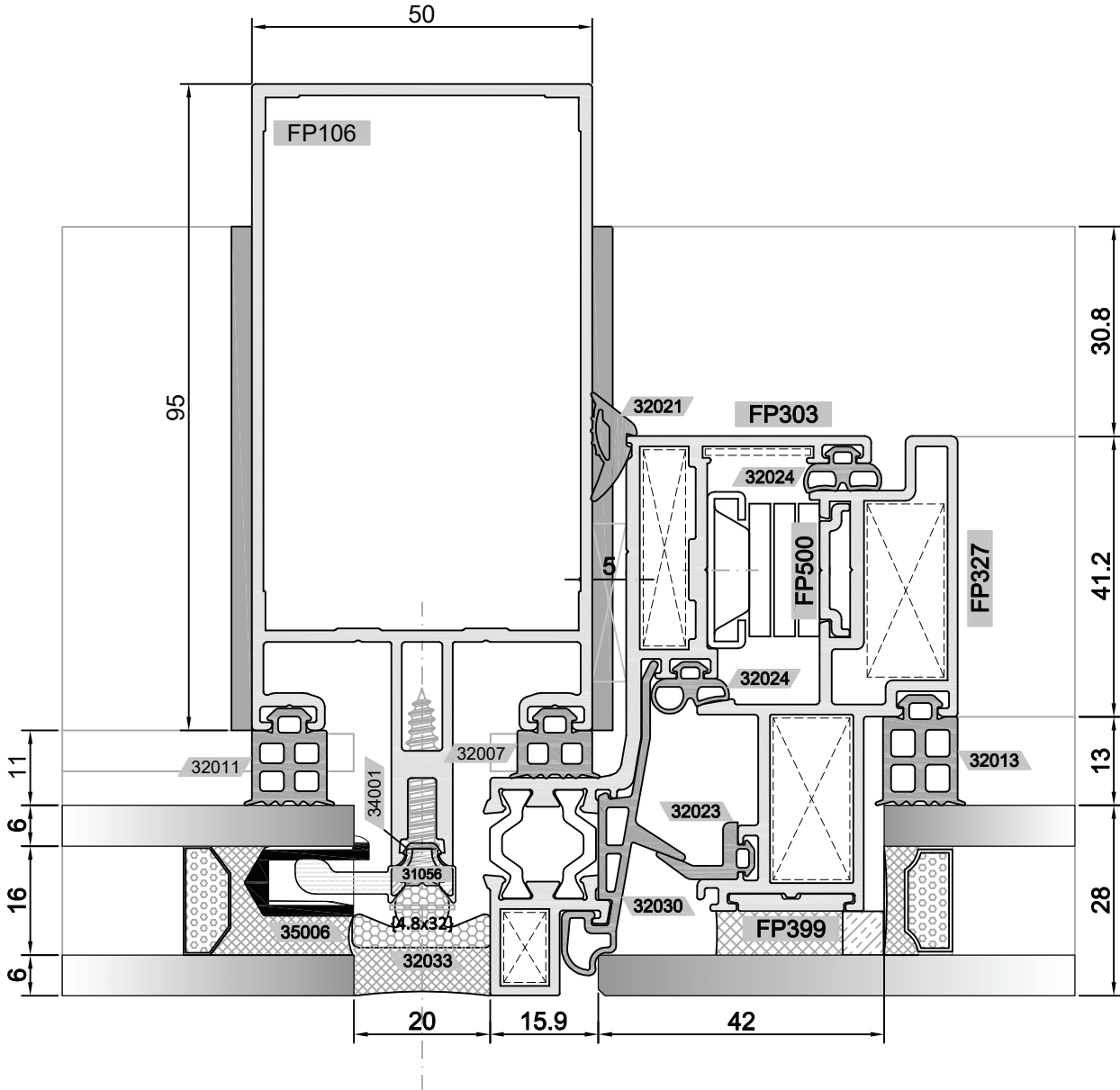
YATAY DETAYI  
HORIZONTAL DETAIL

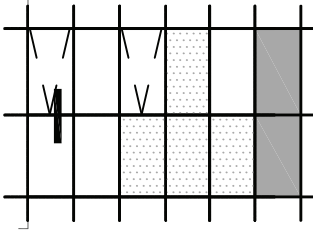




ALTERNATİF 1: YALITIMSIZ KANAT DETAYI  
ALTERNATIVE 1 : UNINSULATED VENT DETAIL

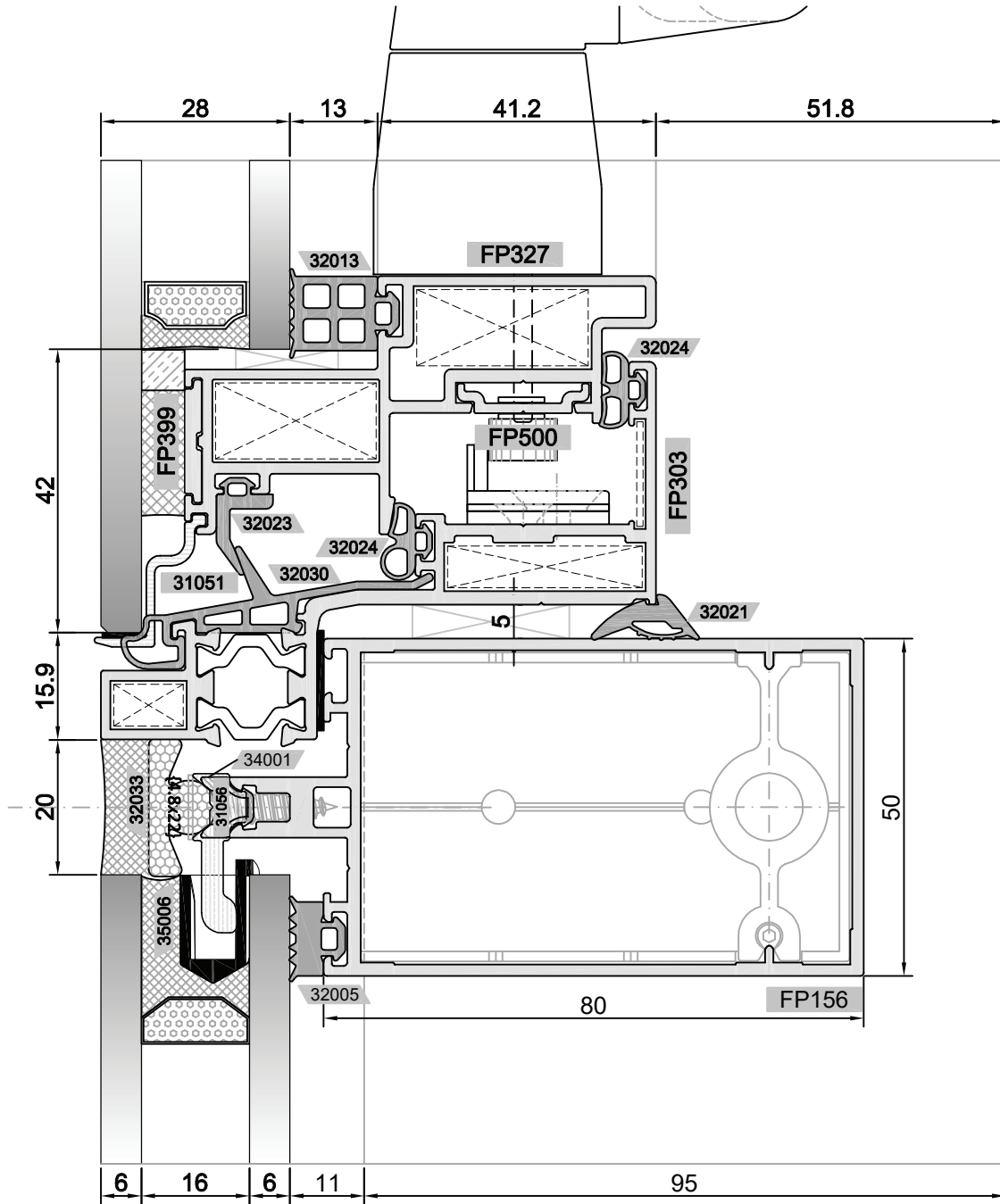
DÜŞEY DETAYI  
VERTICAL DETAIL



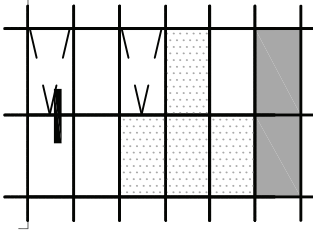


ALTERNATİF 1: YALITIMSIZ KANAT DETAYI  
ALTERNATIVE 1 : UNINSULATED VENT DETAIL

YATAY DETAYI  
HORIZONTAL DETAIL

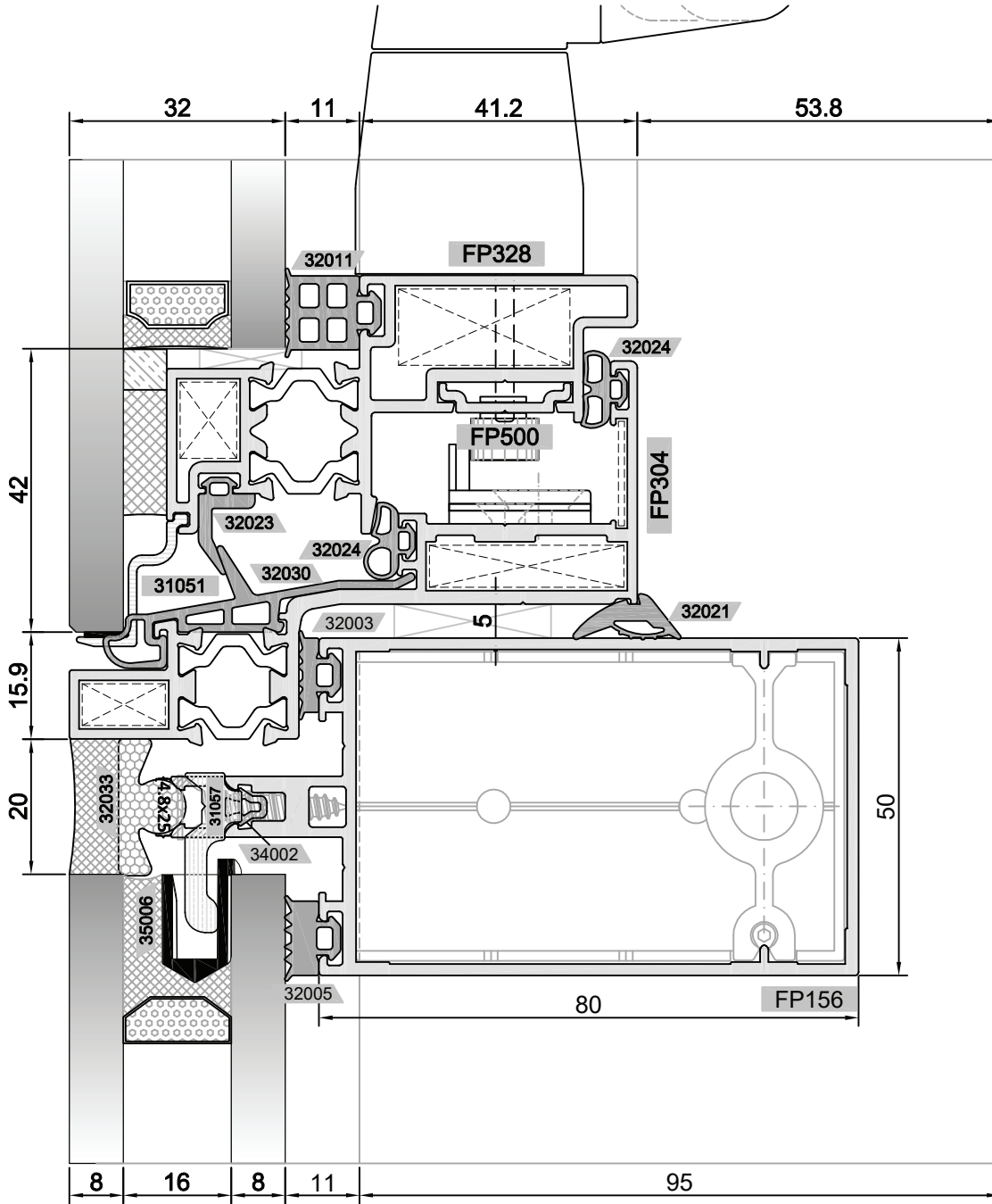


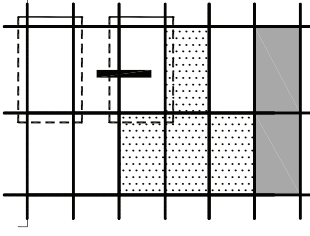




ALTERNATİF 2: YALITIMLI KANAT DETAYI  
ALTERNATIVE 2 : INSULATED VENT DETAIL

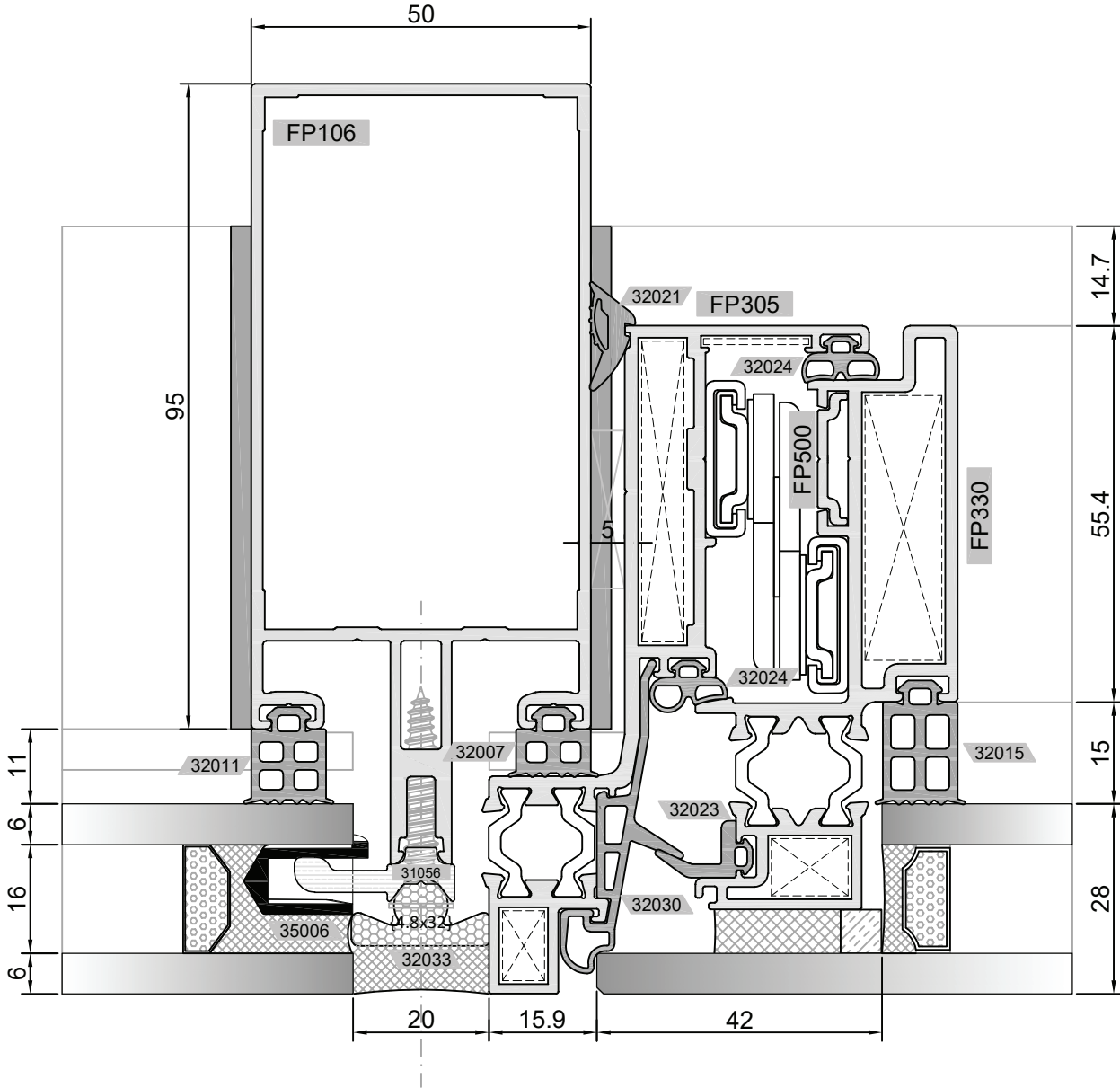
YATAY DETAYI  
HORIZONTAL DETAIL

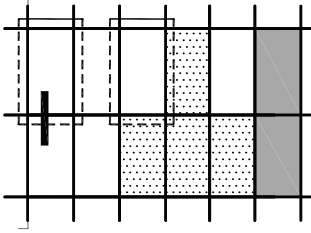




ALTERNATİF 1: YALITIMLI PARALEL AÇILIR KANAT DETAYI  
ALTERNATIVE 1 : PARALLEL OPENING INSULATED VENT DETAIL

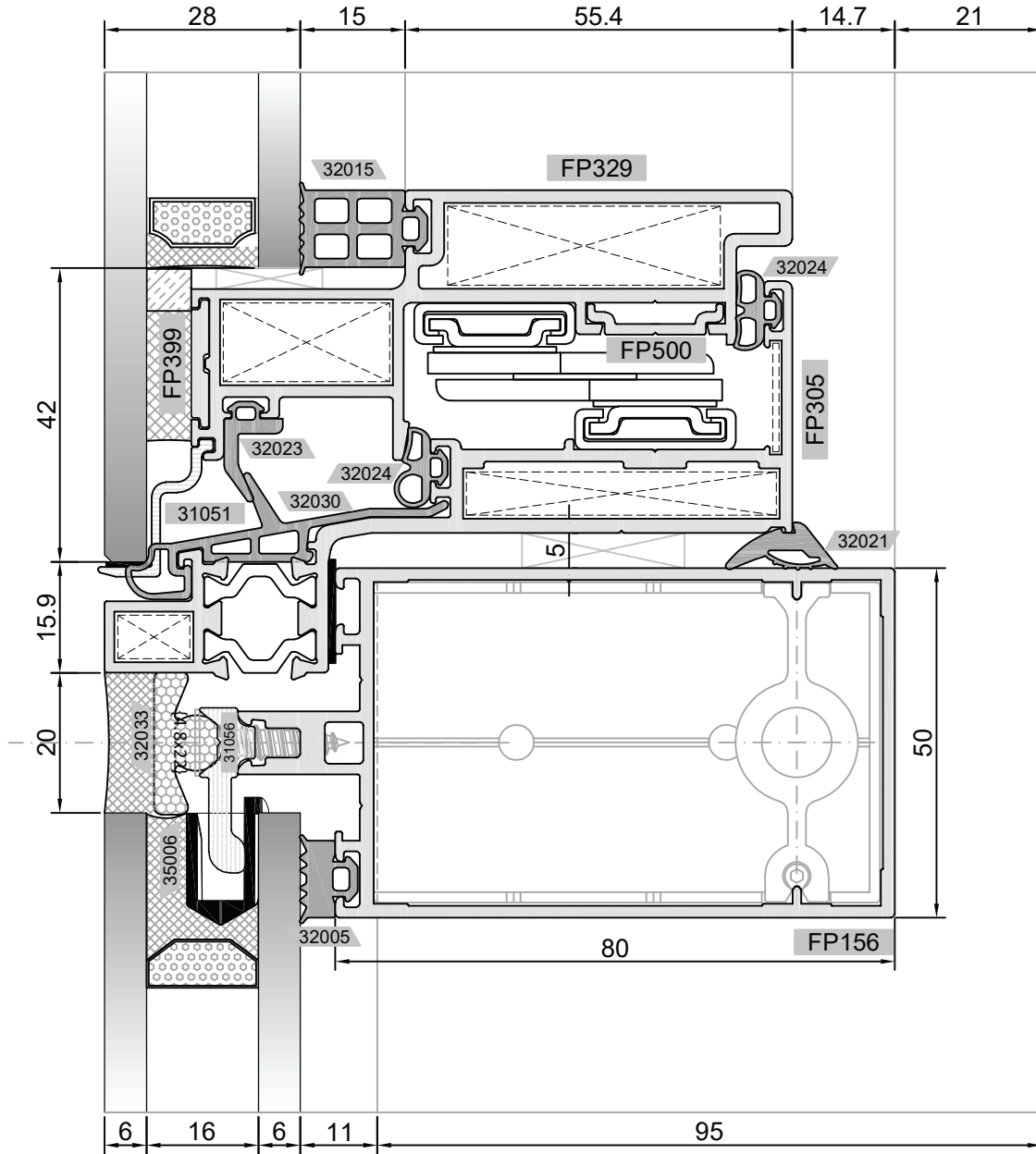
DÜŞEY DETAYI  
VERTICAL DETAIL

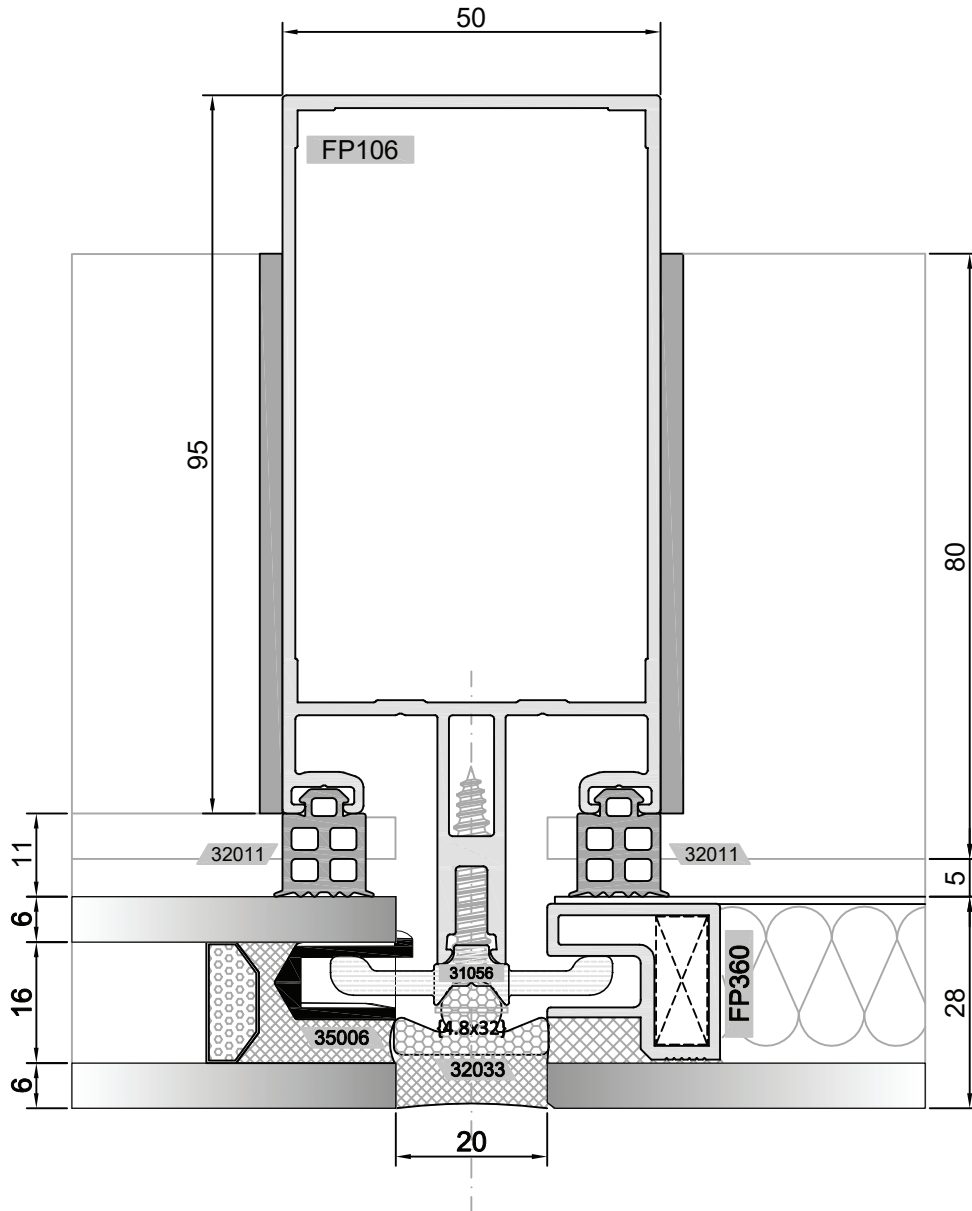
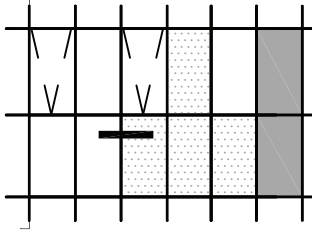


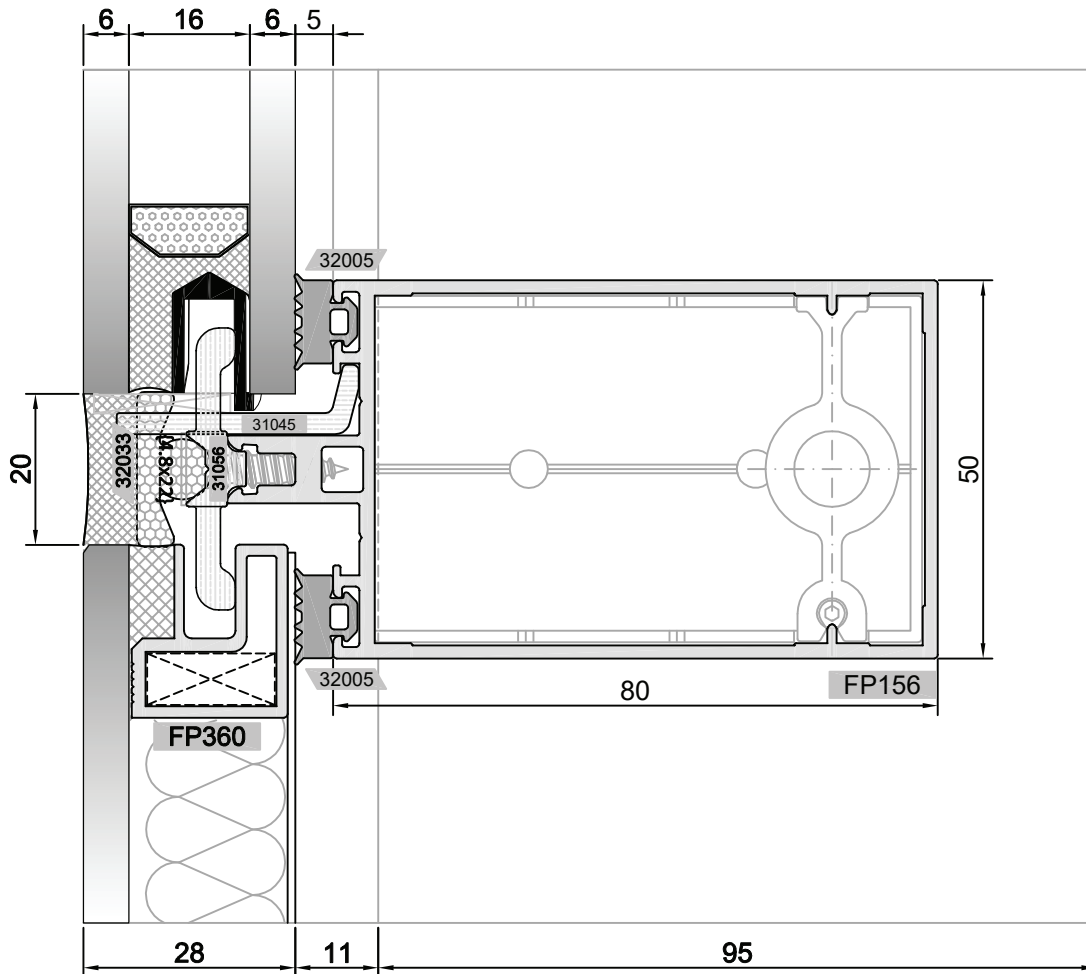
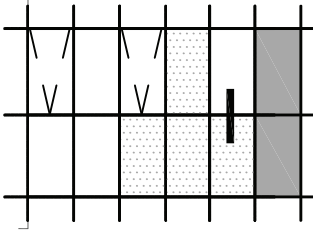


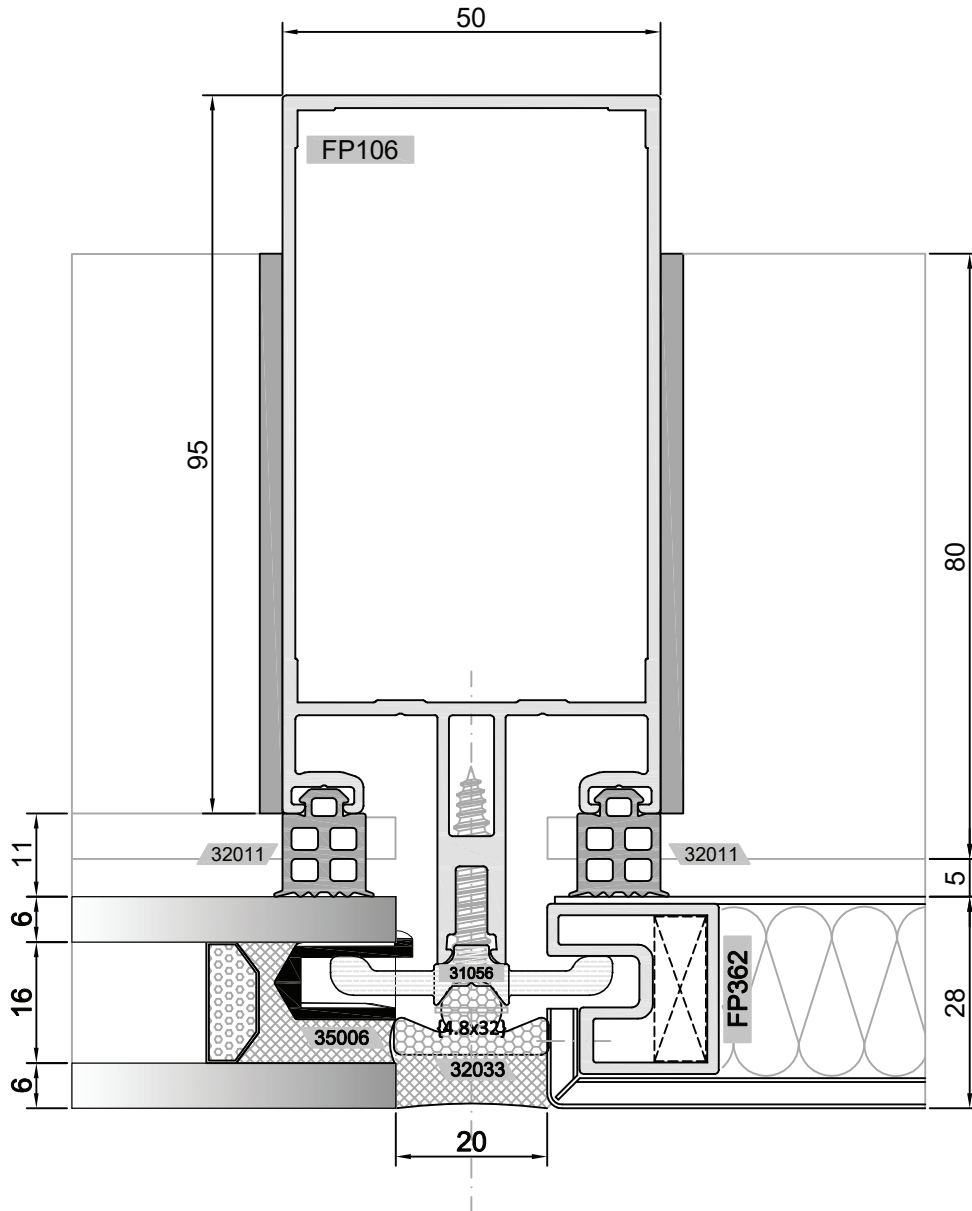
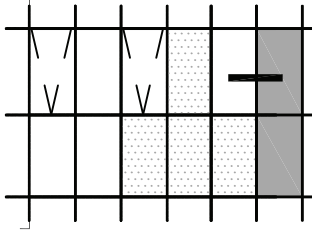
ALTERNATİF 2: YALITIMSIZ PARALEL AÇILIR KANAT DETAYI  
ALTERNATIVE 2 : PARALLEL OPENING UNINSULATED VENT DETAIL

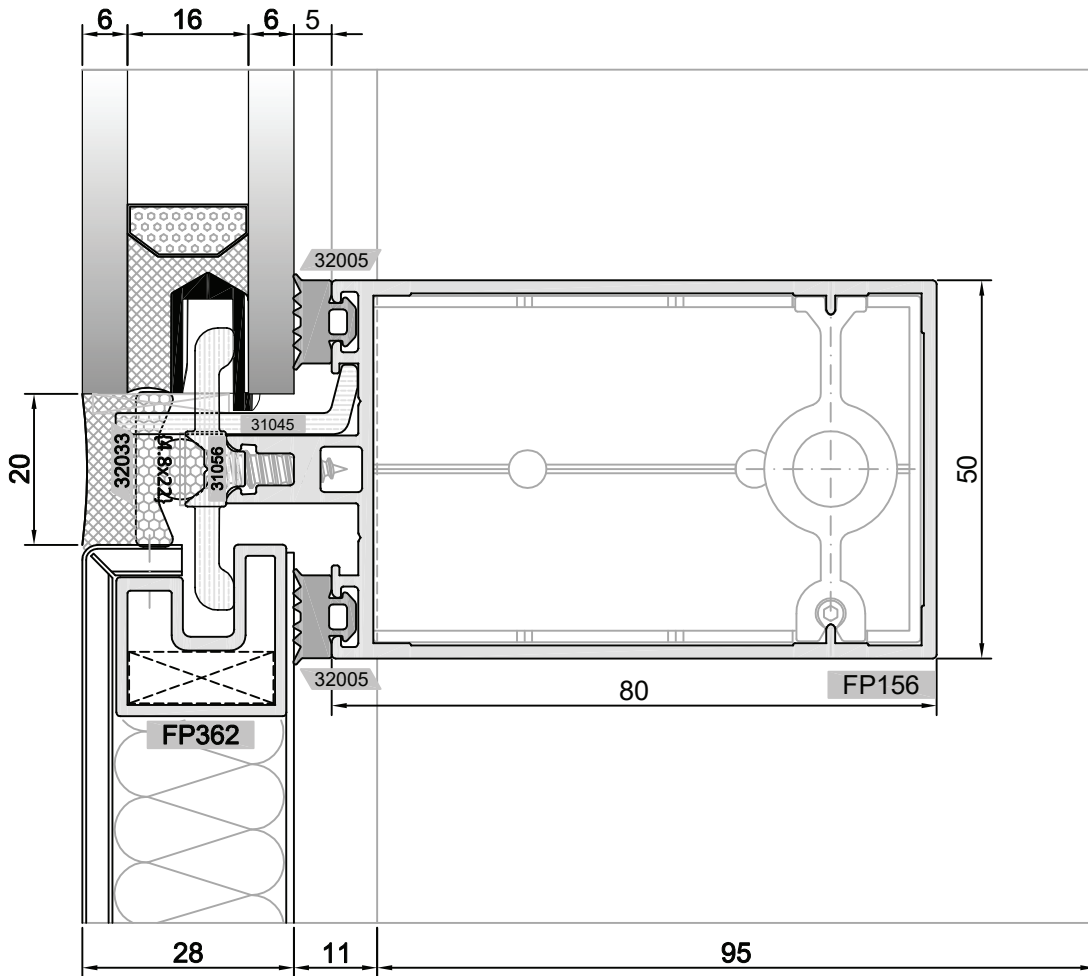
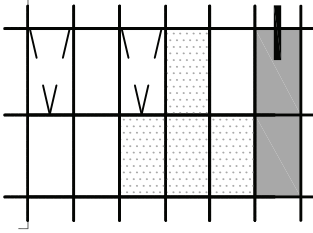
YATAY DETAYI  
HORIZONTAL DETAIL

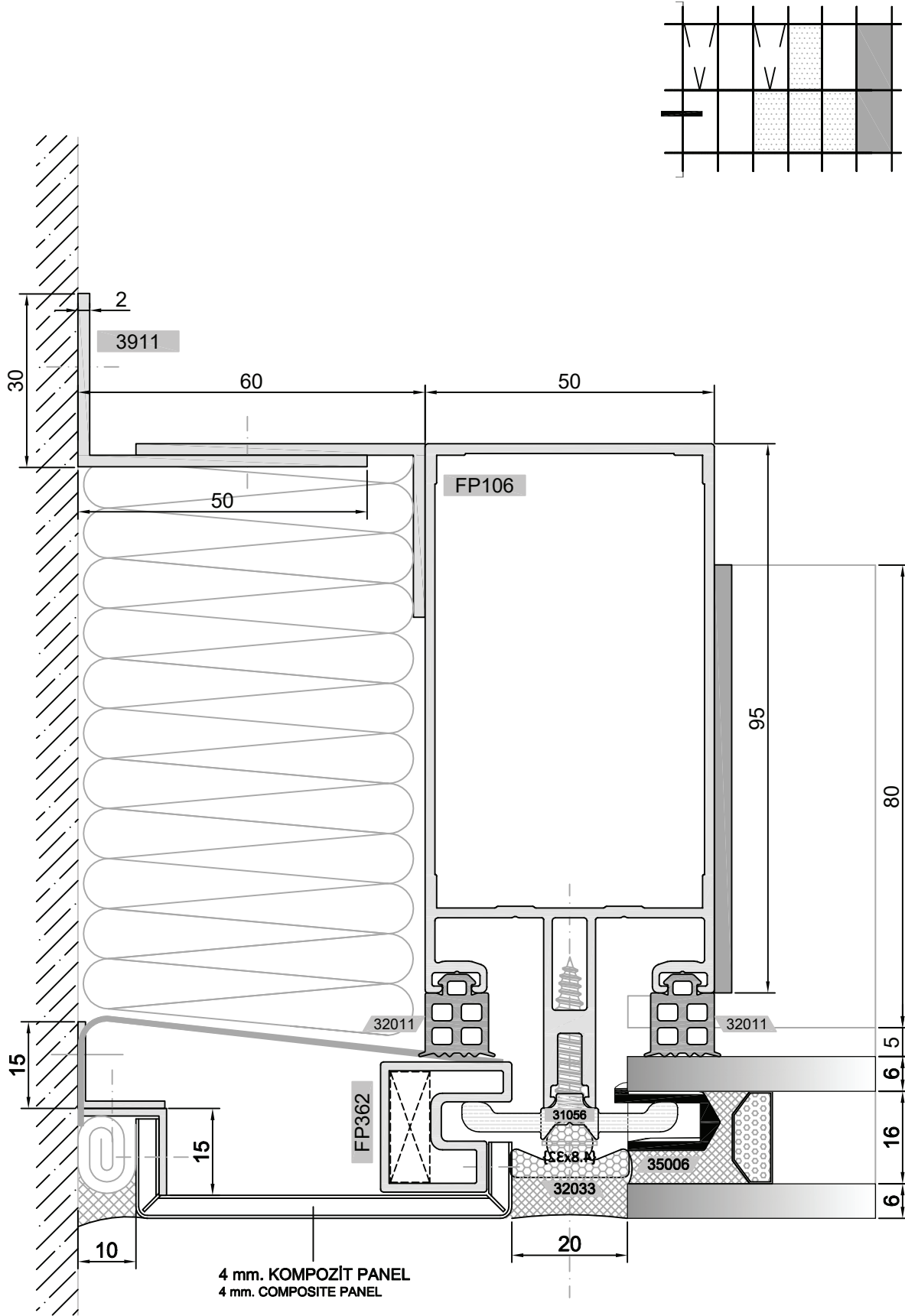


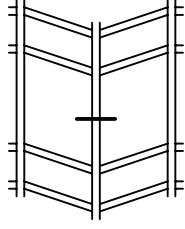




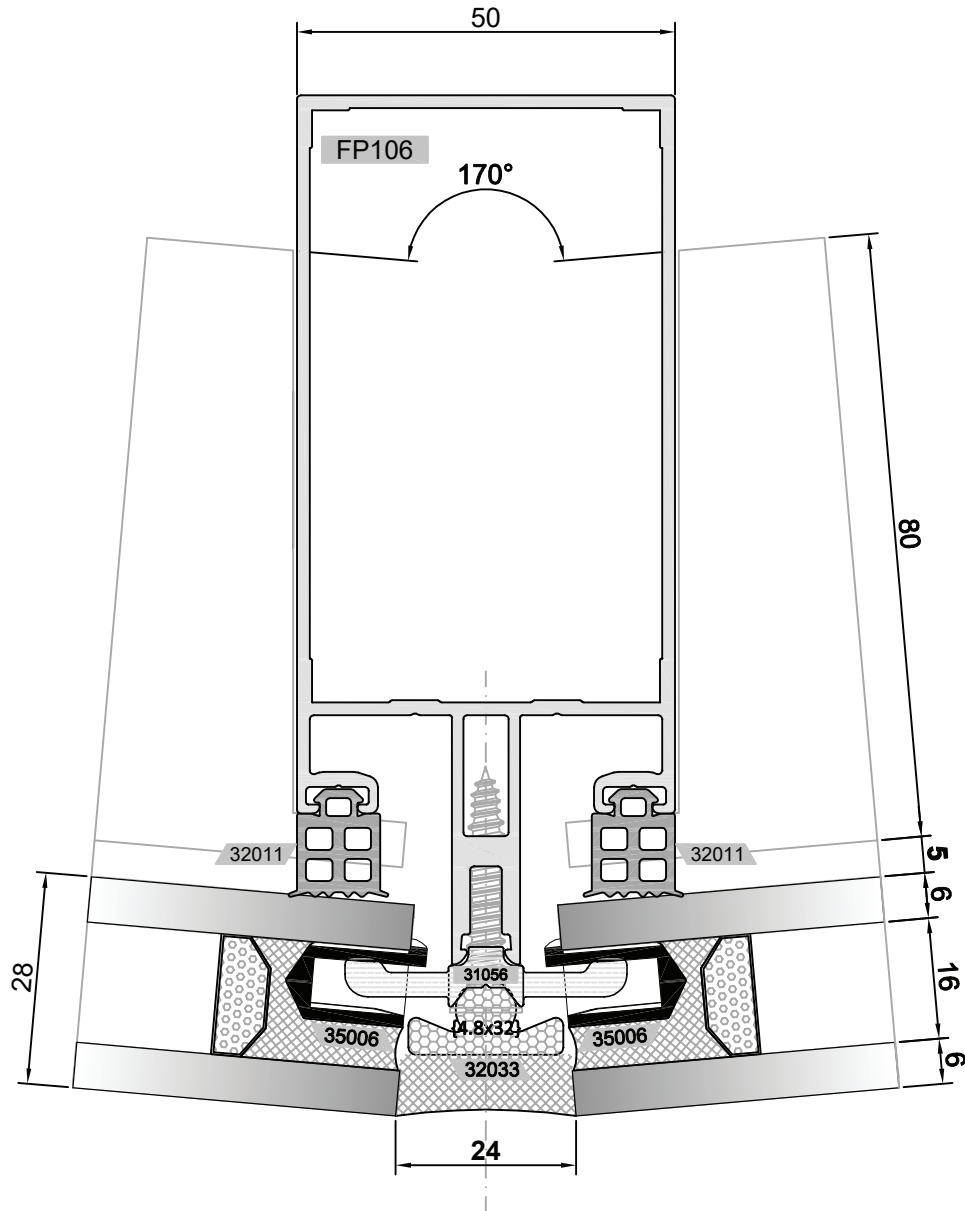


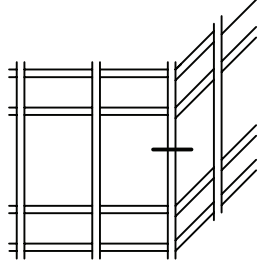






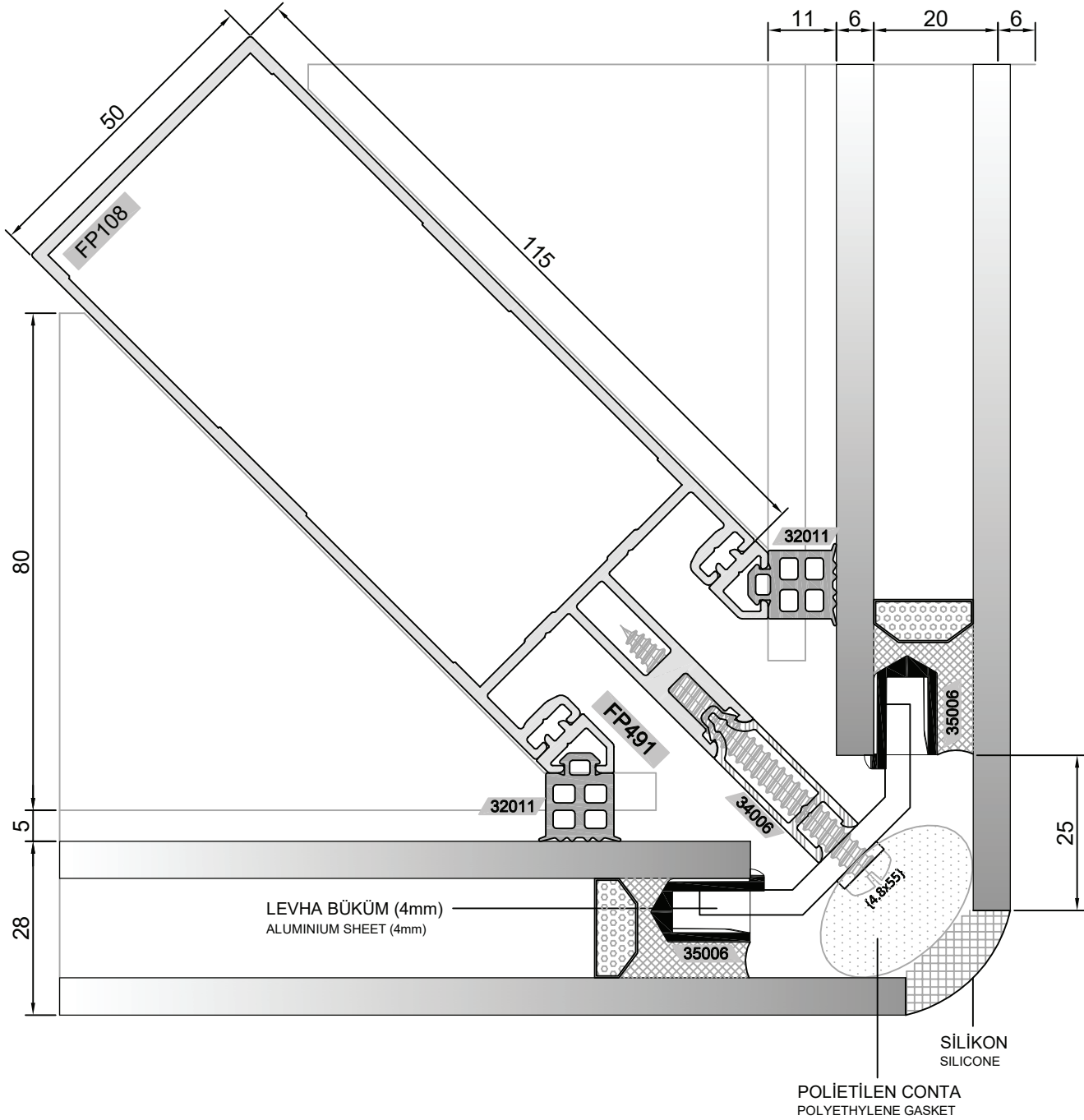
0° - 10°

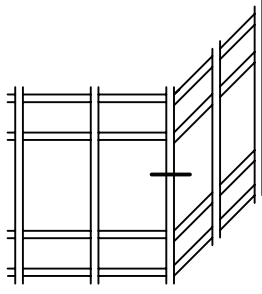




ALTERNATİF 1: TEK DİKMELİ KÖŞE DETAYI  
ALTERNATIVE 1 : CORNER DETAIL WITH SINGLE MULLION

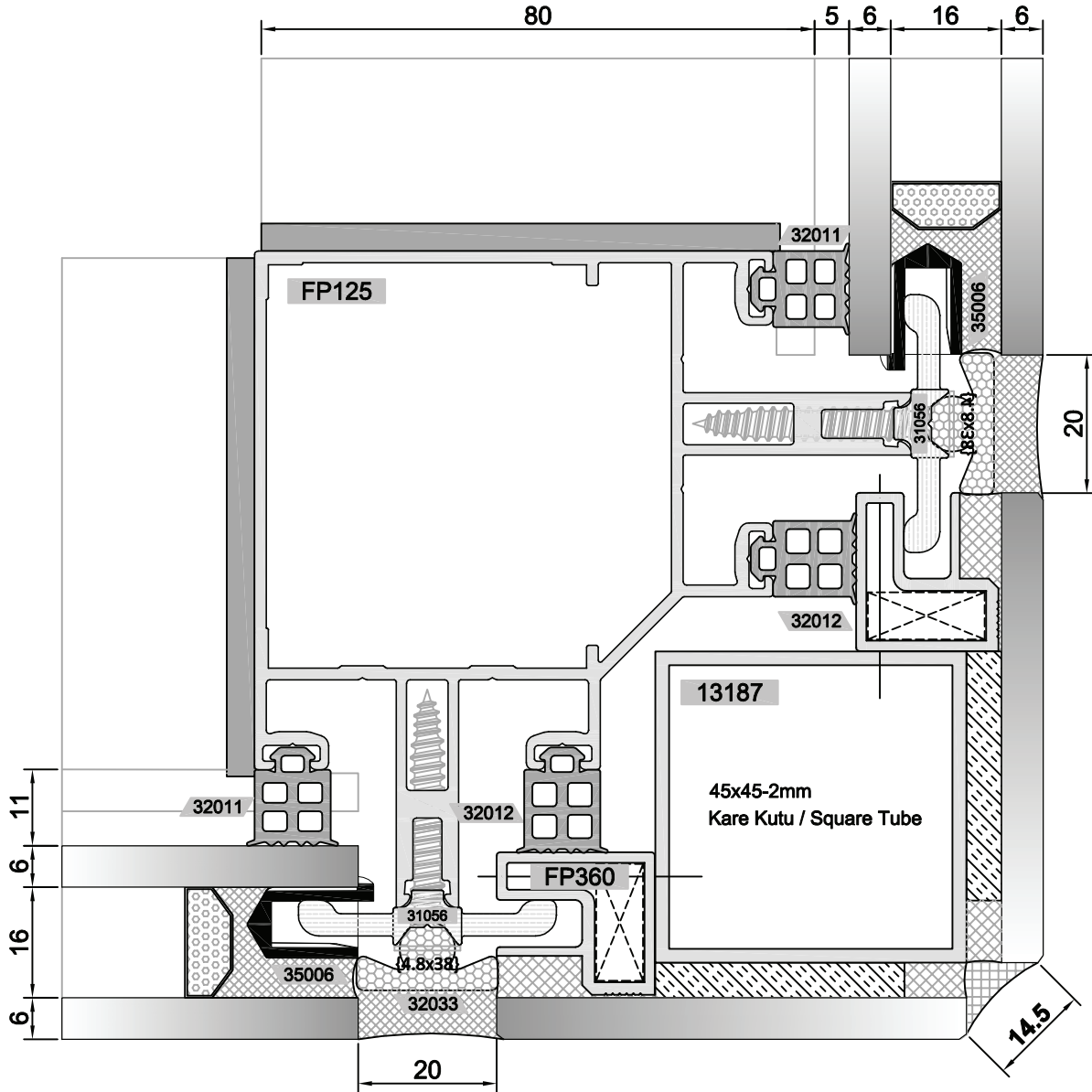
90°

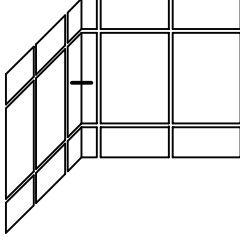




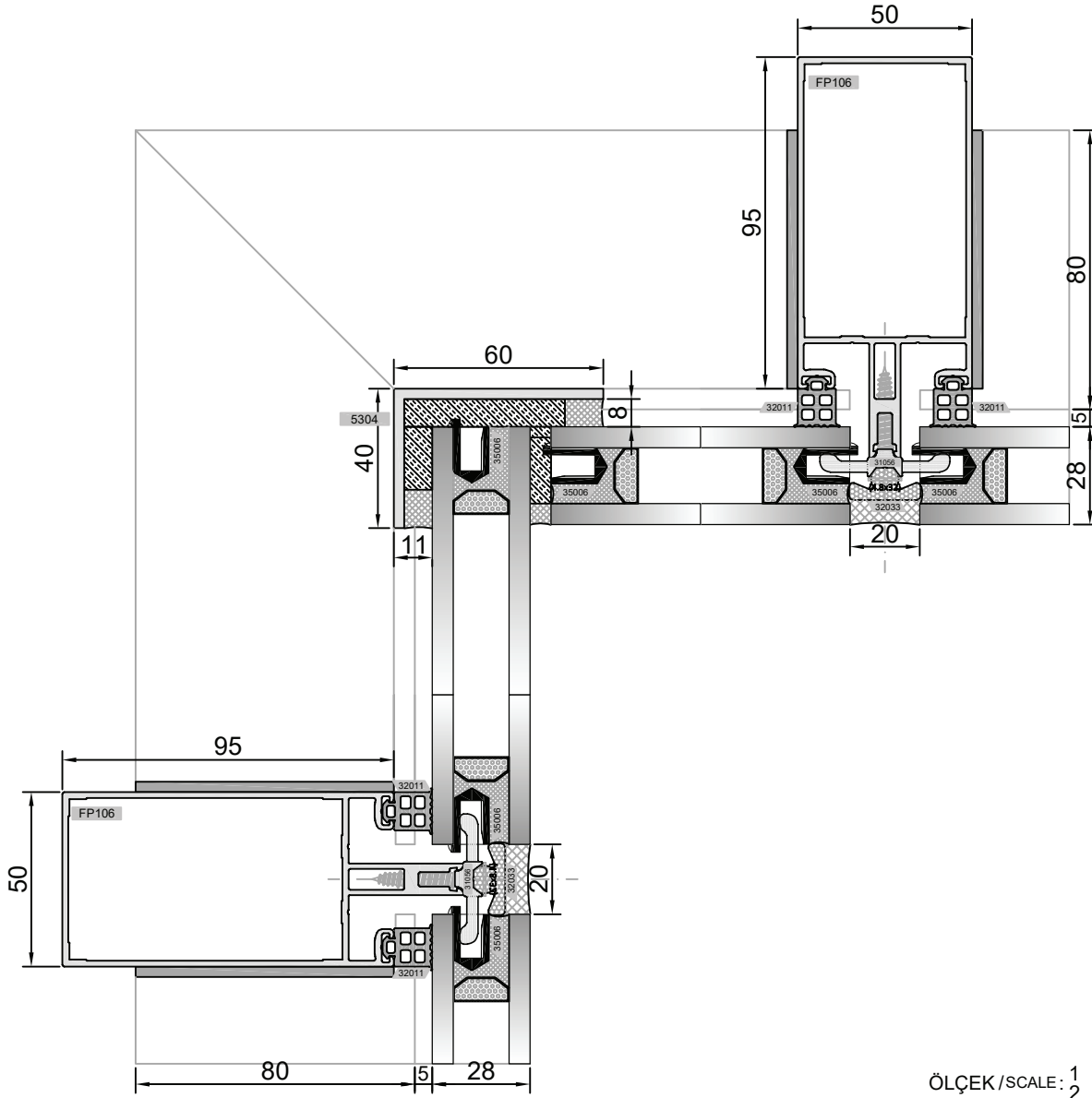
90°

ALTERNATİF 2: ÇİFT DİKMELİ KÖŞE DETAYI  
ALTERNATIVE 2 : CORNER DETAIL WITH DOUBLE MULLION





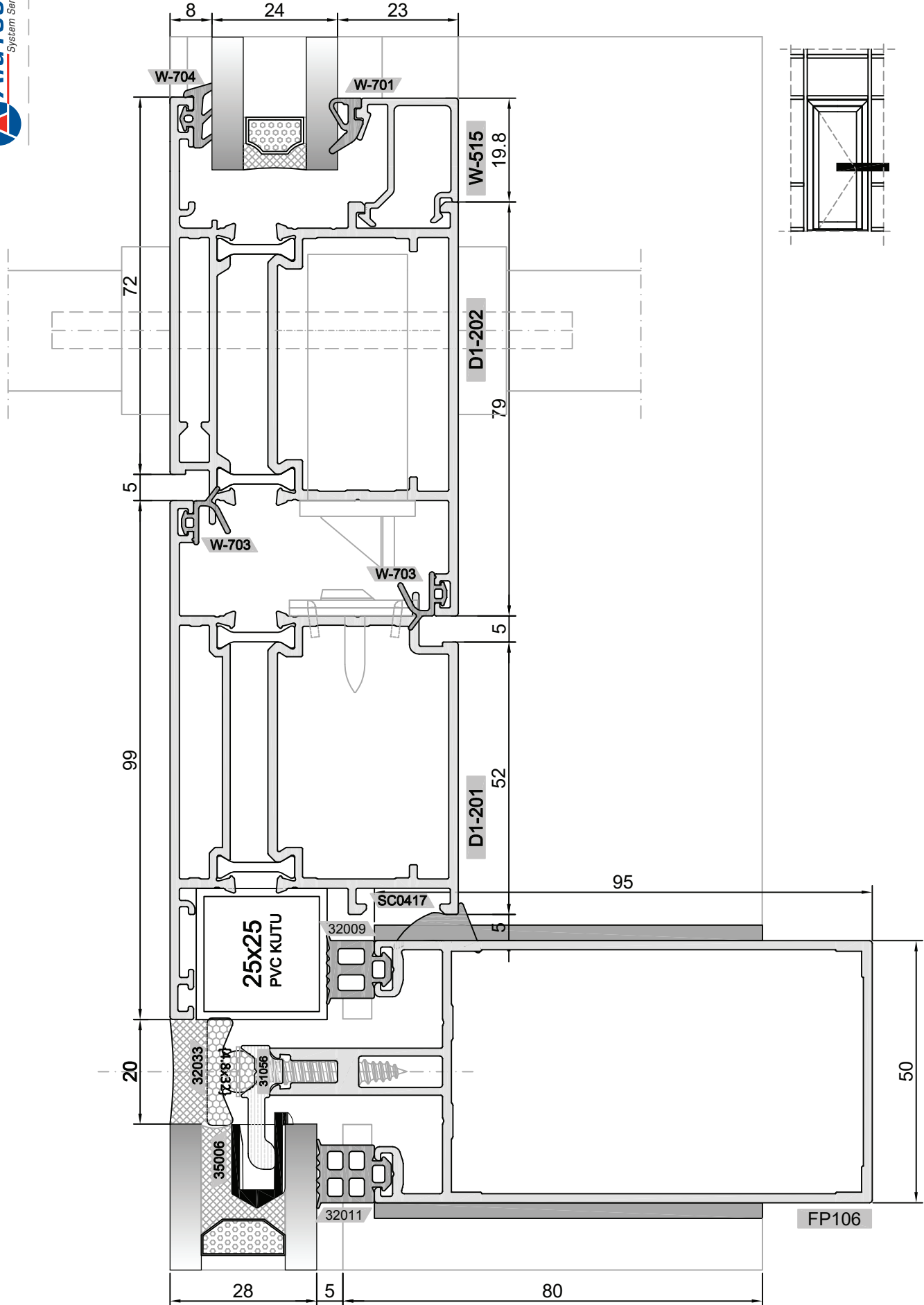
90° İÇ AÇILI CAM CEPHE DÜŞEY KESİT DETAYI  
FOUR SIDE WITH 90° INTERNAL ANGLE VERTICAL DETAIL



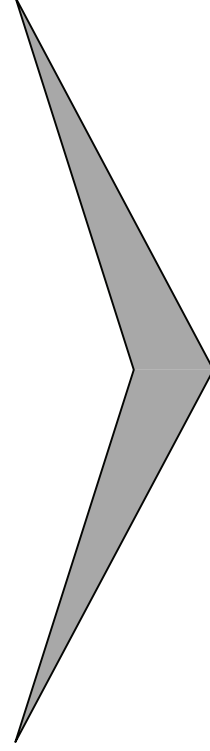
ÖLÇEK / SCALE: 1/2

# F50-ENERGY

\* ENTEGRE CEPHE / INTEGRATED CURTAIN WALL



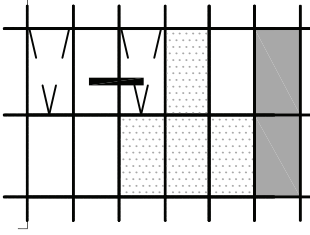
# YARI-KAPAKLI CEPHE SEMI-CAPPED CURTAIN WALL



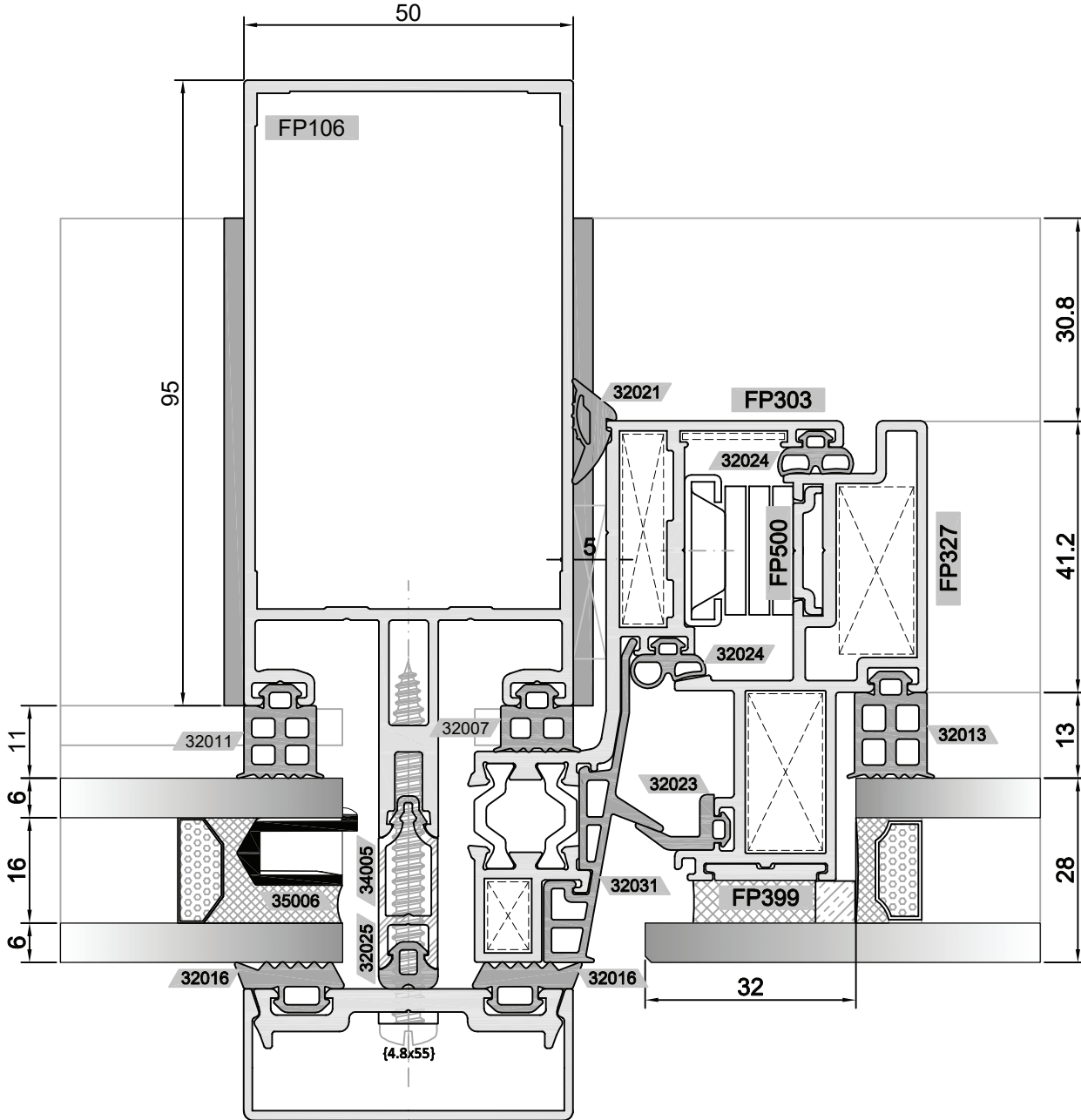
\* **16mm ÖZEL SICAK  
KENAR ISICAM ÇITASI**  
16mm SPECIAL WARM  
EDGE SPACER

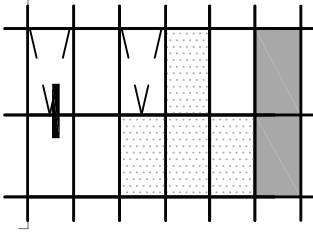
► **SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.**  
SİSTEM ALUMINIUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



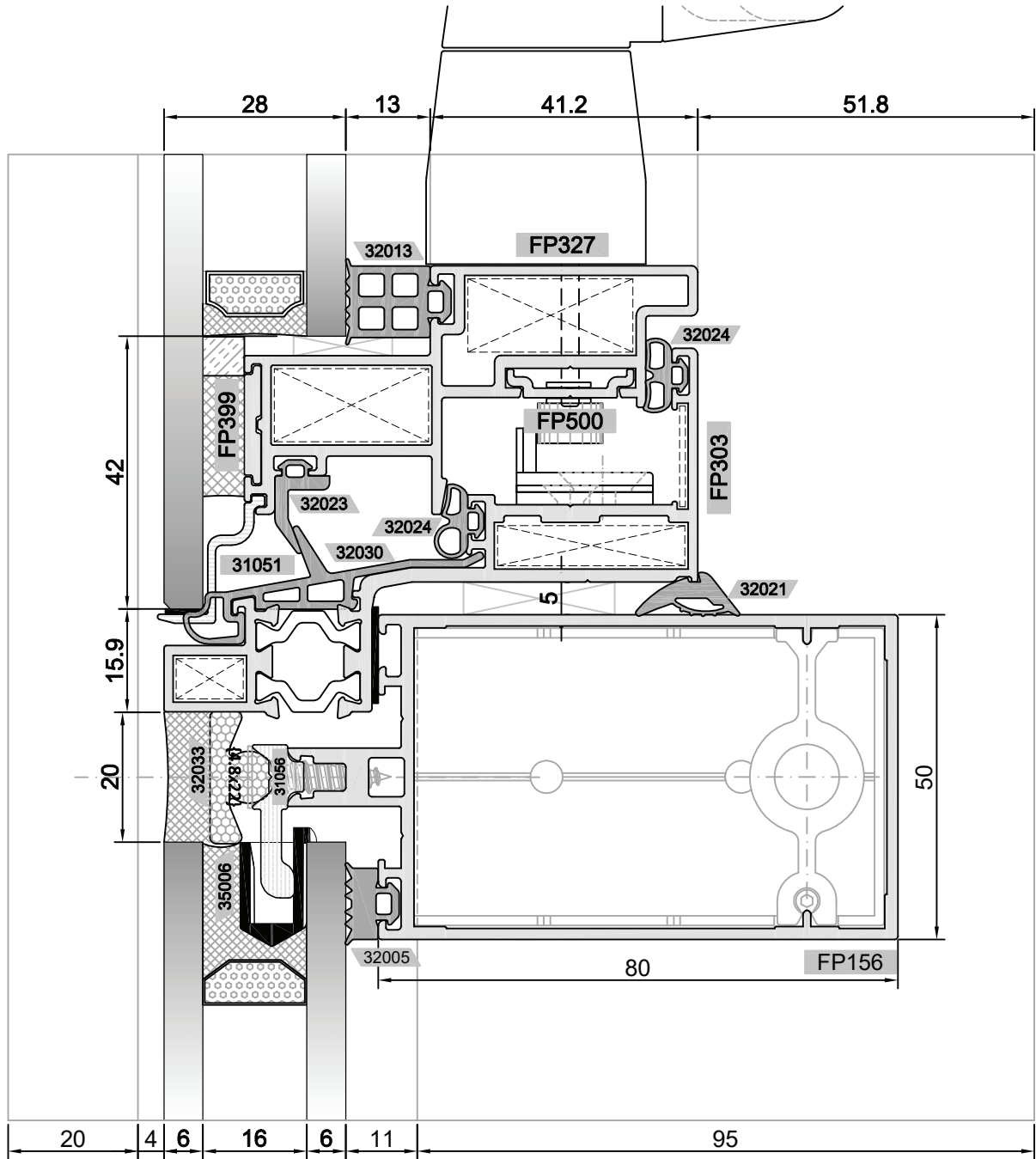


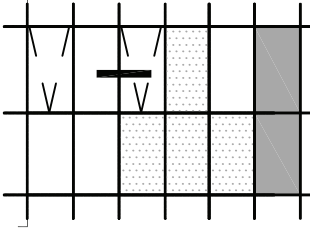
DÜŞEY DETAYI  
VERTICAL DETAIL



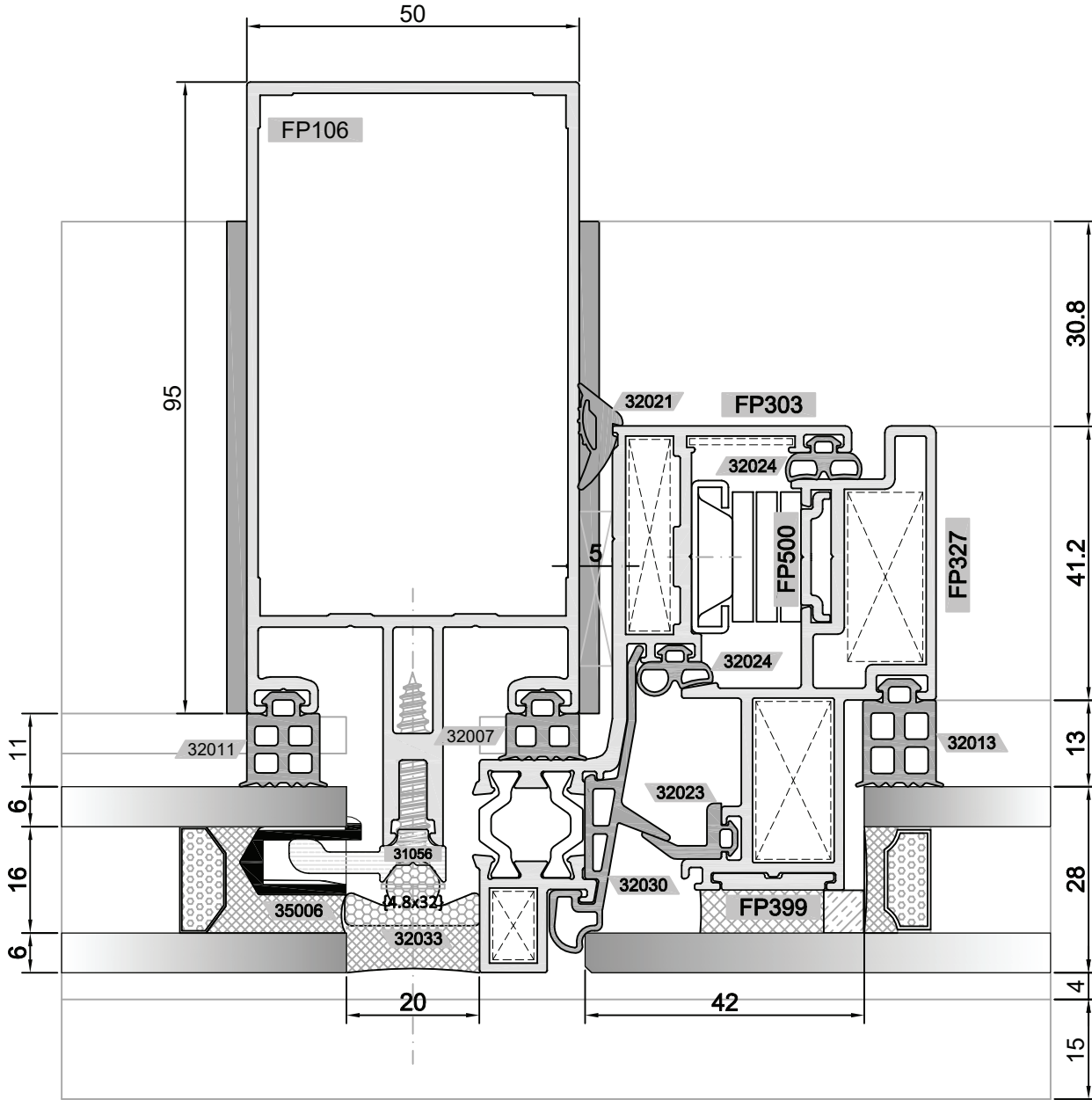


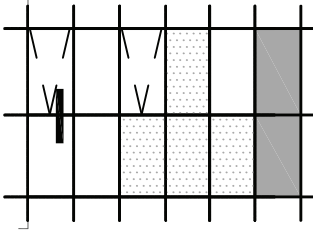
YATAY DETAYI  
HORIZONTAL DETAIL



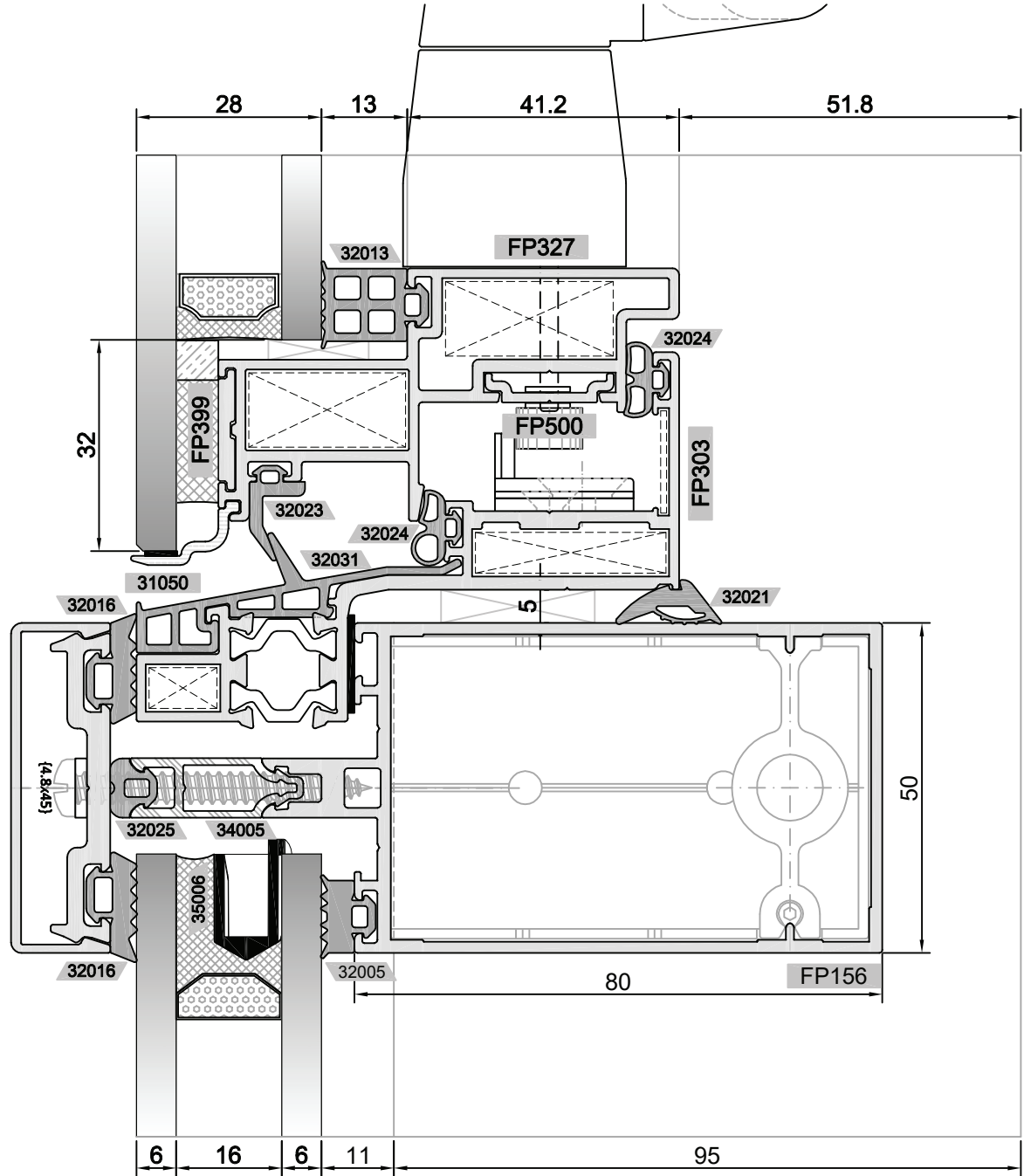


DÜŞEY DETAYI  
VERTICAL DETAIL

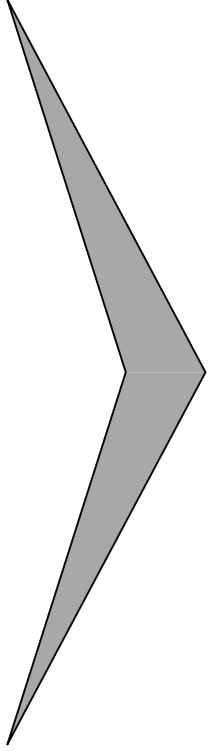




YATAY DETAYI  
HORIZONTAL DETAIL



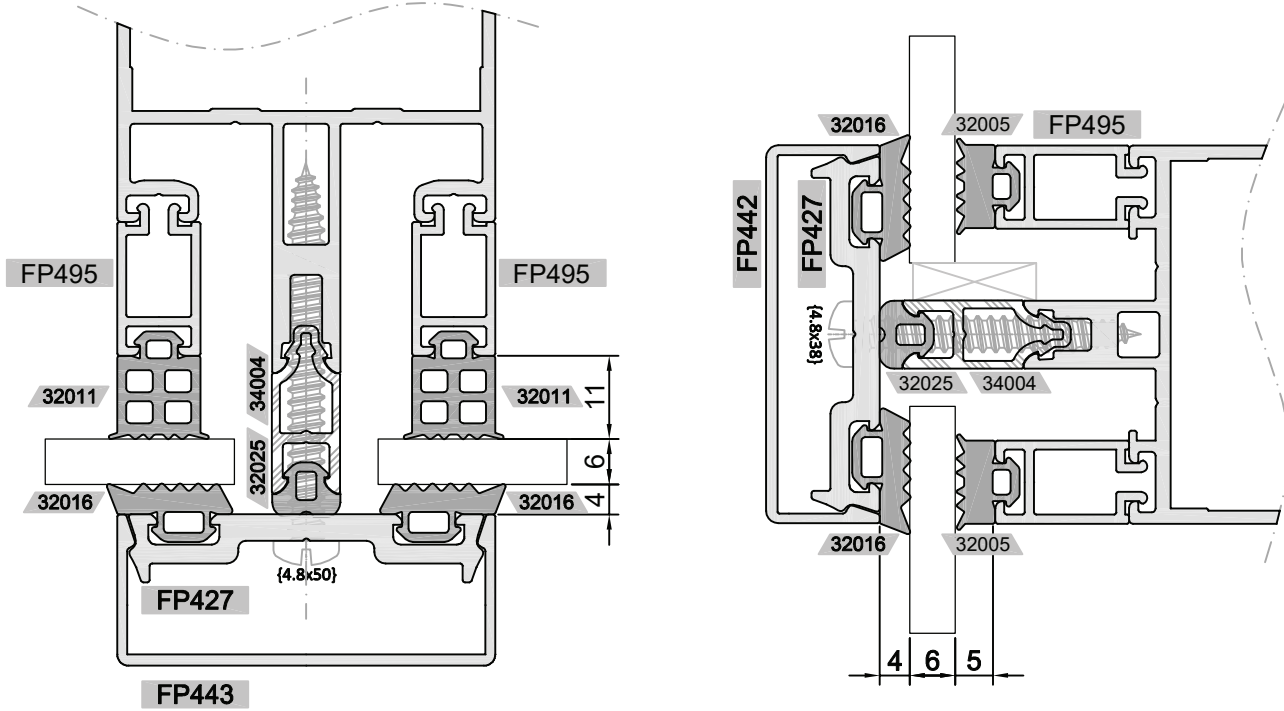
**CAM KALINLIKLARINA GÖRE  
KAPAKLI SİSTEM DETAYLARI**  
**CAPPED CURTAIN WALL DETAILS**  
**ACCORDING TO THE GLASS**  
**THICKNESSES**



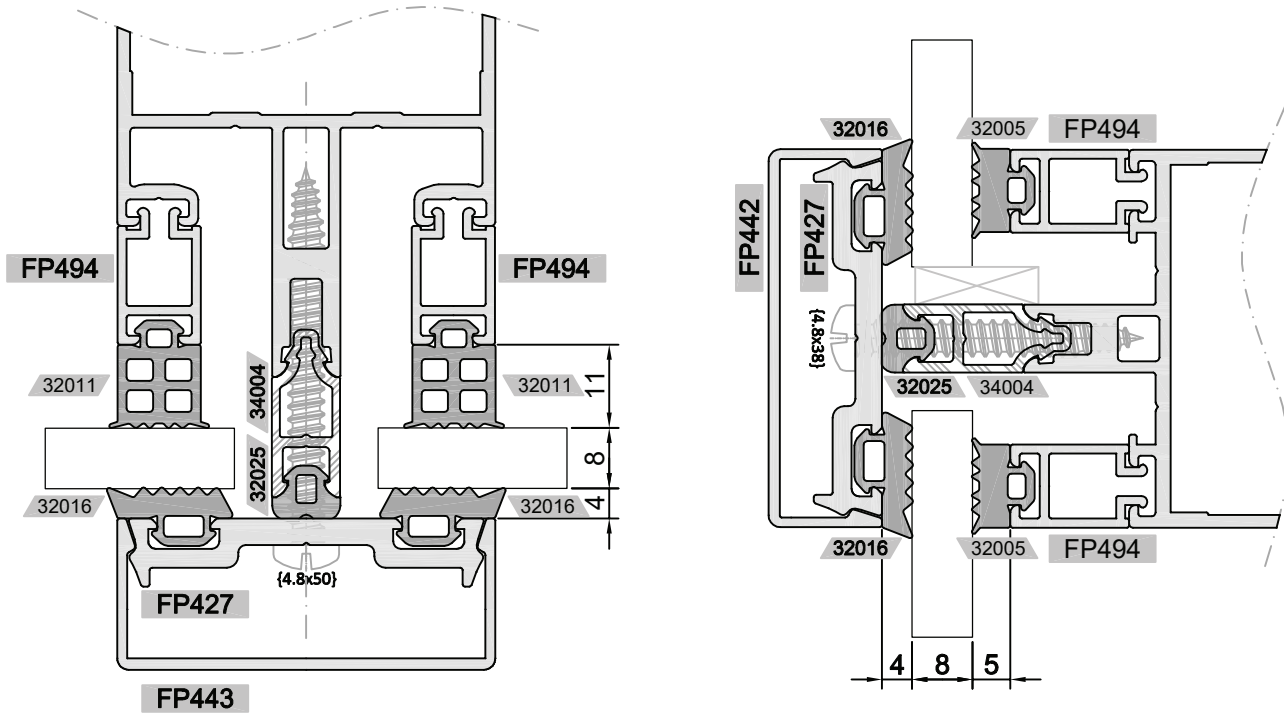
► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.  
SİSTEM ALUMINIUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



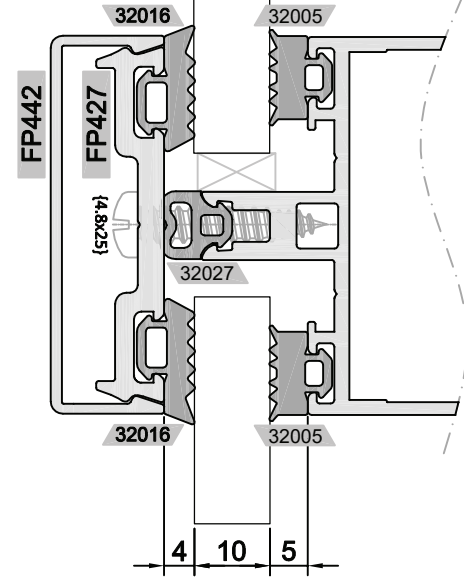
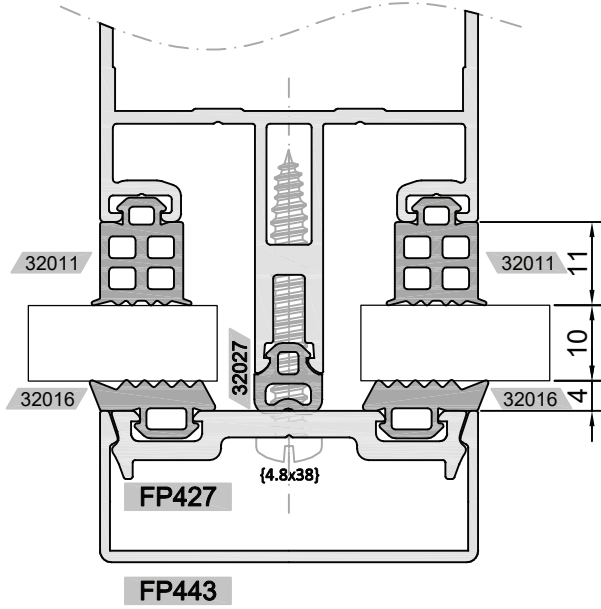
6mm



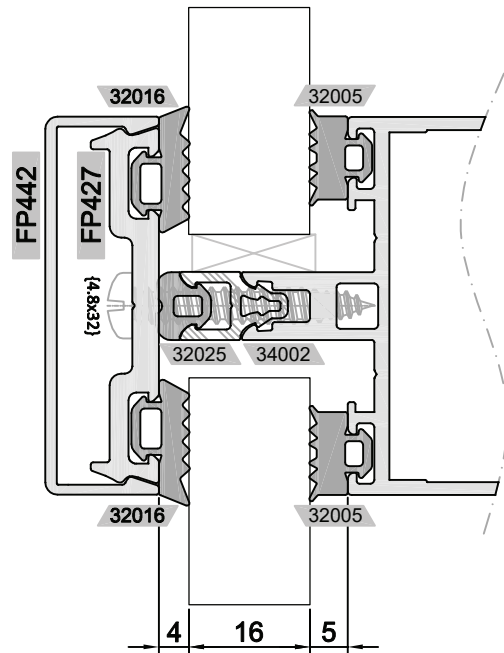
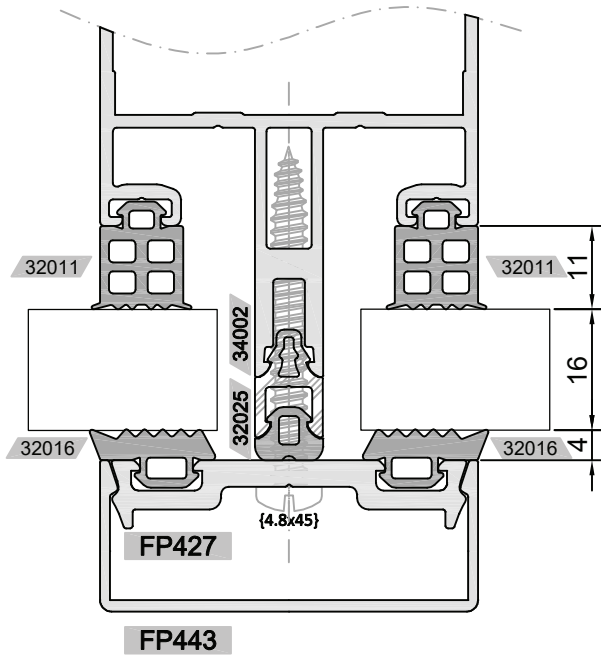
8mm



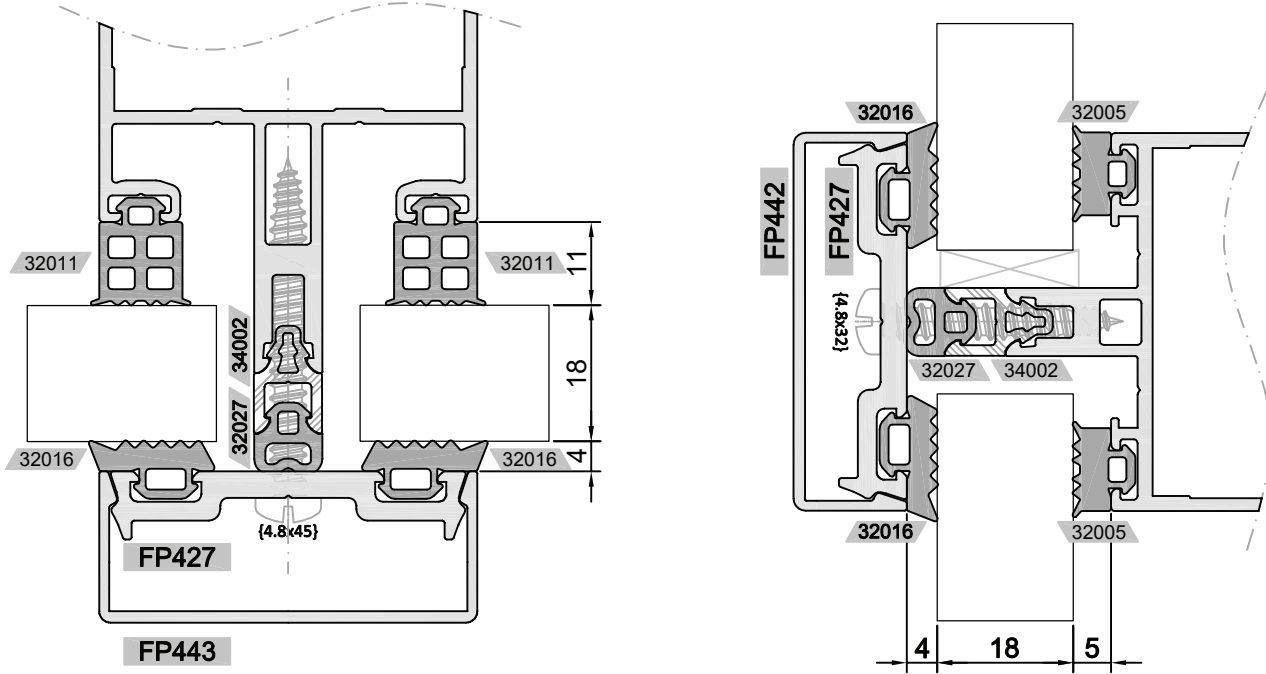
10mm



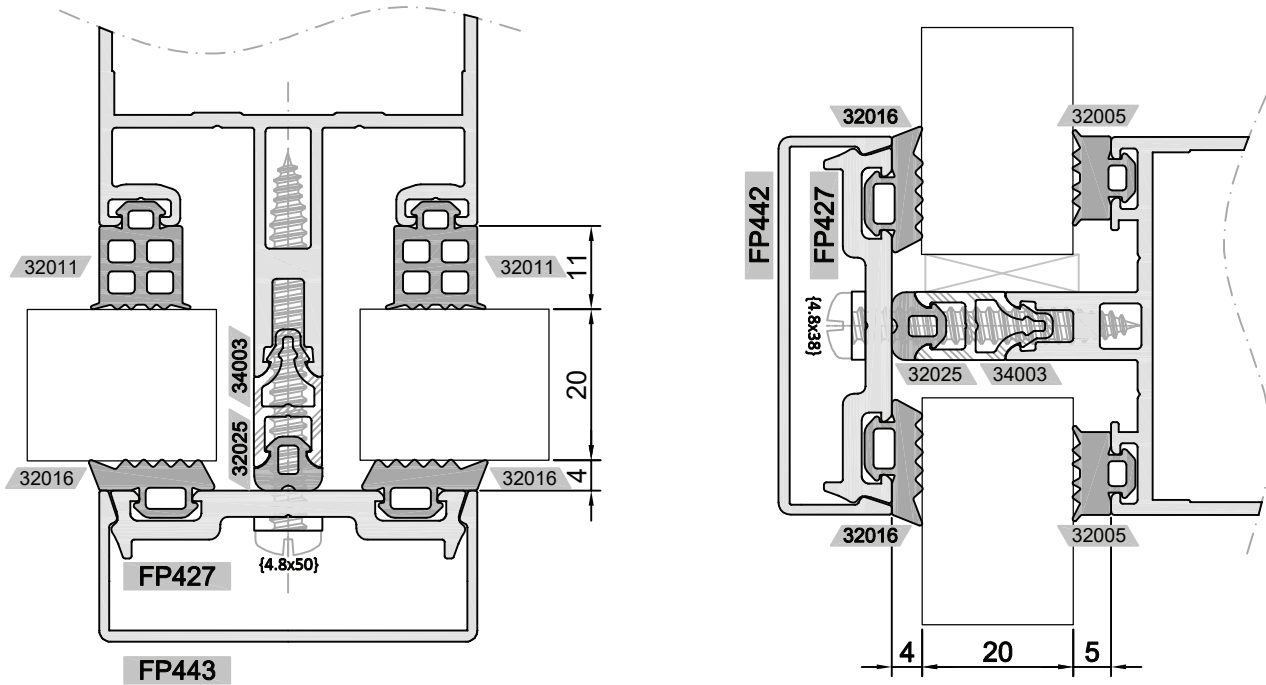
16mm



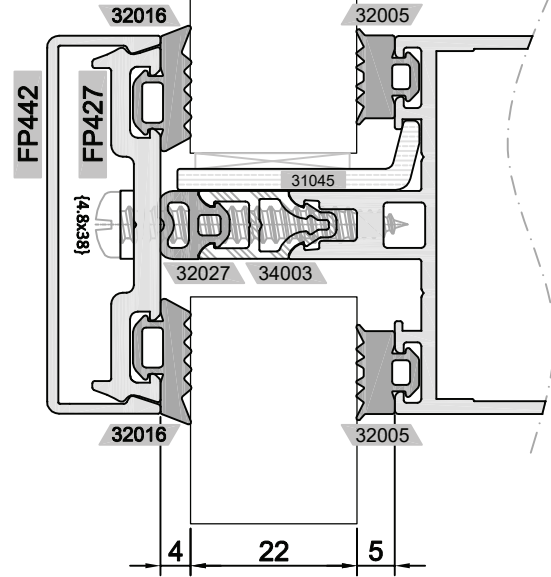
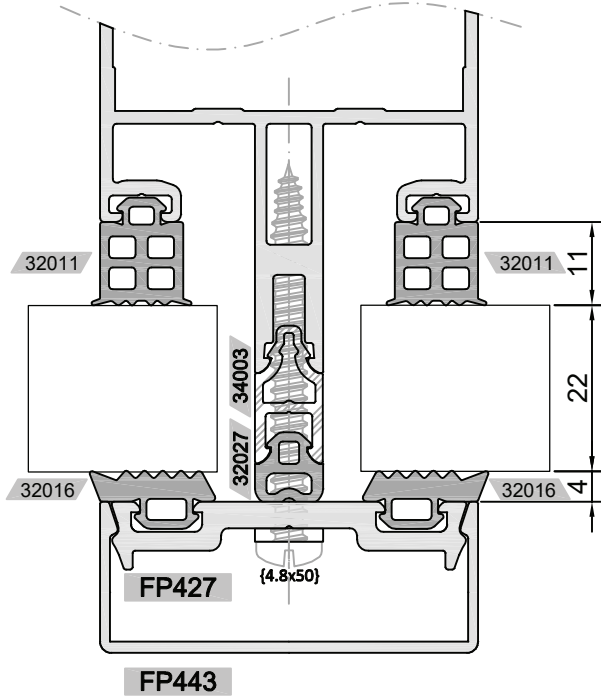
18mm



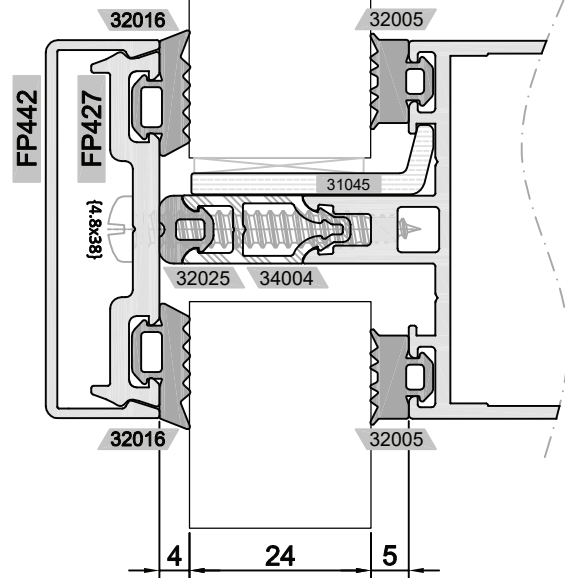
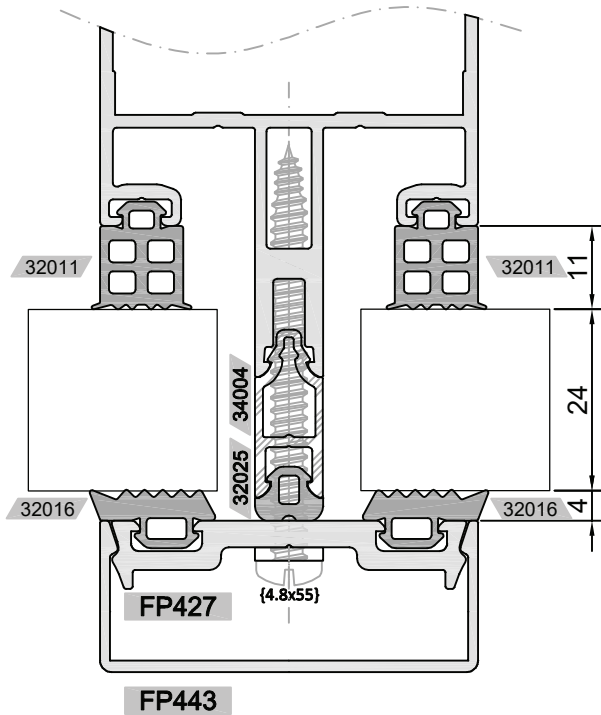
20mm



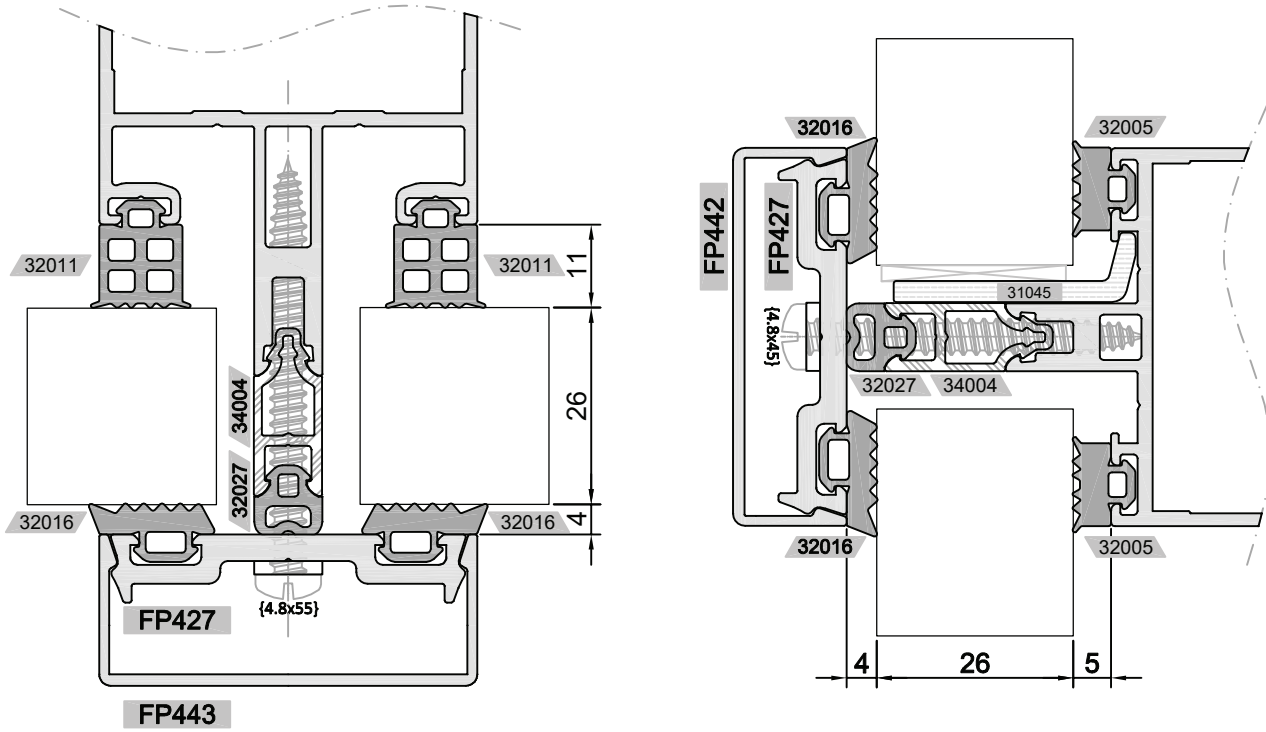
22mm



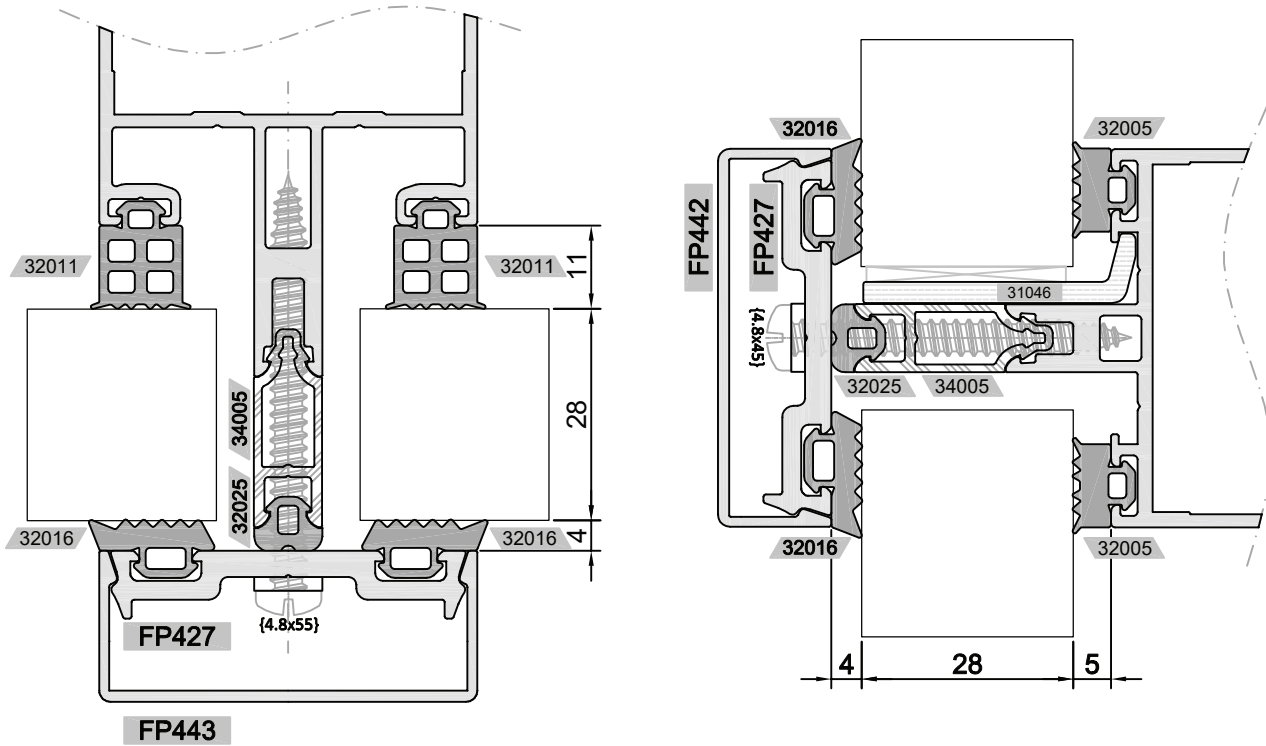
24mm



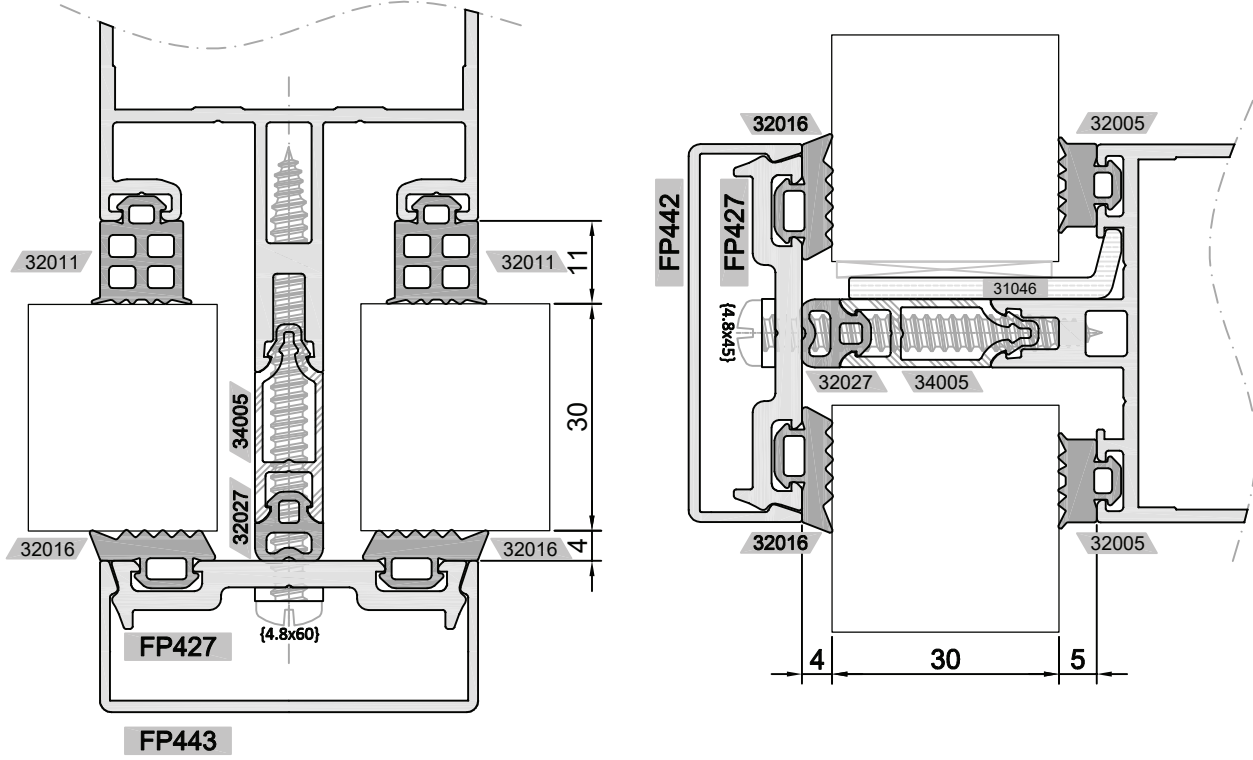
26mm



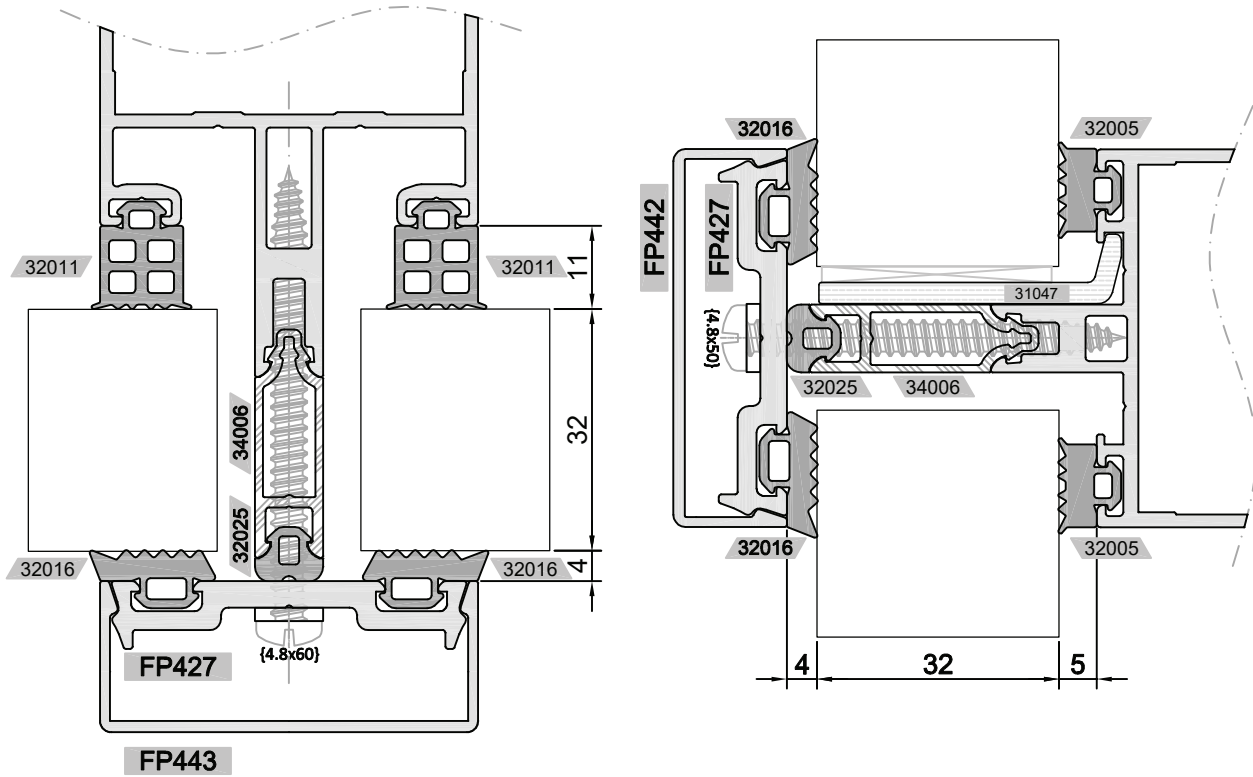
28mm



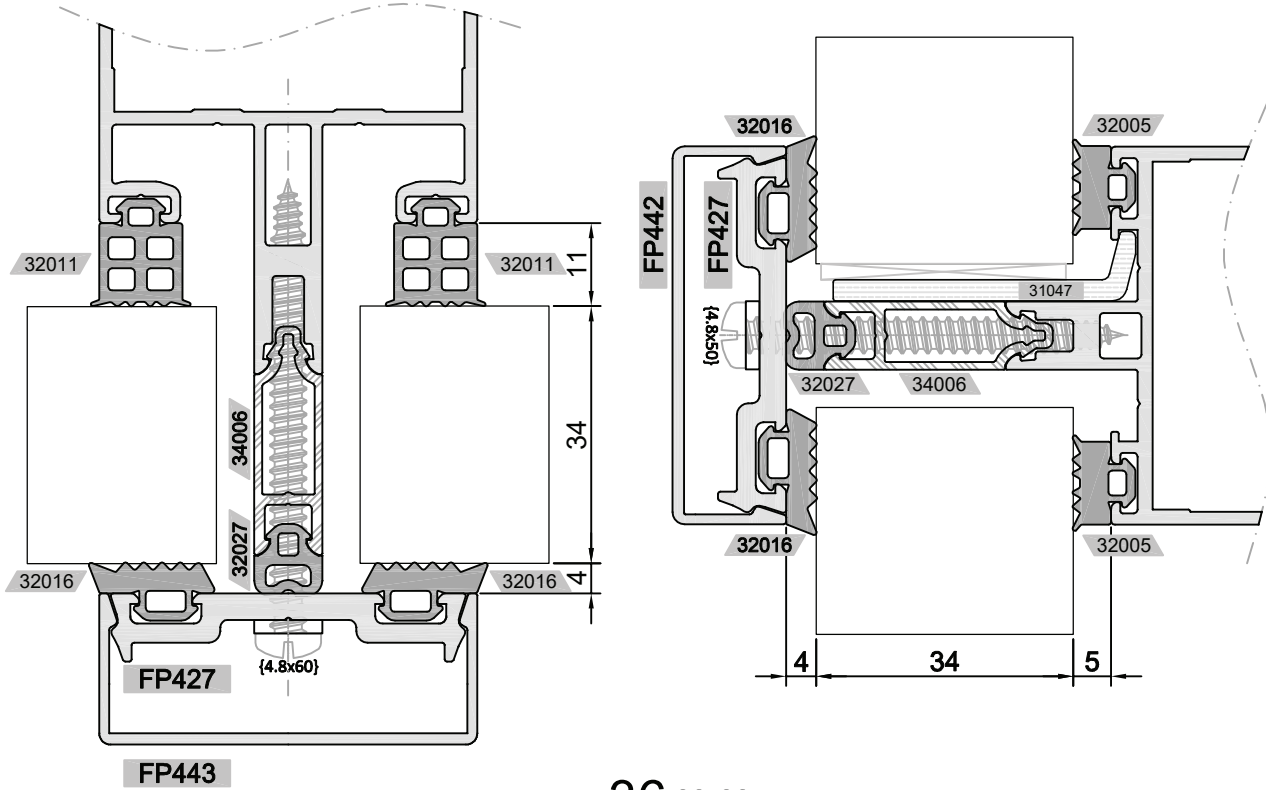
30mm



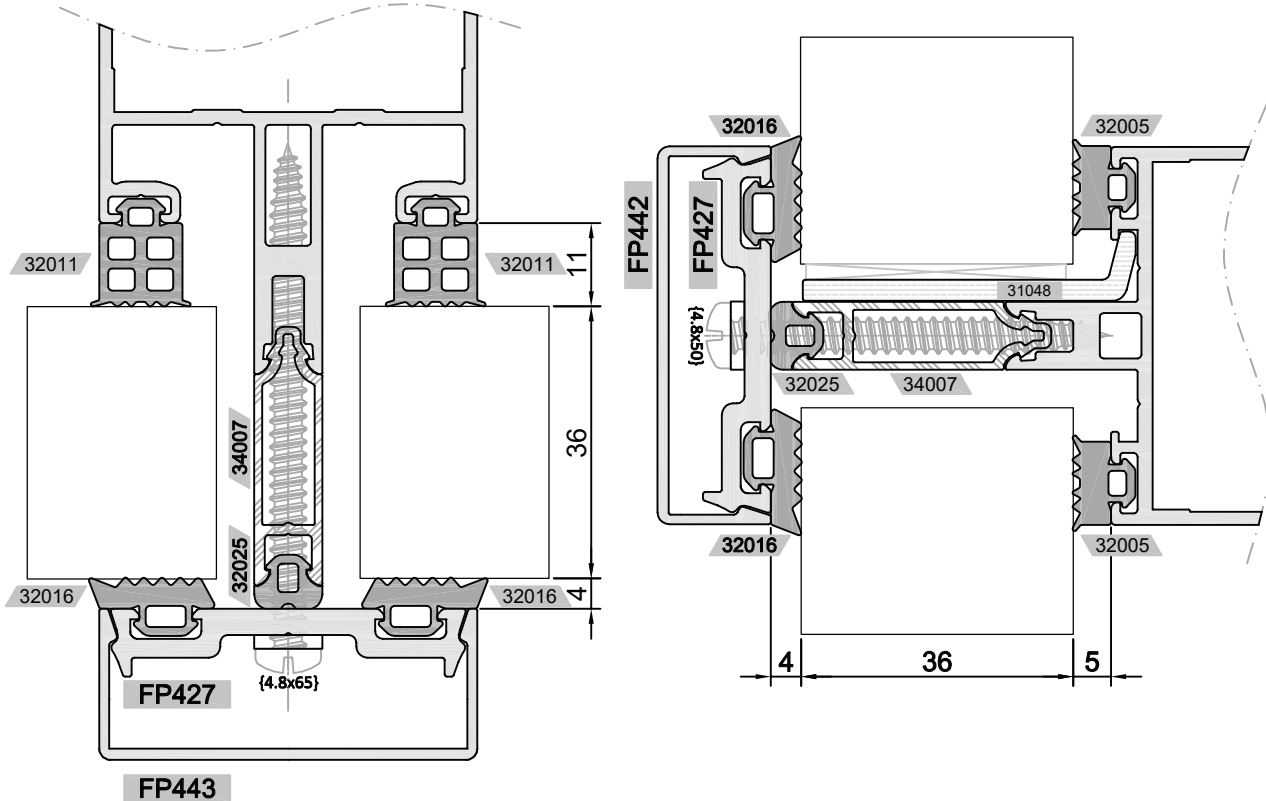
32mm



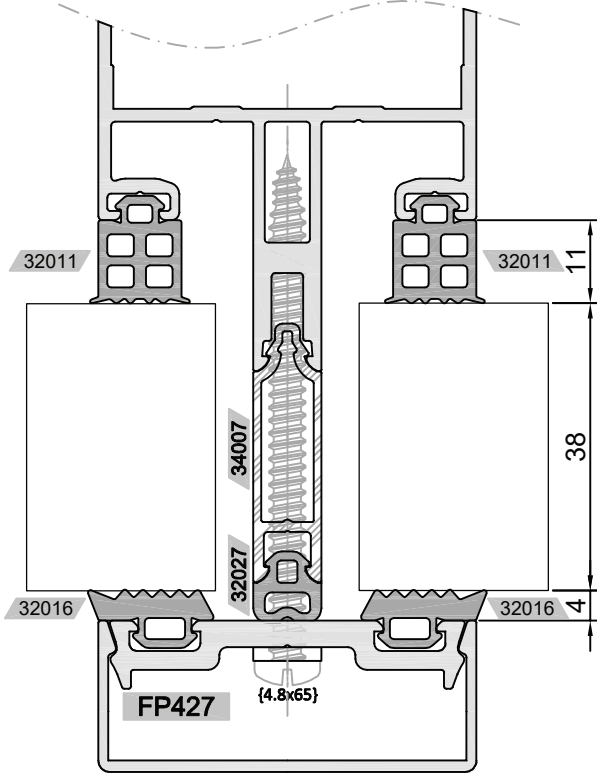
34mm



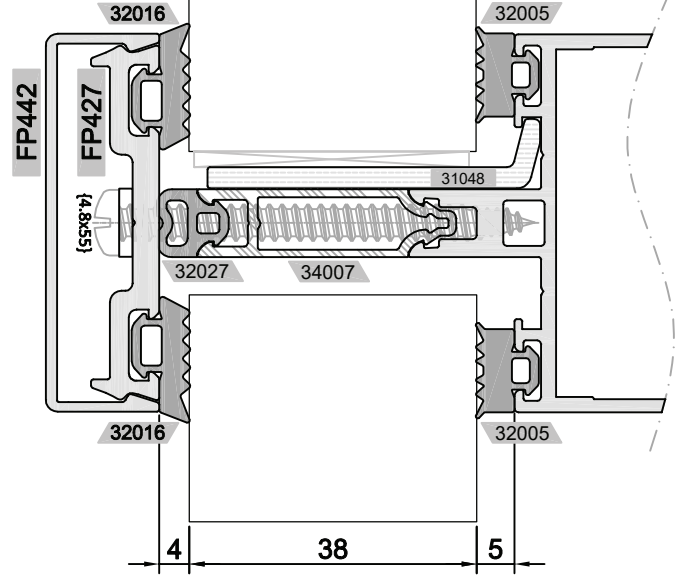
36mm



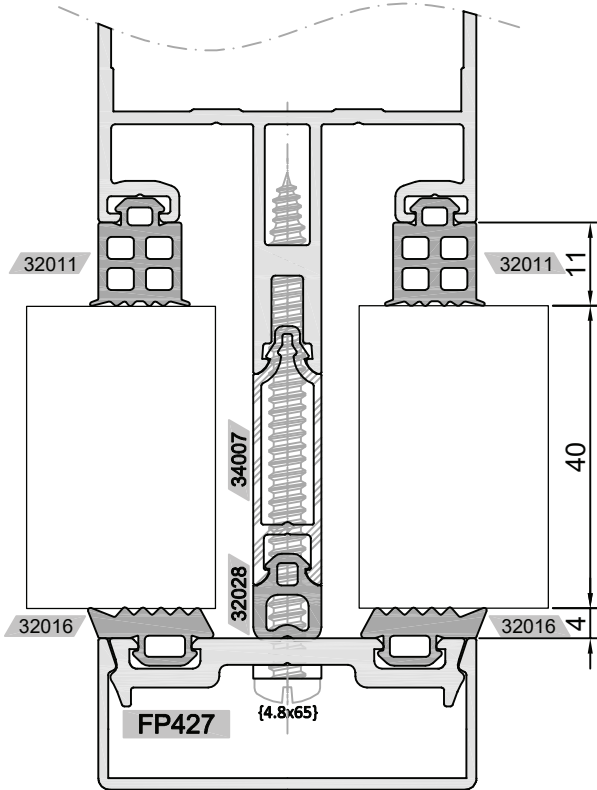
38mm



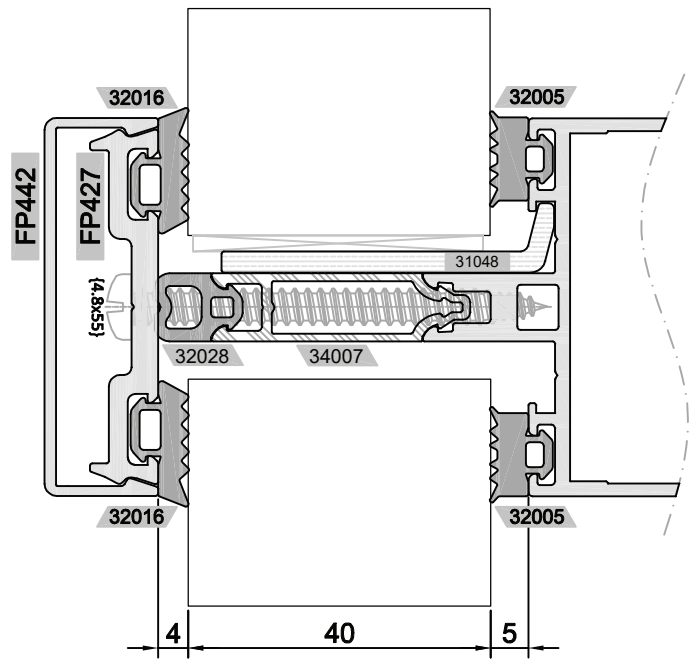
FP443



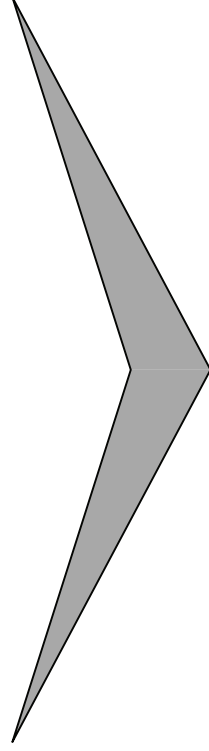
40mm



FP443



**CAM KALINLIKLARINA GÖRE  
ENTEĞRE SİSTEM DETAYLARI**  
**INTEGRATED CURTAIN WALL  
DETAILS ACCORDING TO THE  
GLASS THICKNESSES**

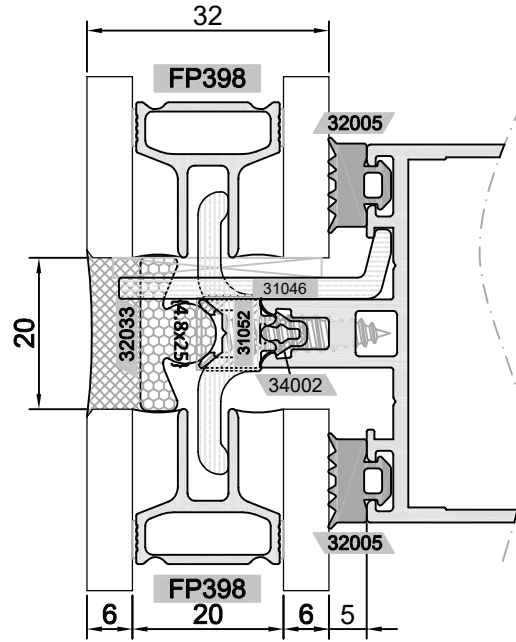
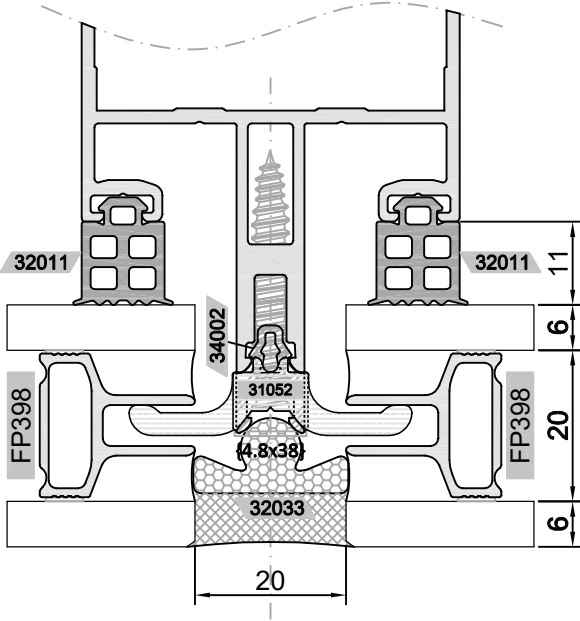


**\* 20mm STANDART  
ALÜMİNYUM  
ISICAM ÇİTASI  
20mm STANDARD  
ALUMINIUM SPACER**

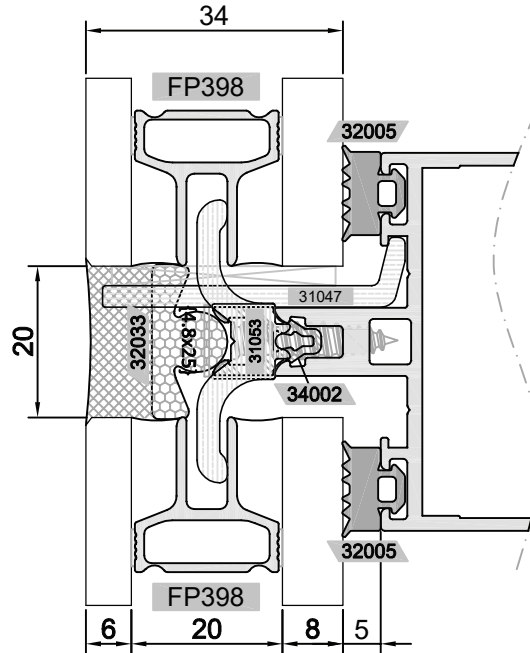
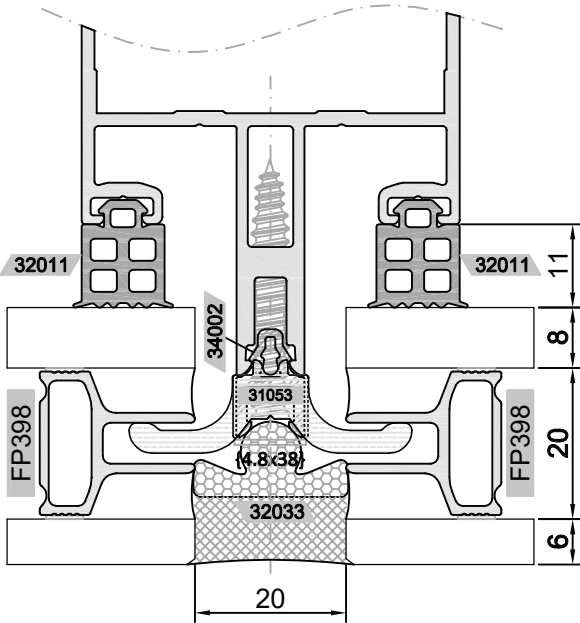
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SİSTEM ALUMINIUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.



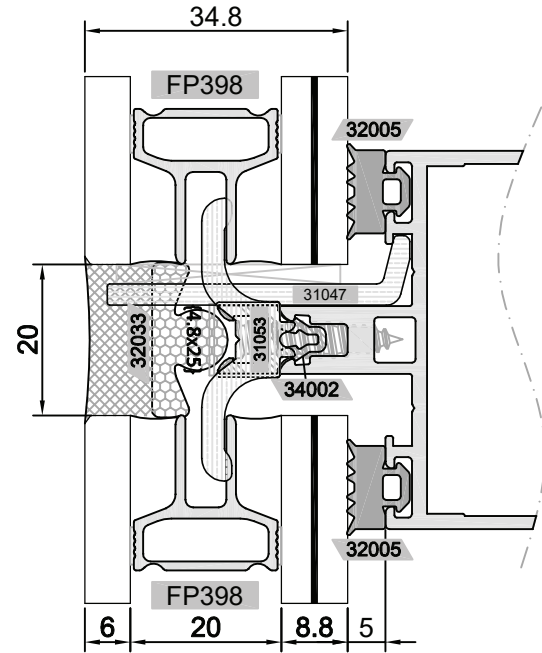
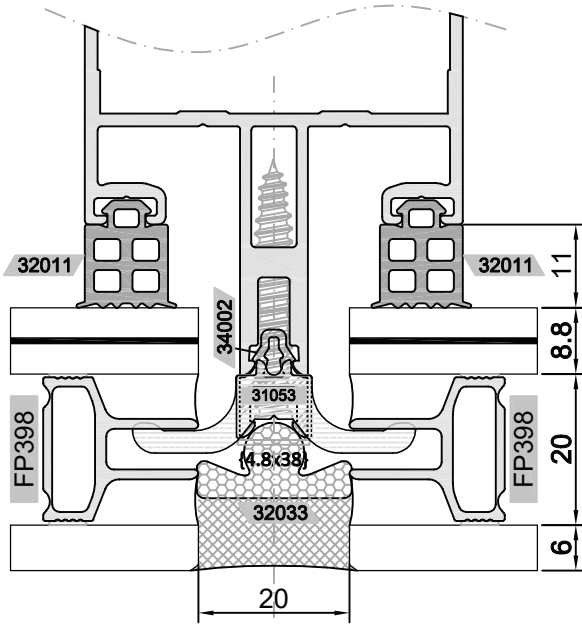
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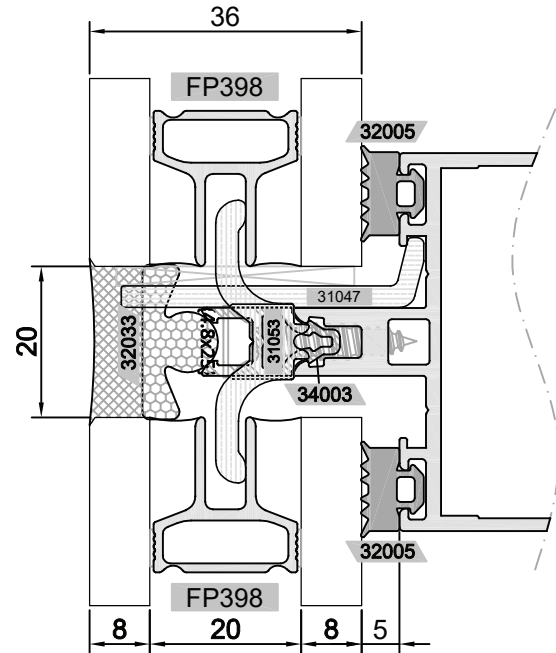
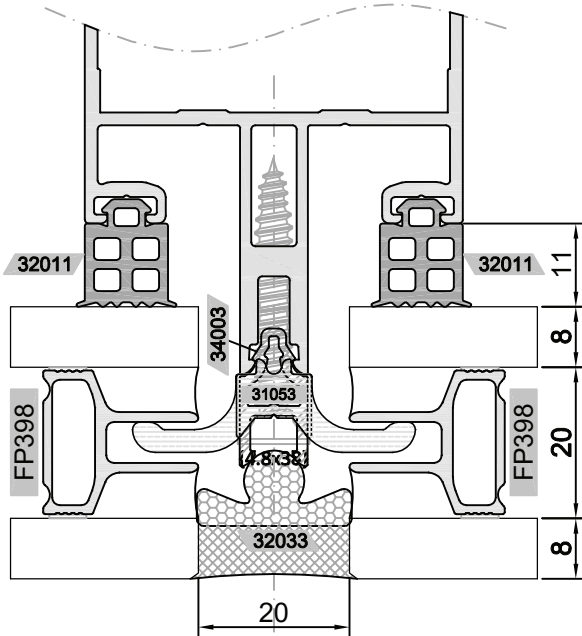
34mm



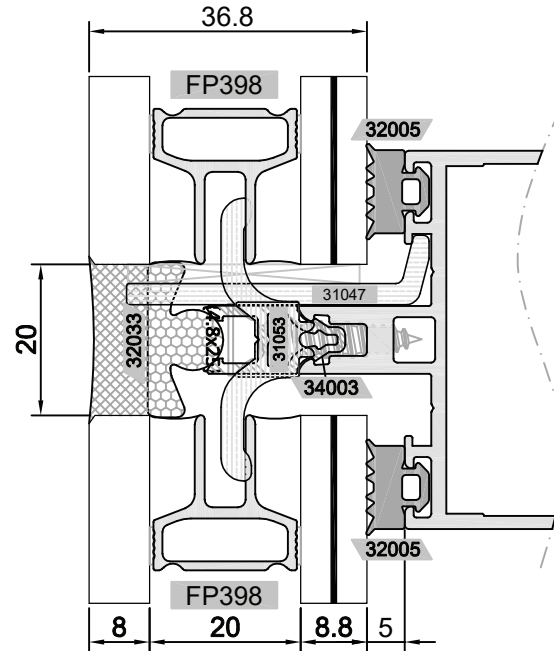
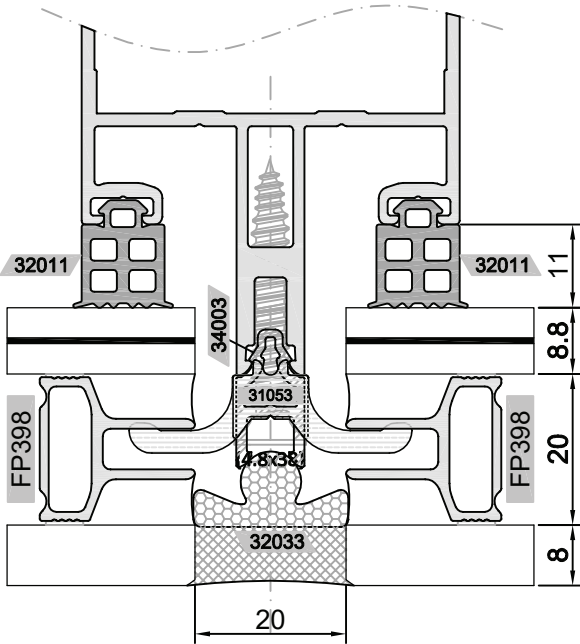
34,76mm



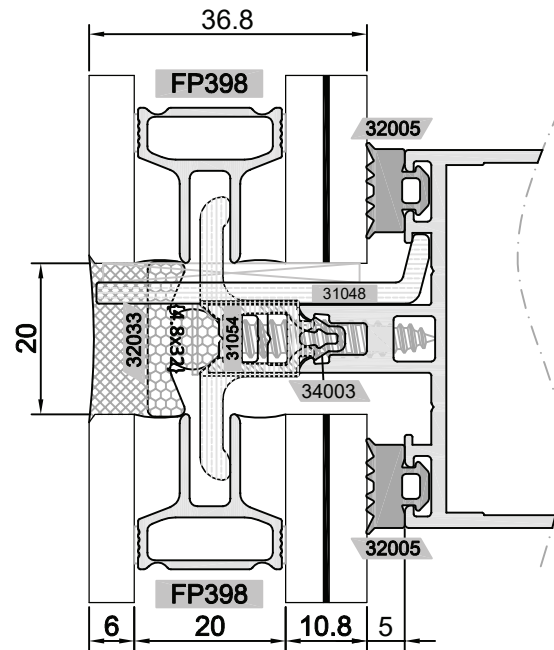
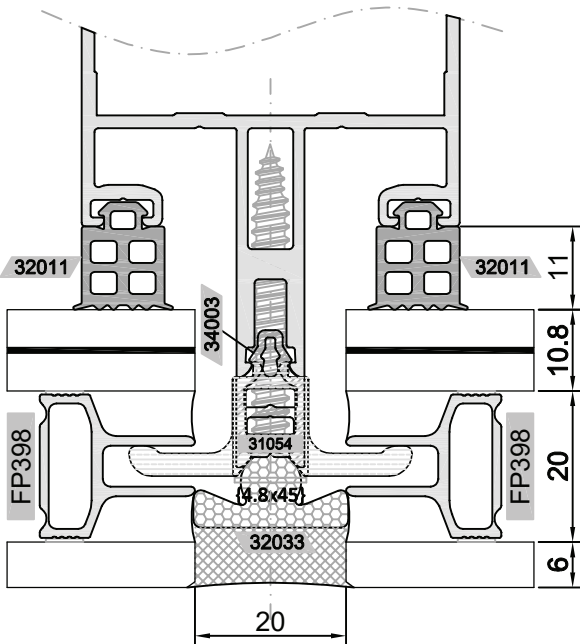
36mm



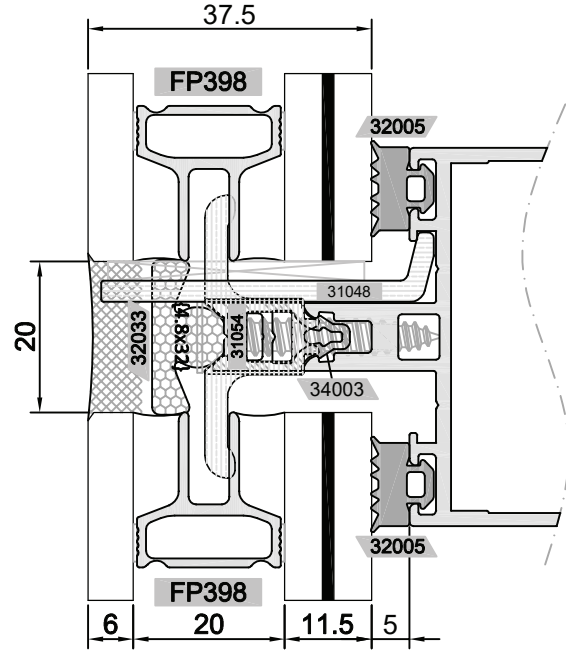
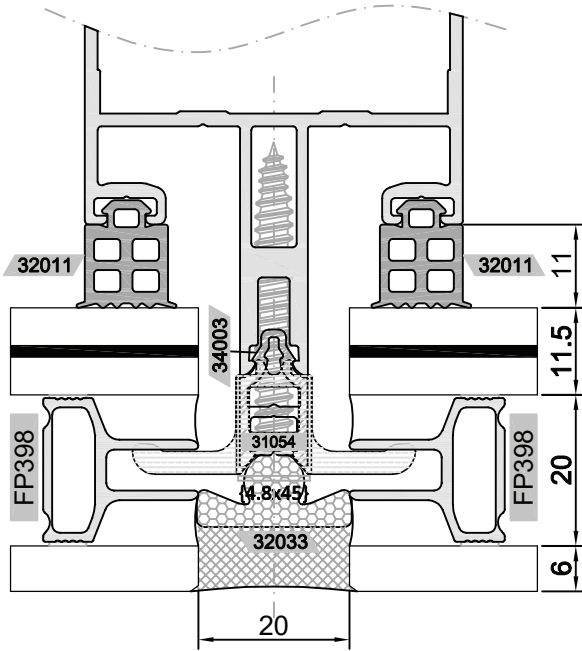
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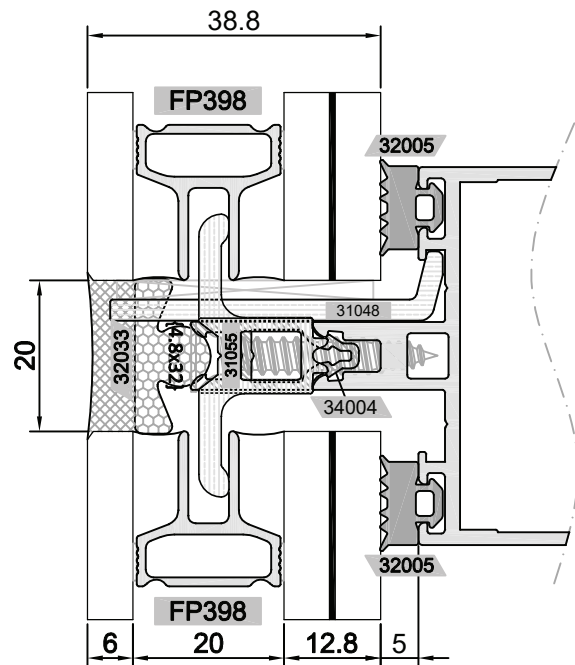
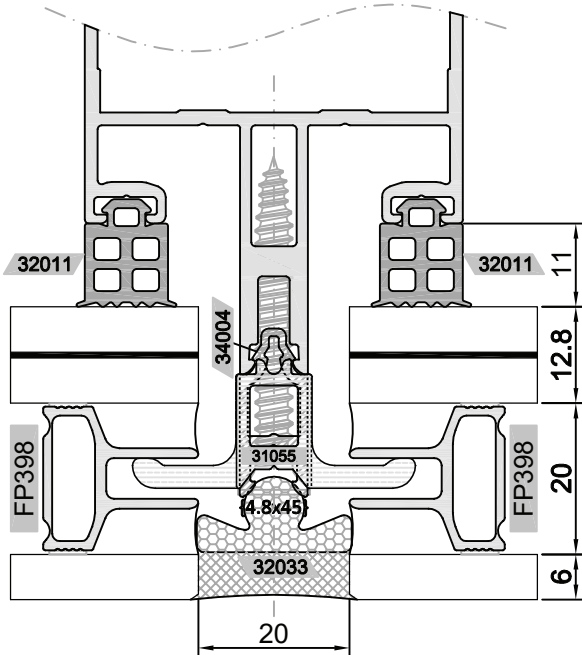
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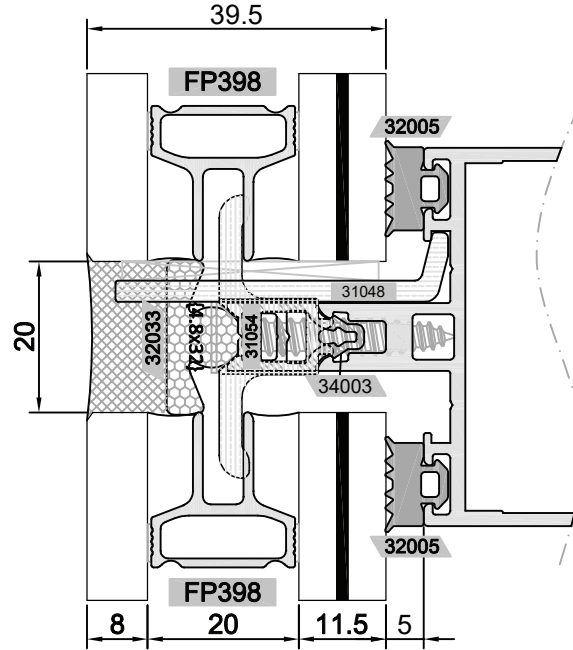
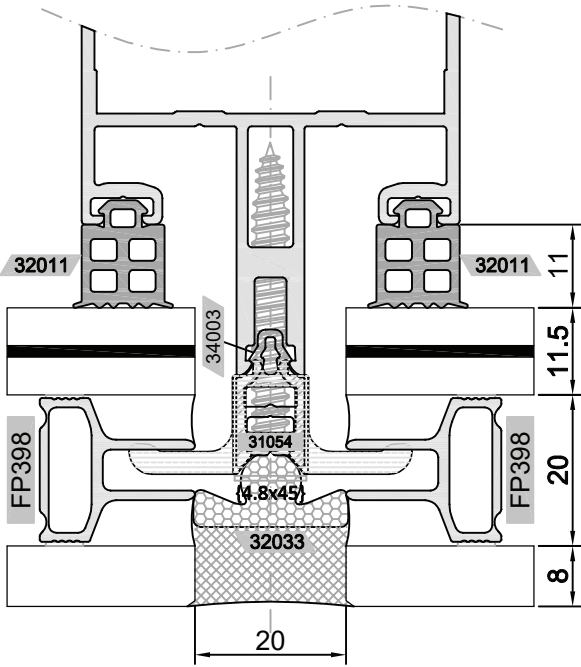
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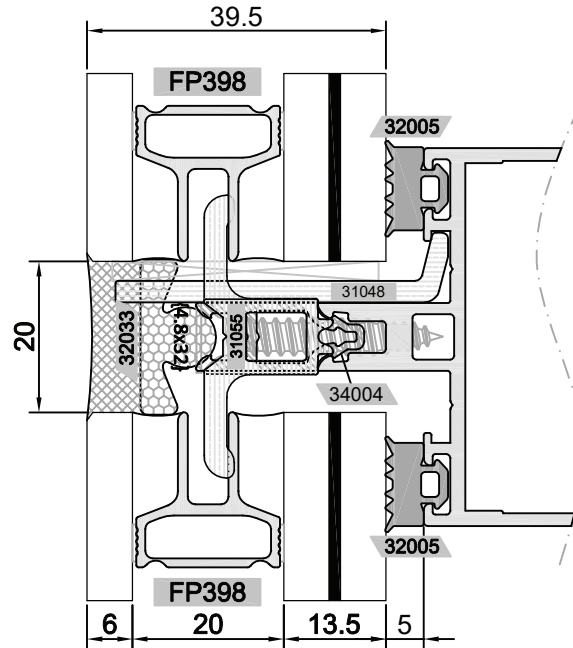
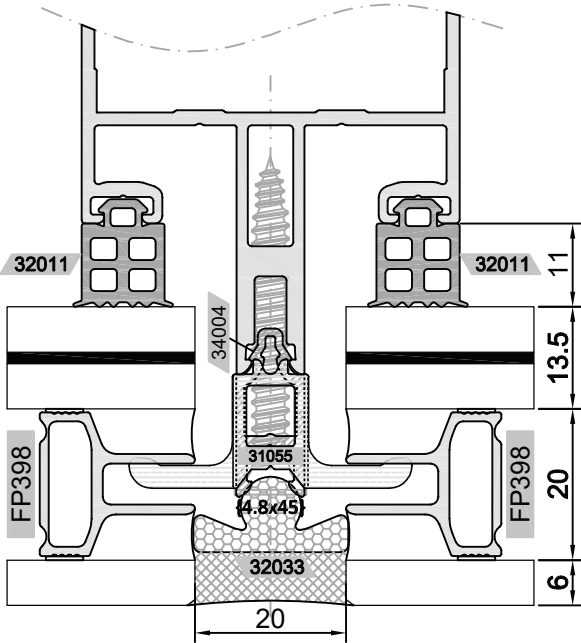
38,76mm



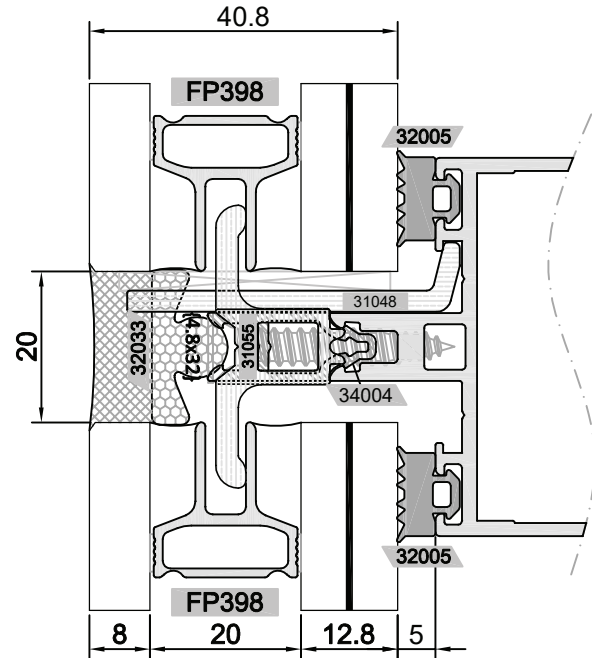
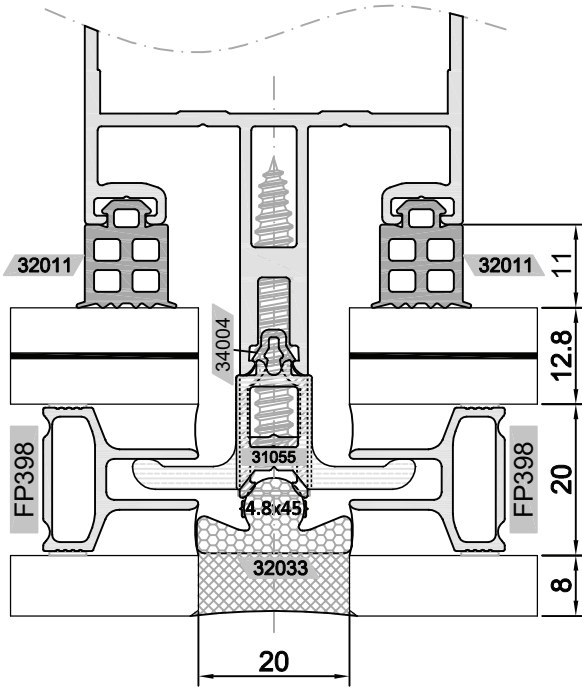
39,52mm



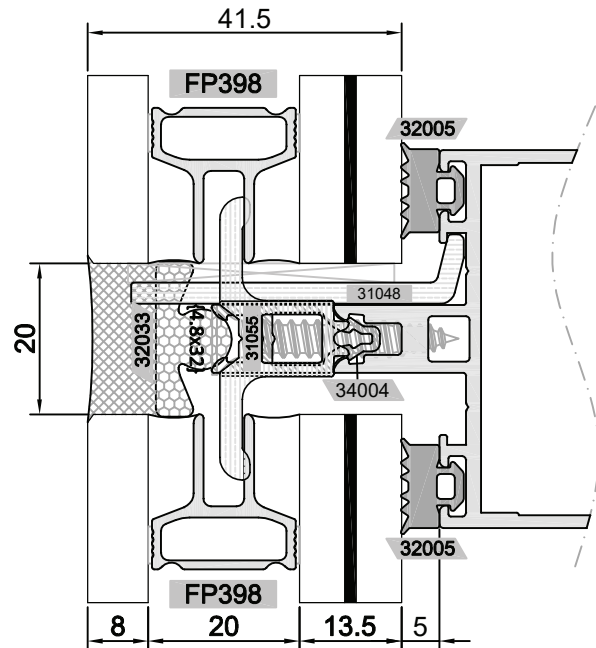
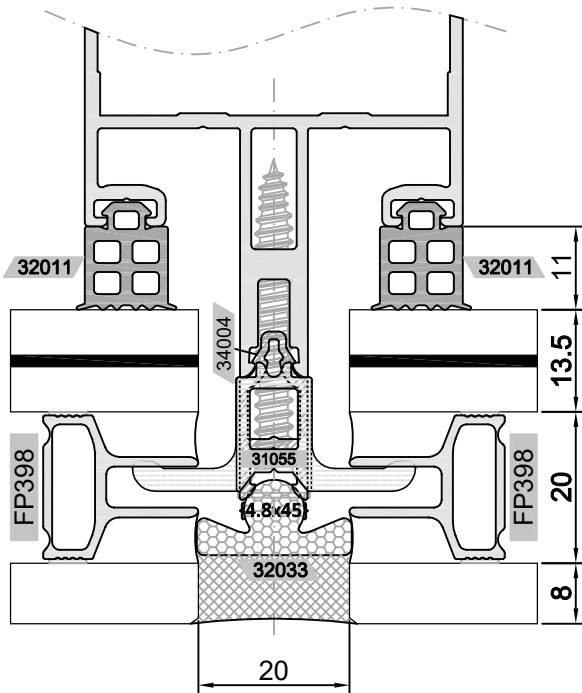
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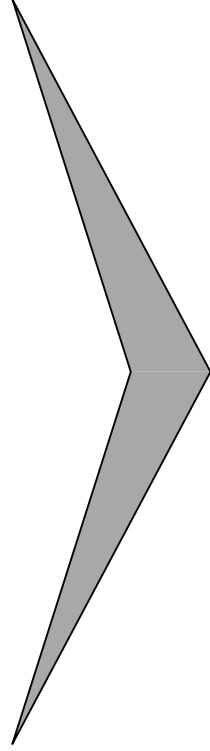
40,76mm



41,52mm



**CAM KALINLIKLARINA GÖRE  
ENTEĞRE SİSTEM DETAYLARI**  
**INTEGRATED CURTAIN WALL  
DETAILS ACCORDING TO THE  
GLASS THICKNESSES**

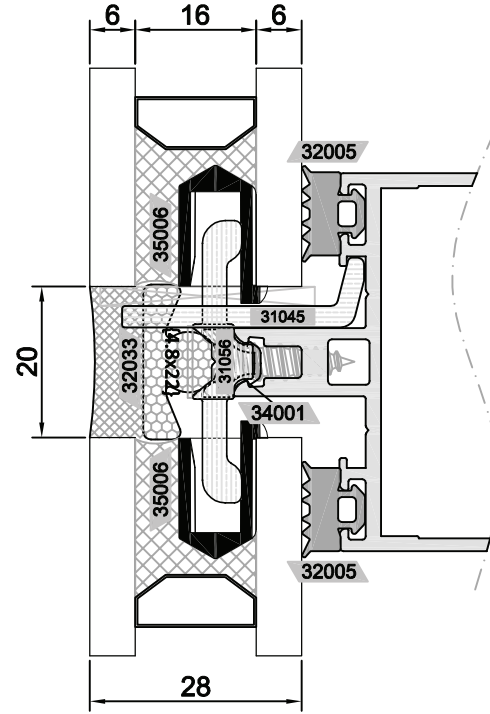
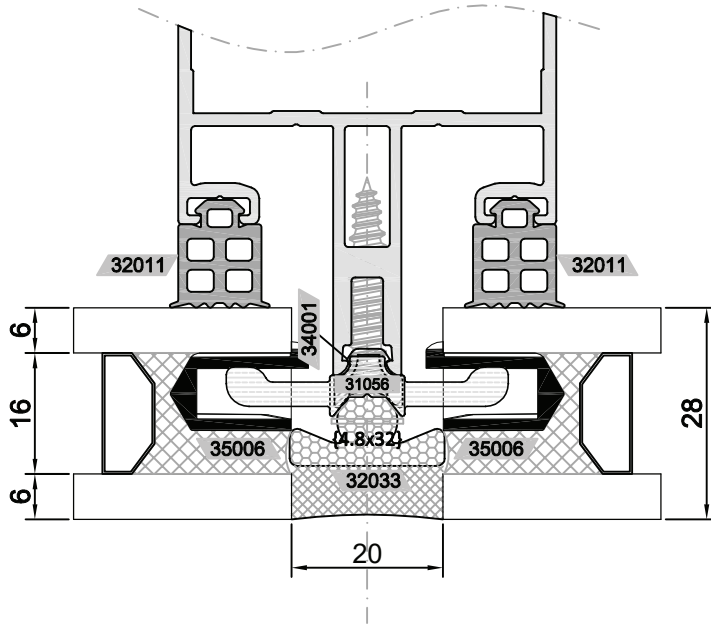


**\* 16mm ÖZEL  
SICAK KENAR  
ISICAM ÇİTASI**  
16mm SPECIAL  
WARM EDGE  
SPACER

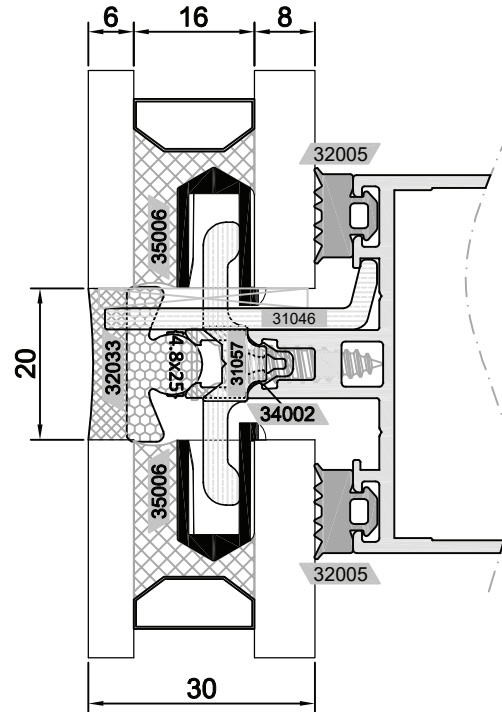
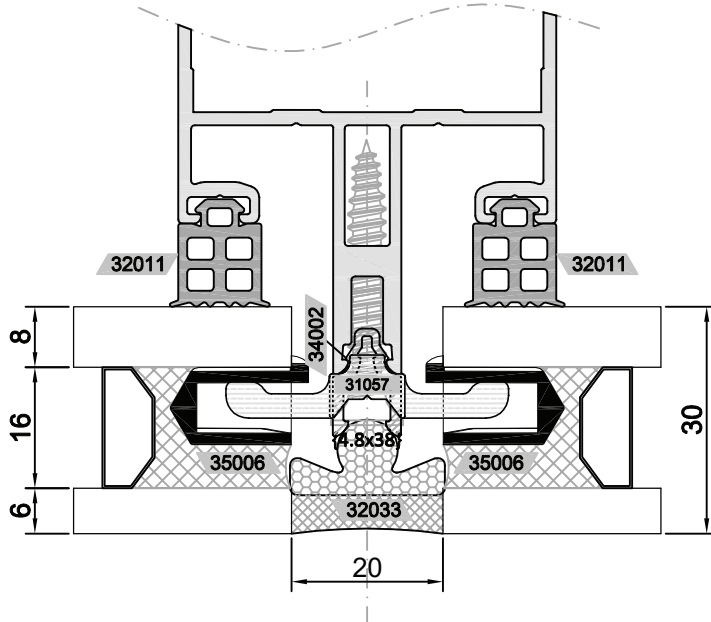
► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.  
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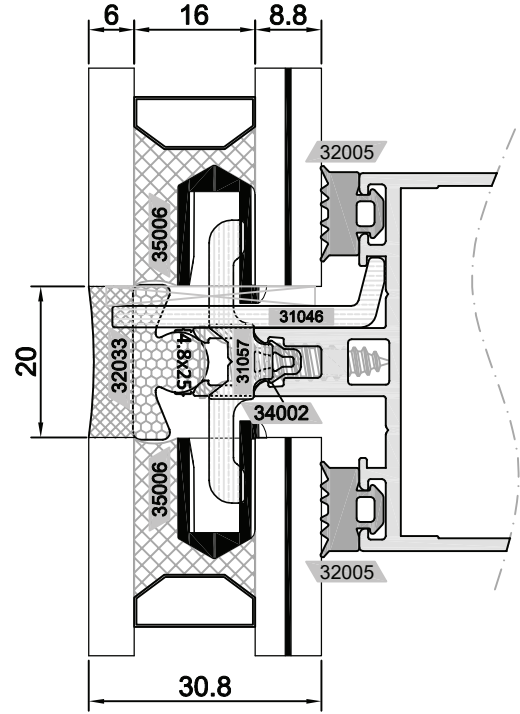
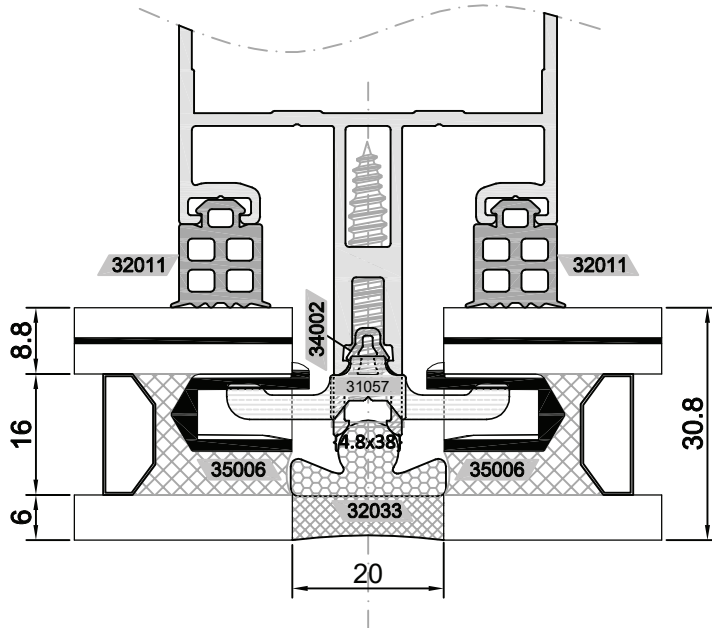
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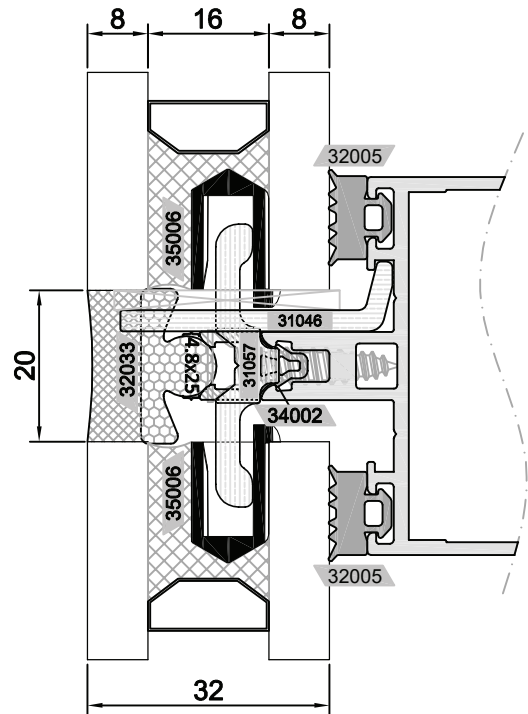
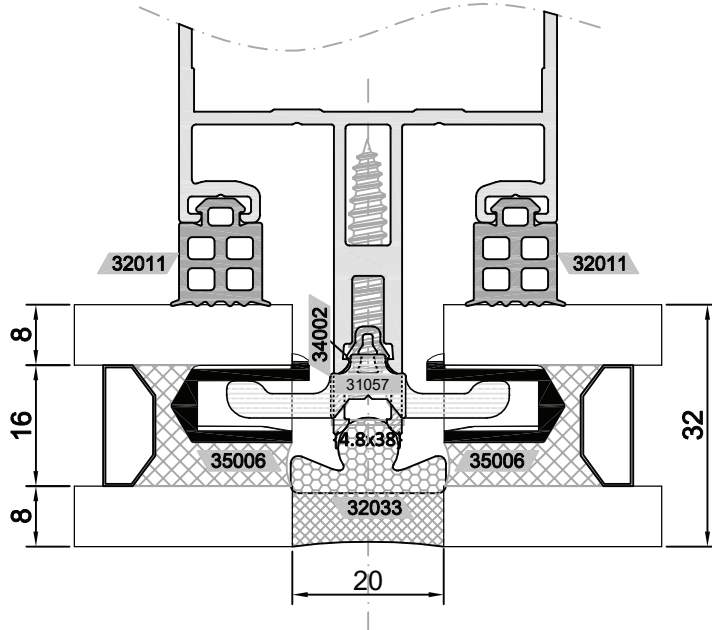
30mm



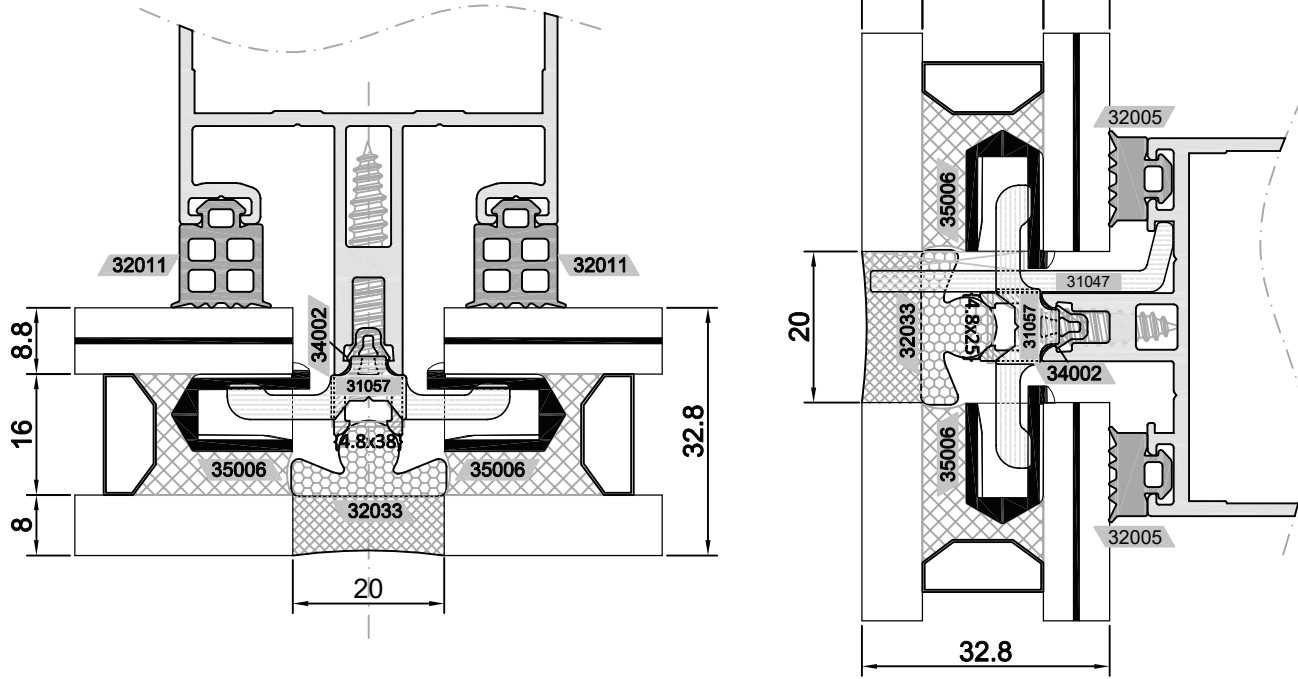
30,76mm



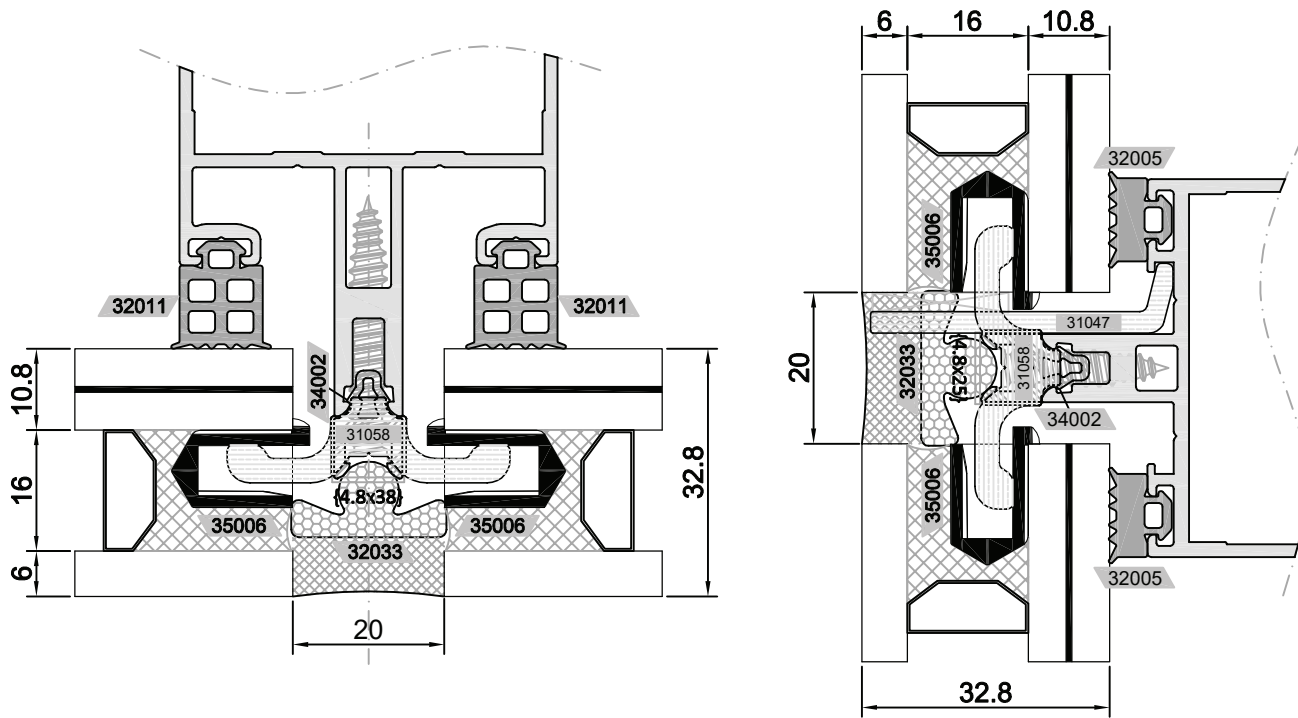
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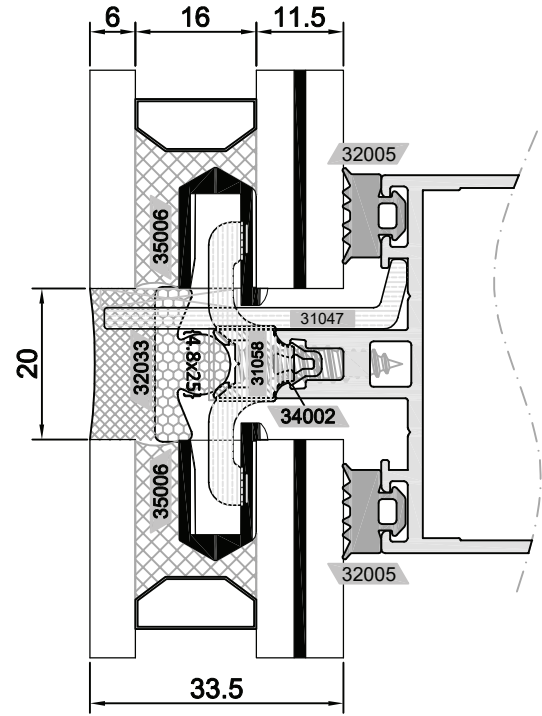
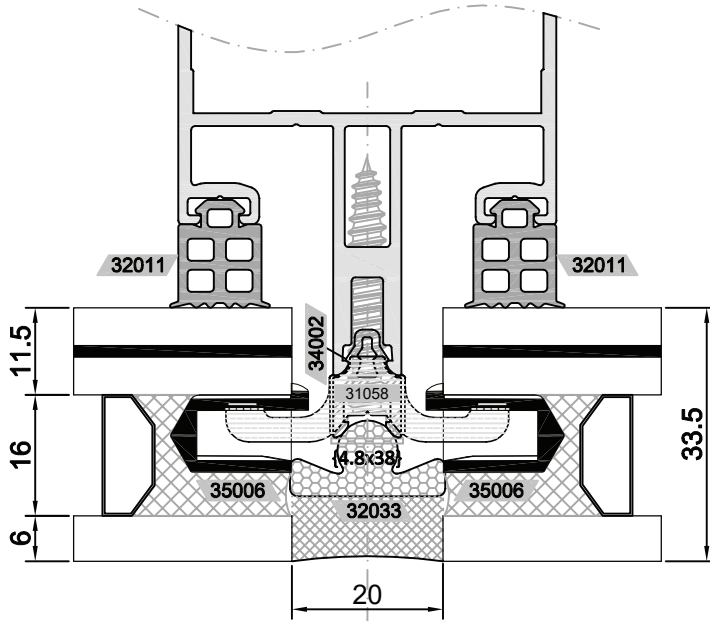
32,76mm



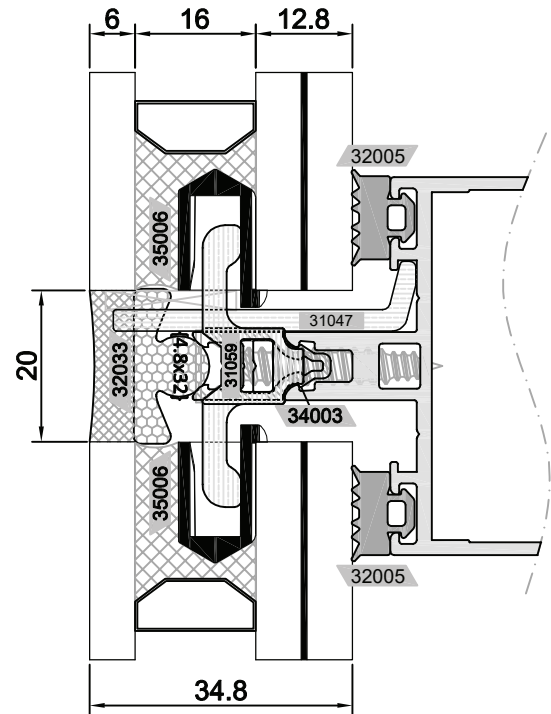
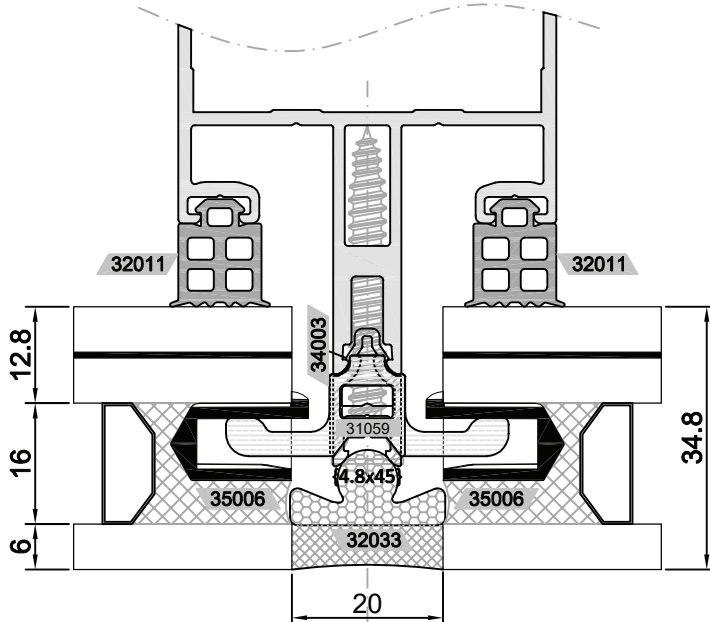
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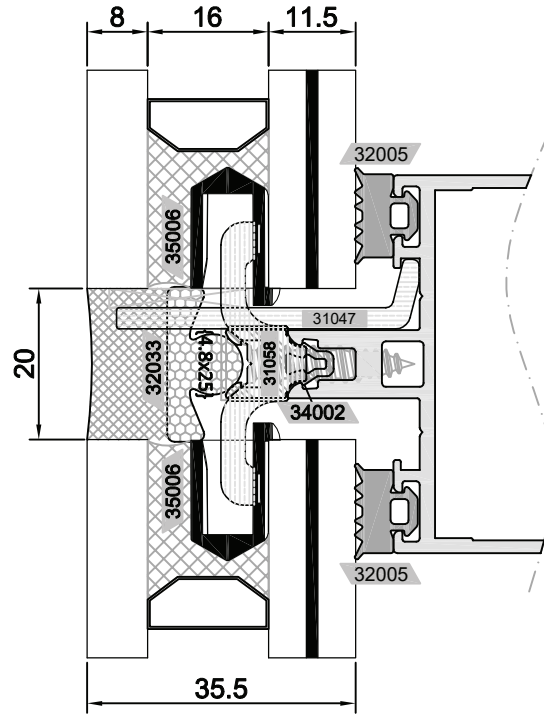
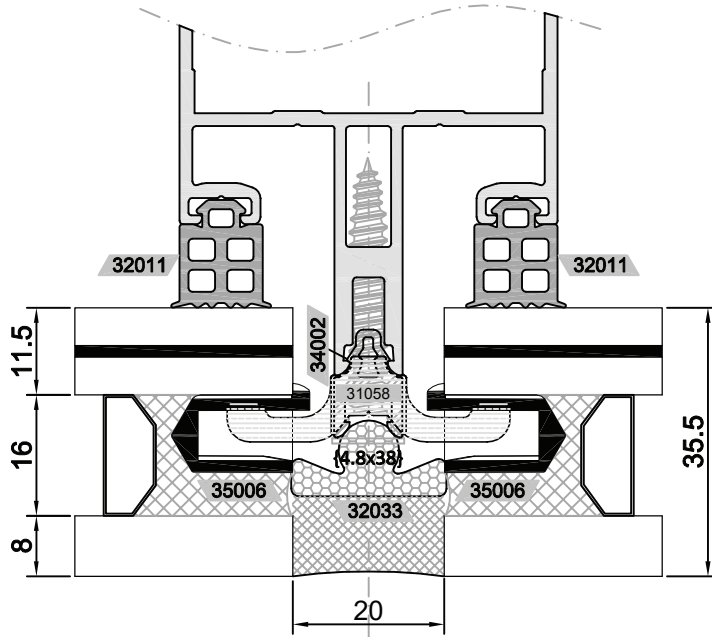
33,52mm



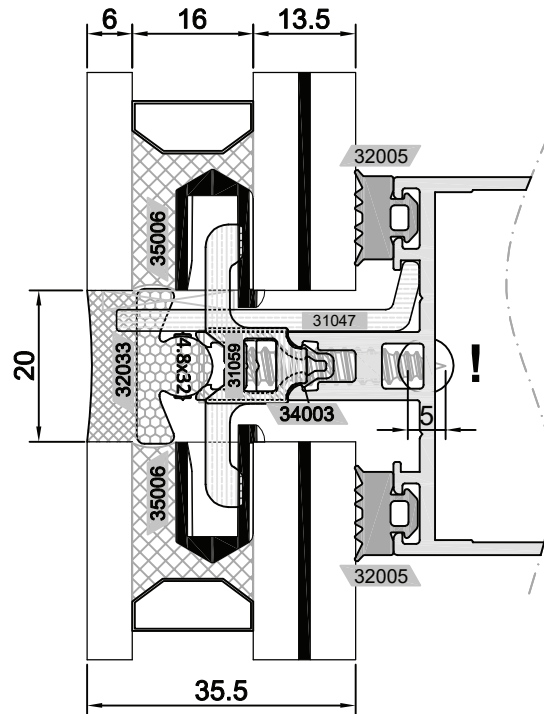
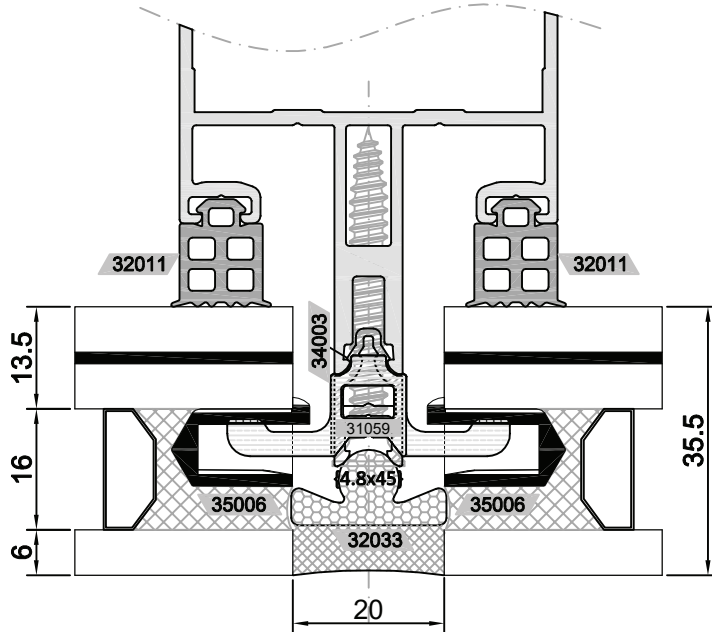
34,76mm



35,52mm

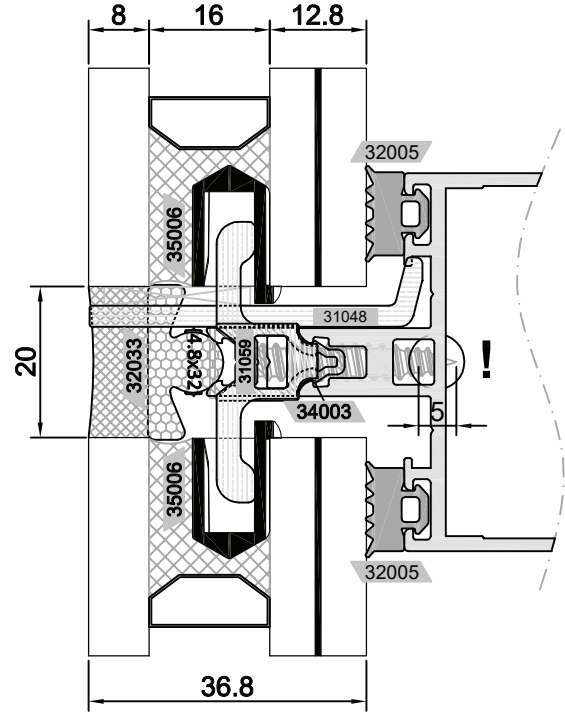
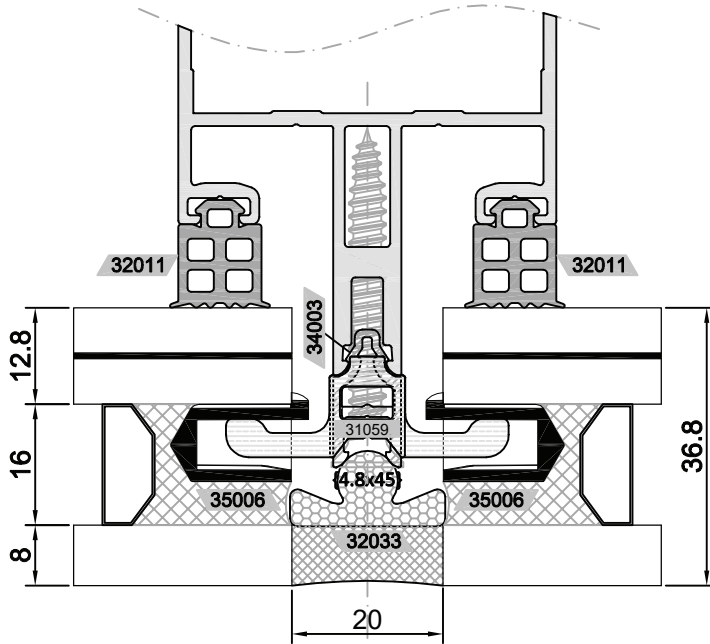


35,52mm



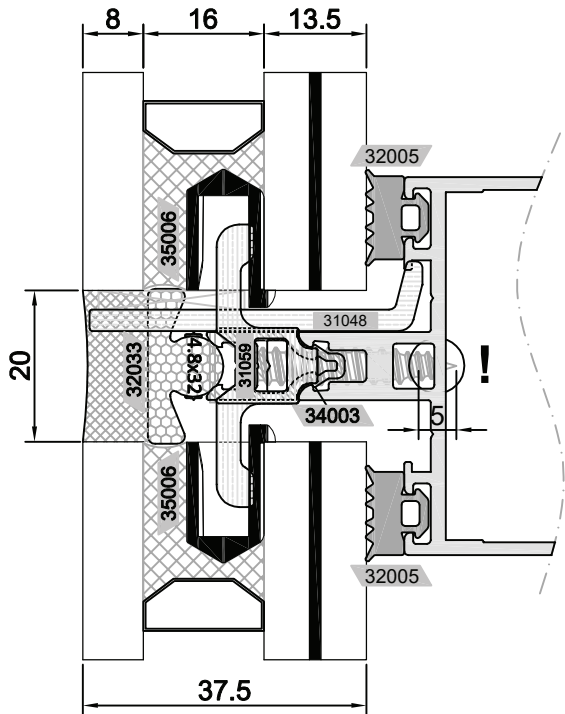
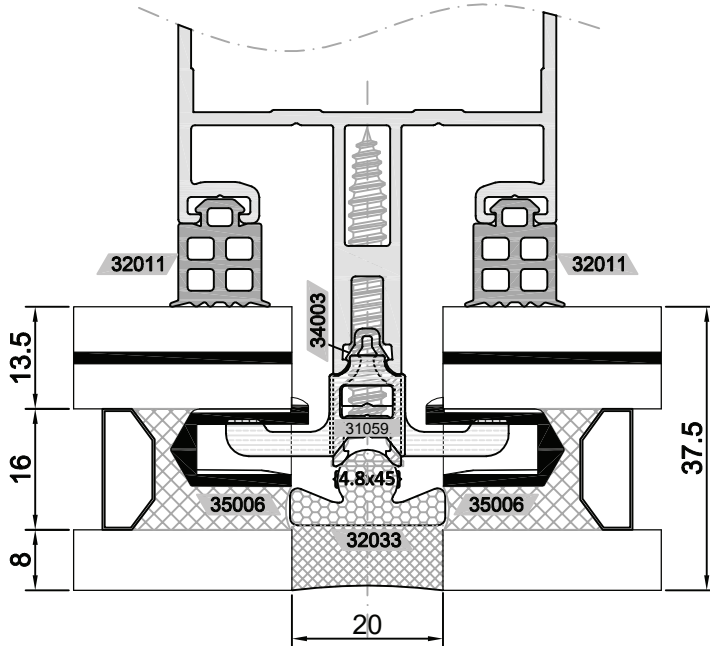
! Kertme / Notching

36,76mm



! Kertme / Notching

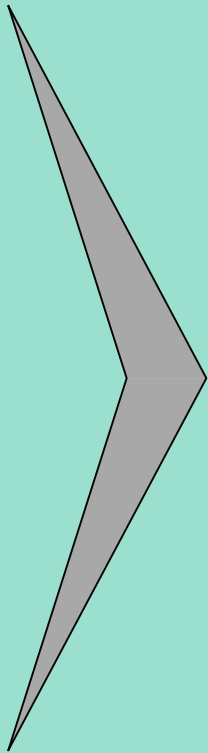
37,52mm



! Kertme / Notching

# AKSESUAR FİHRİSTİ

## ACCESSORY INDEX



► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.  
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## AKSESUAR FİHRİSTİ / ACCESSORY INDEX

ÜRÜN KODU PRODUCT CODE	ÜRÜN ADI PRODUCT NAME	SAYFA NO PAGE NO
31001	KÖŞE TAKOZU - 29,4 mm / CORNER CLEAT	151
31002	KÖŞE TAKOZU - 11 mm / CORNER CLEAT	151
31003	KÖŞE TAKOZU - 13 mm / CORNER CLEAT	151
31004	KÖŞE TAKOZU - 44,9 mm / CORNER CLEAT	151
31005	KÖŞE TAKOZU - 21 mm / CORNER CLEAT	151
31006	KÖŞE TAKOZU - 17 mm / CORNER CLEAT	151
31007	KÖŞE TAKOZU - 23 mm / CORNER CLEAT	151
31008	KÖŞE TAKOZU - 19 mm / CORNER CLEAT	151
31009	KÖŞE TAKOZU - 24,7 mm / CORNER CLEAT	152
31010	KÖŞE TAKOZU - 7 mm / CORNER CLEAT	152
31011	KÖŞE TAKOZU - 26,9 mm / CORNER CLEAT	152
31012	KÖŞE TAKOZU - 17,5 mm / CORNER CLEAT	152
31013	KÖŞE TAKOZU - 26 mm / CORNER CLEAT	152
31014	KÖŞE TAKOZU - 9 mm / CORNER CLEAT	152
31015	KÖŞE TAKOZU - 24,4 mm / CORNER CLEAT	152
31016	KÖŞE TAKOZU - 39,6 mm / CORNER CLEAT	152
31017	DİLATASYON BAĞLANTISI - 17,5 mm / DILATATION CONNECTION	162
31018	DİLATASYON BAĞLANTISI - 32,5 mm / DILATATION CONNECTION	162
31019	DİLATASYON BAĞLANTISI - 52,5 mm / DILATATION CONNECTION	162
31020	DİLATASYON BAĞLANTISI - 72,5 mm / DILATATION CONNECTION	162
31021	DİLATASYON BAĞLANTISI - 92,5 mm / DILATATION CONNECTION	162
31022	DİLATASYON BAĞLANTISI - 91,5 mm / DILATATION CONNECTION	162
31023	DİLATASYON BAĞLANTISI - 112 mm / DILATATION CONNECTION	162
31024	DİLATASYON BAĞLANTISI - 110 mm / DILATATION CONNECTION	162
31025	DİLATASYON BAĞLANTISI - 132 mm / DILATATION CONNECTION	162
31026	DİLATASYON BAĞLANTISI - 129,5 mm / DILATATION CONNECTION	162
31027	DİLATASYON BAĞLANTISI - 151,5 mm / DILATATION CONNECTION	162
31028	DİLATASYON BAĞLANTISI - 149 mm / DILATATION CONNECTION	162
31029	DİLATASYON BAĞLANTISI - 171,5 mm / DILATATION CONNECTION	162
31030	DİLATASYON BAĞLANTISI - 169 mm / DILATATION CONNECTION	162
31031	DİLATASYON BAĞLANTISI - 190 mm / DILATATION CONNECTION	162
31032	DİLATASYON BAĞLANTISI - 187 mm / DILATATION CONNECTION	162
31033	U BAĞLANTI - 12 mm / U CONNECTION	163
31034	U BAĞLANTI - 32 mm / U CONNECTION	163
31035	U BAĞLANTI - 42 mm / U CONNECTION	163
31036	U BAĞLANTI - 52 mm / U CONNECTION	163
31037	U BAĞLANTI - 59,4 mm / U CONNECTION	163

## AKSESUAR FİHRİSTİ / ACCESSORY INDEX

ÜRÜN KODU PRODUCT CODE	ÜRÜN ADI PRODUCT NAME	SAYFA NO PAGE NO
31037	U BAĞLANTI - 59,4 mm / U CONNECTION	163
31038	U BAĞLANTI - 79,4 mm / U CONNECTION	163
31039	U BAĞLANTI - 99,4 mm / U CONNECTION	163
31040	U BAĞLANTI - 119,4 mm / U CONNECTION	163
31041	U BAĞLANTI - 139,4 mm / U CONNECTION	163
31042	U BAĞLANTI - 159,4 mm / U CONNECTION	163
31043	U BAĞLANTI - 178 mm / U CONNECTION	163
31044	U BAĞLANTI - 210 mm / U CONNECTION	163
31045	CAM ALTI DESTEK PARÇASI - 32 mm / GLAZING SUPPORT	167
31046	CAM ALTI DESTEK PARÇASI - 36 mm / GLAZING SUPPORT	167
31047	CAM ALTI DESTEK PARÇASI - 40 mm / GLAZING SUPPORT	167
31048	CAM ALTI DESTEK PARÇASI - 44 mm / GLAZING SUPPORT	167
31049	CAM ALTI DESTEK PARÇASI - 46 mm / GLAZING SUPPORT	167
31050	KANAT İÇİN CAM ALTI DESTEK PARÇASI - 9.5 mm / GLAZING SUPPORT FOR VENT	168
31051	KANAT İÇİN CAM ALTI DESTEK PARÇASI - 19.5 mm / GLAZING SUPPORT FOR VENT	168
31052	CAM ARASI KİLİTLEME PARÇASI - 4.3 mm / FOURSIDE LOCKING PIECE	169
31053	CAM ARASI KİLİTLEME PARÇASI - 6.3 mm / FOURSIDE LOCKING PIECE	169
31054	CAM ARASI KİLİTLEME PARÇASI - 9.1 mm / FOURSIDE LOCKING PIECE	169
31055	CAM ARASI KİLİTLEME PARÇASI - 11.1 mm / FOURSIDE LOCKING PIECE	169
31056	CAM ARASI KİLİTLEME PARÇASI - 1.1 mm / FOURSIDE LOCKING PIECE	171
31057	CAM ARASI KİLİTLEME PARÇASI - 1 mm / FOURSIDE LOCKING PIECE	171
31058	CAM ARASI KİLİTLEME PARÇASI - 3.6 mm / FOURSIDE LOCKING PIECE	171
31059	CAM ARASI KİLİTLEME PARÇASI - 5.6 mm / FOURSIDE LOCKING PIECE	171
31060	GÜNEŞ KIRICI TAŞIYICI APARATI / CARRIER APPARATUS FOR SUNBREAKER	177
32002	İÇ BİNİ FİTİLİ - 2 mm / INNER STEP GASKET	146
32003	İÇ BİNİ FİTİLİ - 3 mm / INNER STEP GASKET	146
32004	İÇ BİNİ FİTİLİ - 4 mm / INNER STEP GASKET	146
32005	İÇ BİNİ FİTİLİ - 5 mm / INNER STEP GASKET	146
32006	İÇ BİNİ FİTİLİ - 6 mm / INNER STEP GASKET	146
32007	İÇ BİNİ FİTİLİ - 7 mm / INNER STEP GASKET	146
32008	İÇ BİNİ FİTİLİ - 8 mm / INNER STEP GASKET	146
32009	İÇ BİNİ FİTİLİ - 9 mm / INNER STEP GASKET	146
32010	İÇ BİNİ FİTİLİ - 10 mm / INNER STEP GASKET	146
32011	İÇ BİNİ FİTİLİ - 11 mm / INNER STEP GASKET	147
32012	İÇ BİNİ FİTİLİ - 12 mm / INNER STEP GASKET	147
32013	İÇ BİNİ FİTİLİ - 13 mm / INNER STEP GASKET	147
32014	İÇ BİNİ FİTİLİ - 14 mm / INNER STEP GASKET	147

## AKSESUAR FİHRİSTİ / ACCESSORY INDEX

ÜRÜN KODU PRODUCT CODE	ÜRÜN ADI PRODUCT NAME	SAYFA NO PAGE NO
32015	İÇ BİNİ FİTİLİ - 15 mm / INNER STEP GASKET	147
32016	DIŞ BİNİ FİTİLİ - 4 mm / OUTER STEP GASKET	147
32017	AÇILI DIŞ CAM FİTİLİ / ANGULAR OUTER STEP GASKET	147
32018	YEKPARE DIŞ BİNİ FİTİLİ / ONE PIECE STEP GASKET	147
32019	KAMA FİTİLİ - 3 mm / GLAZING SUPPORT GASKET	147
32020	KAMA FİTİLİ - 4 mm / GLAZING SUPPORT GASKET	148
32021	KAMA FİTİLİ - 5 mm / GLAZING SUPPORT GASKET	148
32022	KAMA FİTİLİ - 6 mm / GLAZING SUPPORT GASKET	148
32023	KANAT DESTEK FİTİLİ / SUPPORT GASKET FOR VENT	148
32024	KANAT İÇ BİNİ FİTİLİ / GLAZING SUPPORT FOR VENT	148
32025	TAŞIYICI ÖN FİTİL - 3 mm / MULLION FRONT GASKET	148
32026	TAŞIYICI ÖN FİTİL - 4 mm / MULLION FRONT GASKET	148
32027	TAŞIYICI ÖN FİTİL - 5 mm / MULLION FRONT GASKET	148
32028	TAŞIYICI ÖN FİTİL - 7 mm / MULLION FRONT GASKET	148
32029	KANAT ÇARŞAF FİTİLİ - 1 / SHEET GASKET FOR VENT	149
32030	KANAT ÇARŞAF FİTİLİ - 2 / SHEET GASKET FOR VENT	149
32031	KANAT ÇARŞAF FİTİLİ - 3 / SHEET GASKET FOR VENT	149
32032	KANAT ÇARŞAF FİTİLİ - 4 / SHEET GASKET FOR VENT	149
32033	POLİETİLEN DERZ KAPATMA FİTİLİ / POLYETHELENE SEAM GASKET	149
32034	İÇ MEKAN DERZ KAPATMA FİTİLİ / INSIDE SEAM GASKET	149
32035	SİLİKON DERZ KAPATMA FİTİLİ / SILICONE SEAM GASKET	149
33001	VULKANİZE KÖŞE PARÇASI - 32005 & 32011 / VULCANISED CORNER PIECE	173
33002	VULKANİZE KÖŞE PARÇASI - 32023 / VULCANISED CORNER PIECE	174
33003	VULKANİZE KÖŞE PARÇASI - 32024 / VULCANISED CORNER PIECE	174
33004	YATAY KAYIT CONTASI - 20 mm / TRANSOM CONNECTION PLUGS	164
33005	YATAY KAYIT CONTASI - 40 mm / TRANSOM CONNECTION PLUGS	164
33006	YATAY KAYIT CONTASI - 60 mm / TRANSOM CONNECTION PLUGS	164
33007	YATAY KAYIT CONTASI - 80 mm / TRANSOM CONNECTION PLUGS	164
33008	YATAY KAYIT CONTASI - 100 mm / TRANSOM CONNECTION PLUGS	164
33009	YATAY KAYIT CONTASI - 120 mm / TRANSOM CONNECTION PLUGS	164
33010	YATAY KAYIT CONTASI - 140 mm / TRANSOM CONNECTION PLUGS	164
33011	YATAY KAYIT CONTASI - 160 mm / TRANSOM CONNECTION PLUGS	164
33012	YATAY KAYIT CONTASI - 180 mm / TRANSOM CONNECTION PLUGS	164
33013	YATAY KAYIT CONTASI - 200 mm / TRANSOM CONNECTION PLUGS	164
33014	YATAY KAYIT CONTASI - 220 mm / TRANSOM CONNECTION PLUGS	164
34001	TAŞIYICI ÖN İZOLASYON (PVC) - 4 mm / MULLION OR TRANSOM FRONT ISOLATOR (PVC)	150
34002	TAŞIYICI ÖN İZOLASYON (PVC) - 8 mm / MULLION OR TRANSOM FRONT ISOLATOR (PVC)	150

## AKSESUAR FİHRİSTİ / ACCESSORY INDEX

ÜRÜN KODU PRODUCT CODE	ÜRÜN ADI PRODUCT NAME	SAYFA NO PAGE NO
34003	TAŞIYICI ÖN İZOLASYON (PVC) - 12 mm / MULLION OR TRANSOM FRONT ISOLATOR (PVC)	150
34004	TAŞIYICI ÖN İZOLASYON (PVC) - 16 mm / MULLION OR TRANSOM FRONT ISOLATOR (PVC)	150
34005	TAŞIYICI ÖN İZOLASYON (PVC) - 20 mm / MULLION OR TRANSOM FRONT ISOLATOR (PVC)	150
34006	TAŞIYICI ÖN İZOLASYON (PVC) - 24 mm / MULLION OR TRANSOM FRONT ISOLATOR (PVC)	150
34007	TAŞIYICI ÖN İZOLASYON (PVC) - 28 mm / MULLION OR TRANSOM FRONT ISOLATOR (PVC)	150
35001	KÖŞE ÇAVUŞU - 16 x 1,5mm / CORNER ALIGNMENT	152
35002	DİLATASYON TAPASI / DILATATION PLUG	162
35003	KONDENS YOLU İÇİN BAĞLANTI PARÇASI / CONNECTION PIECE FOR CONDENSATION LINE	165
35004	ÇÖRTEN / WATERSPOUT	166
35005	ISICAM KÖŞE BİRLEŞTİRME PARÇASI / CORNER CONNECTION PIECE FOR DOUBLE GLAZING	170
35006	CAM ARASI KİTLEME HAVUZU / LOCKING HOLE FOR DOUBLE GLAZING	172
35007	MAKAS ALTI BESLEME TAKOZU / FRICTION STAY REINFORCEMENT PLUG	153
36001	ISICAM KÖŞE BİRLEŞTİRME PARÇASI / CORNER CONNECTION PIECE FOR DOUBLE GLAZING	170
36002	YATAY BAKLALI SABİT ANKRAJ - 80 mm / HORIZONTAL MOVABLE FIXED ANCHORAGE	179
36003	YATAY BAKLALI SABİT ANKRAJ - 100 mm / HORIZONTAL MOVABLE FIXED ANCHORAGE	179
36004	YATAY BAKLALI SABİT ANKRAJ - 120 mm / HORIZONTAL MOVABLE FIXED ANCHORAGE	179
36005	YATAY BAKLALI SABİT ANKRAJ - 150 mm / HORIZONTAL MOVABLE FIXED ANCHORAGE	179
36006	YATAY BAKLALI SABİT ANKRAJ - 200 mm / HORIZONTAL MOVABLE FIXED ANCHORAGE	179
36007	DÜŞEY BAKLALI SABİT ANKRAJ - 80 mm / VERTICAL MOVABLE FIXED ANCHORAGE	179
36008	DÜŞEY BAKLALI SABİT ANKRAJ - 100 mm / VERTICAL MOVABLE FIXED ANCHORAGE	179
36009	DÜŞEY BAKLALI SABİT ANKRAJ - 120 mm / VERTICAL MOVABLE FIXED ANCHORAGE	179
36010	DÜŞEY BAKLALI SABİT ANKRAJ - 150 mm / VERTICAL MOVABLE FIXED ANCHORAGE	179
36011	DÜŞEY BAKLALI SABİT ANKRAJ - 200 mm / VERTICAL MOVABLE FIXED ANCHORAGE	179
36012	METRİK PERÇİN VE VİDA SETİ / METRIC PIN AND SCREW KIT	153
37001	10" - CEPHE MAKASI / FRICTION STAY - 10"	153
37002	12" - CEPHE MAKASI / FRICTION STAY - 12"	153
37003	14" - CEPHE MAKASI / FRICTION STAY - 14"	153
37004	16" - CEPHE MAKASI / FRICTION STAY - 16"	153
37005	18" - CEPHE MAKASI / FRICTION STAY - 18"	153
37006	20" - CEPHE MAKASI / FRICTION STAY - 20"	153
37007	22" - CEPHE MAKASI / FRICTION STAY - 22"	153
37008	24" - CEPHE MAKASI / FRICTION STAY - 24"	153
37009	26" - CEPHE MAKASI / FRICTION STAY - 26"	153
37010	28" - CEPHE MAKASI / FRICTION STAY - 28"	153
37011	CEPHE KOLU / FACADE HANDLE	157
37012	CEPHE KOLU BAĞLANTISI - 14,5mm / FACADE HANDLE CONNECTION 14,5mm	157
37013	CEPHE KOLU BAĞLANTISI - 17,5mm / FACADE HANDLE CONNECTION 17,5mm	157

## AKSESUAR FİHRİSTİ / ACCESSORY INDEX

ÜRÜN KODU PRODUCT CODE	ÜRÜN ADI PRODUCT NAME	SAYFA NO PAGE NO
37014	SABİT PİM / FIXED PIN	157
37015	AYARLI PİM / ADJUSTABLE PIN	158
37016	SABİT KARŞILIK / FIXED STRIKER	158
37017	AYARLI KARŞILIK / ADJUSTABLE STRIKER	158
37018	KÖŞE DÖNÜŞ AKTARMA PARÇASI / CORNER TRANSFER DEVICE	158
37019	CEPHE MAKASLARI İÇİN YÜKSEKLİK AYAR PARÇASI / HEIGHT ADJUSTMENT PIECE FOR FRI. STAYS	158
37020	ÜST ÇEKTİRME PARÇASI / TOP FASTENING PIECE	159
37021	LİMİTLEME MAKASI / LIMITOR ARM	159
37023	TELESKOPIK MAKAS (KÜÇÜK) / TELESKOPIK ARM (SMALL)	159
37024	TELESKOPIK MAKAS (ORTA) / TELESKOPIK ARM (MEDIUM)	159
37025	TELESKOPIK MAKAS (BÜYÜK) / TELESKOPIK ARM (LARGE)	159
37051	ANAHTARLI CEPHE KOLU / FACADE HANDLE WITH KEY	157
37052	SÖKÜLEBİLİR CEPHE KOLU MEKANİZMASI / DEMOUNTABLE FACADE HANDLE MECHANISM	157
37053	SÖKÜLEBİLİR CEPHE KOLU SAPI / DETACHABLE FACADE HANDLE	157
38001	KANAT KİTLEME SETİ - 1 / VENT LOCKING KIT	156
38002	KANAT KİTLEME SETİ - 2 / VENT LOCKING KIT	156
38003	KANAT KİTLEME SETİ - 3 / VENT LOCKING KIT	156
38004	KANAT KİTLEME SETİ - 4 / VENT LOCKING KIT	156
45007	MAKAS ALTI BESLEME TAKOZU / FRICTION STAY REINFORCEMENT PLUG	153
46012	METRİK PERÇİN VE VİDA SETİ / METRIC PIN AND SCREW KIT	153
47001	10" - CEPHE MAKASI / FRICTION STAY - 10"	153
47002	12" - CEPHE MAKASI / FRICTION STAY - 12"	153
47003	14" - CEPHE MAKASI / FRICTION STAY - 14"	153
47004	16" - CEPHE MAKASI / FRICTION STAY - 16"	153
47005	18" - CEPHE MAKASI / FRICTION STAY - 18"	153
47006	20" - CEPHE MAKASI / FRICTION STAY - 20"	153
47007	22" - CEPHE MAKASI / FRICTION STAY - 22"	153
47008	24" - CEPHE MAKASI / FRICTION STAY - 24"	153
47009	26" - CEPHE MAKASI / FRICTION STAY - 26"	153
47010	28" - CEPHE MAKASI / FRICTION STAY - 28"	153
47011	CEPHE KOLU / FACADE HANDLE	157
47012	CEPHE KOLU BAĞLANTISI - 14,5mm / FACADE HANDLE CONNECTION 14,5mm	157
47013	CEPHE KOLU BAĞLANTISI - 17,5mm / FACADE HANDLE CONNECTION 17,5mm	157
47014	SABİT PİM / FIXED PIN	157
47015	AYARLI PİM / ADJUSTABLE PIN	158
47016	SABİT KARŞILIK / FIXED STRIKER	158
47017	AYARLI KARŞILIK / ADJUSTABLE STRIKER	158

## AKSESUAR FİHRİSTİ / ACCESSORY INDEX

ÜRÜN KODU PRODUCT CODE	ÜRÜN ADI PRODUCT NAME	SAYFA NO PAGE NO
47018	KÖŞE DÖNÜŞ AKTARMA PARÇASI / CORNER TRANSFER DEVICE	158
47019	CEPHE MAKASLARI İÇİN YÜKSEKLİK AYAR PARÇASI / HEIGHT ADJUSTMENT PIECE FOR FRI. STAYS	158
47020	ÜST ÇEKTİRME PARÇASI / TOP FASTENING PIECE	159
47021	LİMİTLEME MAKASI / LIMITOR ARM	159
47023	TELESKOPIK MAKAS (KÜÇÜK) / TELESKOPIK ARM (SMALL)	159
47024	TELESKOPIK MAKAS (ORTA) / TELESKOPIK ARM (MEDIUM)	159
47025	TELESKOPIK MAKAS (BÜYÜK) / TELESKOPIK ARM (LARGE)	159
47026	PARALEL MAKAS - (SOL YAN MAKAS - 1) / PARALEL FRICTION STAY (LEFT SIDE - 1)	154
47027	PARALEL MAKAS - (SOL YAN MAKAS - 2) / PARALEL FRICTION STAY (LEFT SIDE - 2)	154
47028	PARALEL MAKAS - (SOL YAN MAKAS - 3) / PARALEL FRICTION STAY (LEFT SIDE - 3)	154
47029	PARALEL MAKAS - (SOL YAN MAKAS - 4) / PARALEL FRICTION STAY (LEFT SIDE - 4)	154
47030	PARALEL MAKAS - (SAĞ YAN MAKAS - 1) / PARALEL FRICTION STAY (RIGHT SIDE - 1)	154
47031	PARALEL MAKAS - (SAĞ YAN MAKAS - 2) / PARALEL FRICTION STAY (RIGHT SIDE - 2)	154
47032	PARALEL MAKAS - (SAĞ YAN MAKAS - 3) / PARALEL FRICTION STAY (RIGHT SIDE - 3)	154
47033	PARALEL MAKAS - (SAĞ YAN MAKAS - 4) / PARALEL FRICTION STAY (RIGHT SIDE - 4)	154
47034	PARALEL MAKAS İÇİN MANUEL STOPLAMA - 1 / MANUEL STOPER FOR PARALEL FRICTION STAY	154
47035	PARALEL MAKAS İÇİN MANUEL STOPLAMA - 2 / MANUEL STOPER FOR PARALEL FRICTION STAY	154
47036	PARALEL MAKAS İÇİN MANUEL STOPLAMA - 3 / MANUEL STOPER FOR PARALEL FRICTION STAY	154
47037	PARALEL MAKAS İÇİN MANUEL STOPLAMA - 4 / MANUEL STOPER FOR PARALEL FRICTION STAY	154
47038	PARALEL ÜST KONTROL MAKASI / PARALEL TOP CONTROL FRICTION STAY	154
47039	SMART AÇILIM MOTORU AC - SİYAH / OPENING MOTOR - BLACK	160
47040	SMART AÇILIM MOTORU AC - GRİ / OPENING MOTOR - GRAY	160
47041	SMART AÇILIM MOTORU DC - SİYAH / OPENING MOTOR - BLACK	160
47042	SMART AÇILIM MOTORU DC - GRİ / OPENING MOTOR - GRAY	160
47043	LIVIN AÇILIM MOTORU AC - SİYAH / OPENING MOTOR - BLACK	160
47044	LIVIN AÇILIM MOTORU AC - GRİ / OPENING MOTOR - GRAY	160
47045	LIVIN AÇILIM MOTORU DC - SİYAH / OPENING MOTOR - BLACK	160
47046	LIVIN AÇILIM MOTORU DC - GRİ / OPENING MOTOR - GRAY	160
47047	FAST 50 AÇILIM MOTORU - GRİ / OPENING MOTOR - GRAY	160
47048	AIRWIN A65 AÇILIM MOTORU - GRİ / OPENING MOTOR - GRAY	161
47049	UZAKTAN KUMANDA / REMOTE CONTROL	161
47050	UZAKTAN KUMANDA ALICISI / REMOTE CONTROL RECEIVER	161
47051	ANAHTARLI CEPHE KOLU / FACADE HANDLE WITH KEY	157
47052	SÖKÜLEBİLİR CEPHE KOLU MEKANİZMASI / DEMOUNTABLE FACADE HANDLE MECHANISM	157
47053	SÖKÜLEBİLİR CEPHE KOLU SAPI / DETACHABLE FACADE HANDLE	157
48001	KANAT KİTLEME SETİ - 1 / VENT LOCKING KIT	156
48002	KANAT KİTLEME SETİ - 2 / VENT LOCKING KIT	156


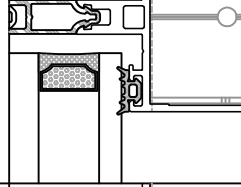

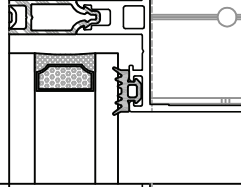

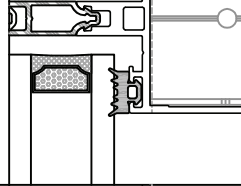

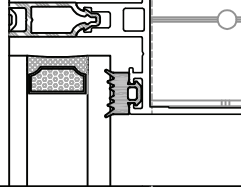
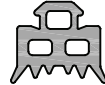
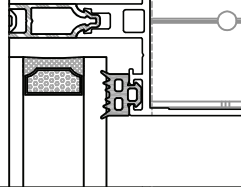

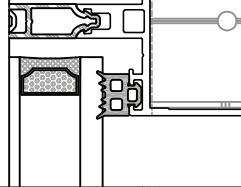

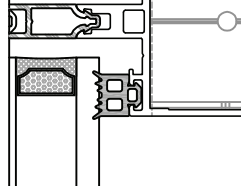

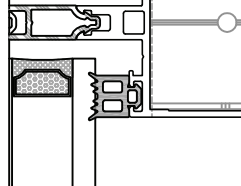

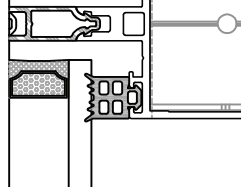
# AKSESUARLAR ACCESSORIES

1. AKSESUAR FİHRİSTİ / ACCESSORY INDEX
2. EPDM FİTİLLER / EPDM GASKETS
3. ISI BARIYERLERİ / INSULATION BARS
4. KÖŞE TAKOZLARI / CORNER CLEATS
5. MAKASLAR / FRICTION STAYS
6. KİTLEME AKSESUARLARI / LOCKING ACCESSORIES
7. CEPHE KOLLARI / FACADE HANDLES
8. BAĞLANTI PARÇALARI / CONNECTION PIECES
9. AÇILIM MOTORLARI / OPENING MOTORS
10. MONTAJ TALİMATLI AKSESUARLAR / ACCESSORIES WITH FABRICATION MANUAL

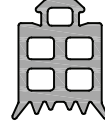
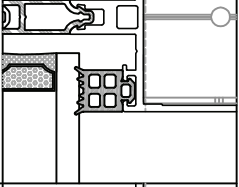
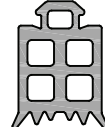
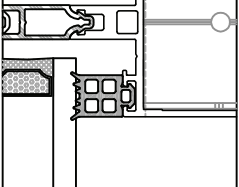
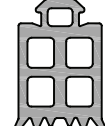
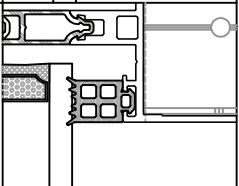
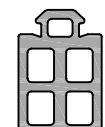
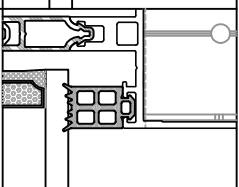
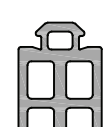
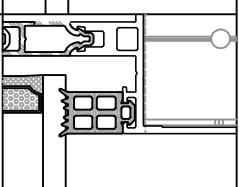
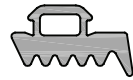
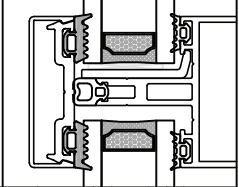

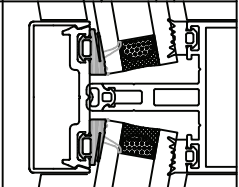

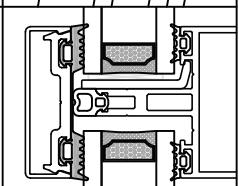

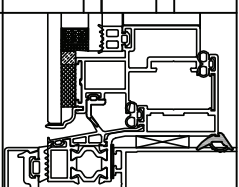
► SİSTEM ALÜMİNYUM® KATALOG İÇERİSİNDEKİ VERİLERDE DÜZELTME VEYA DEĞİŞİKLİK YAPMA HAKKINA SAHİPTİR.  
SİSTEM ALÜMİNYUM® HAS THE RIGHTS TO MAKE CORRECTION OR MODIFICATION IN THE CATALOGUE DATA.




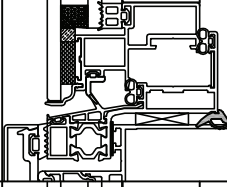

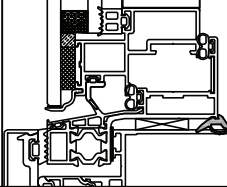

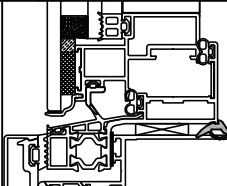
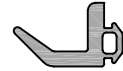
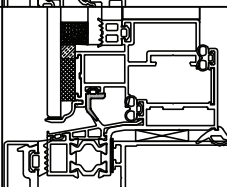

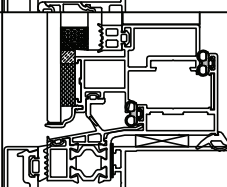

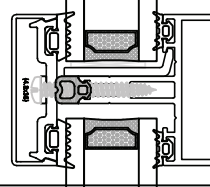

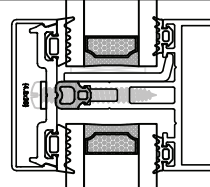

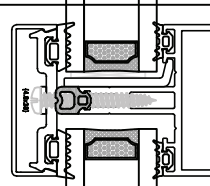

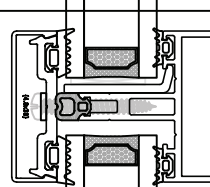
## EPDM FİTİLLER / EPDM GASKETS

AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	ÇİZİM / DRAWING	TAKILMA BÖLGESİ / APPLICATION AREA
<b>32002</b> İÇ BİNİ FİTİLİ 2 mm / INNER STEP GASKET 2 mm BİRİM AĞIRLIK / UNIT WEIGHT: 39 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 382 m		
<b>32003</b> İÇ BİNİ FİTİLİ 3 mm / INNER STEP GASKET 3 mm BİRİM AĞIRLIK / UNIT WEIGHT: 52 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 288 m		
<b>32004</b> İÇ BİNİ FİTİLİ 4 mm / INNER STEP GASKET 4 mm BİRİM AĞIRLIK / UNIT WEIGHT: 68 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 220 m		
<b>32005</b> İÇ BİNİ FİTİLİ 5 mm / INNER STEP GASKET 5 mm BİRİM AĞIRLIK / UNIT WEIGHT: 82 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 183 m		
<b>32006</b> İÇ BİNİ FİTİLİ 6 mm / INNER STEP GASKET 6 mm BİRİM AĞIRLIK / UNIT WEIGHT: 86 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 174 m		
<b>32007</b> İÇ BİNİ FİTİLİ 7 mm / INNER STEP GASKET 7 mm BİRİM AĞIRLIK / UNIT WEIGHT: 91 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 166 m		
<b>32008</b> İÇ BİNİ FİTİLİ 8 mm / INNER STEP GASKET 8 mm BİRİM AĞIRLIK / UNIT WEIGHT: 98 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 153 m		
<b>32009</b> İÇ BİNİ FİTİLİ 9 mm / INNER STEP GASKET 9 mm BİRİM AĞIRLIK / UNIT WEIGHT: 105 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 143 m		
<b>32010</b> İÇ BİNİ FİTİLİ 10 mm / INNER STEP GASKET 10 mm BİRİM AĞIRLIK / UNIT WEIGHT: 115 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 130 m		

**EPDM FİTİLLER / EPDM GASKETS**


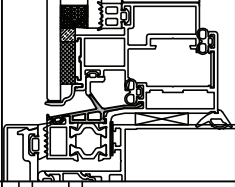
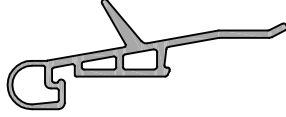
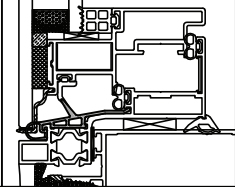

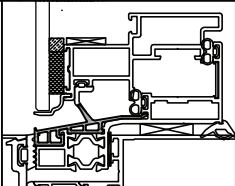
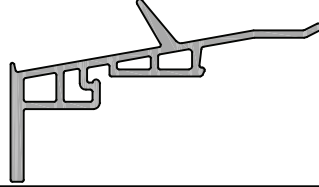
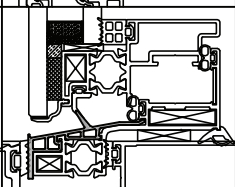
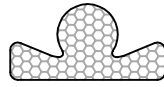
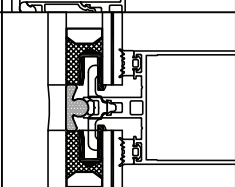

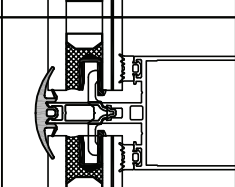
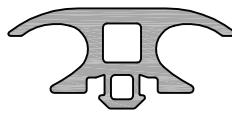
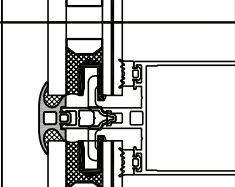
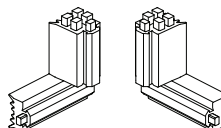
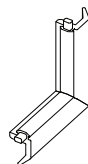
AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	ÇİZİM / DRAWING	TAKILMA BÖLGESİ / APPLICATION AREA
<b>32011</b> İÇ BİNİ FİTİLİ 11 mm / INNER STEP GASKET 11 mm BİRİM AĞIRLIK / UNIT WEIGHT: 120 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 125 m		
<b>32012</b> İÇ BİNİ FİTİLİ 12 mm / INNER STEP GASKET 12 mm BİRİM AĞIRLIK / UNIT WEIGHT: 126 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 120 m		
<b>32013</b> İÇ BİNİ FİTİLİ 13 mm / INNER STEP GASKET 13 mm BİRİM AĞIRLIK / UNIT WEIGHT: 131 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 115 m		
<b>32014</b> İÇ BİNİ FİTİLİ 14 mm / INNER STEP GASKET 14 mm BİRİM AĞIRLIK / UNIT WEIGHT: 137 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 110 m		
<b>32015</b> İÇ BİNİ FİTİLİ 15 mm / INNER STEP GASKET 15 mm BİRİM AĞIRLIK / UNIT WEIGHT: 143 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 105 m		
<b>32016</b> DIŞ BİNİ FİTİLİ 4 mm / OUTER STEP GASKET 4 mm BİRİM AĞIRLIK / UNIT WEIGHT: 88 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 170 m		
<b>32017</b> AÇILI DIŞ CAM FİTİLİ / ANGULAR OUTER STEP GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 91 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 165 m		
<b>32018</b> YEKPARE DIŞ BİNİ FİTİLİ / ONE PIECE STEP GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 124 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 121 m		
<b>32019</b> KAMA FİTİLİ 3 mm / GLAZING SUPPORT GASKET 3 mm BİRİM AĞIRLIK / UNIT WEIGHT: 41 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 365 m		

## EPDM FİTİLLER / EPDM GASKETS

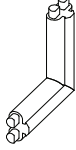

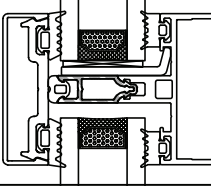
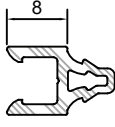
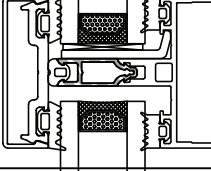
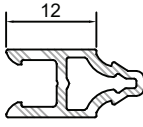
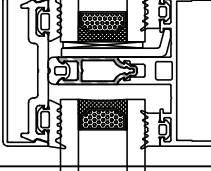
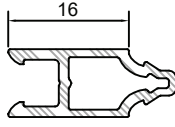
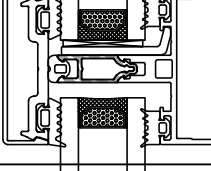
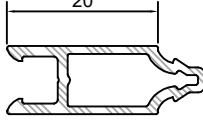
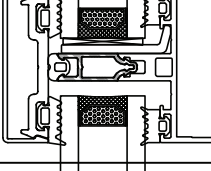
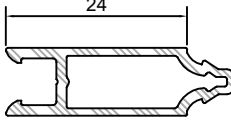
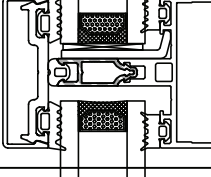
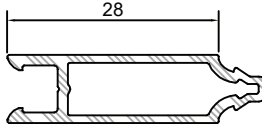
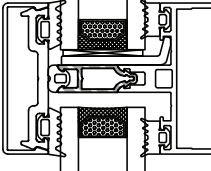
AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	ÇİZİM / DRAWING	TAKILMA BÖLGESİ / APPLICATION AREA
<b>32020</b> KAMA FİTİLİ 4 mm / GLAZING SUPPORT GASKET 4 mm BİRİM AĞIRLIK / UNIT WEIGHT: 54 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 280 m		
<b>32021</b> KAMA FİTİLİ 5 mm / GLAZING SUPPORT GASKET 5 mm BİRİM AĞIRLIK / UNIT WEIGHT: 67 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 224 m		
<b>32022</b> KAMA FİTİLİ 6 mm / GLAZING SUPPORT GASKET 6 mm BİRİM AĞIRLIK / UNIT WEIGHT: 89 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 168 m		
<b>32023</b> KANAT DESTEK FİTİLİ / SUPPORT GASKET FOR VENT BİRİM AĞIRLIK / UNIT WEIGHT: 54 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 275 m		
<b>32024</b> KANAT İÇ BİNİ FİTİLİ / INNER STEP GASKET FOR VENT BİRİM AĞIRLIK / UNIT WEIGHT: 40 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 370 m		
<b>32025</b> TAŞIYICI ÖN FİTİL 3mm / MULLION FRONT GASKET 3mm BİRİM AĞIRLIK / UNIT WEIGHT: 47 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 316 m		
<b>32026</b> TAŞIYICI ÖN FİTİL 4mm / MULLION FRONT GASKET 4mm BİRİM AĞIRLIK / UNIT WEIGHT: 56 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 266 m		
<b>32027</b> TAŞIYICI ÖN FİTİL 5mm / MULLION FRONT GASKET 5mm BİRİM AĞIRLIK / UNIT WEIGHT: 58 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 260 m		
<b>32028</b> TAŞIYICI ÖN FİTİL 7mm / MULLION FRONT GASKET 7mm BİRİM AĞIRLIK / UNIT WEIGHT: 71 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 212 m		

## ▲ F50-ENERGY

### EPDM FİTİLLER / EPDM GASKETS

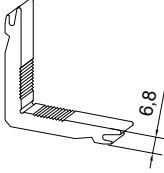
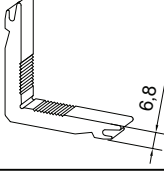
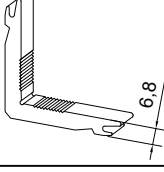
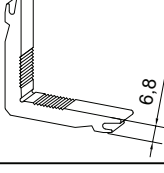
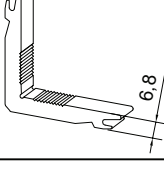
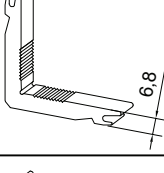
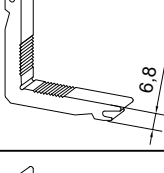
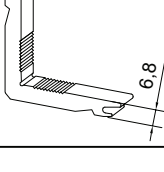
AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	çizim / DRAWING	TAKILMA BÖLGESİ / APPLICATION AREA
<b>32029</b> KANAT ÇARŞAF FİTİLİ - 1 / SHEET GASKET FOR VENT BİRİM AĞIRLIK / UNIT WEIGHT: 125 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 120 m		
<b>32030</b> KANAT ÇARŞAF FİTİLİ - 2 / SHEET GASKET FOR VENT BİRİM AĞIRLIK / UNIT WEIGHT: 153 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 98 m		
<b>32031</b> KANAT ÇARŞAF FİTİLİ - 3 / SHEET GASKET FOR VENT BİRİM AĞIRLIK / UNIT WEIGHT: 185 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 81 m		
<b>32032</b> KANAT ÇARŞAF FİTİLİ - 4 / SHEET GASKET FOR VENT BİRİM AĞIRLIK / UNIT WEIGHT: 229 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 66 m		
<b>32033</b> POLİETİLEN DERZ FİTİL / POLYETHYLENE SEAM GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 30 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 500 m		
<b>32034</b> İÇ MEKAN DERZ KAPATMA FİTİLİ / INSIDE SEAM GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 204 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 73 m		
<b>32035</b> SİLİKON DERZ KAPATMA FİTİLİ / SILICONE SEAM GASKET BİRİM AĞIRLIK / UNIT WEIGHT: 194 g/m KOLİ MİKTARI / PACKAGE QUANTITY: 77 m		
<b>33001</b> VULKANİZE KÖŞE PARÇASI / VULCANISED CORNER PIECE İLİŞKİLİ FİTİLLER / RELATED GASKETS: 32005 & 32011		
<b>33002</b> VULKANİZE KÖŞE PARÇASI / VULCANISED CORNER PIECE İLİŞKİLİ FİTİL / RELATED GASKET: 32023		

## İSİ BARIYERLERİ / INSULATION BARS

AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	ÇİZİM / DRAWING	TAKILMA BÖLGESİ / APPLICATION AREA
<b>33003</b> VULKANİZE KÖŞE PARÇASI / VULCANISED CORNER PIECE İLİŞKİLİ FİTİL / RELATED GASKET: 32024		
<b>34001</b> TAŞIYICI ÖN İZOLASYON ( PVC ) 4 MM MULLION OR TRANSOM FRONT ISOLATOR ( PVC ) MİKTAR / QUANTITY: BOY 6 m /Adet		
<b>34002</b> TAŞIYICI ÖN İZOLASYON ( PVC ) 8 MM MULLION OR TRANSOM FRONT ISOLATOR ( PVC ) MİKTAR / QUANTITY: BOY 6 m /Adet		
<b>34003</b> TAŞIYICI ÖN İZOLASYON ( PVC ) 12 MM MULLION OR TRANSOM FRONT ISOLATOR ( PVC ) MİKTAR / QUANTITY: BOY 6 m /Adet		
<b>34004</b> TAŞIYICI ÖN İZOLASYON ( PVC ) 16 MM MULLION OR TRANSOM FRONT ISOLATOR ( PVC ) MİKTAR / QUANTITY: BOY 6 m /Adet		
<b>34005</b> TAŞIYICI ÖN İZOLASYON ( PVC ) 20 MM MULLION OR TRANSOM FRONT ISOLATOR ( PVC ) MİKTAR / QUANTITY: BOY 6 m /Adet		
<b>34006</b> TAŞIYICI ÖN İZOLASYON ( PVC ) 24 MM MULLION OR TRANSOM FRONT ISOLATOR ( PVC ) MİKTAR / QUANTITY: BOY 6 m /Adet		
<b>34007</b> TAŞIYICI ÖN İZOLASYON ( PVC ) 28 MM MULLION OR TRANSOM FRONT ISOLATOR ( PVC ) MİKTAR / QUANTITY: BOY 6 m /Adet		

## ▲ F50-ENERGY

### KÖŞE TAKOZLARI / CORNER CLEATS

AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	ÇİZİM / DRAWING	KESİM ÖLÇÜSÜ / CUTTING DIMENSION
<b>31001</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>29,4 mm</b>
<b>31002</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>11 mm</b>
<b>31003</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>13 mm</b>
<b>31004</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>44,9 mm</b>
<b>31005</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>21 mm</b>
<b>31006</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>17 mm</b>
<b>31007</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>23 mm</b>
<b>31008</b> <b>KÖŞE TAKOZU / CORNER CLEAT</b> PROFİL NUMARASI / PROFILE NUMBER: <b>FP520</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 1,974 kg/m.		<b>19 mm</b>

## KÖŞE TAKOZLARI / CORNER CLEATS

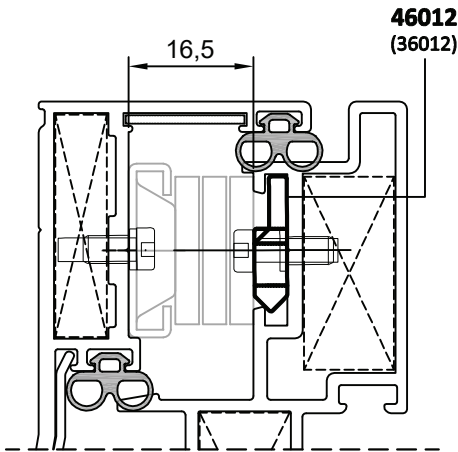
AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	ÇİZİM / DRAWING	KESİM ÖLÇÜSÜ / CUTTING DIMENSION
<b>31009</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>24,7 mm</b>
<b>31010</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>7 mm</b>
<b>31011</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>26,9 mm</b>
<b>31012</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>17,5 mm</b>
<b>31013</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>26 mm</b>
<b>31014</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>9 mm</b>
<b>31015</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>24,4 mm</b>
<b>31016</b> KÖŞE TAKOZU / CORNER CLEAT PROFİL NUMARASI / PROFILE NUMBER: <b>FP521</b> PROFİL AĞIRLIĞI / PROFILE WEIGHT: 2,367 kg/m.		<b>39,6 mm</b>
<b>35001</b> KÖŞE ÇAVUŞU / CORNET ALIGNMENT MALZEME / MATERIAL: POLYAMID		<b>16 x 1,5</b>

MAKASLAR / FRICTION STAYS



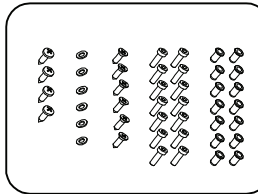
ÜRÜN KODU PRODUCT CODE	ALTERNATİF YERLİ ÜRÜN KODLARI ALTERNATIVE NATIVE PRODUCT CODES	MAKAS BOYU FRICTION STAY LENGTH (inch)	MAKAS BOYU FRICTION STAY LENGTH (mm)	KANAT AÇMA DERECESİ OPENING ANGLE	MAKS. KANAT YÜKSEKLİĞİ MAX. VENT HEIGHT (mm)	MAKS. KANAT AĞIRLIĞI MAX. VENT WEIGHT (kg)
47001	37001	10"	255	35°	700	50
47002	37002	12"	305	30°/35°	800	60
47003	37003	14"	355	30°/35°	1000	70
47004	37004	16"	405	25°/30°	1200	90
47005	37005	18"	460	25°/30°	1400	100
47006	37006	20"	505	20°/25°	1600	135
47007	37007	22"	560	20°/25°	1700	140
47008	37008	24"	610	20°/25°	1800	145
47009	37009	26"	660	10°/15°/20°	2000	155
47010	37010	28"	710	10°/15°/20°	2500	180

! TABLODA BELİRTİLEN TEKNİK DEĞERLER, İTHAL ÜRÜNLERE AİTTİR. YERLİ ALTERNATİFLERİ İÇİN DEĞERLER FARKLI OLABİLİR.  
TECHNICAL VALUES ARE BELONG TO IMPORTED PRODUCTS AS SHOWN AT THE TABLE. VALUES CAN BE DIFFERENT AT THE NATIVE ALTERNATIVES.

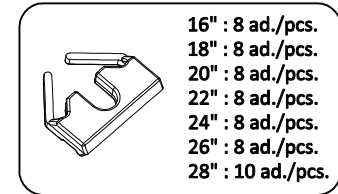


\* STANDART AKSESUAR SETİNDE YER ALMAYAN 46012 KODLU METRİK PERÇİN VE VİDALARIN KULLANILMASI DURUMUNDA TÜM MAKAS TIPLERİ İÇİN MAKSİMUM KANAT AĞIRLIĞI 180 KG OLUP ÜRETİCİ FİRMA GARANTİSİ ALTINDADIR.  
IF USING THE METRIC PIN & SCREWS WITH THE CODE OF 46012 WHICH DOESN'T INCLUDE AT STANDARD ACCESSORY KIT, MAXIMUM CARRIAGE CAPACITY FIXED TO 180 KG FOR ALL FRICTION STAY TYPES.

**46012 (36012)**  
METRİK PERÇİN VE VİDA SETİ  
METRIC PIN AND SCREW KIT



**45007 (35007)**  
MAKAS ALTI BESLEME TAKOZU (PVC)  
FRICTION STAY REINFORCEMENT PLUG (PVC)

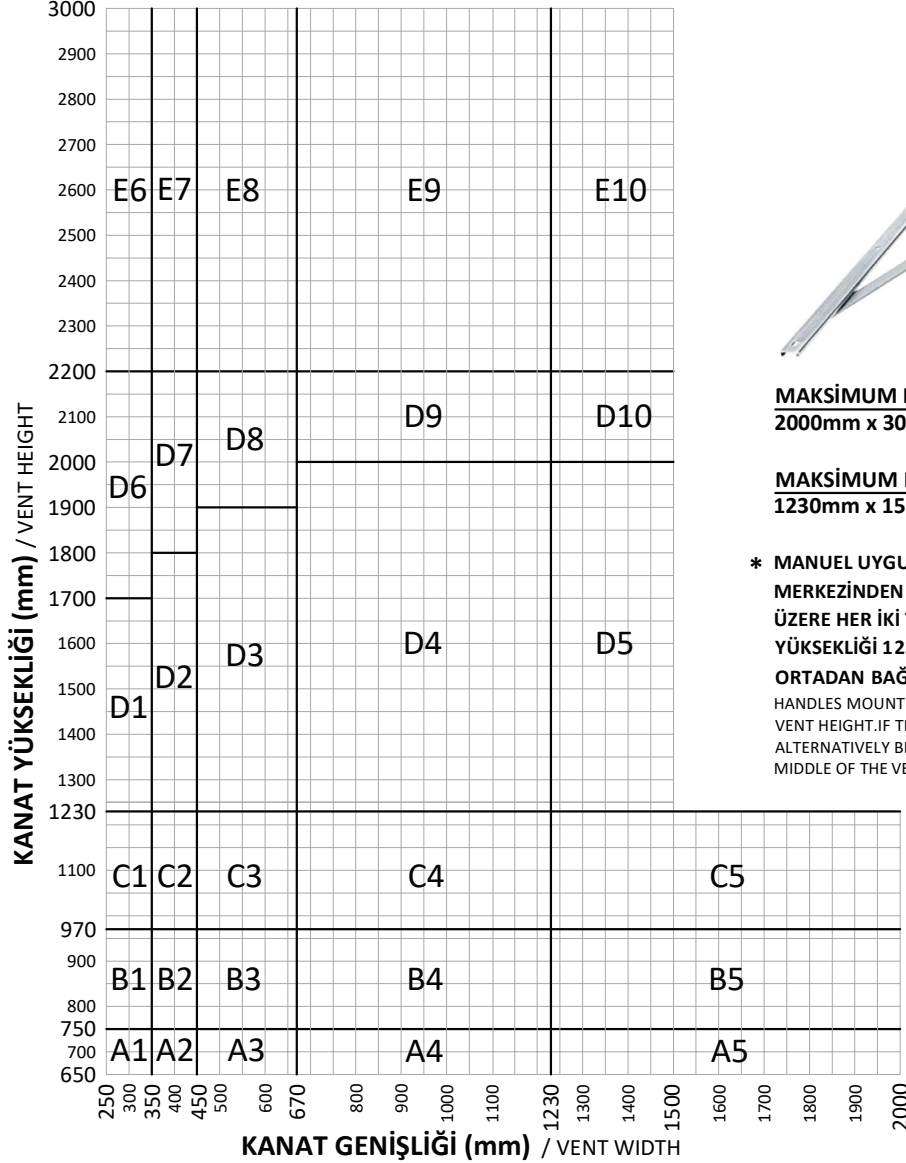


\* ( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLİDİR.  
ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

## PARALEL MAKASLAR / PARALEL FRICTION STAYS

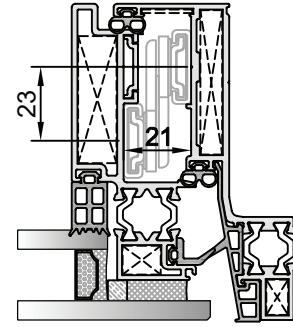
### MAKAS SEÇİM DİYAGRAMI / FRICTION STAY SELECTION DIAGRAM



**MAKSİMUM MOTORLU UYGULAMA ÖLÇÜSÜ:**  
2000mm x 3000mm

**MAKSİMUM MANUEL UYGULAMA ÖLÇÜSÜ:**  
1230mm x 1500mm

\* MANUEL UYGULAMADA KOLLAR KANAT YÜKSEKLİĞİNİN MERKEZİNDEN +/- 15% MESAFESİNE SAĞ VE SOL OLMAK ÜZERE HER İKİ TARAFA MONTAJLANMALIDIR. KANAT YÜKSEKLİĞİ 1230 mm'NİN ALTINDA İSE KANATLAR ALT ORTADAN BAĞLANAN TEK KOL İLE AÇILABİLİR.  
HANDLES MOUNTED CENTRALLY ON THE VERTICAL SIDES +/- 15% OF THE VENT HEIGHT. IF THE VENTS HEIGHT BELOW 1230 mm HIGH, IT CAN ALTERNATIVELY BE OPERATED FROM A SINGLE HANDLE AT THE BOTTOM MIDDLE OF THE VENT.

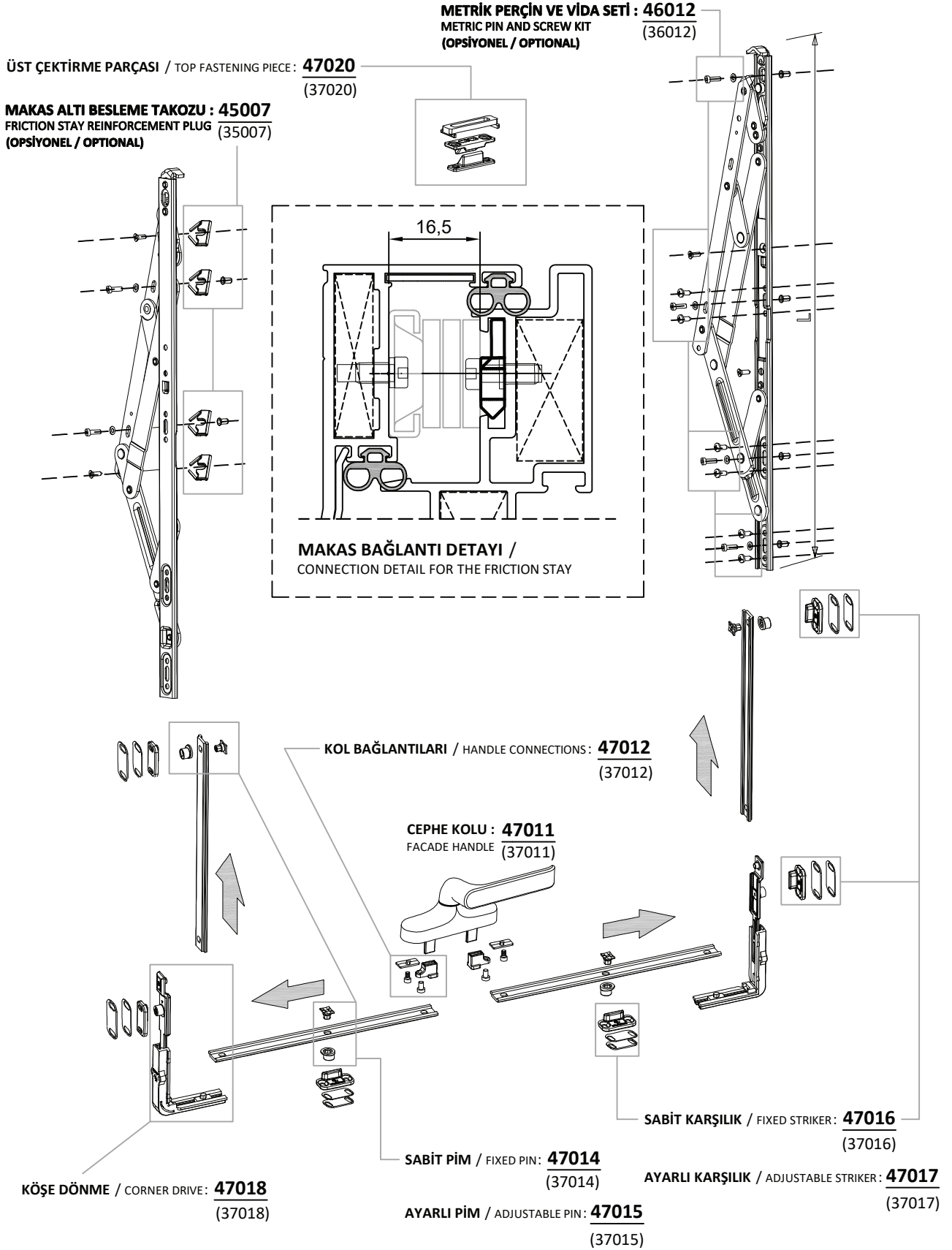


YAN MAKASLAR SIDE MOUNTED FRICTION STAYS				ALT&ÜST KONTROL MAKASLARI TOP&BOTTOM CONTROL FRICTION STAYS			
	SOL TARAF LEFT SIDE	SAĞ TARAF RIGHT SIDE	STOPLAMALAR STOPERS	MAKS. AĞIRLIK MAX. WEIGHT (mm)	ÜST TOP	ALT BOTTOM	
A	1 x 47026	1 x 47030	2 x 47034	100	1	47038	-
B	1 x 47027	1 x 47031	2 x 47035	100	2	47030	-
C	1 x 47028	1 x 47032	2 x 47036	200	3	47031	-
D	1 x 47029	1 x 47033	2 x 47037	200	4	47032	-
E	2 x 47029	2 x 47033	4 x 47037	200	5	47033	-
* 47038 KONTROL MAKASLARI KULLANILIRKEN 47035 STOPLAMA YERİN E 47034 KULLANILIR. / WHEN USING 47038 CONTROL FRICTION STAYS, REPLACE 47035 STOPERS WITH 47034 STOPERS. * MANUEL UYGULAMALAR İÇİN KANATLARIN MAKSİMUM AÇILMA MESAFESİ 150 mm 'DİR. / MAXIMUM OPENING DISTANCE FOR VENTS ARE 150 mm FOR MANUAL APPLICATIONS. * PARALEL MAKAS FİYATLANDIRMASI İÇİN LÜTFEN SİSTEM ALÜMİNYUM'A BAŞVURUNUZ. / FOR PARALLEL FRICTION STAY PRICING DETAILS PLEASE CONTACT WITH SİSTEM ALUMINIUM.					6	47038	47038
					7	47030	47030
					8	47031	47031
					9	47032	47032
					10	47033	47033

\* ( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLİDİR.  
ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

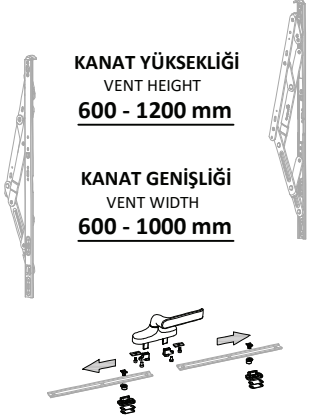
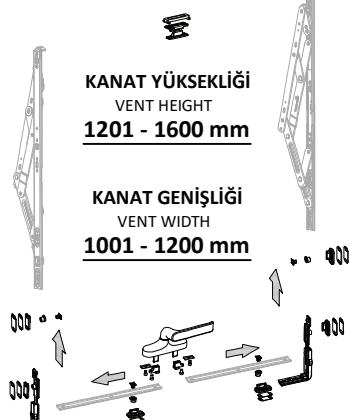
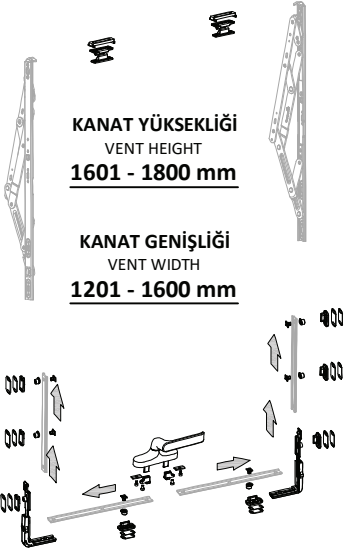
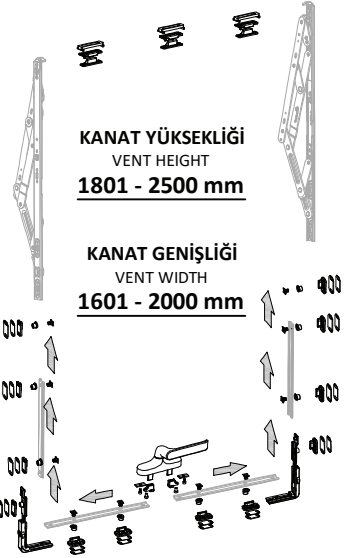
KANAT KİTLEME AKSESUARLARI / VENT LOCKING ACCESSORIES



\* ( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLDİR.  
ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

KANAT KİTLEME SETLERİ / VENT LOCKING KITS

<b>48001 (38001)</b>	 <p>KANAT YÜKSEKLİĞİ VENT HEIGHT <b>600 - 1200 mm</b></p> <p>KANAT GENİŞLİĞİ VENT WIDTH <b>600 - 1000 mm</b></p>
<b>48002 (38002)</b>	 <p>KANAT YÜKSEKLİĞİ VENT HEIGHT <b>1201 - 1600 mm</b></p> <p>KANAT GENİŞLİĞİ VENT WIDTH <b>1001 - 1200 mm</b></p>
<b>48003 (38003)</b>	 <p>KANAT YÜKSEKLİĞİ VENT HEIGHT <b>1601 - 1800 mm</b></p> <p>KANAT GENİŞLİĞİ VENT WIDTH <b>1201 - 1600 mm</b></p>
<b>48004 (38004)</b>	 <p>KANAT YÜKSEKLİĞİ VENT HEIGHT <b>1801 - 2500 mm</b></p> <p>KANAT GENİŞLİĞİ VENT WIDTH <b>1601 - 2000 mm</b></p>

SET KODU / KIT CODE :			<b>48001</b> (38001)	<b>48002</b> (38002)	<b>48003</b> (38003)	<b>48004</b> (38004)
ÜRÜN KODU PRODUCT CODE	ALTERNATİF YERLİ ÜRÜN KODLARI ALTERNATIVE NATIVE PRODUCT CODES	ÜRÜN ADI PRODUCT NAME	2 NOKTADAN KİTLEME 2 POINTS LOCKING	7 NOKTADAN KİTLEME 7 POINTS LOCKING	10 NOKTADAN KİTLEME 10 POINTS LOCKING	15 NOKTADAN KİTLEME 15 POINTS LOCKING
<b>47011</b>	<b>37011</b>	CEPHE KOLU CURTAIN WALL HANDLE	1 ADET / PCS.	1 ADET / PCS.	1 ADET / PCS.	1 ADET / PCS.
<b>47012</b>	<b>37012</b>	KOL BAĞLANTILARI HANDLE CONNECTIONS	2 ADET / PCS.	2 ADET / PCS.	2 ADET / PCS.	2 ADET / PCS.
<b>47015</b>	<b>37015</b>	AYARLI PİM ADJUSTABLE PIN	2 ADET / PCS.	4 ADET / PCS.	6 ADET / PCS.	10 ADET / PCS.
<b>47017</b>	<b>37017</b>	AYARLI KARŞILIK ADJUSTABLE STRIKER	2 ADET / PCS.	6 ADET / PCS.	8 ADET / PCS.	12 ADET / PCS.
<b>47018</b>	<b>37018</b>	KÖŞE DÖNME CORNER DRIVE	-	2 ADET / PCS.	2 ADET / PCS.	2 ADET / PCS.
<b>47020</b>	<b>37020</b>	ÜST ÇEKTİRME PARÇASI TOP FASTENING PIECE	-	1 ADET / PCS.	2 ADET / PCS.	3 ADET / PCS.

\* ( ) PARANTEZ İÇERİSİNDEKİ SET KODLARI YERLİ AKSESUARLARA AİTTİR.  
( ) KIT CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLİDİR.  
! ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

**AKSESUARLAR / ACCESSORIES**

AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	GÖRSELLER / IMAGES
<p><b>47011 (37011)</b> CEPHE KOLU / FACADE HANDLE</p>	
<p><b>47051 (37051)</b> ANAHTARLI CEPHE KOLU / FACADE HANDLE WITH KEY</p>	
<p><b>47052 (37052)</b> SÖKÜLEBİLİR CEPHE KOLU MEKANİZMASI / DETACHABLE FACADE CREMONE MECANISM</p>	
<p><b>47053 (37053)</b> SÖKÜLEBİLİR CEPHE KOLU SAPI / DETACHABLE FACADE HANDLE</p>	
<p><b>47012 (37012)</b> CEPHE KOLU BAĞLANTI ELEMANI / FACADE HANDLE FASTENING ELEMENT</p>	 <p>14,5mm</p>
<p><b>47013 (37013)</b> CEPHE KOLU BAĞLANTI ELEMANI / FACADE HANDLE FASTENING ELEMENT</p>	 <p>17,5mm</p>
<p><b>47014 (37014)</b> SABİT PİM / FIXED PIN</p>	

( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLDİR.  
! ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

## AKSESUARLAR / ACCESSORIES

AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	GÖRSELLER / IMAGES
<p><b>47015</b> (37015) AYARLI PİM / ADJUSTABLE PIN</p>	
<p><b>47016</b> (37016) SABİT KARŞILIK / FIXED STRIKER</p>	
<p><b>47017</b> (37017) AYARLI KARŞILIK / ADJUSTABLE STRIKER</p>	
<p><b>47018</b> (37018) KÖŞE DÖNÜŞ AKTARMA PARÇASI / CORNER TRANSFER DEVICE</p>	
<p><b>47019</b> (37019) CEPHE MAKASLARI İÇİN YÜKSEKLİK AYAR PARÇASI / HEIGHT ADJUSTMENT PIECE FOR FRICTION STAYS</p>	

\* ( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLDİR.  
ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

**AKSESUARLAR / ACCESSORIES**

AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	GÖRSELLER / IMAGES
<p><b>47020 (37020)</b> ÜST ÇEKTİRME PARÇASI / TOP FASTENING PIECE</p>	
<p><b>47021 (37021)</b> LİMİTLEME MAKASI / LIMITOR ARM</p>	
<p><b>47023 (37023)</b> TELESKOPİK MAKAS (KÜÇÜK) / TELESCOPIC ARM (SMALL)</p>	
<p><b>47024 (37024)</b> TELESKOPİK MAKAS (ORTA) / TELESCOPIC ARM (MEDIUM)</p>	
<p><b>47025 (37025)</b> TELESKOPİK MAKAS (BÜYÜK) / TELESCOPIC ARM (LARGE)</p>	

\* ( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLDİR.  
! ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

## AKSESUARLAR / ACCESSORIES

AKSESUAR KODU VE GÖRSELİ / ACCESSORY CODE AND IMAGE	TEKNİK ÖZELLİKLER / TECHNICAL SPECIFICATIONS
 <p><b>47039</b> - SİYAH / BLACK <b>47040</b> - GRİ / GRAY VASİSTAS VE İŞIKLIK KANATLARI İÇİN AÇMA MOTORU / OPENING MOTOR FOR BOTTOM-HUNG &amp; SKYLIGHT VENTS</p>	<p><b>ALUTECH SMART ( 230V AC ) MOTOR</b> Ayarlanabilir Açılma Mesafesi : 180 mm ile 380 mm İtme Gücü .....: 200 N Cekme Gücü .....: 250 N Çalışma Hızı .....: 18 mm/sec Maks.Kanat Ağırlığı-Vasistas ve Pivot .....: 50 kg Maks.Kanat Ağırlığı-Yatay ve Çatı Pencerelerde ....: 38 kg Kanat Eni .....: 600 - 1250 mm Maksimum Kanat Boyu .....: 2600 mm</p>
 <p><b>47041</b> - SİYAH / BLACK <b>47042</b> - GRİ / GRAY VASİSTAS VE İŞIKLIK KANATLARI İÇİN AÇMA MOTORU / OPENING MOTOR FOR BOTTOM-HUNG &amp; SKYLIGHT VENTS</p>	<p><b>ALUTECH SMART ( 24V DC ) MOTOR</b> Ayarlanabilir Açılma Mesafesi : 180 mm ile 380 mm İtme Gücü .....: 200 N Cekme Gücü .....: 250 N Çalışma Hızı .....: 18 mm/sec Maks.Kanat Ağırlığı-Vasistas ve Pivot .....: 50 kg Maks.Kanat Ağırlığı-Yatay ve Çatı Pencerelerde ....: 38 kg Kanat Eni .....: 600 - 1250 mm Maksimum Kanat Boyu .....: 2600 mm</p>
 <p><b>47043</b> - SİYAH / BLACK <b>47044</b> - GRİ / GRAY PARALEL, VASİSTAS VE İŞIKLIK KANATLARI İÇİN MOTOR / MOTOR FOR PARALEL, BOTTOM-HUNG &amp; SKYLIGHT VENTS</p>	<p><b>ALUTECH LIVIN L25 ( 230V AC ) MOTOR</b> Ayarlanabilir Açılma Mesafesi : 200 mm ile 380 mm İtme Gücü .....: 250 N Cekme Gücü .....: 250 N Çalışma Hızı .....: 18 mm/sec Maks.Kanat Ağırlığı-Vasistas ve Pivot .....: 60 kg Maks.Kanat Ağırlığı-Yatay ve Çatı Pencerelerde ....: 45 kg Kanat Eni .....: 450 - 1250 mm Maksimum Kanat Boyu .....: 2600 mm</p>
 <p><b>47045</b> - SİYAH / BLACK <b>47046</b> - GRİ / GRAY PARALEL, VASİSTAS VE İŞIKLIK KANATLARI İÇİN MOTOR / MOTOR FOR PARALEL, BOTTOM-HUNG &amp; SKYLIGHT VENTS</p>	<p><b>ALUTECH LIVIN L35 ( 24V DC ) MOTOR</b> Ayarlanabilir Açılma Mesafesi : 200 mm ile 380 mm İtme Gücü .....: 250 N Cekme Gücü .....: 250 N Çalışma Hızı .....: 18 mm/sec Maks.Kanat Ağırlığı-Vasistas ve Pivot .....: 80 kg Maks.Kanat Ağırlığı-Yatay ve Çatı Pencerelerde ....: 65 kg Kanat Eni .....: 450 - 1250 mm Maksimum Kanat Boyu .....: 2600 mm</p>
 <p><b>47047</b> - GRİ / GRAY PARALEL, VASİSTAS VE İŞIKLIK KANATLARI İÇİN MOTOR / MOTOR FOR PARALEL, BOTTOM-HUNG &amp; SKYLIGHT VENTS</p>	<p><b>ALUTECH FAST 50 ( 230V AC ) MOTOR</b> Ayarlanabilir Açılma Mesafesi : 300 mm İtme Gücü .....: 500 N Cekme Gücü .....: 500 N Çalışma Hızı .....: 23 mm/sec Maks.Kanat Ağırlığı-Vasistas ve Pivot .....: 160 kg Maks.Kanat Ağırlığı-Yatay ve Çatı Pencerelerde ....: 90 kg Kanat Eni .....: 200 - 1250 mm Maksimum Kanat Boyu .....: 2600 mm</p>

\* ( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLİDİR.  
! ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

**AKSESUARLAR / ACCESSORIES**

AKSESUAR KODU VE ÜRÜN BİLGİLERİ / ACCESSORY CODE AND PRODUCT DESCRIPTION	GÖRSELLER / IMAGES
 <p><b>47048</b> - GRİ / GRAY <i>PARALEL, VASİSTAS VE İŞIKLIK KANATLARI İÇİN MOTOR / MOTOR FOR PARALEL, BOTTOM-HUNG &amp; SKYLIGHT VENTS</i></p>	<p><b>ALUTECH AIRWIN A 65 ( 230V AC ) MOTOR</b> Ayarlanabilir Açılma Mesafesi : 550 mm İtme Gücü .....: 650 N Cekme Gücü .....: 650 N Çalışma Hızı .....: 10 mm/sec Maks.Kanat Ağırlığı-Vasistas ve Pivot .....: 120 kg Maks.Kanat Ağırlığı-Yatay ve Çatı Pencerelede .: 120 kg Kanat Eni .....: 200 - 1250 mm Maksimum Kanat Boyu .....: 2600 mm</p>
<p><b>47049</b> <i>ALUTECH GNS 02A - 2 KANAL UZAKTAN KUMANDA / ALUTECH GNS 02A - 2 CHANNEL REMOTE CONTROL</i></p>	
<p><b>47050</b> <i>ALUTECH GNS 202 / 220V - UZAKTAN KUMANDA ALICISI / ALUTECH GNS 202 / 220V - REMOTE CONTROL RECEIVER</i></p>	

\* ( ) PARANTEZ İÇERİSİNDEKİ KODLAR YERLİ AKSESUARLARA AİTTİR.  
( ) CODES INTO THE PARENTHESIS BELONG TO NATIVE ACCESSORIES.

! BU SAYFADA BELİRTİLEN AKSESUAR GÖRSELLERİ TEMSİLDİR.  
ACCESSORY IMAGES ARE REPRESENTATIVE AT THIS PAGE.

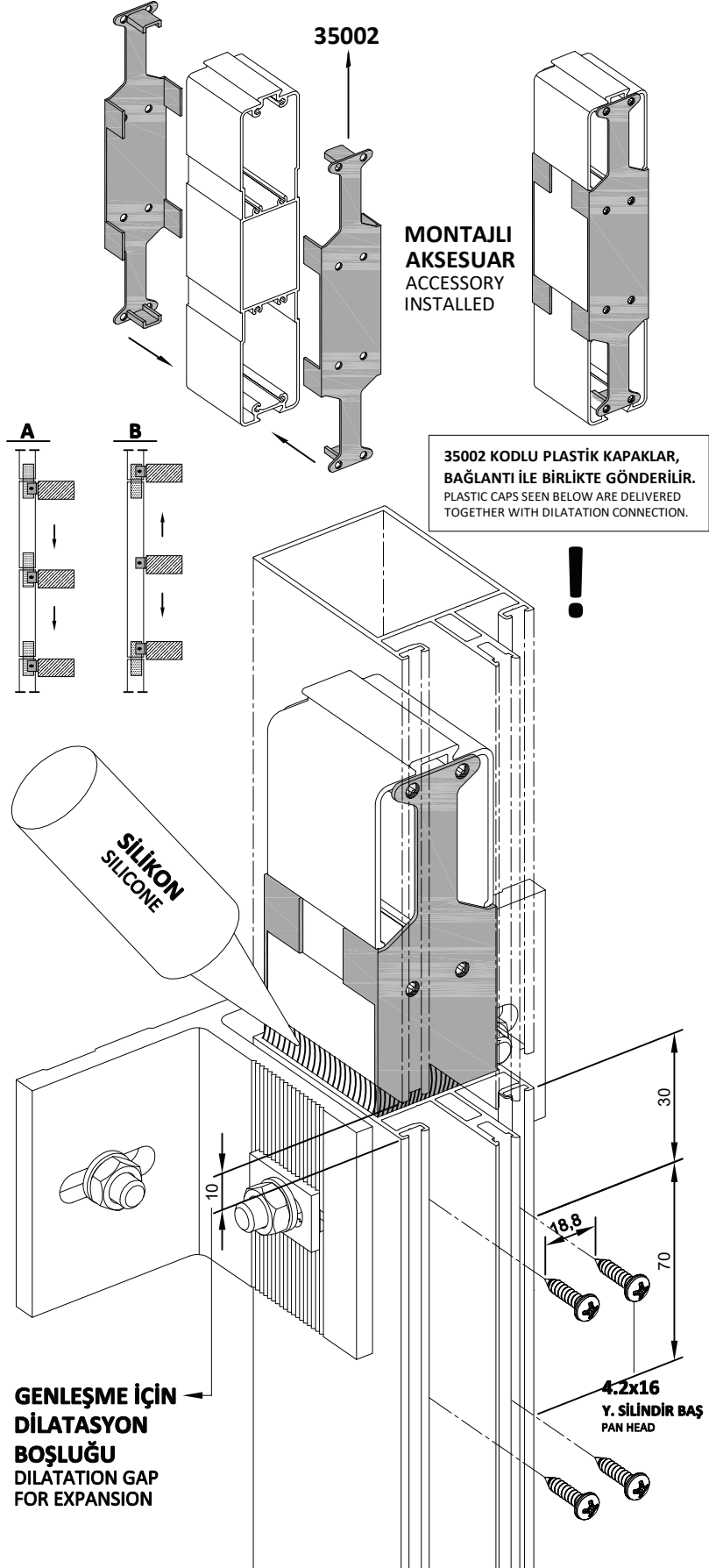
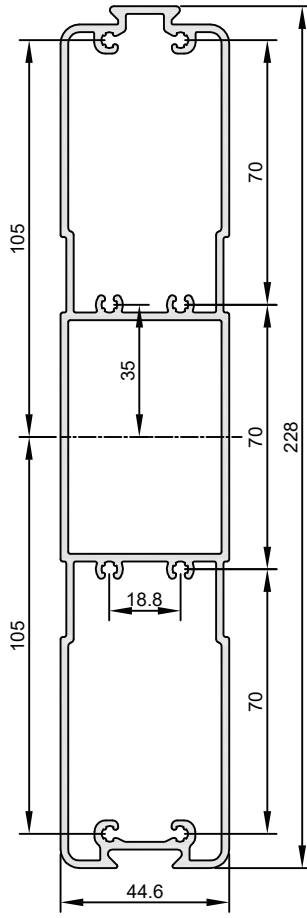
# MONTAJ TALİMATLI AKSESUARLAR ACCESSORIES WITH FABRICATION MANUAL

1. DİLATASYON BAĞLANTILARI /  
DILATATION CONNECTIONS
2. U BAĞLANTILAR / U CONNECTIONS
3. YATAY KAYIT CONTALARI /  
TRANSOM CONNECTION PLUGS
4. KONDENS YOLU İÇİN BAĞLANTI PARÇASI  
CON. PIECE FOR THE CONDENSATION LINE
5. ÇÖRTEN / WATERSPOUT
6. CAM ALTI DESTEK PARÇALARI /  
GLAZING SUPPORT PIECES
7. KANAT İÇİN CAM ALTI DESTEK PARÇALARI /  
GLAZING SUPPORT PIECES FOR VENT
8. STANDART CAM ARASI KİTLEME PARÇALARI /  
LOCKING PIECES FOR THE STANDARD SPACER
9. SICAK KENAR ÇITALI KİTLEME PARÇALARI /  
LOCKING PIECES FOR WARM EDGE SPACER
10. VULKANİZE İÇ KÖŞE PARÇALARI /  
VULCANISED INNER CORNER PIECES
11. TAHLİYE DELİK ŞEMALARI /  
SCHEMAS OF THE DRAINAGE HOLES
12. ANKRAJLAR /  
ANCHORAGES
13. GÜNEŞ KIRICI TAŞIYICI APARATI /  
CARRIER APPARATUS FOR SUNBREAKER
14. KÖŞE TAKOZU BİRLEŞİM DETAYLARI /  
CORNER CLEAT CONECTION DETAILS



**DİLATASYON BAĞLANTILARI**  
DILATATION CONNECTIONS

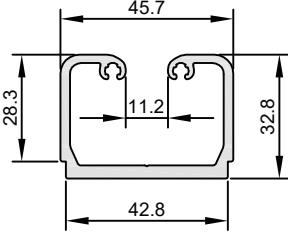
AKSESUAR KODU ACCESSORY CODE	KESİM ÖLÇÜSÜ CUTTING DIMENSION
31017	17,5 mm
31018	32,5 mm
31019	52,5 mm
31020	72,5 mm
31021	92,5 mm
31022	91,5 mm
31023	112 mm
31024	110 mm
31025	132 mm
31026	129,5 mm
31027	151,5 mm
31028	149 mm
31029	171,5 mm
31030	169 mm
31031	190 mm
31032	187 mm



## U BAĞLANTILAR

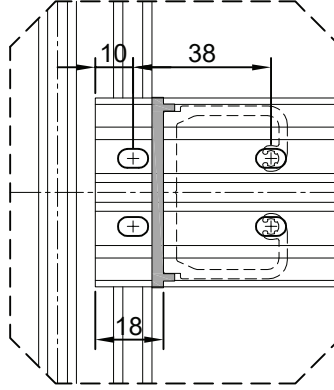
### U CONNECTIONS

AKSESUAR KODU ACCESSORY CODE	KESİM ÖLÇÜSÜ CUTTING DIMENSION
31033	12 mm
31034	32 mm
31035	42 mm
31036	52 mm
31037	59,4 mm
31038	79,4 mm
31039	99,4 mm
31040	119,4 mm
31041	139,4 mm
31042	159,4 mm
31043	178 mm
31044	210 mm

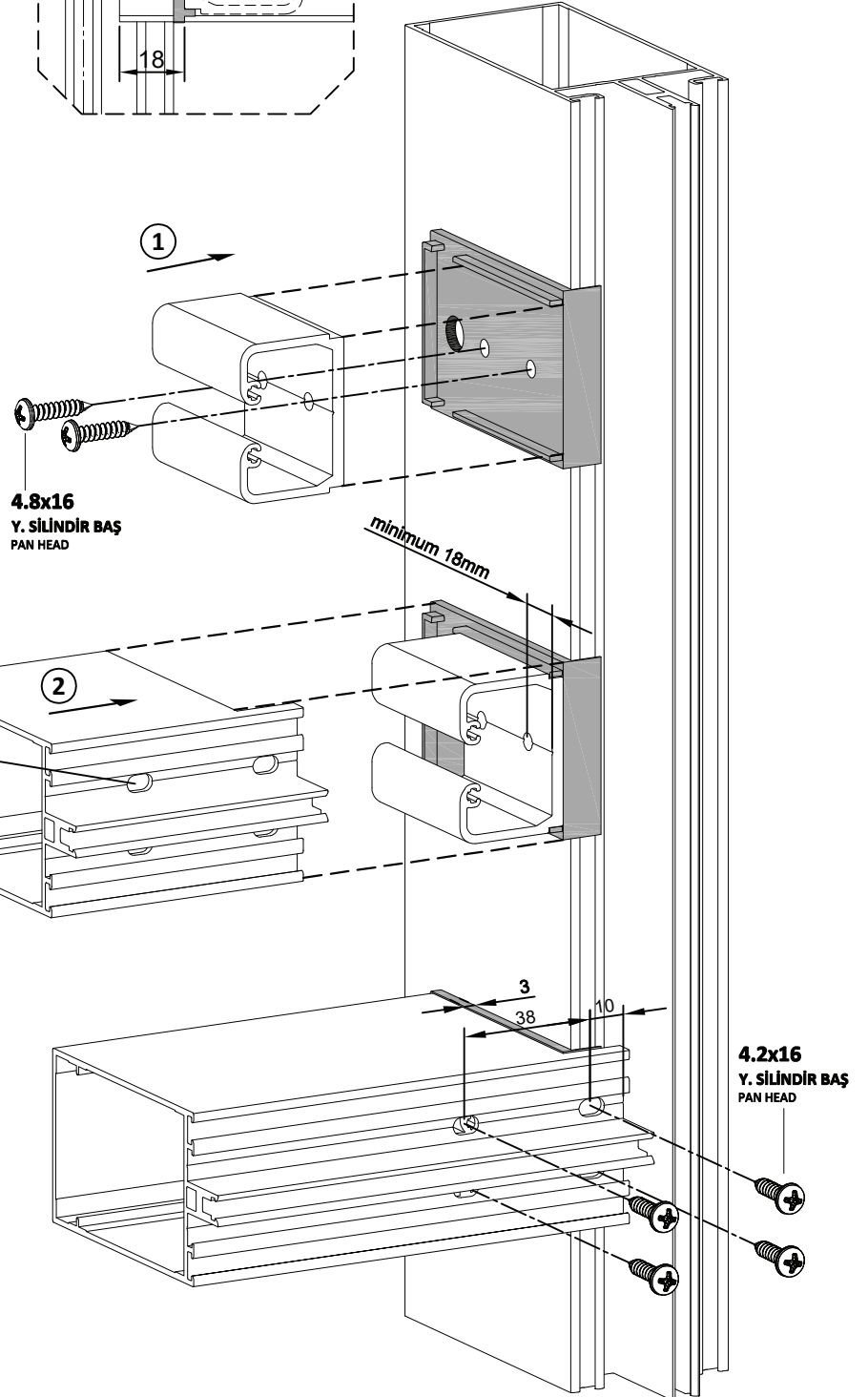
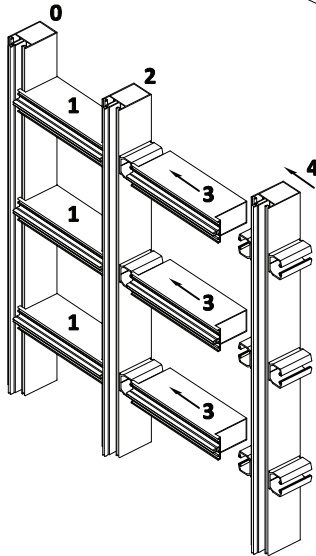
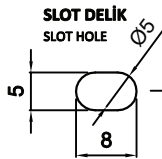
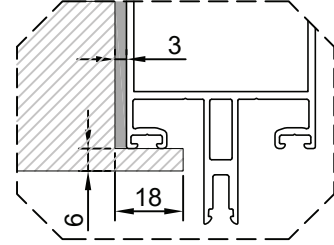


**FP506** (1,040 kg/m.)

#### SLOT DELİK ÖLÇÜLERİ SLOT HOLE DIMENSIONS

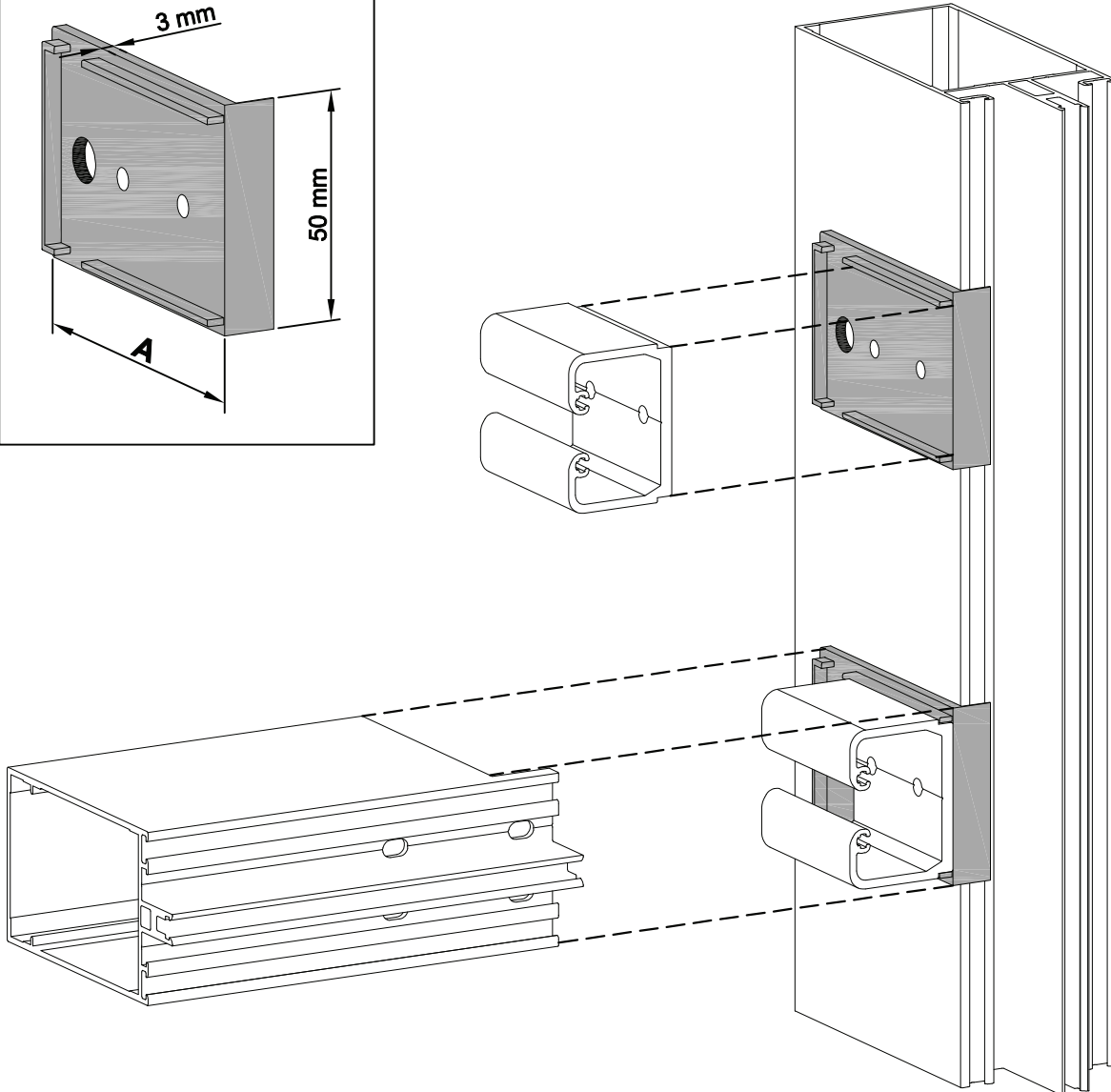
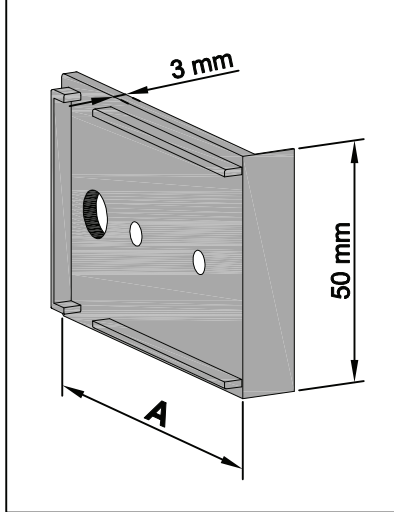
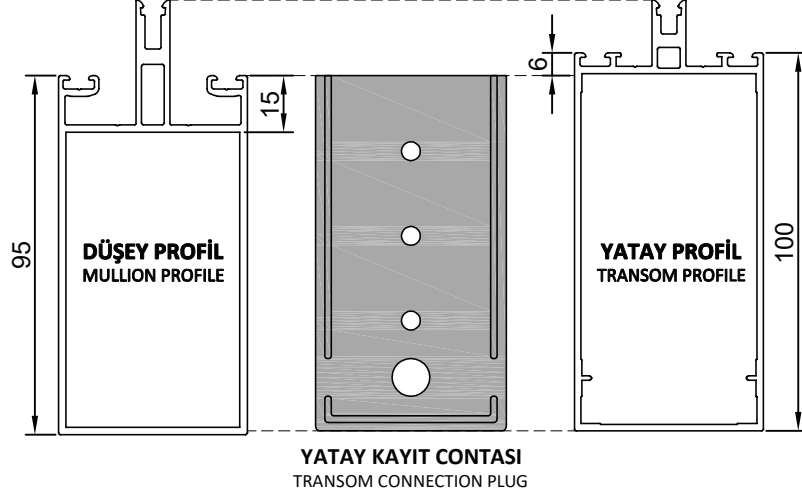


#### KERTME ÖLÇÜLERİ NOTCHING DIMENSIONS

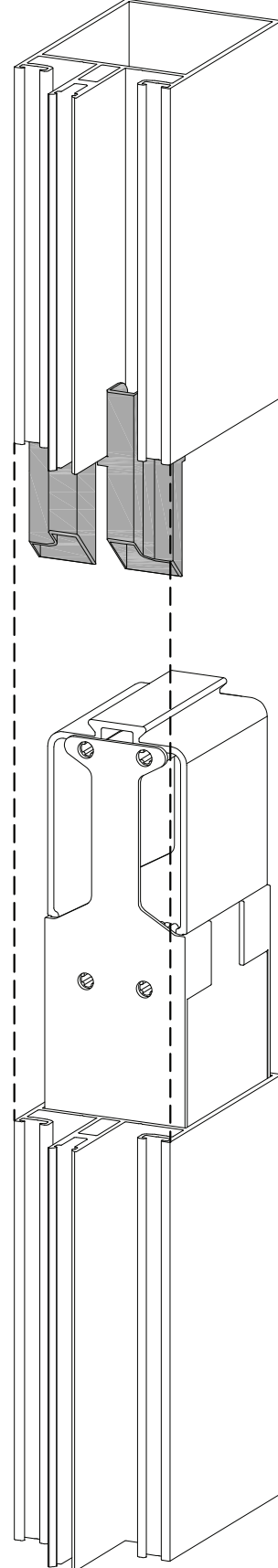
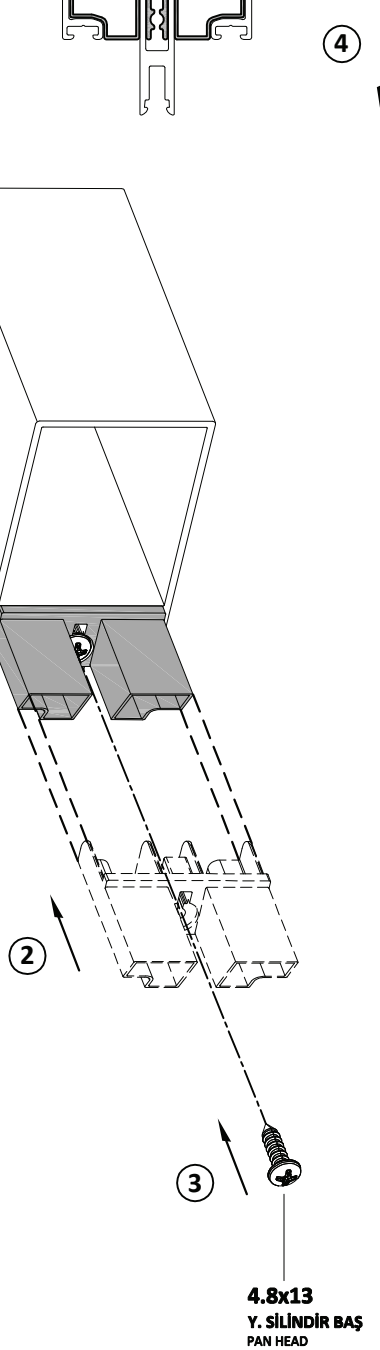
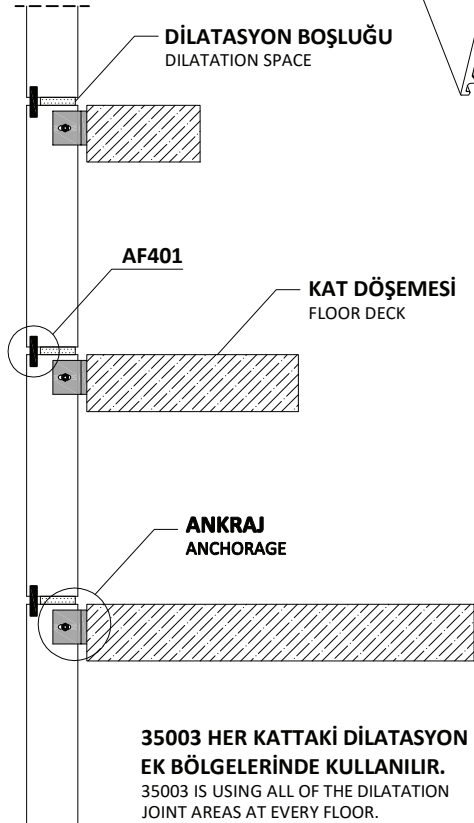
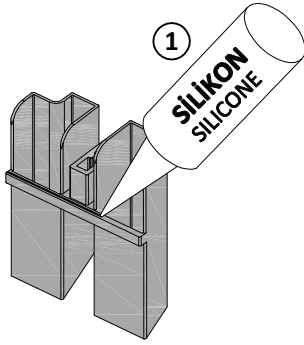
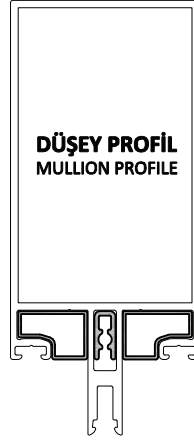
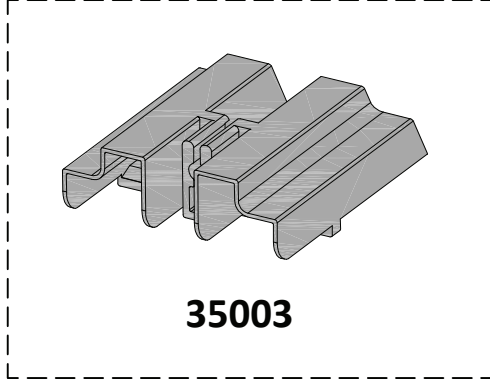


**YATAY KAYIT CONTALARI**  
TRANSOM CONNECTION PLUGS

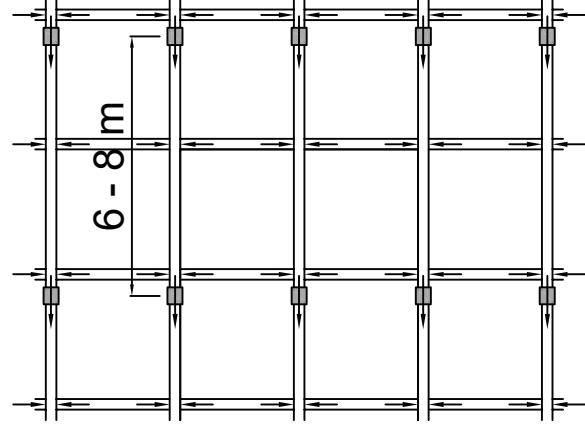
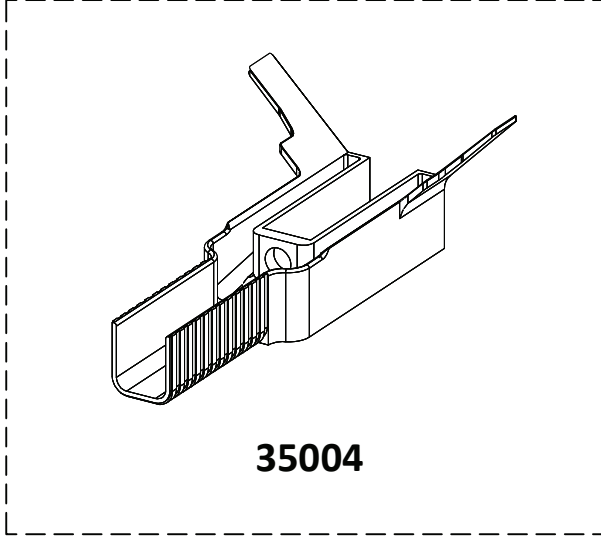
AKSESUAR KODU ACCESSORY CODE	A (mm)
33004	20 mm
33005	40 mm
33006	60 mm
33007	80 mm
33008	100 mm
33009	120 mm
33010	140 mm
33011	160 mm
33012	180 mm
33013	200 mm
33014	220 mm



**KONDENS YOLU İÇİN BAĞLANTI PARÇASI**  
CONNECTION PIECE FOR THE CONDENSATION LINE

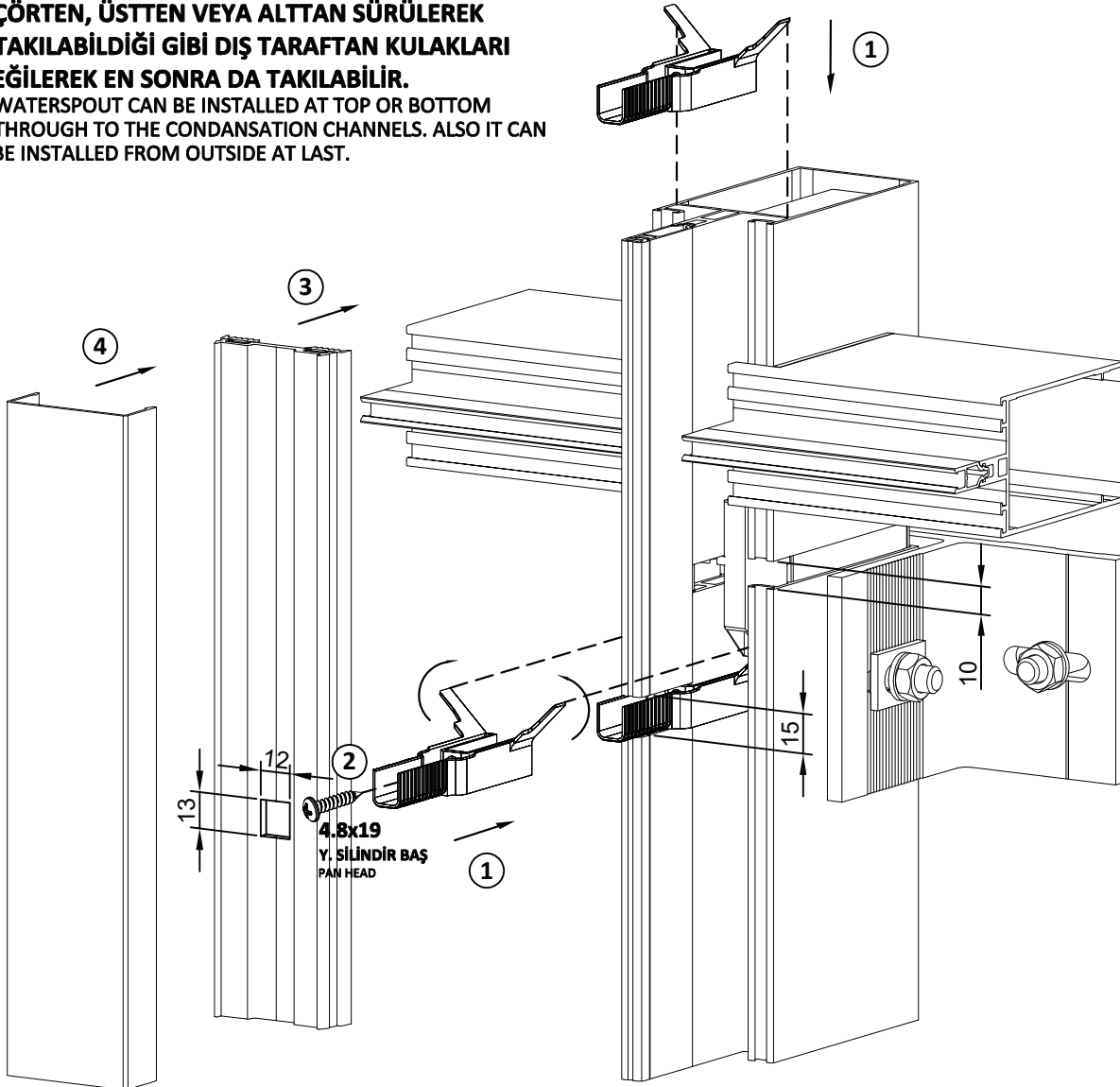


**ÇÖRTEN (YÜKSEK KATLI YAPILAR İÇİN)**  
WATERSPOUT (FOR ONLY HIGH BUILDINGS)

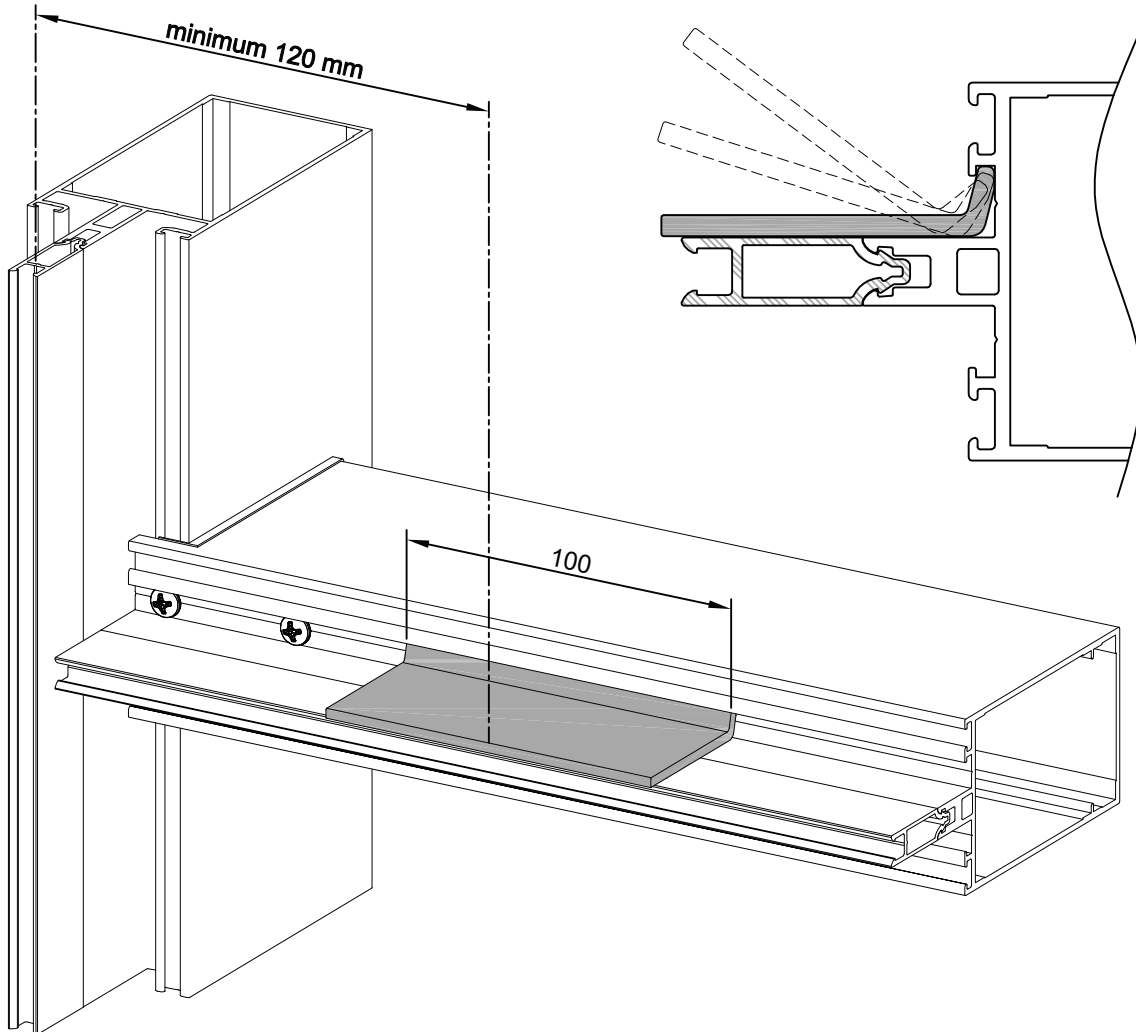
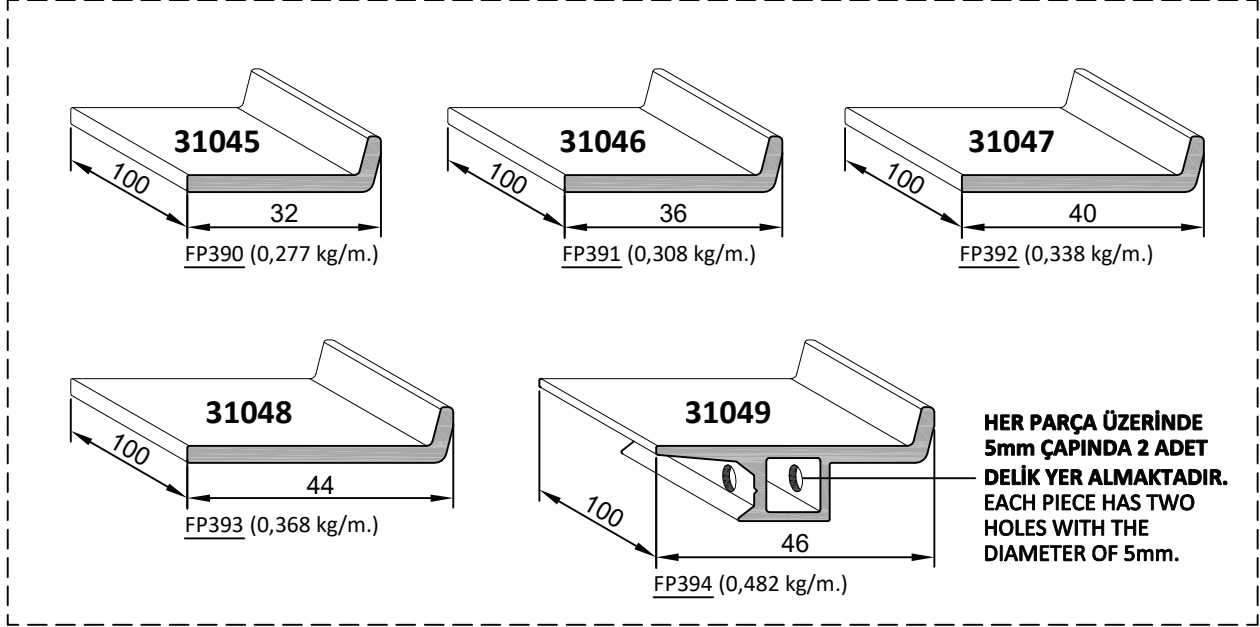


**60 METRE BİNA YÜKSEKLİĞİNDEN SONRA HER İKİ KATTA BİR UYGULANMASI TAVSİYE EDİLİR.**  
USING ONE AT EACH TWO FLOORS AFTER THE BUILDING HEIGHT OF 60 METERS RECOMMENDED.

**ÇÖRTEN, ÜSTTEN VEYA ALTAN SÜRÜLEREK TAKILABİLDİĞİ GİBİ DİŞ TARAFTAN KULAKLARI EĞİLEREK EN SONRA DA TAKILABİLİR.**  
WATERSPOUT CAN BE INSTALLED AT TOP OR BOTTOM THROUGH TO THE CONDANSATION CHANNELS. ALSO IT CAN BE INSTALLED FROM OUTSIDE AT LAST.

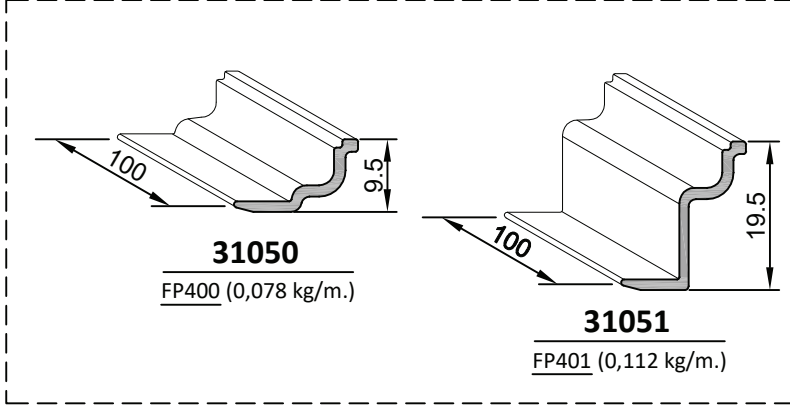


**CAM ALTI DESTEK PARÇALARI**  
GLAZING SUPPORT PICES

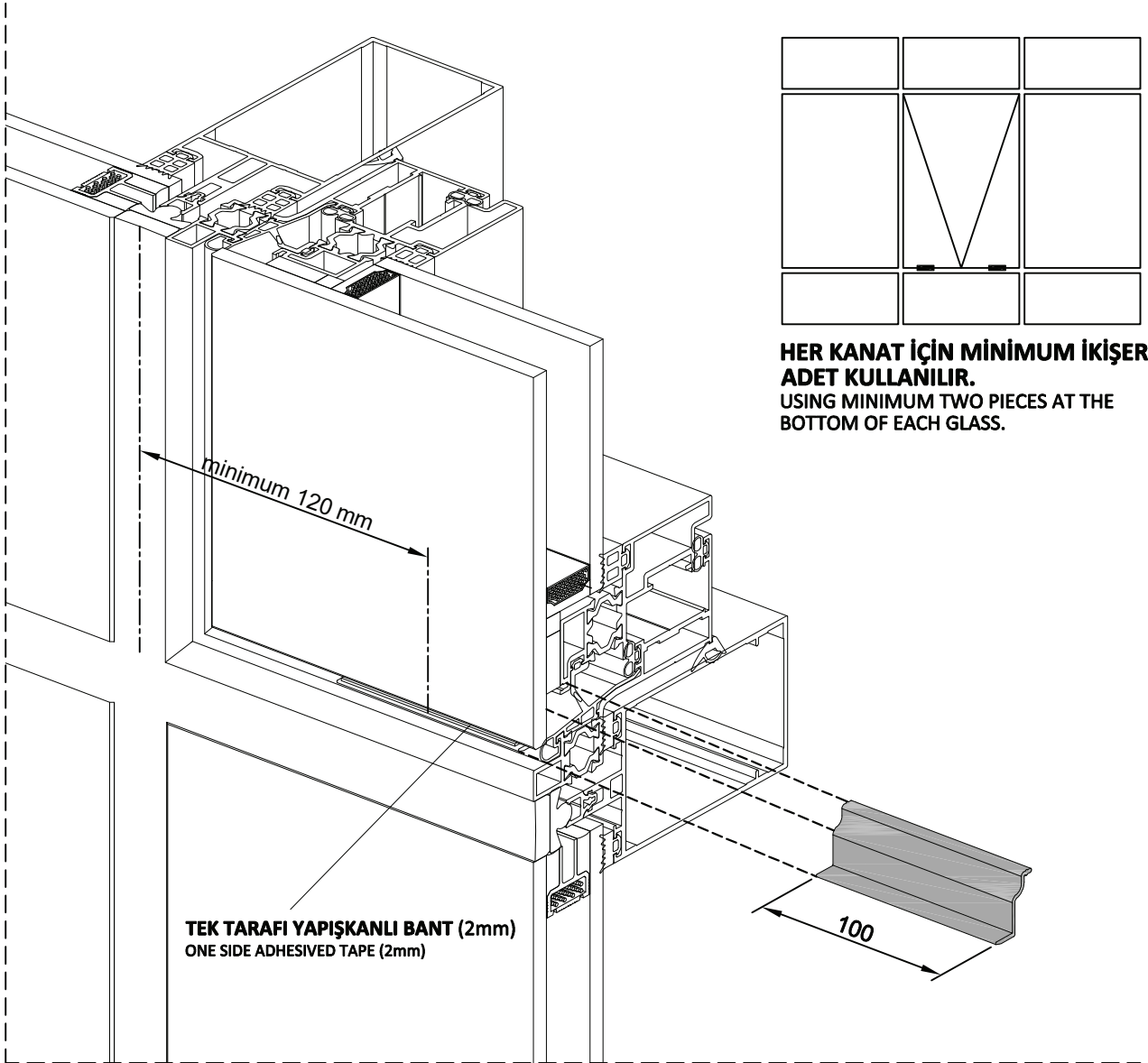


## KANAT İÇİN CAM ALTI DESTEK PARÇALARI

### GLAZING SUPPORT PIECES FOR VENT

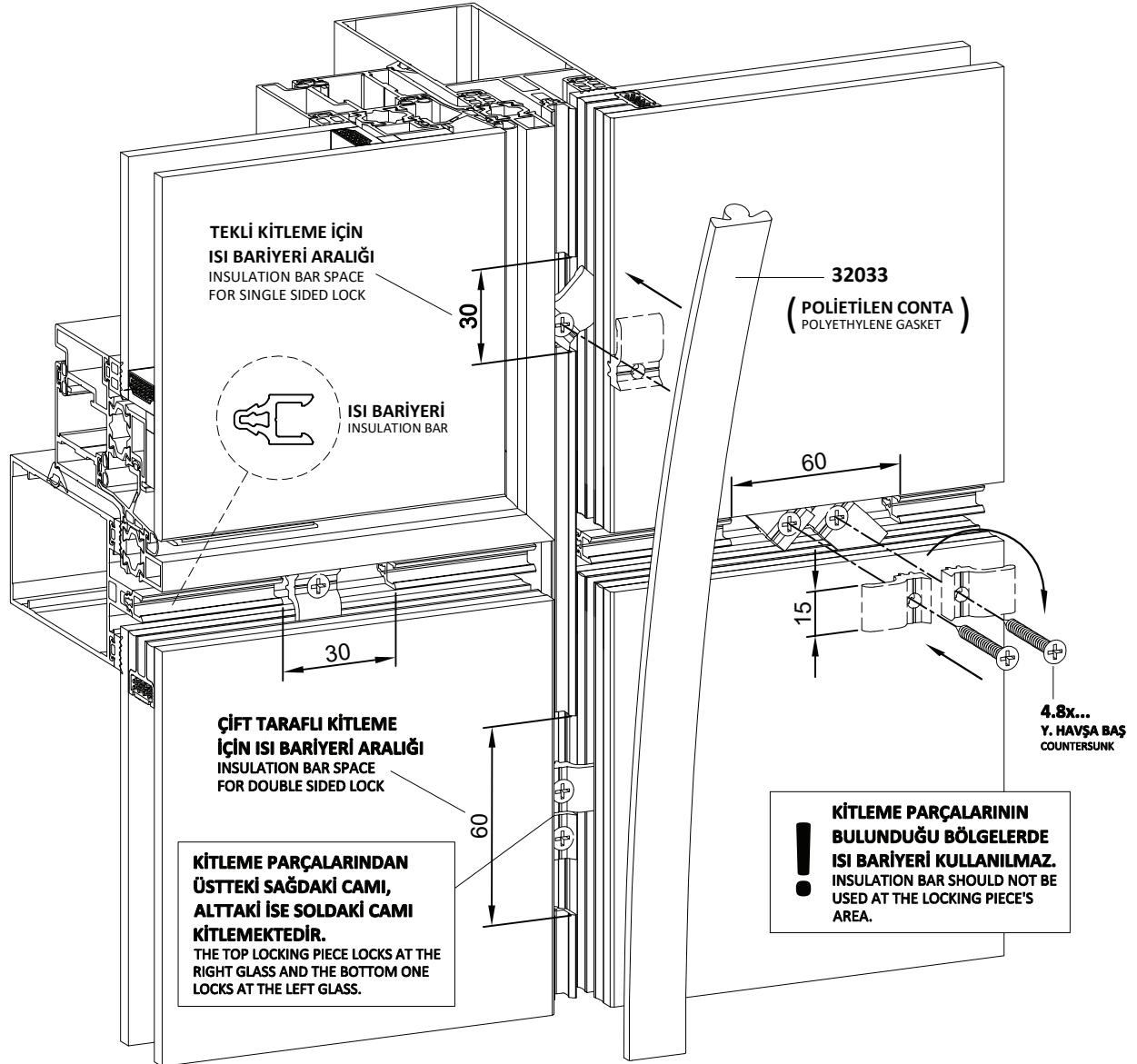
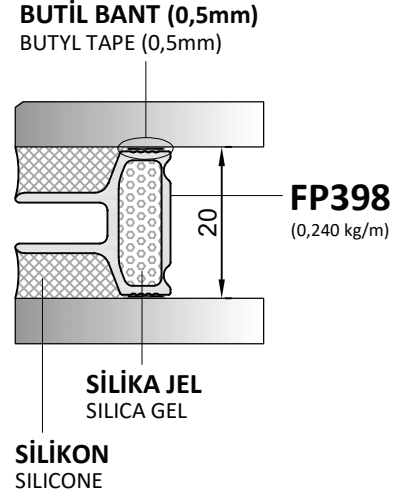
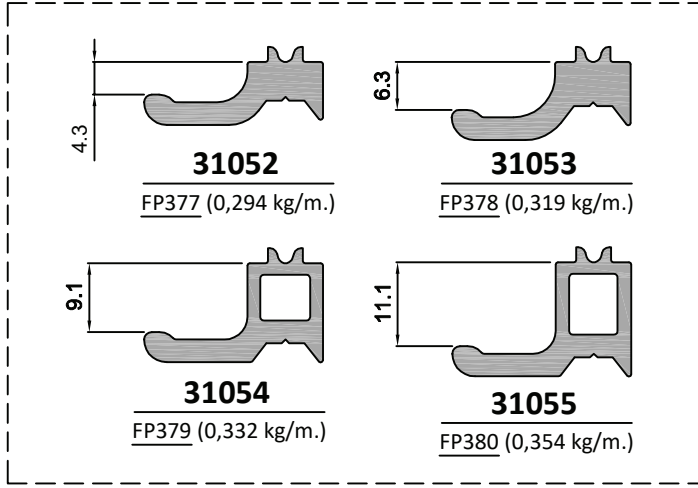


**CAM ALTI DESTEK PARÇALARI, KANAT KÖŞELERİ PRESLENMEDEN ÖNCE TAKILMALIDIR.**  
GLAZING SUPPORTS SHOULD BE INSTALLED BEFORE THE CORNER CLEAT JOINTS OF VENT APPLIED.



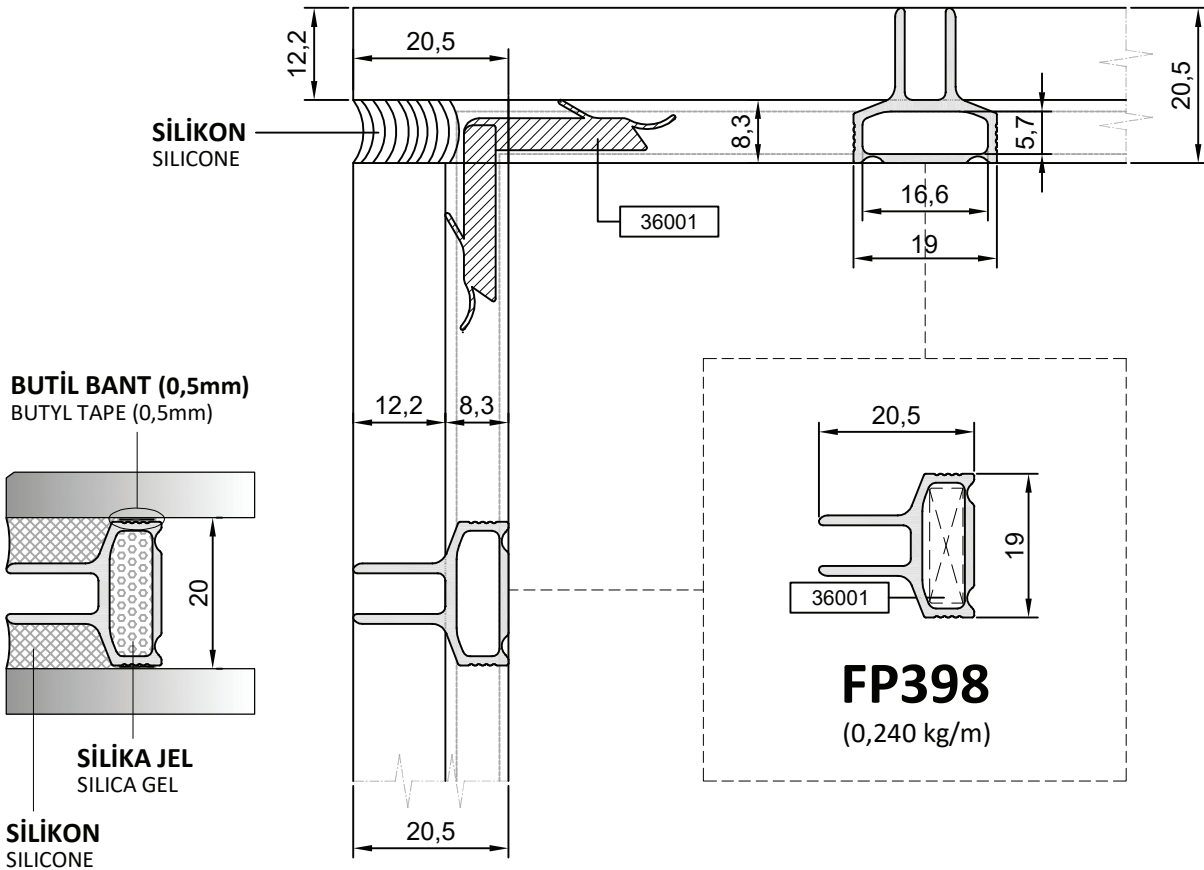
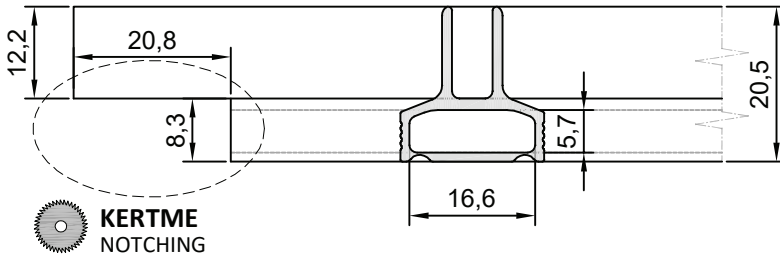
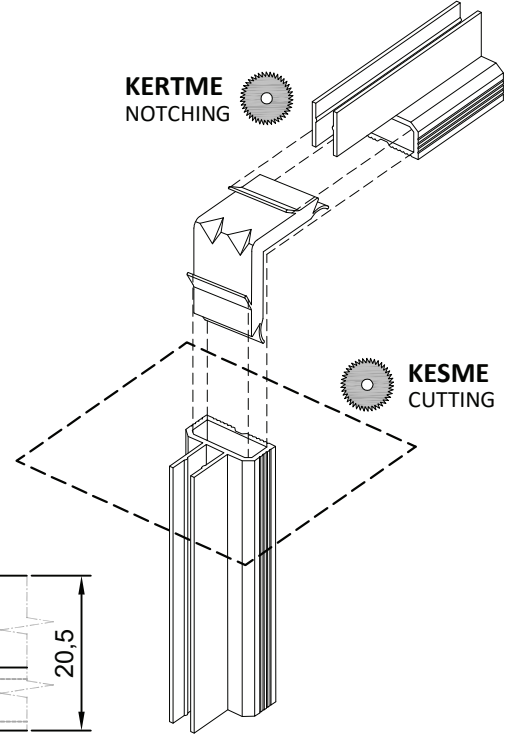
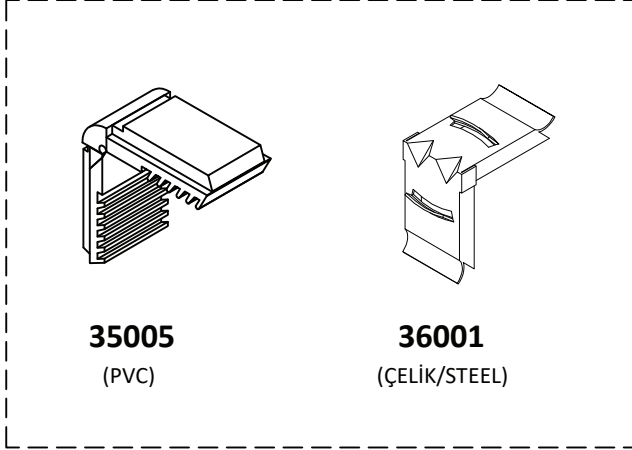
## STANDART 20mm ISICAM ÇITALI CAM ARASI KİTLEME PARÇALARI

### LOCKING PIECES FOR THE STANDARD 20mm DOUBLE GLAZED GLASS SPACER



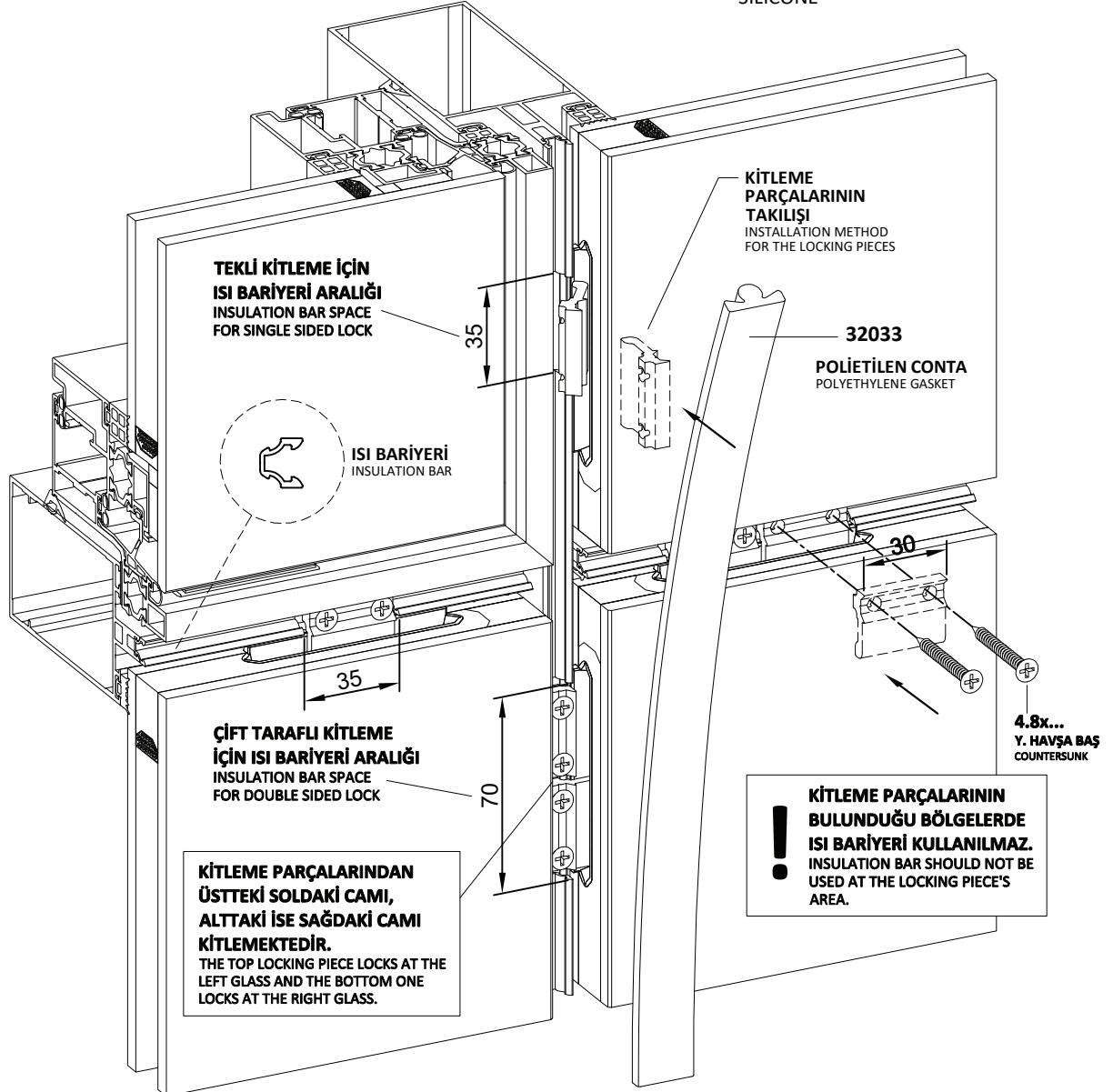
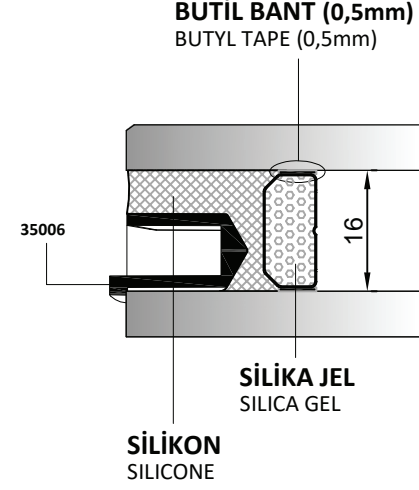
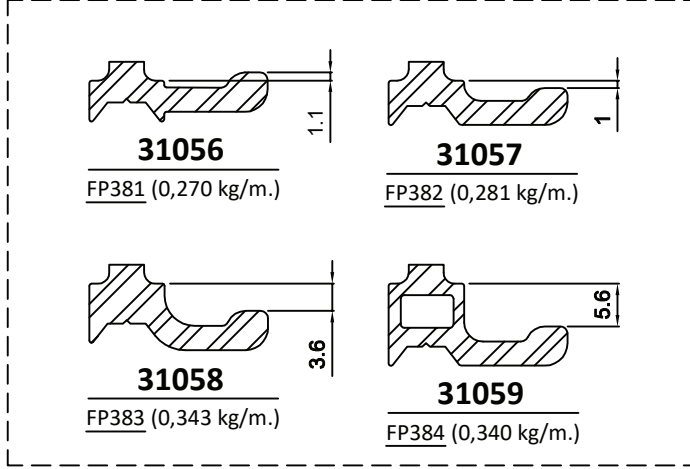
! AYNI CAM MODÜLÜNDEKİ KİTLEMELER ARASI MESAFE YAKLAŞIK 30 CM OLMALIDIR.  
DISTANCE BETWEEN LOCKING PIECES SHOULD BE APPROXIMATELY 30 CM AT THE SAME GLASS MODULE.

**STANDART 20mm ISICAM ÇITASI İÇİN KÖŞE BİRLEŞTİRME METODU**  
CORNER CONNECTION METHOD FOR THE STANDARD 20mm DOUBLE GLAZED GLASS SPACER



## 16mm SICAK KENAR ISICAM ÇITALI CAM ARASI KİTLEME PARÇALARI

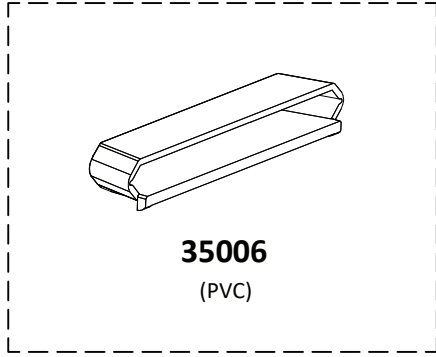
### LOCKING PIECES FOR 16mm WARM EDGE DOUBLE GLAZED GLASS SPACER



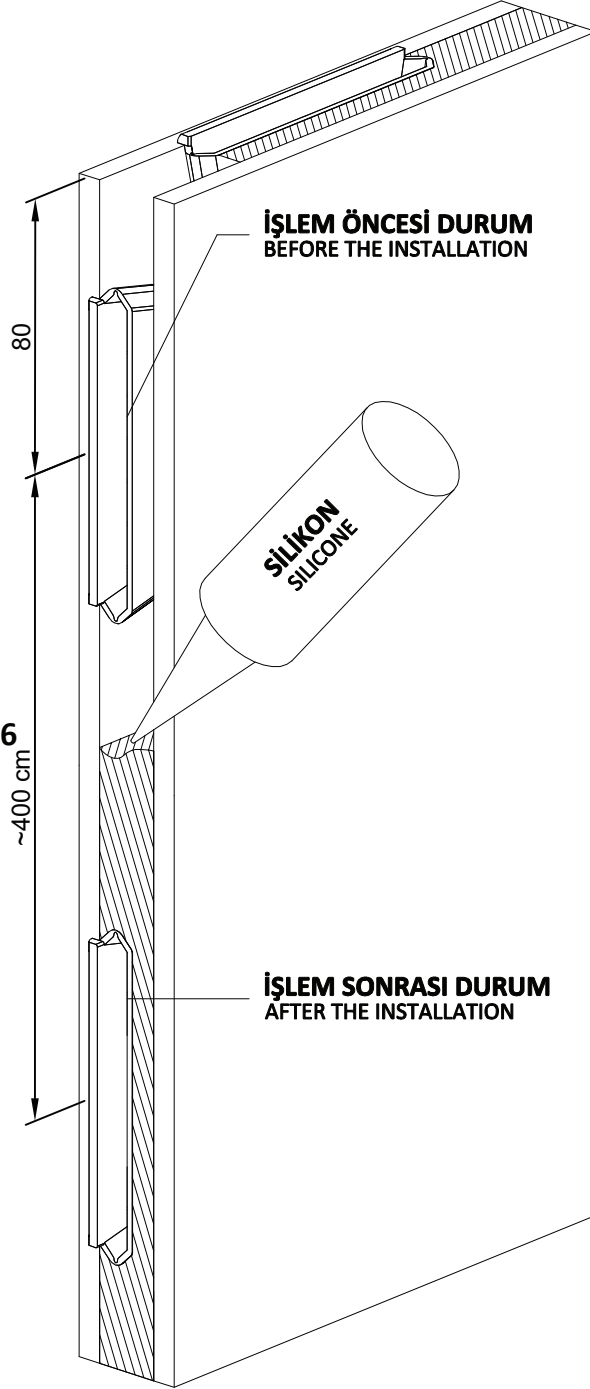
! AYNI CAM MODÜLÜNDEKİ KİTLEMELER ARASI MESAFE YAKLAŞIK 40 CM OLMALIDIR.  
DISTANCE BETWEEN LOCKING PIECES SHOULD BE APPROXIMATELY 40 CM AT THE SAME GLASS MODULE.

## 16mm SICAK KENAR ISICAM ÇITASI İÇİN CAM ARASI KİTLEME HAVUZU

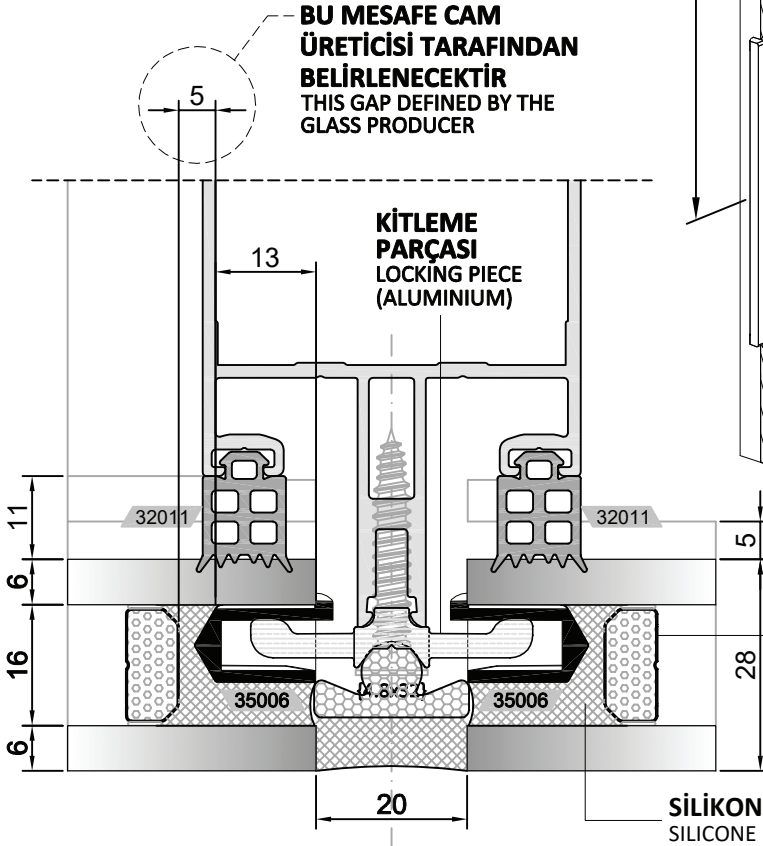
### LOCKING HOLE FOR 16mm WARM EDGE DOUBLE GLAZED GLASS SPACER



**35006 KODLU KİTLEME HAVUZU SİLİKONLAMA İŞLEMİNDEN ÖNCE DOĞRU KONUMUNDA YAPIŞTIRILABİLİR YA DA SİLİKONLANMIŞ ISLAK YÜZEYE BATIRILARAK SONRADAN DA TAKILABİLİR.**  
LOCKING HOLE CAN BE GLUED BEFORE BONDING PROCESS TO THE RIGHT POSITION OR CAN BE SINK INTO THE WET SILICONE AFTER THE BONDING PROCESS.

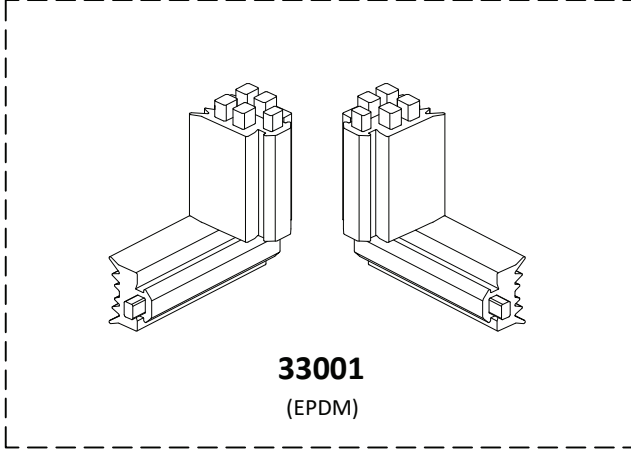


**BU MESAFE CAM ÜRETİCİSİ TARAFINDAN BELİRLENECEKTİR**  
THIS GAP DEFINED BY THE GLASS PRODUCER

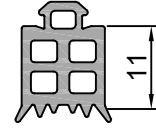


**SICAK KENAR ISICAM ÇITASI**  
WARM EDGE DOUBLE GLAZED  
GLASS SPACER

**VULKANİZE İÇ KÖŞE PARÇALARI**  
VULCANISED INNER CORNER PIECES

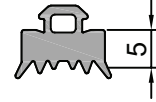


**DÜŞEY FİTİL**  
VERTICAL GASKET



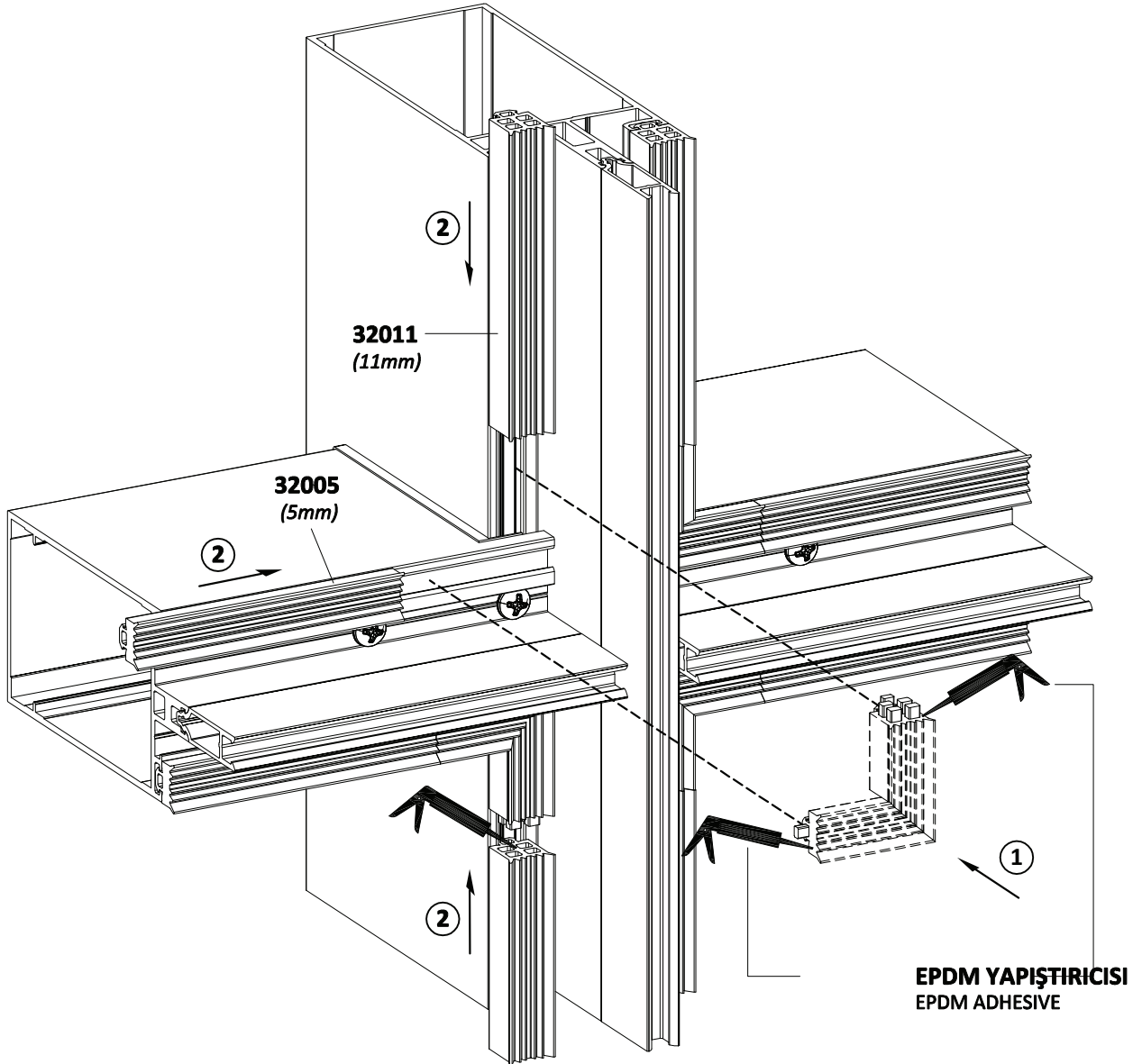
**32011**  
(11mm)

**YATAY FİTİL**  
HORIZONTAL GASKET

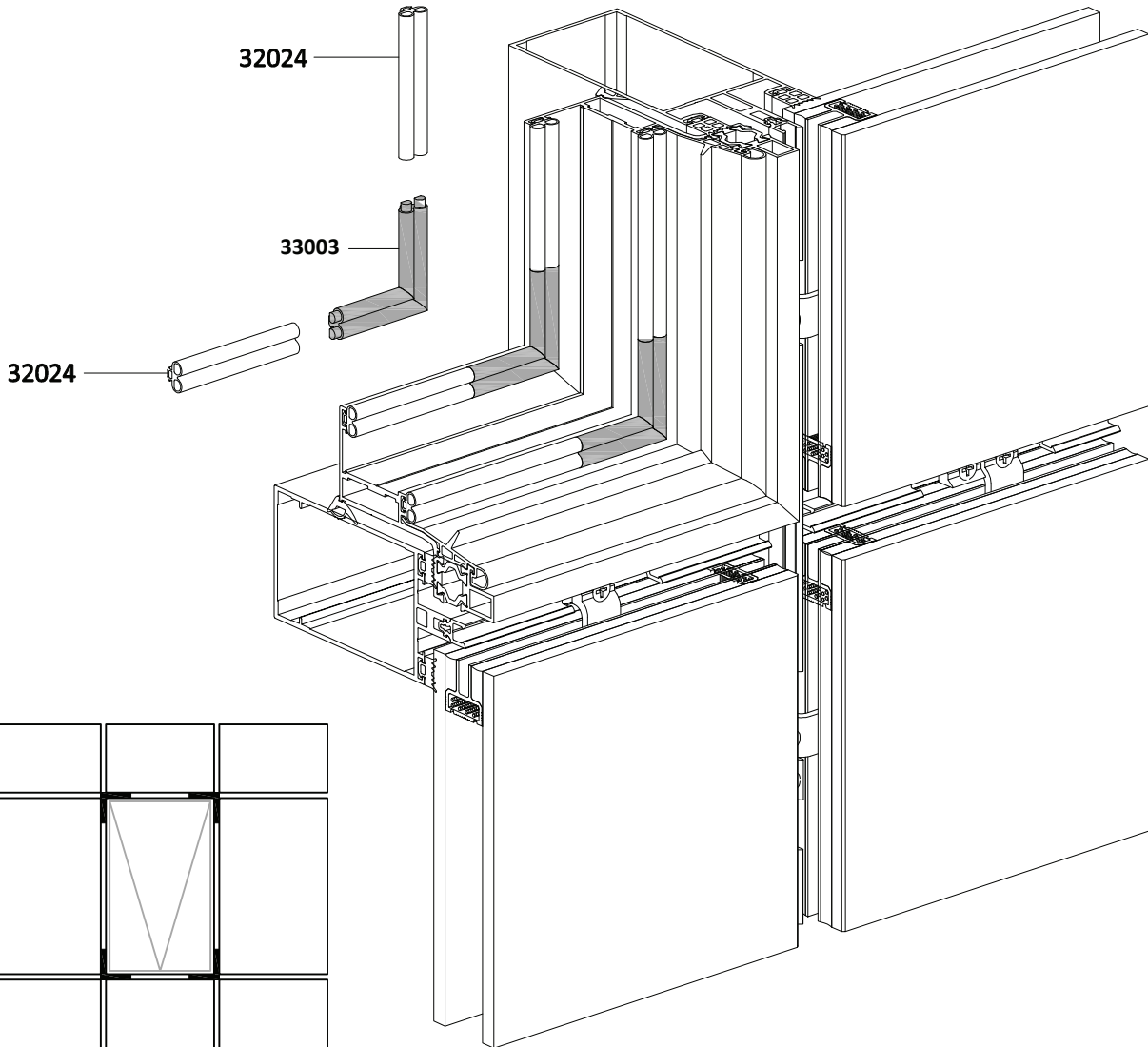
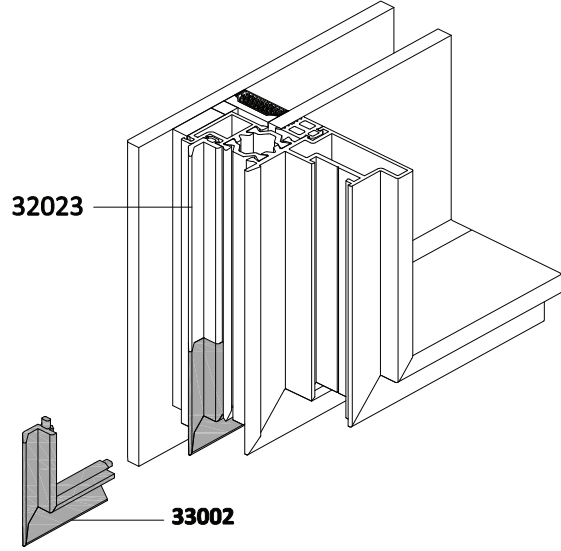
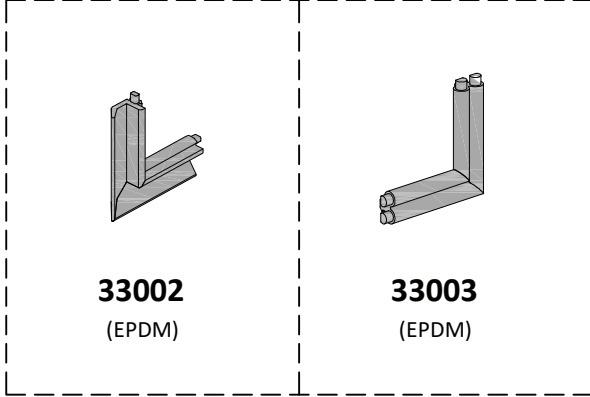


**32005**  
(5mm)

! ( SAĞ VE SOL PARÇALAR OLMAK ÜZERE TAKIMDIR. /  
SET AS LEFT AND RIGHT PAIRS. )

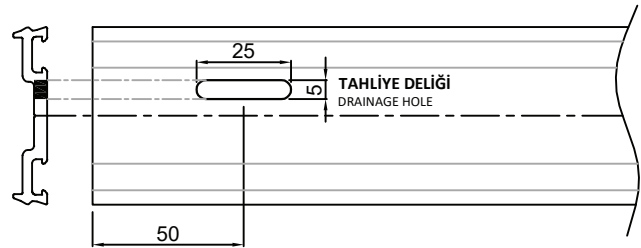
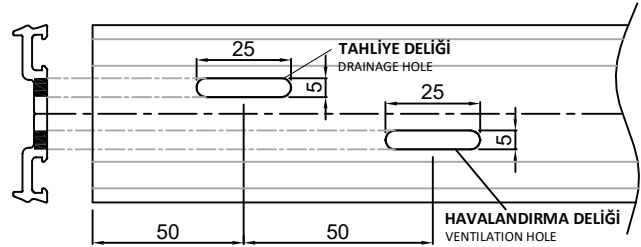
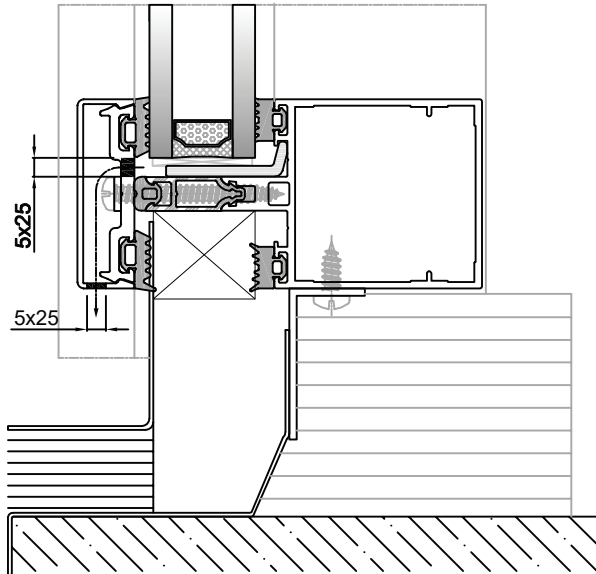
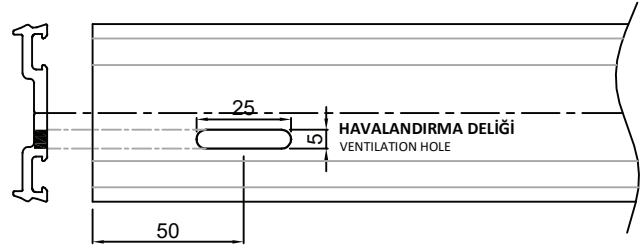
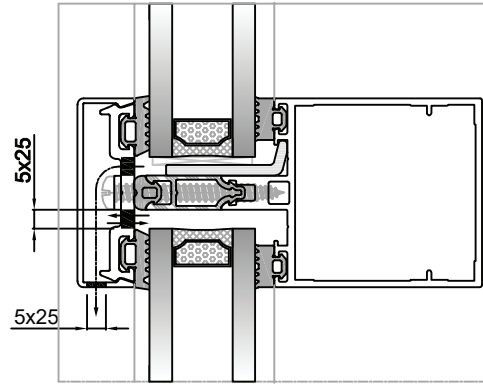
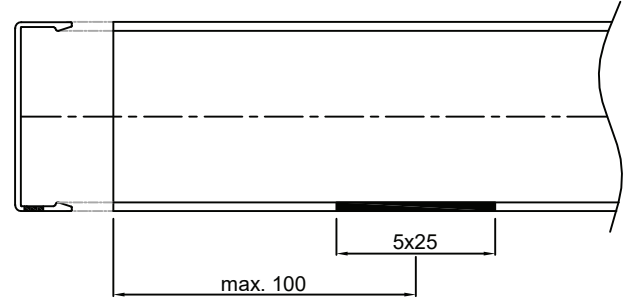
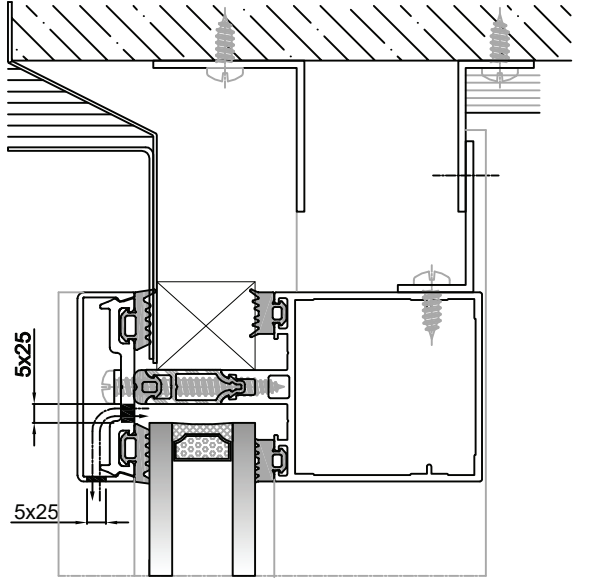


**DIŐA AÇILIR KANAT İÇİN VULKANİZE KÖŐE PARÇALARI**  
VULCANISED CORNER PIECES FOR OUTWARD OPENING VENT



## KAPAKLAR İÇİN TAHLİYE DELİK ŞEMALARI

### SCHEMAS OF THE DRAINAGE HOLES FOR THE CAPS



**ÖNEMLİ: AÇILAN İKİ DELİK ARASINDA HER DURUMDA EN AZ 50mm HİZA FARKI(ŞAŞIRTMA) OLMALIDIR.**

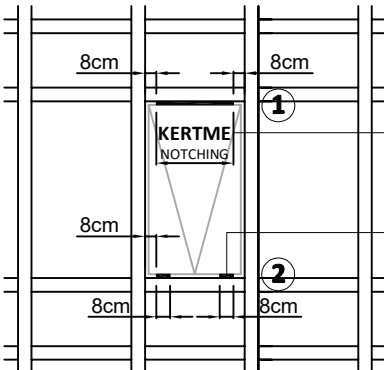
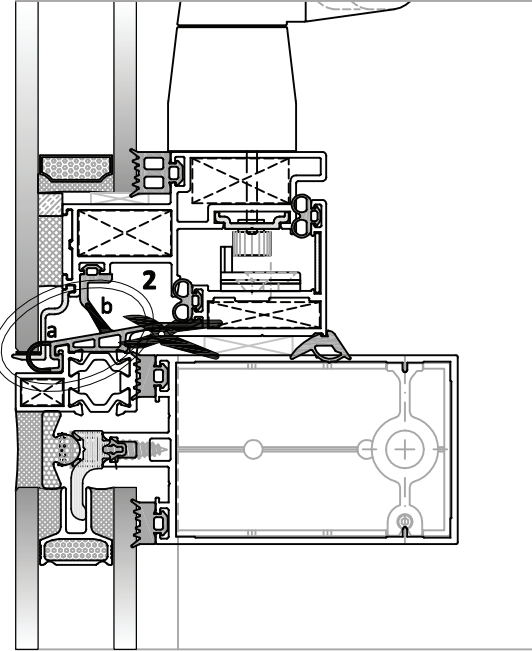
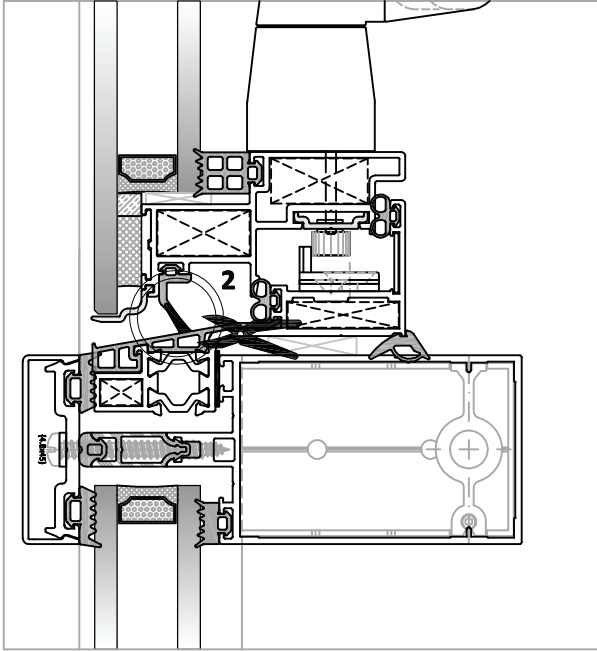
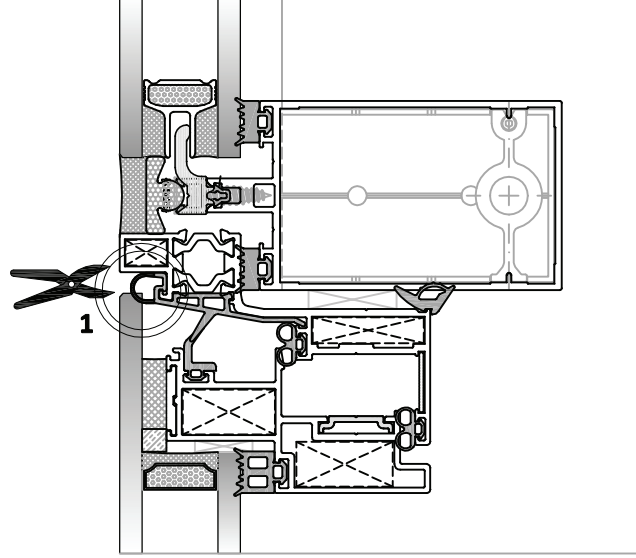
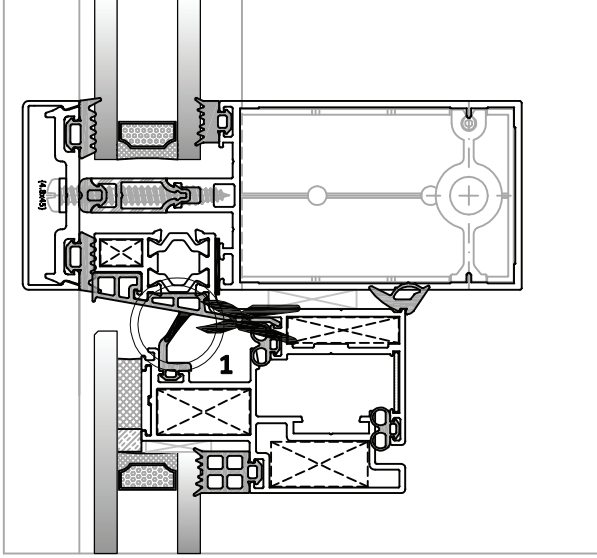
**IMPORTANT: AT LEAST 50mm ALIGNING DIFFERENCE SHOULD BE MADE BETWEEN TWO HOLES EVERYTIME.**

**NOT: 1,5 METREDEN UZUN KAYITLARDA TAM ORTAYA İLAVE BİR TAHLİYE DAHA AÇILMALIDIR.**

**NOTE: ADDITIONAL DRAINAGE HOLE SHOULD BE REQUIRED AT THE MIDDLE FOR TRANSOMS LONGER THAN 1,5 METER.**

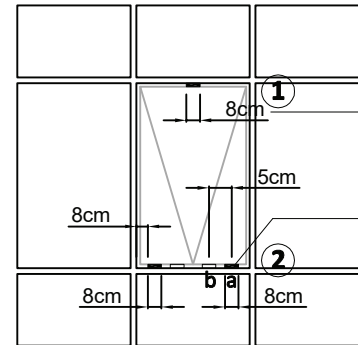
## KANATLAR İÇİN TAHLİYE DELİK ŞEMALARI

### SCHEMAS OF THE DRAINAGE HOLES FOR VENTS



**BASINÇ DENGELEME  
BOŞLUĞU**  
PRESSURE BALANCATION SPACE

**ALT FİTİL TAHLİYE  
KERTMELERİ**  
DRAINAGE NOTCHES FOR  
THE BOTTOM GASKET

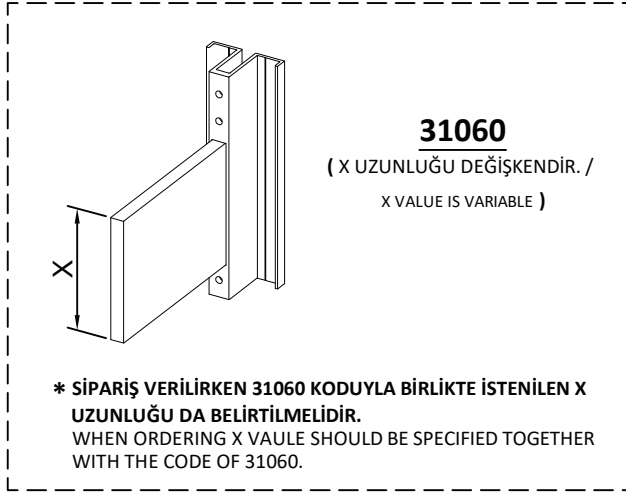


**BASINÇ DENGELEME  
BOŞLUĞU**  
PRESSURE BALANCATION SPACE

**ALT FİTİL TAHLİYE  
KERTMELERİ**  
DRAINAGE NOTCHES FOR  
THE BOTTOM GASKET

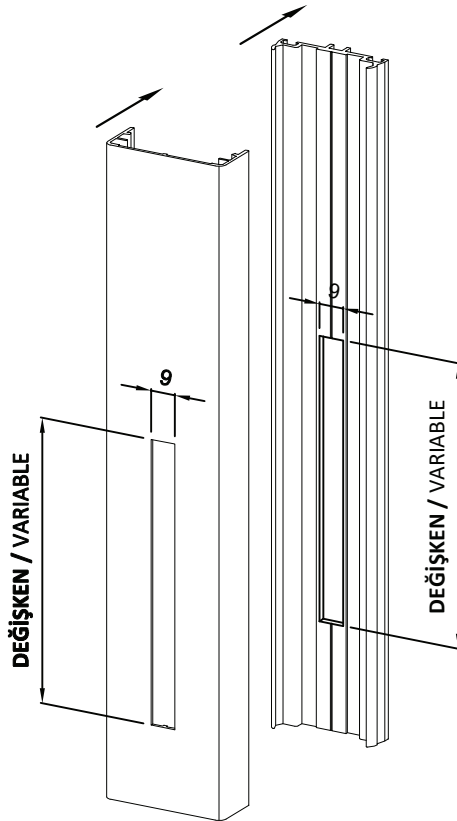
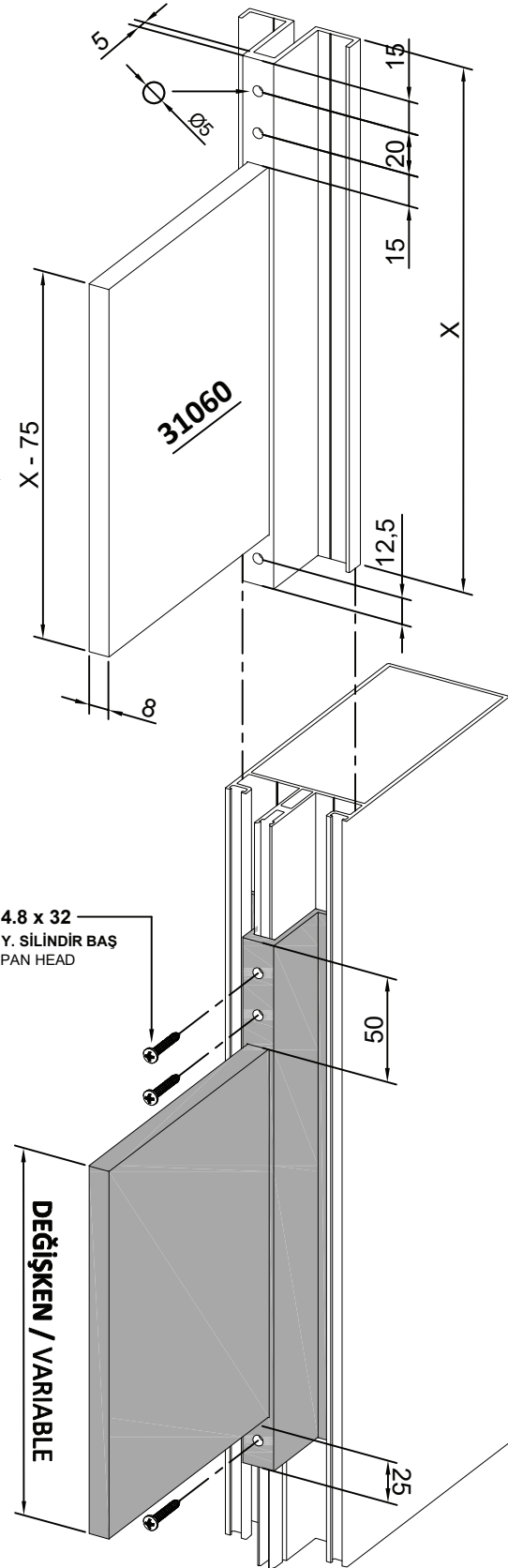
**NOT: a ve b tahliye kertmeleri 5cm şaşırtmalı açılmalıdır.**  
NOTE: a and b drainage notches should be misaligned as 5cm.

## KAPAKLI CEPHEDE G.KIRICI TAŞIYICI APARAT İÇİN BAĞLANTI DETAYI CARRIER APPARATUS FOR SUNBREAKER CONNECTION DETAIL AT THE CAPPED CURTAIN WALL



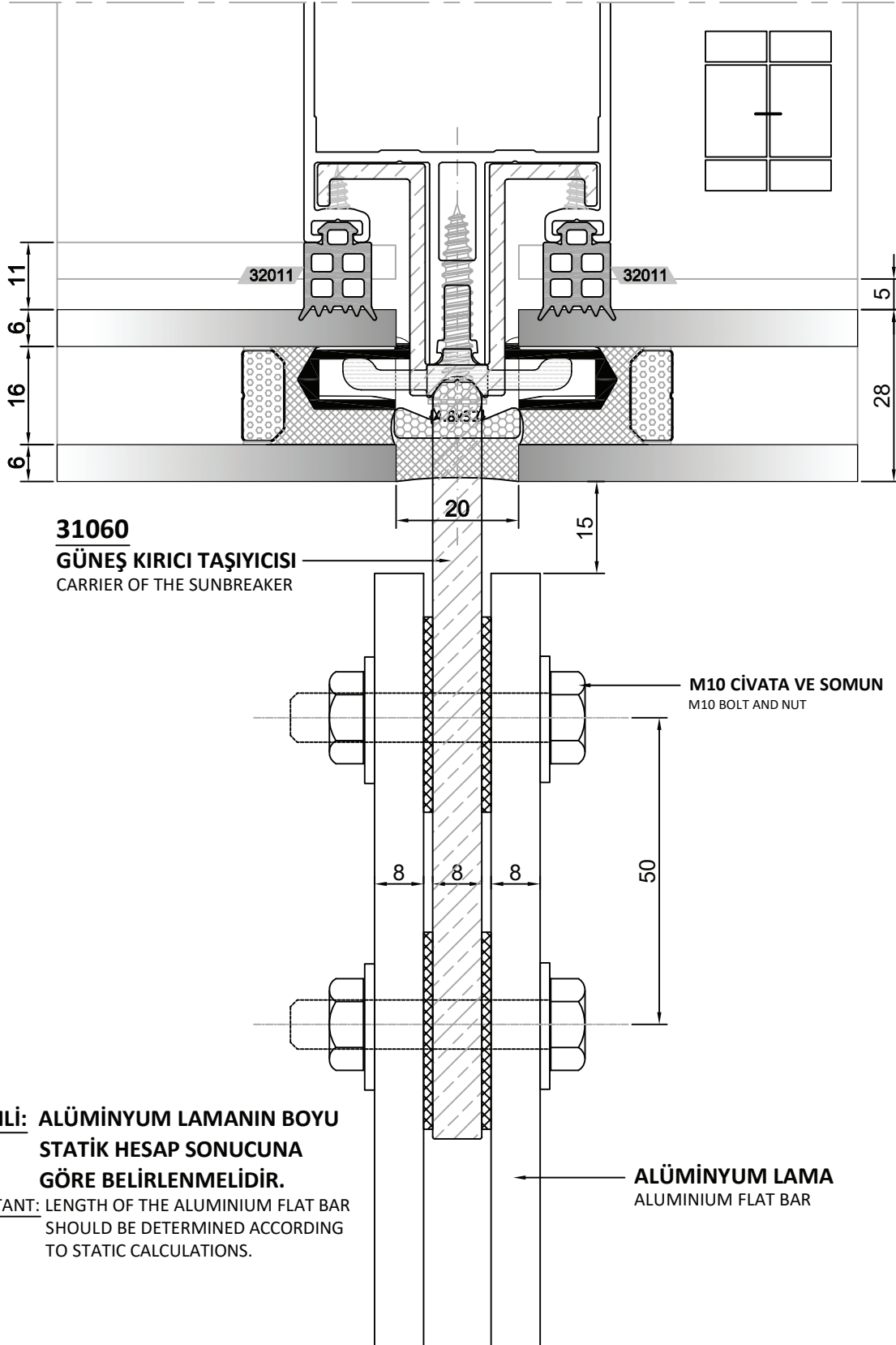
**ÖNEMLİ:** TAŞIYICI APARATIN UZUNLUĞU ( X ), ÜZERİNE BAĞLANACAK LAMALARIN GENİŞLİĞİNE VE GÜNEŞ KIRICILARIN UYGULADIĞI TOPLAM AĞIRLIĞA GÖRE HESAPLANMALIDIR.

**IMPORTANT:** LENGTH OF THE CARRIAGE PART SHOULD BE CALCULATED ACCORDING TO THE WIDTH OF THE ALUMINIUM ROD AND THE TOTAL WEIGHT APPLIED FROM THE SUNBREAKERS.



## CAM CEPHEDE TAŞIYICI APARAT ÜZERİNE G.KIRICI BAĞLANTI DETAYI

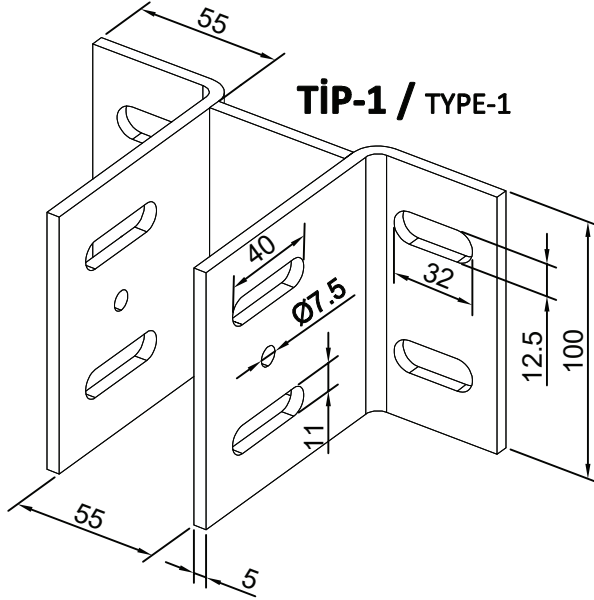
### SUNBREAKER CONNECTION DETAIL ABOVE THE CARRIER APPARATUS AT THE FOURSIDED C.WALL



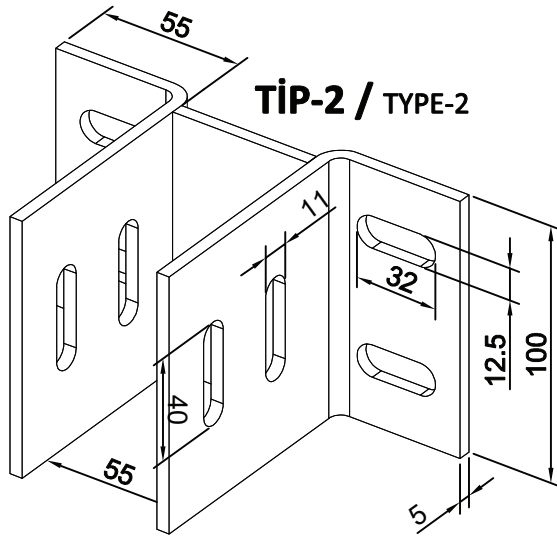
**ÖNEMLİ: ALÜMİNYUM LAMANIN BOYU  
STATİK HESAP SONUCUNA  
GÖRE BELİRLENMELİDİR.**

**IMPORTANT: LENGTH OF THE ALUMINIUM FLAT BAR  
SHOULD BE DETERMINED ACCORDING  
TO STATIC CALCULATIONS.**

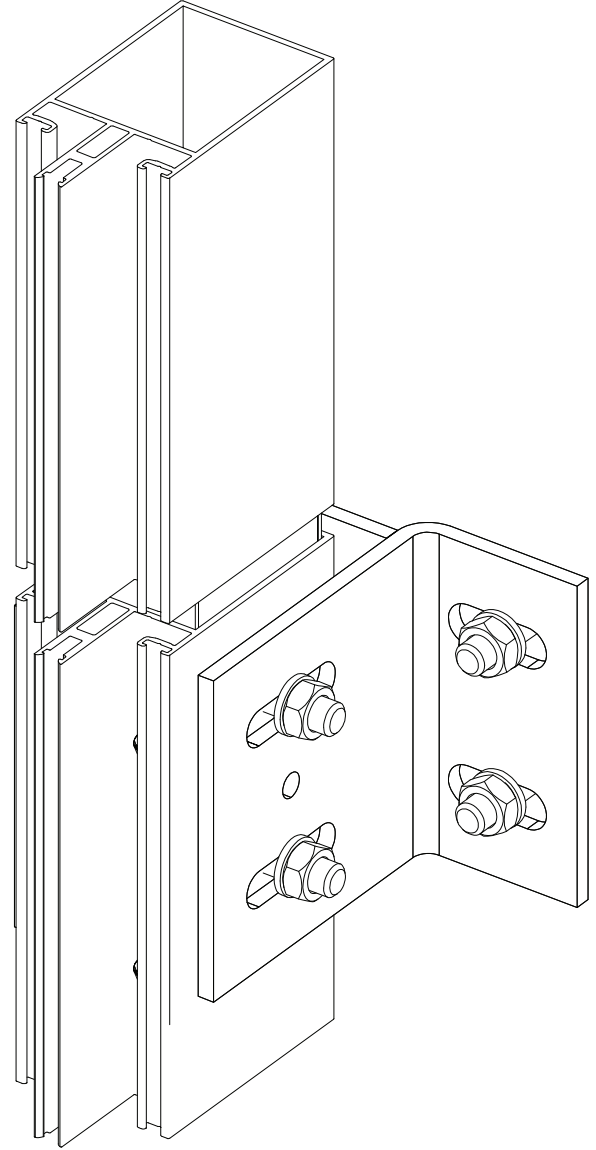
**ANKRAJLAR**  
ANCHORAGES



**TİP-1 / TYPE-1**



**TİP-2 / TYPE-2**



**YATAY BAKLALI SABİT ANKRAJ**  
HORIZONTAL MOVABLE FIXED ANCHORAGE

ÜRÜN KODU PRODUCT CODE	BAYRAK UZUNLUĞU (L) EXTENSION LENGTH (L)
36002	80 mm
36003	100 mm
36004	120 mm
36005	150 mm
36006	200 mm

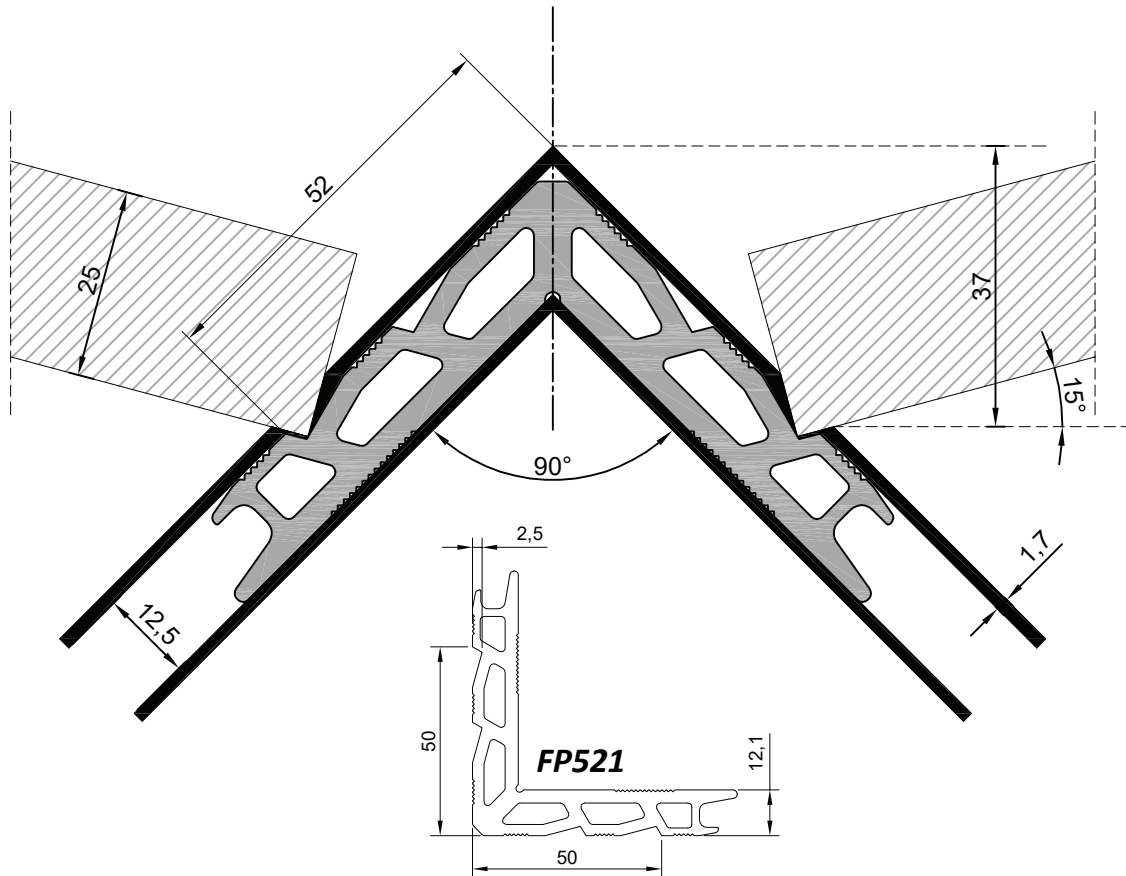
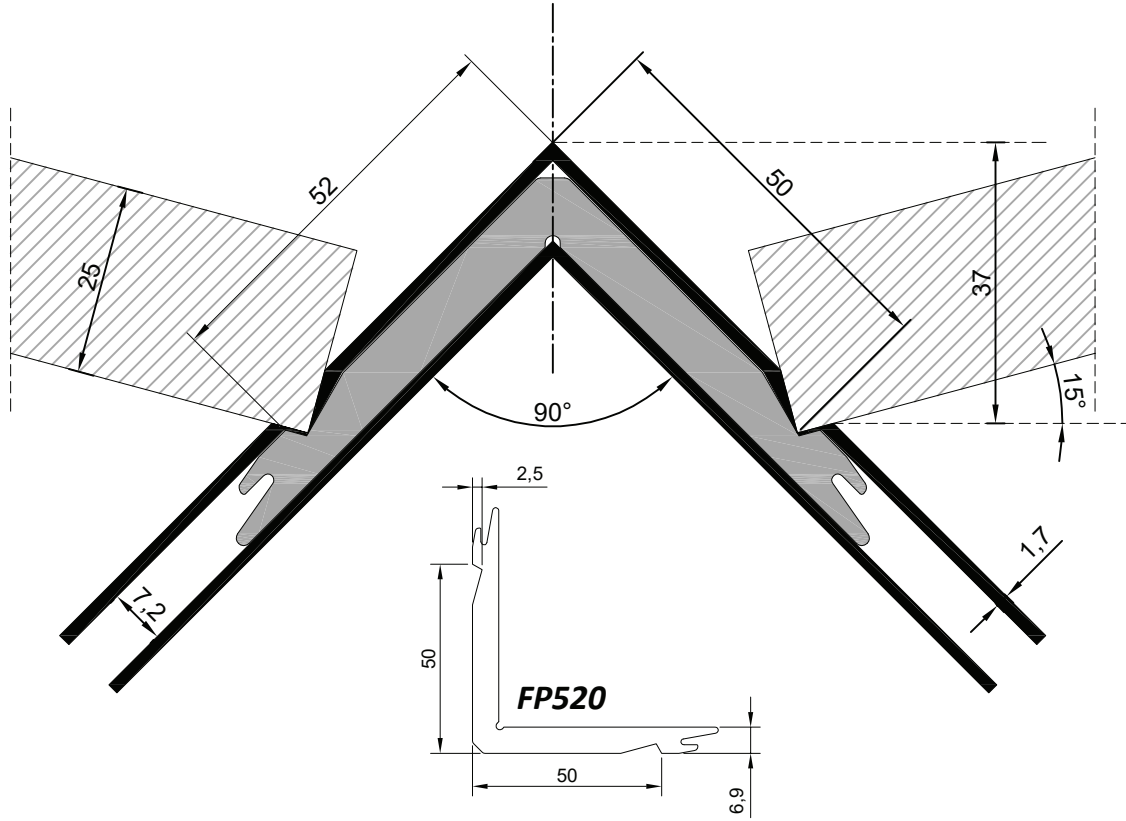
**DÜŞEY BAKLALI SABİT ANKRAJ**  
VERTICAL MOVABLE FIXED ANCHORAGE

ÜRÜN KODU PRODUCT CODE	BAYRAK UZUNLUĞU (L) EXTENSION LENGTH (L)
36007	80 mm
36008	100 mm
36009	120 mm
36010	150 mm
36011	200 mm

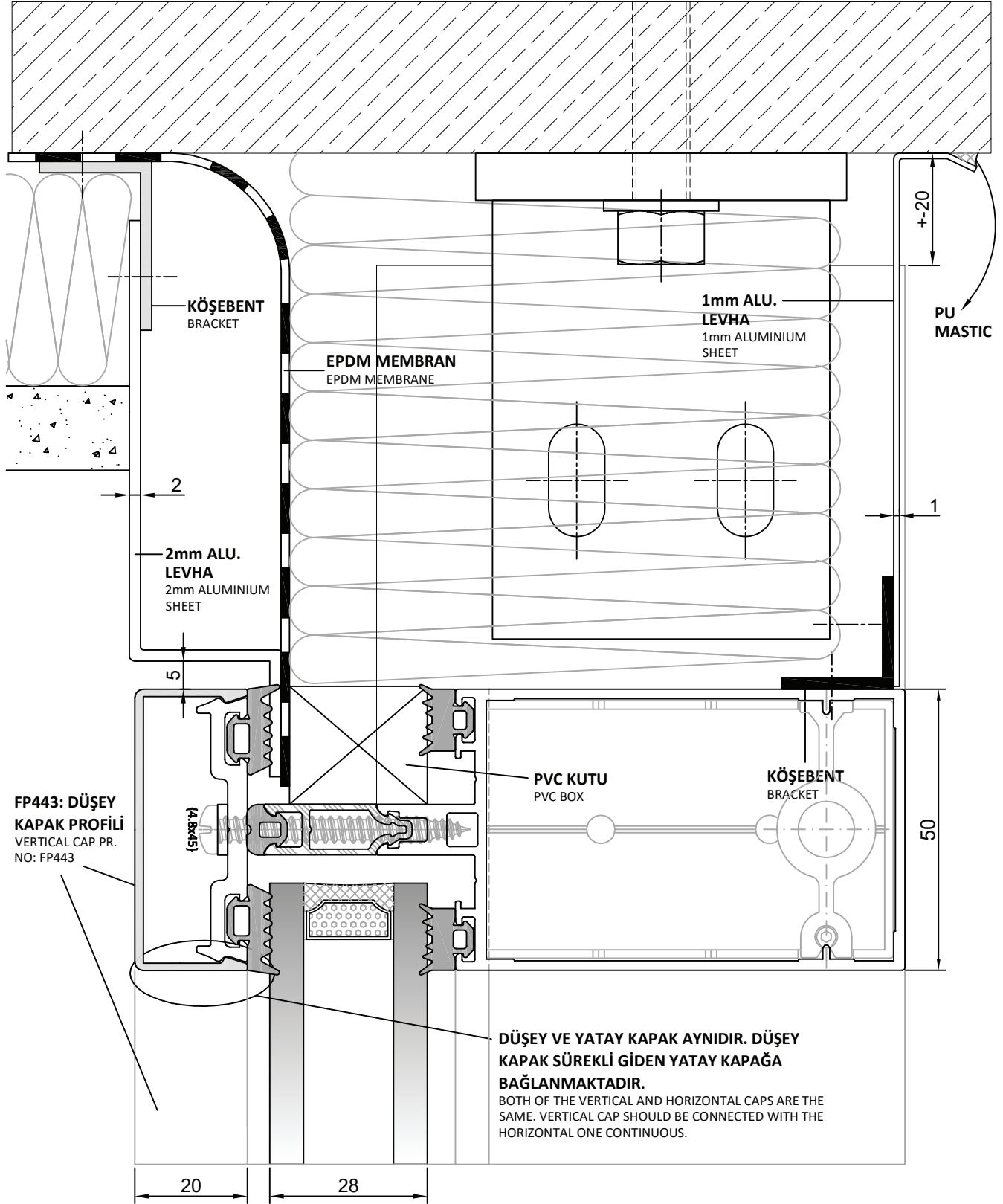
\* BAYRAK UZUNLUKLARI TAŞIYICI DİKME DERİNLİKLERİNE VE YAPININ DÖŞEME ALIN HİZA FARKLARINA GÖRE DEĞİŞMEKTEDİR.  
EXTENSION LENGTHS CHANGE ACCORDING TO THE MULLION DEPTH AND FRONT LEVEL DIFFERENCES OF THE FLOOR.

\* TÜM ANKRAJLAR DALDIRMA GALVANİZLİDİR.  
ALL ANCHORAGES ARE DIP GALVANIZED.

**KÖŞE TAKOZU BİRLEŞİM DETAYLARI**  
CORNER CLEAT CONNECTION DETAILS



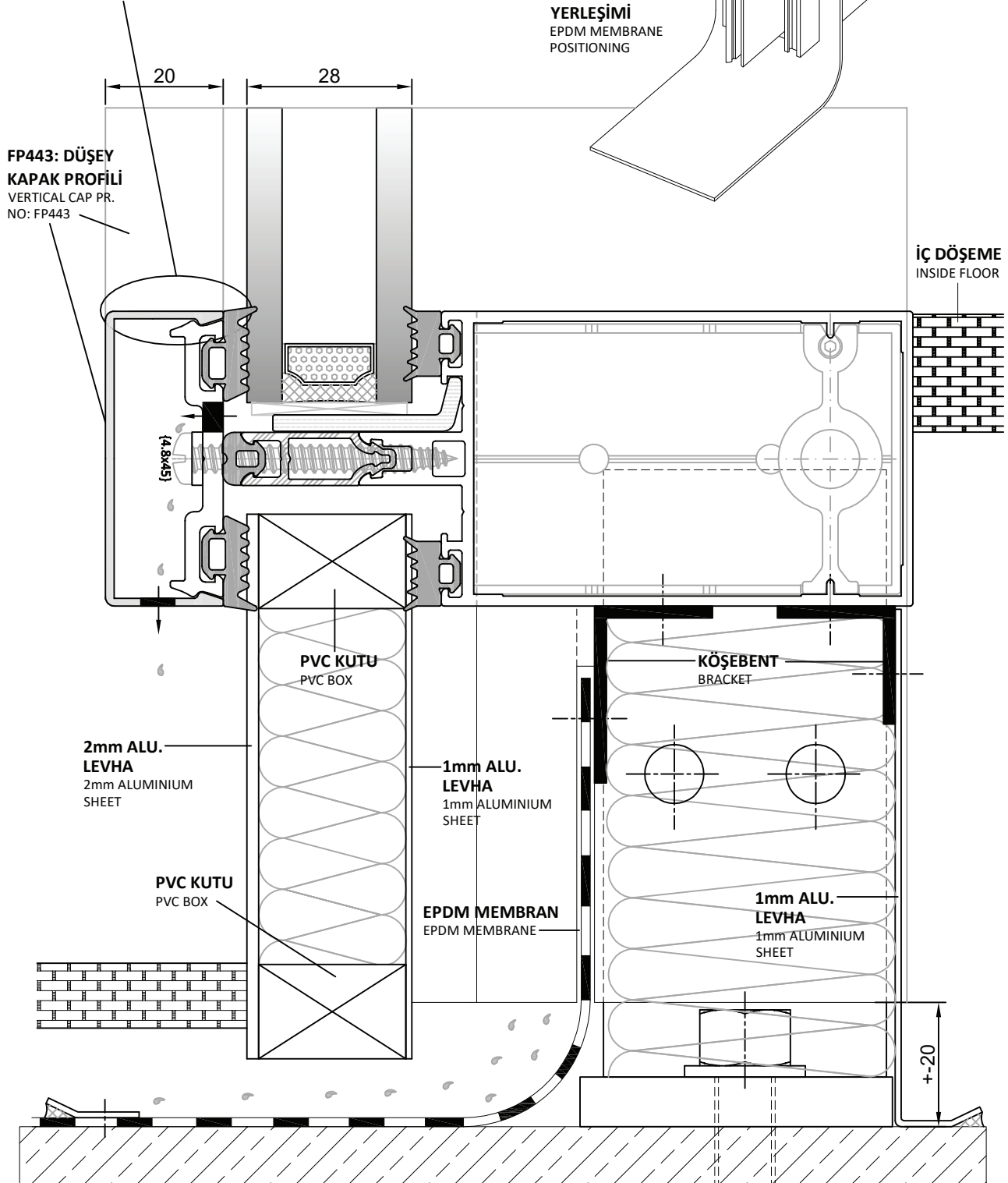
ÖRNEK CEPHE ÜST BİTİŞ DETAYI  
TOP END DETAIL EXAMPLE OF THE CURTAIN WALL



## ÖRNEK CEPHE ALT BİTİŞ DETAYI

### BOTTOM END DETAIL EXAMPLE OF THE CURTAIN WALL

**BU BÖLGEDE DÜŞEY VE YATAY KAPAKLAR AYNIYDIR. DÜŞEY KAPAKLAR SÜREKLİ GİDEN YATAY KAPAĞA BAĞLANMAKTADIR.**  
**IN THIS AREA BOTH OF THE VERTICAL AND HORIZONTAL CAPS ARE THE SAME. VERTICAL CAP SHOULD BE CONNECTED WITH THE HORIZONTAL ONE CONTINUOUS.**



## KULLANIM ŞARTLARI

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 Sistem 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 kataloğunda belirtilmeyen veya Sistem Alüminyum'un onay vermediği aksesuar ve sarf malzemesi kullanımından doğabilecek her türlü sorumluluk uygulamacı firmaya aittir.

Mimari sistem kataloğunda belirtilen detay ve sistem çözümleri haricindeki uygulamalar için Sistem Alüminyum'un onayı alınmalıdır. Aksi takdirde bu uygulamalardan meydana gelebilecek problem ve aksaklıklardan Sistem Alüminyum sorumlu değildir.

## TERMS OF SERVICE

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, siliconging, water drainage and ventilation methods specified on the catalogue should be applied completely. Any type of the additional methods should be approved by Sistem Aluminium.

## TERMS OF WARRANTY

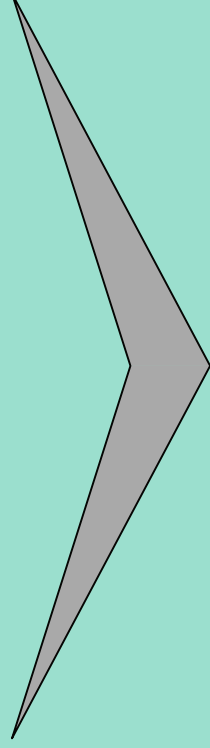
If the profiles was used according to terms of service and they have no mechanical damage or deformation, in any defect situation, our warranty is limited by disassembly, re-product, re-eloxal, re-assembly of faulty pieces. These are subjected to labor law.

Builder is responsible for all conditions by using of accessories and consumables that did not confirmed by Sistem Aluminium are not mentioned in catalogue of Architectural System.

Confirmation must be taken from Sistem Aluminium for applications without details and system solutions that are mentioned in catalogue of architectural sytem. If not Sistem Aluminium is not responsible because of any wrong applications.

# SERTIFIKALAR

## CERTIFICATES







**AVRASYA CEPHE-DOĞRAMA  
TEST VE TEKNOLOJİ MERKEZİ A.Ş.**  
Cumhuriyet Mahallesi 1. Cadde 1. Sokak No:1 81600  
II. OSB Beyköy – DÜZCE/TÜRKİYE



Test  
TS EN ISO/IEC 17025  
AB-0926-T

AB-0926-T

19-094-PR04

07.2020

Deney Raporu  
Test Report

Sayfa (Page): 1 / 36

<b>Müşterinin adı/adresi:</b> Customer name/address	Sistem Alüminyum San. ve Tic. A.Ş. Akçaburgaz Mh. 3055. Sok. No:4 34522 Esenyurt / İSTANBUL
<b>İstek Numarası:</b> Order No.	19-094-PR04
<b>Numunenin adı ve tarifi:</b> Name and identity of test item	Alutech F50 Energy Kapaklı Sistem Giydirme Cephe / Çubuk Sistem Alutech F50 Energy System Capped Curtain Walling / Stick System
<b>Numunenin kabul tarihi:</b> The date of receipt of test item	27.05.2020
<b>Açıklamalar:</b> Remarks	EN 12153, EN 12155, EN 12179 deney metotları kullanılmıştır. EN 12153, EN 12155, EN 12179 testing methods were performed.

EN 12152 - Hava Geçirgenliği	<b>AE</b>	EN 12152 - Air Permeability	<b>AE</b>
EN 12207 - Hava Geçirgenliği	<b>Sınıf 4</b>	EN 12207 - Air Permeability	<b>Class 4</b>
EN 12154 - Su Sızdırmazlık / Statik	<b>RE<sub>1500</sub></b>	EN 12154 - Watertightness / Static	<b>RE<sub>1500</sub></b>
EN 12208 - Su Sızdırmazlık / Statik*	<b>E<sub>1500</sub></b>	EN 12208 - Watertightness / Static *	<b>E<sub>1500</sub></b>
EN 13116 - Rüzgar Yüklerine Dayanım		EN 13116 - Resistance to Wind Load	
Hizmet Verebilirlik	<b>± 2,00 kN/m<sup>2</sup></b>	Serviceability	<b>± 2,00 kN/m<sup>2</sup></b>
Emniyet	<b>± 3,00 kN/m<sup>2</sup></b>	Safety	<b>± 3,00 kN/m<sup>2</sup></b>

**Deneyin yapıldığı tarih:** 28/29.05.2020  
Date of Test

**Deney Raporu Sayfa Sayısı:** 36  
Number of pages of the test report

**Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. TÜRKAK'tan AB-0926-T dosya numarası ile TS EN ISO/IEC 17025:2017 standardına göre akredite edilmiştir.**

Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. accredited by TÜRKAK under registration number AB-0926-T for TS EN ISO/IEC 17025:2017 as test laboratory

**Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği(EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.**

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

**Bu deney raporu: Firmamıza ulaşan numunelere deney ve/veya deneyler uygulanarak elde edilmiştir.**

**Müşteriye ait diğer numuneleri kapsamaz.**

(This test report was prepared after applying test/tests to the samples that are sent to our company.  
(Note that this declaration does not involve other samples of the customer.)

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

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



3.07.2020

Kaşe / Seal

Yayımlandığı Tarih  
Date

Deney Sorumlusu  
Person in charge of test

Onaylayan  
Approval

\*Pencere su sızdırmazlık testinde EN 1027 de belirtilenden farklı nozül aranjmanı ve su püskürtme değeri kullanıldığından dolayı deviasyon söz konusudur.  
\*In deviation from EN 1027 is in question because of watertightness of insert window was tested at different water flow rate and nozzle arrangement.

RPR001/01/09.10.2019

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.  
İmzasız ve mühürsüz raporlar geçersizdir.  
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Testing reports without signature and seal are not valid



**AVRASYA CEPHE-DOĞRAMA  
TEST VE TEKNOLOJİ MERKEZİ A.Ş.**  
Cumhuriyet Mahallesi 1. Cadde 1. Sokak No:1 81600  
II. OSB Beyköy – DÜZCE/TÜRKİYE



Test  
TS EN ISO/IEC 17025  
AB-0926-T

AB-0926-T

19-094-PR05

07.2020

Deney Raporu  
Test Report

Sayfa (Page): 1 / 26

**Müşterinin adı/adresi:**  
Customer name/address

Sistem Alüminyum San. ve Tic. A.Ş.  
Akçaburgaz Mh. 3055. Sok. No:4 34522  
Esenyurt / İSTANBUL  
19-094-PR05

**İstek Numarası:**

Order No.

**Numunenin adı ve tanımı:**

Name and identity of test item

**Numunenin kabul tarihi:**

The date of receipt of test item

**Açıklamalar:**

Remarks

Alutech F50 Energy Kapaklı Sistem Giydirme Cephe / Çubuk Sistem  
Alutech F50 Energy System Capped Curtain Walling / Stick System  
27.05.2020

EN ISO 10140-2 / Hava ile Yayılan Ses Yalıtımının Ölçülmesi, deney metodu uygulanmıştır.  
EN ISO 10140-2 / Measurement of Airborne Sound Insulation, testing method was performed.

**Sonuçlar / Results :** EN ISO 717-1:  $R_w (C;C_{tr}) = 34 (-2; -5) \text{ dB}$

**Deneyin yapıldığı tarih:**

Date of Test

**Deney Raporu Sayfa Sayısı:**

Number of pages of the test report

28.05.2020

26

**Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. TÜRKAK'tan AB-0926-T dosya numarası ile TS EN ISO/IEC 17025:2017 standardına göre akredite edilmiştir.**

Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. accredited by TÜRKAK under registration number AB-0926-T for TS EN ISO/IEC 17025:2017 as test laboratory"

**Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği(EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.**

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

**Bu deney raporu: Firmamıza ulaşan numunelere deney ve/veya deneyler uygulanarak elde edilmiştir.**

**Müşteriye ait diğer numuneleri kapsamaz.**

(This test report was prepared after applying test/tests to the samples that are sent to our company.

(Note that this declaration does not involve other samples of the customer.)

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

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



3.07.2020

Mühür / Seal

Yayımlandığı Tarih

Date

Deney Sorumlusu

Person in charge of test

Onaylayan

Approval

RPR001/01/09.10.2019

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

İmzasız ve mühürsüz raporlar geçersizdir.

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# AVRASYA CEPHE-DOĞRAMA TEST VE TEKNOLOJİ MERKEZİ A.Ş.

Cumhuriyet Mahallesi 1. Cadde 1. Sokak No:1 81600  
II. OSB Beyköy – DÜZCE/TÜRKİYE



Test  
TS EN ISO/IEC 17025  
AB-0926-T

Deney Raporu  
Test Report

AB-0926-T

19-094-PR01

02.2020

Sayfa (Page): 1 / 33

**Müşterinin adı/adresi:**

Customer name/address

Sistem Alüminyum San. ve Tic. A.Ş.  
Akçaburgaz Mh. 3055. Sok. No:4 34522  
Esenyurt / İSTANBUL  
19-094-PR01

**İstek Numarası:**

Order No.

**Numunenin adı ve tarifi:**

Name and identity of test item

Alutech F50 Kondens Entegre Sistem Giydirmce Cephe / Çubuk Sistem  
Alutech F50 Condensate Integrated Curtain Walling / Stick System  
25.12.2019

**Numunenin kabul tarihi:**

The date of receipt of test item

**Açıklamalar:**

Remarks

EN 12153, EN 12155, EN 12179 deney metotları kullanılmıştır.  
EN 12153, EN 12155, EN 12179 testing methods were performed.

EN 12152 - Hava Geçirgenliği	<b>AE</b>	EN 12152 - Air Permeability	<b>AE</b>
EN 12207 - Hava Geçirgenliği	<b>Sınıf 4</b>	EN 12207 - Air Permeability	<b>Class 4</b>
EN 12154 - Su Sızdırmazlık / Statik	<b>RE1200</b>	EN 12154 - Watertightness / Static	<b>RE1200</b>
EN 12208 - Su Sızdırmazlık / Statik	<b>E1200</b>	EN 12208 - Watertightness / Static	<b>E1200</b>
EN 13116 - Rüzgar Yüklerine Dayanım		EN 13116 - Resistance to Wind Load	
Hizmet Verebilirlik	$\pm 2,00 \text{ kN/m}^2$	Serviceability	$\pm 2,00 \text{ kN/m}^2$
Emniyet	$\pm 3,00 \text{ kN/m}^2$	Safety	$\pm 3,00 \text{ kN/m}^2$

**Deneyin yapıldığı tarih:**

Date of Test

26.12.2019

**Deney Raporu Sayfa Sayısı:**

Number of pages of the test report

33

**Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. TÜRKAK'tan AB-0926-T dosya numarası ile TS EN ISO/IEC 17025:2017 standardına göre akredite edilmiştir.**

Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. accredited by TÜRKAK under registration number AB-0926-T for TS EN ISO/IEC 17025:2017 as test laboratory

**Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği(EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.**

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

**Bu deney raporu: Firmamıza ulaşan numunelere deney ve/veya deneyler uygulanarak elde edilmiştir.**

**Müşteriye ait diğer numuneleri kapsamaz.**

(This test report was prepared after applying test/tests to the samples that are sent to our company.)

(Note that this declaration does not involve other samples of the customer.)

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

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



Kaşe / Seal

11.02.2020

**Yayımlandığı Tarih**

Date

**Deney Sorumlusu**

Person in charge of test

**Onaylayan**

Approval

RPR001/01/09.10.2019

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

İmzasız ve mühürsüz raporlar geçersizdir.

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**AVRASYA CEPHE-DOĞRAMA  
TEST VE TEKNOLOJİ MERKEZİ A.Ş.**  
Cumhuriyet Mahallesi 1. Cadde 1. Sokak No:1 81600  
II. OSB Beyköy – DÜZCE/TÜRKİYE



Test  
TS EN ISO/IEC 17025  
AB-0926-T

Deney Raporu  
Test Report

AB-0926-T

19-094-PR02

02.2020

Sayfa (Page): 1 / 24

**Müşterinin adı/adresi:**

Customer name/address

Sistem Alüminyum San. ve Tic. A.Ş.  
Akçaburgaz Mh. 3055. Sok. No:4 34522  
Esenyurt / İSTANBUL  
19-094-PR02

**İstek Numarası:**

Order No.

**Numunenin adı ve tarifi:**

Name and identity of test item

Alutech F50 Kondens Entegre Sistem Giydirme Cephe / Çubuk Sistem  
Alutech F50 Condensate Integrated Curtain Walling / Stick System

**Numunenin kabul tarihi:**

The date of receipt of test item

25.12.2019

**Açıklamalar:**

Remarks

EN ISO 10140-2 / Hava ile Yayılan Ses Yalıtımının Ölçülmesi, deney metodu uygulanmıştır.  
EN ISO 10140-2 / Measurement of Airborne Sound Insulation, testing method was performed.

**Sonuçlar / Results : EN ISO 717-1:  $R_w (C; C_{tr}) = 33 (-1; -3) \text{ dB}$**

**Deneyin yapıldığı tarih:**

Date of Test

28.12.2019

**Deney Raporu Sayfa Sayısı:**

Number of pages of the test report

24

**Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. TÜRKAK'tan AB-0926-T dosya numarası ile TS EN ISO/IEC 17025:2012 standardına göre akredite edilmiştir.**

Avrasya Cephe-Doğrama Test ve Teknoloji Merkezi A.Ş. accredited by TÜRKAK under registration number AB-0926-T for TS EN ISO/IEC 17025:2012 as test laboratory"

**Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği(EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.**

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

**Bu deney raporu: Firmamıza ulaşan numunelere deney ve/veya deneyler uygulanarak elde edilmiştir.**

**Müşteriye ait diğer numuneleri kapsamaz.**

(This test report was prepared after applying test/tests to the samples that are sent to our company.

(Note that this declaration does not involve other samples of the customer.)

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

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



11.02.2020

**Mühür / Kaşe**

Seal

**Yayımlandığı Tarih**

Date

**Deney Sorumlusu**

Person in charge of test

**Onaylayan**

Approval

RPR001/01/09.10.2019

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

İmzasız ve mühürsüz raporlar geçersizdir.

This report shall not be reproduced other than in full except with the permission of the laboratory.

Testing reports without signature and seal are not valid.

## Authorization to use the quality sign



This is to certify that  
**Sistem Alüminyum Sanayi ve Ticaret A.Ş.**

Ergene 1 OSB, Vakıflar OSB Mahallesi İstanbul  
Caddesi No: 21/A  
TR – 59930 Ergene/Tekirdağ

Licence number: 1640

is authorized to use the quality sign which is shown above, according to the regulations for the use of the quality label for ARCHITECTURAL ANODIZING as described in the current edition of the Specifications for the QUALANOD quality label for sulfuric acid-based anodizing of aluminium (Edition 01.01.2020). Architectural anodizing is one of the four types of anodizing covered by the Specifications.

Date of issue of the licence: 22.01.2015  
Period of validity of the licence: until 31.12.2020

Zurich, 19 November 2019

QUALANOD CERTIFICATION BODY

*Remco Baartmans*  
Remco Baartmans  
President

*Matthias Lanz*  
Matthias Lanz  
General Secretary



Mailing address:  
QUALANOD, P.O. Box 1507, CH-8027 Zurich  
Domicile:  
QUALANOD  
c/o ARCO Association Management AG  
(certification body)  
Tödistrasse 42, CH-8002 Zurich

## CERTIFICATE

for a COATING APPLICATOR



hereby authorises

**Sistem Alüminyum Sanayi ve Ticaret A.Ş.**  
Ergene 1 OSB, Vakıflar OSB Mahallesi İstanbul  
Caddesi No: 21/A  
59930 Ergene/Tekirdağ  
Turkey

to use the quality label in conformity with the  
16<sup>th</sup> Edition of the QUALICOAT Specifications valid from 1 July 2019

Licence No.: 1435

Date of Granting: 28.04.2015

Valid until: 31.12.2020

Zurich, 1 January 2020

QUALICOAT

*M.C. Panam*  
Mohammed C. Panam  
President

*Sue C. C. Paredi*  
Sue C. C. Paredi  
Managing Director

QUALICOAT | Tödistrasse 48, 8002 Zurich, Switzerland | www.qualicoat.net



## Certificate of conformity of the factory production control



Number 0620-CPR-55837/01 Replaces 0620-CPD-55837/01  
Issued 2014-09-01 First issued under CPR 2014-09-01  
First issued under CPD 2010-04-12

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

### STRUCTURAL ALUMINIUM and ALUMINIUM ALLOY SECTIONS / PROFILES

whereby the scope of construction product (s) listed on page 2 of this certificate of conformity

produced by:

**SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.**

and produced in the manufacturing plant

**İSTANBUL / TURKEY**

This certificate attests that all provisions concerning the assessment and verification of constancy of performance in Annex ZA of the standard

**EN 15088:2005**

under system 2+ for the performances set out in this certificate are applied and that the factory production control fulfills all the prescribed requirements for these performances.

This certificate was first issued on 2014-09-01 and will remain valid as long as the test methods and/or factory production control requirements included in the harmonised standard, used to assess the performances of the declared essential characteristics, do not change, and the construction product and the manufacturing conditions in the plant are not modified significantly, unless suspended or withdrawn by the factory production control body.

*B. Meekma*  
Bouke Meekma  
Director Kiwa Nederland B.V.

Advise: consult [www.kiwa.nl](http://www.kiwa.nl) to check whether the certificate is valid.

Notified Body No. 0620  
Kiwa Nederland B.V.  
Sir Winston Churchilllaan 273  
Postbus 70  
2260 AB RIJSWIJK  
The Netherlands  
Tel. +31 (0) 70 414 44 00  
Fax +31 (0) 70 414 44 20  
info@kiwa.nl  
www.kiwa.com

Manufacturer:  
SİSTEM ALÜMİNYUM SANAYİ VE  
TİCARET A.Ş.  
Çakmaklı Mah. Akçaburgaz Cad. 58.  
Sokak No: 4 Kat: 1  
İSTANBUL / TURKEY  
T : +90 (212) 886 87 87  
E : [kalis@sisitemaluminum.com.tr](mailto:kalis@sisitemaluminum.com.tr)  
I : [www.sistemaluminum.com.tr](http://www.sistemaluminum.com.tr)

Manufacturing plant:  
SİSTEM ALÜMİNYUM SANAYİ VE  
TİCARET A.Ş.  
Ergene 1, OSB E-5 Karayolu üzeri No: 21  
Ergene / TEKİRDAĞ



## Enclosure to Certificate-№ TIC 15 121 17073



**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Akçaburgaz Mah. 3055. Sokak No: 4  
Esenyurt – İstanbul / Turkey

Following local branches are part of the certificate:

### Central office

**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Akçaburgaz Mah. 3055. Sokak No: 4  
Esenyurt – İstanbul / Turkey

Scope: Information security aimed to protect information properties related to extruded aluminium profiles, aluminium composite panel, related product's raw material purchases, sales, import, export, customs operations, transit trade and all related activity including logistics, storage, accounting, finance and information technologies.

Certificate-№ TIC 15 121 17073

### Locations

**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Ergene-1 OSB, Vakıflar OSB Mah. D100 Caddesi No: 13/1  
Ergene – Tekirdağ / Turkey

Scope: Information security aimed to protect information properties related to extruded aluminium profiles, aluminium composite panel, related product's raw material purchases, sales, import, export, customs operations, transit trade and all related activity including logistics, storage, accounting, finance and information technologies.

Certificate-№ TIC 15 121 17073/1

*Michael*  
TÜV Thüringen e.V.  
Certification body for  
systems and personnel



Jena, 2017-10-12



Original certificates  
are branded with a hologram.



This annex is valid only in connection with the certificate № TIC 15 121 17073/01/7

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# CERTIFICATE



for the management system according to ISO 9001:2015 and ISO 14001:2015 and ISO 45001:2018

The proof of the conforming application with the regulation was furnished and in accordance with certification procedure it is certified for the company



**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Akçaburgaz Mah. 3055. Sokak No:4  
Esenyurt – İstanbul / Turkey  
with branch (see enclosure)

## Scope

Sales, import, export, foreign trade, customs clearance, management and administrative organization activities of the manufacturing of aluminum profiles with extrusion method, anodic oxidation and electrostatic coating processes, transfer coating and aluminum composite panel manufacturing. The operations related to these activities and related services.

Certificate Registration No.: TIC 15 100 64050 Valid until: 2021-06-06  
TIC 15 104 191736 Valid from: 2019-10-25  
TIC 15 118 19052

Audit Report No.: 3330 29AW N0

This certification was conducted in accordance with the TIC auditing and certification procedures and is subject to regular surveillance audits.

TÜV Thüringen e.V.  
Certification body for  
systems and personnel



Jena, 2019-10-25



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The current validity can be demanded at our homepage [www.tuev-thueringen.de](https://www.tuev-thueringen.de)  
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# CERTIFICATE



for the information security management system ISO/IEC 27001:2013

The proof of the conforming application with the regulation was furnished and in accordance with certification procedure it is certified for the company



**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Ergene-1 OSB, Vakıflar OSB Mah. D100 Caddesi No: 13/1  
Ergene – Tekirdağ / Turkey

## Scope

Information security aimed to protect information properties related to extruded aluminium profiles, aluminium composite panel, related product's raw material purchases, sales, import, export, customs operations, transit trade and all related activity including logistics, storage, accounting, finance and information technologies.

Statement of applicability Revision: 2017-07-18

Certificate Registration No.: TIC 15 121 17073/1

Valid until: 2020-10-11  
Valid from: 2017-10-12

Audit Report No.: 3330 2UDZ A0

This certification was conducted in accordance with the TIC auditing and certification procedures and is subject to regular surveillance audits. The certificate is valid in conjunction with the main certificate.

TÜV Thüringen e.V.  
Certification body for  
systems and personnel



Jena, 2017-10-12



Original certificates are branded with a hologram.

The current validity can be demanded at our homepage [www.tuev-thueringen.de](https://www.tuev-thueringen.de)  
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## Enclosure to Certificate-№ TIC 15 104 151364



**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**

Akçaburgaz Mah. 3055.Sokak No:4  
34522 Esenyurt – İstanbul / Turkey

Following local branches are part of the certificate:

### Central office

**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Akçaburgaz Mah. 3055.Sokak No:4 34522  
Esenyurt – İstanbul / Turkey

Scope: Sales of Aluminium profiles .anodizing and electrostatic powder coating of aluminium profiles, transfer coating and sales of aluminium composite panel

Certificate-№ TIC 15 104 151364

### Locations

**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Ergene-1 OSB, Vakıflar OSB Mah. D100 Caddesi No:13/1  
Ergene – Tekirdağ/ Turkey

Scope: Aluminium profiles production, anodizing and electrostatic powder coating of aluminium profiles, transfer coating and aluminium composite panel production

Certificate-№ TIC 15 104 151364/1

TÜV Thüringen e.V.  
Certification body for  
systems and personnel



Jena, 2018-06-28



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This annex is valid only in connection with the certificate № TIC 15 104 000000000

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## Enclosure to Certificate-№ TIC 15 100 64050



**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**

Akçaburgaz Mah. 3055. Sokak No: 4  
Esenyurt – İstanbul / Turkey

Following local branches are part of the certificate:

### Central office

**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Akçaburgaz Mah. 3055. Sokak No: 4  
Esenyurt – İstanbul / Turkey

Scope: Sales, import, export, foreign trade, customs clearance, management and administrative organization activities of the aluminium profiles and aluminium composite panels manufactured. The operations related to these activities and related services.

Certificate-№ TIC 15 100 64050

### Locations

**SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.**  
Ergene-1 OSB, Vakıflar OSB Mah. D100 Caddesi No: 13/1  
Ergene – Tekirdağ / Turkey

Scope: Production of aluminium profiles by the extrusion process, eloxal and electrostatic color coating processes, transfer coating and production of aluminium composite panels; Sales, import, export, foreign trade, customs, administration, administrative organizational activities related to these activities and related services.

Certificate-№ TIC 15 100 64050/1

TÜV Thüringen e.V.  
Certification body for  
systems and personnel



Jena, 2018-06-07



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**TÜRK STANDARDLARI ENSTİTÜSÜ**  
TÜRK STANDARDLARINA UYGUNLUK BELGESİ  
**TURKISH STANDARDS INSTITUTION**  
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı Description of the Mark  
TSE

**BELGE NUMARASI**  
REFERENCE NUMBER OF LICENCE 009277-TSE-07/03

**BELGENİN İLK VERİLİŞ TARİHİ**  
DATE OF FIRST ISSUE OF LICENCE 19.10.2009

**BELGENİN SON GEÇERLİLİK TARİHİ**  
LICENCE VALID UNTIL 11.04.2020

**BELGE SAHİBİ KURULUŞUN ADI**  
NAME OF THE LICENCE HOLDER SİSTEM ALÜMİNYUM SANAYİ VE TİCARET ANONİM ŞİRKETİ

**BELGE SAHİBİ KURULUŞUN ADRESİ**  
ADDRESS OF THE LICENCE HOLDER Akgaburgaz Mah.3055. Sokak No:4 Esenyurt İSTANBUL/TÜRKİYE

**ÜRETİM YERİ ADI**  
NAME OF THE MANUFACTURING PLACE SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.

**ÜRETİM YERİ ADRESİ**  
ADDRESS OF THE MANUFACTURING PLACE Ergene-I OSB, Vakıflar OSB Mah. D100 Caddesi No:13/1 Ergene/TEKİRDAĞ 5993 İSTANBUL / TÜRKİYE

**İPTAL EDİLEN BELGE NUMARASI (Varsa)**  
INDICATION OF SUPERSEDED LICENCE (if any) 009277-TSE-07/02

**TESCİLLİ TİCARİ MARKASI**  
REGISTERED TRADE MARK SİSTEM ALÜMİNYUM SAN VE TİC.A.Ş. + ŞEKİL

**İLGİLİ TÜRK STANDARTI**  
RELATED TURKISH STANDARD TS EN 12200-1 / 02.03.2010

**BELGE KAPSAMI**  
SCOPE OF LICENCE

Alüminyum ve alüminyum alaşımları - EN AW- 6060 ve EN AW- 6063 alaşımlarından ekstrüzyon ile imal edilmiş HASSAS PROFİLLER  
EN AW- 6060 ve EN AW- 6063 alaşımdan imal edilmiş, ısıtılabilir ve ısıtılabilir hassas profiller

e-İmza/signed

11.04.2019

Belgelendirme Merkezi Başkanı Adına  
AHMET NURŞİ KARTAL

TSE İSTANBUL BELGELENDİRME MÜDÜRÜ

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\*Bu belge her bir kuralda iptal edilmez, süresinin veya durumunun zorlaştırılması şeklinde değiştirilemez, kazın ve silinir yapılamaz.  
\*TSE İSTANBUL BELGELENDİRME MÜDÜRLÜĞÜ \* Adres: Çayyolu Tren İstasyonu Yanı ÇAYIROVAĞEZİRE \* Tel: 2022312373 \* Faks: 2022316006  
\*TSE BELGELENDİRME MERKEZİ BAŞKANLIĞI \* Adres: Necatibey Cad. No:112 06100 Bakırköy/İSTANBUL \* Tel: 0 312 416 64 81 / 416 64 27 \* Faks: 0 312 416 66 17  
e-posta: tsm@tse.org.tr, web: www.tse.org.tr

<https://evrakkontrol.tse.org.tr/BelgeDogrulama.aspx?pv=evrak%20adresinden%20belgenin%20dogrulunmasi%20ve%20gecnerligini%20sorgulayiniz>



1 / 1



**TÜRK STANDARDLARI ENSTİTÜSÜ**  
TÜRK STANDARDLARINA UYGUNLUK BELGESİ  
**TURKISH STANDARDS INSTITUTION**  
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı Description of the Mark  
TSE

**BELGE NUMARASI**  
REFERENCE NUMBER OF LICENCE 009277-TSE-08/02

**BELGENİN İLK VERİLİŞ TARİHİ**  
DATE OF FIRST ISSUE OF LICENCE 21.04.2009

**BELGENİN SON GEÇERLİLİK TARİHİ**  
LICENCE VALID UNTIL 03.04.2020

**BELGE SAHİBİ KURULUŞUN ADI**  
NAME OF THE LICENCE HOLDER SİSTEM ALÜMİNYUM SANAYİ VE TİCARET ANONİM ŞİRKETİ

**BELGE SAHİBİ KURULUŞUN ADRESİ**  
ADDRESS OF THE LICENCE HOLDER Akgaburgaz Mah.3055. Sokak No:4 Esenyurt/İSTANBUL 34522 İSTANBUL/TÜRKİYE

**ÜRETİM YERİ ADI**  
NAME OF THE MANUFACTURING PLACE SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.

**ÜRETİM YERİ ADRESİ**  
ADDRESS OF THE MANUFACTURING PLACE Ergene-I OSB, Vakıflar OSB Mah. D100 Caddesi No:13/1 Ergene/TEKİRDAĞ 5993 İSTANBUL / TÜRKİYE

**İPTAL EDİLEN BELGE NUMARASI (Varsa)**  
INDICATION OF SUPERSEDED LICENCE (if any) 009277-TSE-08/01

**TESCİLLİ TİCARİ MARKASI**  
REGISTERED TRADE MARK SİSTEM ALÜMİNYUM SAN VE TİC.A.Ş.

**İLGİLİ TÜRK STANDARTI**  
RELATED TURKISH STANDARD TS 4922 / 15.01.2018

**BELGE KAPSAMI**  
SCOPE OF LICENCE

Alüminyum veya Alüminyum Alaşımlarının Anodik Oksidasyon İşlemi ile Kaplanması  
- Kaplama kalınlığı: sınıf: AA 10  
- Matlaştırma onaylı tabak edilmiş (E6)

e-İmza/signed

03.04.2019

Belgelendirme Merkezi Başkanı Adına  
AHMET NURŞİ KARTAL

TSE İSTANBUL BELGELENDİRME MÜDÜRÜ

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\*TSE İSTANBUL BELGELENDİRME MÜDÜRLÜĞÜ \* Adres: Çayyolu Tren İstasyonu Yanı ÇAYIROVAĞEZİRE \* Tel: 2022312373 \* Faks: 2022316006  
\*TSE BELGELENDİRME MERKEZİ BAŞKANLIĞI \* Adres: Necatibey Cad. No:112 06100 Bakırköy/İSTANBUL \* Tel: 0 312 416 64 81 / 416 64 27 \* Faks: 0 312 416 66 17  
e-posta: tsm@tse.org.tr, web: www.tse.org.tr

<https://evrakkontrol.tse.org.tr/BelgeDogrulama.aspx?pv=evrak%20adresinden%20belgenin%20dogrulunmasi%20ve%20gecnerligini%20sorgulayiniz>



1 / 1



**TÜRK STANDARDLARI ENSTİTÜSÜ**  
TÜRK STANDARDLARINA UYGUNLUK BELGESİ  
**TURKISH STANDARDS INSTITUTION**  
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı Description of the Mark  
TSE

**BELGE NUMARASI**  
REFERENCE NUMBER OF LICENCE 009277-TSE-03/05

**BELGENİN İLK VERİLİŞ TARİHİ**  
DATE OF FIRST ISSUE OF LICENCE 22.03.2011

**BELGENİN SON GEÇERLİLİK TARİHİ**  
LICENCE VALID UNTIL 11.04.2020

**BELGE SAHİBİ KURULUŞUN ADI**  
NAME OF THE LICENCE HOLDER SİSTEM ALÜMİNYUM SANAYİ VE TİCARET ANONİM ŞİRKETİ

**BELGE SAHİBİ KURULUŞUN ADRESİ**  
ADDRESS OF THE LICENCE HOLDER Akgaburgaz Mah.3055. Sokak No:4 Esenyurt İSTANBUL/TÜRKİYE

**ÜRETİM YERİ ADI**  
NAME OF THE MANUFACTURING PLACE SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.

**ÜRETİM YERİ ADRESİ**  
ADDRESS OF THE MANUFACTURING PLACE Ergene-I OSB, Vakıflar OSB Mah. D100 Caddesi No:13/1 Ergene/TEKİRDAĞ / TÜRKİYE

**İPTAL EDİLEN BELGE NUMARASI (Varsa)**  
INDICATION OF SUPERSEDED LICENCE (if any) 009277-TSE-03/04

**TESCİLLİ TİCARİ MARKASI**  
REGISTERED TRADE MARK Şekil+ SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.

**İLGİLİ TÜRK STANDARTI**  
RELATED TURKISH STANDARD TS EN 755-1:2016 / 09.12.2016

**BELGE KAPSAMI**  
SCOPE OF LICENCE

Alüminyum ve alüminyum alaşımları  
Ekstrüzyonla imal edilmiş PROFİLLER  
EN AW 6060 ve EN AW 6063 alaşımdan imal edilmiş

e-İmza/signed

11.04.2019

Belgelendirme Merkezi Başkanı Adına  
AHMET NURŞİ KARTAL

TSE İSTANBUL BELGELENDİRME MÜDÜRÜ

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\*TSE İSTANBUL BELGELENDİRME MÜDÜRLÜĞÜ \* Adres: Çayyolu Tren İstasyonu Yanı ÇAYIROVAĞEZİRE \* Tel: 2022312373 \* Faks: 2022316006  
\*TSE BELGELENDİRME MERKEZİ BAŞKANLIĞI \* Adres: Necatibey Cad. No:112 06100 Bakırköy/İSTANBUL \* Tel: 0 312 416 64 81 / 416 64 27 \* Faks: 0 312 416 66 17  
e-posta: tsm@tse.org.tr, web: www.tse.org.tr

<https://evrakkontrol.tse.org.tr/BelgeDogrulama.aspx?pv=evrak%20adresinden%20belgenin%20dogrulunmasi%20ve%20gecnerligini%20sorgulayiniz>



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**TÜRK STANDARDLARI ENSTİTÜSÜ**  
TÜRK STANDARDLARINA UYGUNLUK BELGESİ  
**TURKISH STANDARDS INSTITUTION**  
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı Description of the Mark  
TSE

**BELGE NUMARASI**  
REFERENCE NUMBER OF LICENCE 009277-TSE-08/02

**BELGENİN İLK VERİLİŞ TARİHİ**  
DATE OF FIRST ISSUE OF LICENCE 21.04.2009

**BELGENİN SON GEÇERLİLİK TARİHİ**  
LICENCE VALID UNTIL 03.04.2020

**BELGE SAHİBİ KURULUŞUN ADI**  
NAME OF THE LICENCE HOLDER SİSTEM ALÜMİNYUM SANAYİ VE TİCARET ANONİM ŞİRKETİ

**BELGE SAHİBİ KURULUŞUN ADRESİ**  
ADDRESS OF THE LICENCE HOLDER Akgaburgaz Mah.3055. Sokak No:4 Esenyurt/İSTANBUL 34522 İSTANBUL/TÜRKİYE

**ÜRETİM YERİ ADI**  
NAME OF THE MANUFACTURING PLACE SİSTEM ALÜMİNYUM SANAYİ VE TİCARET A.Ş.

**ÜRETİM YERİ ADRESİ**  
ADDRESS OF THE MANUFACTURING PLACE Ergene-I OSB, Vakıflar OSB Mah. D100 Caddesi No:13/1 Ergene/TEKİRDAĞ 5993 İSTANBUL / TÜRKİYE

**İPTAL EDİLEN BELGE NUMARASI (Varsa)**  
INDICATION OF SUPERSEDED LICENCE (if any) 009277-TSE-08/01

**TESCİLLİ TİCARİ MARKASI**  
REGISTERED TRADE MARK SİSTEM ALÜMİNYUM SAN VE TİC.A.Ş.

**İLGİLİ TÜRK STANDARTI**  
RELATED TURKISH STANDARD TS 4922 / 15.01.2018

**BELGE KAPSAMI**  
SCOPE OF LICENCE

Alüminyum veya Alüminyum Alaşımlarının Anodik Oksidasyon İşlemi ile Kaplanması  
- Kaplama kalınlığı: sınıf: AA 10  
- Matlaştırma onaylı tabak edilmiş (E6)

e-İmza/signed

03.04.2019

Belgelendirme Merkezi Başkanı Adına  
AHMET NURŞİ KARTAL

TSE İSTANBUL BELGELENDİRME MÜDÜRÜ

\*Bu belge, belgelendiren ürünün, üretim yerinin, Enstitümüzün belirlediği şartları karşıladığını da gösterir.  
\*Bu belge her bir kuralda iptal edilmez, süresinin veya durumunun zorlaştırılması şeklinde değiştirilemez, kazın ve silinir yapılamaz.  
\*TSE İSTANBUL BELGELENDİRME MÜDÜRLÜĞÜ \* Adres: Çayyolu Tren İstasyonu Yanı ÇAYIROVAĞEZİRE \* Tel: 2022312373 \* Faks: 2022316006  
\*TSE BELGELENDİRME MERKEZİ BAŞKANLIĞI \* Adres: Necatibey Cad. No:112 06100 Bakırköy/İSTANBUL \* Tel: 0 312 416 64 81 / 416 64 27 \* Faks: 0 312 416 66 17  
e-posta: tsm@tse.org.tr, web: www.tse.org.tr

<https://evrakkontrol.tse.org.tr/BelgeDogrulama.aspx?pv=evrak%20adresinden%20belgenin%20dogrulunmasi%20ve%20gecnerligini%20sorgulayiniz>



1 / 1

**warringtonfire**  
Proud to be part of @element

Warringtonfire  
Holmesfield Road  
Warrington  
WA1 2DS

T: +44 (0)1925 655 116  
Info: warrington@warringtonfire.com  
warringtonfire.com

**UKAS TESTING**  
0249

**Title:** CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH EN 13501-1:2007+A1: 2009  
**Report No:** WF 407840  
**Date:** 12th February 2019  
**Issue No:** 1  
**Notified Body No:** 0833  
**Product Name:** "ALUTECHBOND 100 A2"

**Prepared for:** SİSTEM ALÜMİNYUM SAN VE TİC A.Ş.  
Ergene-1 OSB, Vakıflar OSB Mah.  
D100 Caddeesi  
No:13/1 Ergene  
TEKİRDAĞ 59930,

Fire Behaviour	Smoke Production	Flaming Droplets
A2	- s 1	d 0

i.e. A2 – s1, d0

**4.3 Field of application**

This classification is valid for the following end use applications:

- Construction applications- External façade
- Construction applications applied over any substrate with a minimum density of 870kg/m<sup>3</sup>, having a minimum thickness of 11mm and a fire performance of A2-s1,d0

This classification is also valid for the following product parameters:

Core type, thickness and density	No variation allowed
Joints	No joints allowed in end-use construction
Adhesive quantity and type	No variation allowed
Surface coating colour	RAL9006- Silver only
Product composition	No variation allowed
Product construction	No variation allowed
Mounting and fixing details	No variation allowed
Air gap details	≥40mm allowed

**SIGNED**  
Euan Gardner  
Junior Certification Engineer  
Technical Department

**APPROVED**  
Janet Murrell  
Technical Manager  
Technical Department  
On behalf of Warringtonfire

Warringtonfire Testing and Certification Limited  
Registered in England and Wales  
Registered Office: 10 Lower Grosvenor Place, London, United Kingdom, SW1W 0EN  
Company Registration No: 11371436

**Efectis**

**EFFECTIS ERA AVRASYA TEST VE BELGELENDİRME A.Ş.**  
Yangın Test Laboratuvarı

**TÜRKAKB**  
SİM  
T.C. EN ISO/IEC 17025  
AB-0556-T

**Akredite Kuruluş**  
No: AB-0556-T

**Onaylanmış Kuruluş**  
No:2184

**YANGINA KARŞI TEPKİSİNİN**  
**TS EN 13501-1+A1:2013 STANDARDINA GÖRE**  
**SINIFLANDIRILMASI**

**Müracaat eden** : SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.  
Ergene-1 OSB Vakıflar OSB Mah. D100 Cad. No:13/1  
Ergene, TEKİRDAĞ/TÜRKİYE

**Hazırlayan** : EFFECTIS ERA AVRASYA TEST VE BELGELENDİRME A.Ş.  
TOSB TAYSAD Organize San. Böl. 1. CD.  
15. Yol No: 1 Şekerpınar - Çayırova  
KOCAELİ, TÜRKİYE

**Ürün adı** : ALUTECHBOND A2

**Sınıflandırma rapor no.** : ERA - 17 - 056

**Yayın numarası** : 1/2

**Yayınlanma tarihi** : 22.03.2017

Bu sınıflandırma raporu 5 sayfadan oluşmaktadır ve sadece bütün olarak kullanılabilir ya da yeniden oluşturulabilir.

Adres: TOSB TAYSAD Organize San. Böl. 1. CD., 15. Yol No: 1 Şekerpınar - Çayırova  
Kocaeli, TÜRKİYE  
Tel: 0262 6581662 Fax: 0262 6581669 E-posta: turkey@effectis.com  
Web: www.effectis.com

**ERA**

**ERA LABORATUVARLARI A.Ş.**  
ERA Yangın Test Laboratuvarı

**TÜRKAKB**  
SİM  
T.C. EN ISO/IEC 17025  
AB-0330-T

**Akredite Kuruluş**  
No: AB-0330-T

**YANGINA KARŞI TEPKİSİNİN**  
**EN 13501-1:2007 STANDARDINA GÖRE**  
**SINIFLANDIRILMASI**

**Müracaat eden** : SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.  
Çakmaklı Mevkii Akçaburgaz Cad. 58.Sok. No:4  
Kıraç Büyükkömece,  
İSTANBUL/ TÜRKİYE

**Hazırlayan** : ERA LABORATUVARLARI A.Ş.  
Tümsan 1. Sanayi Sitesi, 8. Blok, No:25, İkitelli  
Organize Sanayi Bölgesi, Küçükçekmece,  
İSTANBUL, TÜRKİYE

**Ürün adı** : ALUTECH BOND - Kompozit Panel

**Sınıflandırma rapor no.** : ERA - 10 - 068

**Yayın numarası** : 1/2

**Yayınlanma tarihi** : 11.08.2010

Bu sınıflandırma raporu 5 sayfadan oluşmaktadır ve sadece bütün olarak kullanılabilir ya da yeniden oluşturulabilir.

Adres: Tümsan 1. Sanayi Sitesi, 8. Blok, No:25, İkitelli Organize Sanayi Bölgesi, Küçükçekmece,  
İstanbul, TÜRKİYE  
Tel: 0212 4862762 Faks: 0212 4862763 E-posta: info@erayonetim.com  
Web: www.erayonetim.com

**kiwa**

Req. Number: 18094 - T

First issue date: 2019-09-09 Last change date: 2019-09-09

Valid Until: 2022-09-08 IATF Number: 0359022

Quality Management System Certificate  
**IATF 16949:2016**

We certify that the Quality Management System of the Organization:

**SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.**

is in compliance with the standard IATF 16949:2016 for the following products/services:

Manufacturing of aluminum parts and profiles by billet casting, extrusion, machining, anodizing and painting.

Chief Operating Officer  
Giampiero Belcredi

**Exclusions:** 8.3 related to the product design

This certificate is issued in conformity with IATF Rules – Fifth Edition.  
Maintenance of the certification is subject to annual survey and dependent upon the observance of Kiwa Certmet Italia contractual requirements.

This certificate is composed of 1 page.

**SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.**  
Certified Sites  
- Ergene-1 OSB, Vakıflar OSB Mah. D100 Cad. No. 13/1, Ergene Tekirdağ - Turkey

**Support Functions**  
**SİSTEM ALÜMİNYUM SAN. VE TİC. A.Ş.**  
- HQ Akçaburgaz Mh, 3055. Sok. No. 4, Esenyurt, İstanbul - Turkey  
(Sales, Strategic planning, Finance)

Kiwa Certmet Italia S.p.A.  
Società con sede unico,  
soggetta all'attività di  
direzione e coordinamento di  
Kiwa Italia Holding Srl  
Via Celsiana, 23  
00057 Gianicolo di E. Roma  
001  
Tel: +39 061 4593.111  
Fax: +39 061 763.382  
E-mail: info@kiwacertmet.it  
www.kiwa.it

**СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р**  
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

**СЕРТИФИКАТ СООТВЕТСТВИЯ**

№ РОСС TR.НА36.H03297  
Срок действия с 27.12.2018 по 26.12.2021  
№ 0322539

ОРГАН ПО СЕРТИФИКАЦИИ RA.RU.10HA36

Орган по сертификации продукции ООО "ТНХ" Адрес: 236038, РОССИЯ, Калининградская область, г. Калининград, ул. Ю.Гагарина, д. 16, стр. Г, оф. 3, 4, 5. Телефон 8-917-623-5741, адрес электронной почты: tnh-os@yandex.ru

**ПРОДУКЦИЯ** А2: ПВДФ-покрытые алюминиевые композитные облицовочные панели с минеральным наполнителем общей толщиной от 4 мм до 6 мм. Толщина алюминиевого листа составляет от 0,4 мм до 0,50 мм. В1: ПВДФ-покрытые алюминиевые композитные облицовочные панели с минеральным наполнителем общей толщиной от 3 мм до 6 мм. Толщина алюминиевого листа составляет от 0,3 мм до 0,50 мм. ALUTECHBOND 100 А2, ALUTECHBOND 100 В1. Серийный выпуск.

код ОК 24.42.24

**СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ** технической документации изготовителя

код ТН ВЭД 760612

**ИЗГОТОВИТЕЛЬ** SISTEM ALUMINYUM SANAYI VE TICARET A.S. Адрес: ТУРЦИЯ, ERGENE – 1 OSB, VAKIFLAR OSB MAH. D100 CAD. NO:13/1 ERGENE TEKIRDAG – TURKEY, телефон/факс: 0212 886 87 87, адрес электронной почты: sistem@sistemaluminum.com.tr.

**СЕРТИФИКАТ ВЫДАН** SISTEM ALUMINYUM SANAYI VE TICARET A.S. Адрес: ТУРЦИЯ, ERGENE – 1 OSB, VAKIFLAR OSB MAH. D100 CAD. NO:13/1 ERGENE TEKIRDAG – TURKEY, телефон/факс: 0090 212 886 87 87, адрес электронной почты: sistem@sistemaluminum.com.tr (EMAIL).

**НА ОСНОВАНИИ** Протокол испытаний № 002/У-27/12/18 от 27.12.2018 года, выданный Испытательной лабораторией "Орион" (аттестат аккредитации РОСС RU 31578.04ЛНО.ИЛ09)

**ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ**

Схема сертификации: 3

Руководитель органа: С.Е. Фелоров (инициалы, фамилия)

Эксперт: И.Р. Деминов (инициалы, фамилия)

Сертификат не применяется при обязательной сертификации

**СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р**  
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

**СЕРТИФИКАТ СООТВЕТСТВИЯ**

№ РОСС TR.ВР01.H00763  
Срок действия с 26.03.2018 по 25.03.2021  
№ 2095444

ОРГАН ПО СЕРТИФИКАЦИИ per. № RA.RU.11ВР01  
Продукция: Общество с ограниченной ответственностью "Гарант-Тест". Место нахождения: Российская Федерация, 125424, город Москва, Волokolамское шоссе, дом 73, фактический адрес: Российская Федерация, 159030, город Москва, улица Тверская, дом 20, строение 1, этаж 6, помещение № 1а, комната № 1; помещение № 1а, комната № 4, телефон: +74957413350, электронная почта: gwarant-test@yandex.ru. Аттестат аккредитации № RA.RU.11ВР01, выдан 02.06.2017 года

**ПРОДУКЦИЯ** Панели облицовочные алюминиевые композитные с наполнителем из ПВДФ или ПЭВП общей толщиной от 3 мм до 6 мм, толщина алюминиевого листа от 0,18 мм до 0,50 мм, модели: ALUTECHBOND 100, ALUTECHBOND 200, ALUTECHBOND 300, ALUTECHBOND 400. Серийный выпуск.

код ОК 005 (ОКП): 24.42.24

**СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ** ГОСТ 2208-2007. Фольга, ленты, полосы, листы и плиты латунные. Технические условия (с Изменением N 1)

код ТН ВЭД России: 760612

**ИЗГОТОВИТЕЛЬ** SISTEM ALUMINYUM SANAYI VE TICARET A.S. Место нахождения и адрес места осуществления деятельности: ERGENE – 1 OSB, VAKIFLAR OSB MAH. D100 CAD. NO:13/1 ERGENE TEKIRDAG-TURKEY, Турция

**СЕРТИФИКАТ ВЫДАН** SISTEM ALUMINYUM SANAYI VE TICARET A.S. Место нахождения и адрес места осуществления деятельности: ERGENE – 1 OSB, VAKIFLAR OSB MAH. D100 CAD. NO:13/1 ERGENE TEKIRDAG-TURKEY, Турция

**НА ОСНОВАНИИ** Протокол испытаний № СДС4/032018-808/1 от 26.03.2018 года, выданного Испытательной лабораторией Общества с ограниченной ответственностью "РСТ-ГРУПП", аттестат аккредитации РОСС RU.31112.ИЛ.00011

**ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ**

Схема сертификации: 3

Руководитель органа: Ковешников Алексей Васильевич (инициалы, фамилия)

Эксперт: Попандуло Илья Дмитриевич (инициалы, фамилия)

Сертификат не применяется при обязательной сертификации

**РОССИЙСКАЯ ФЕДЕРАЦИЯ**  
**СЕРТИФИКАТ СООТВЕТСТВИЯ**  
(обязательная сертификация)

№ С-ТР.ПБ25.В.03025 ТР 1388675  
(номер сертификата соответствия) (учетный номер бланка)

**ЗАЯВИТЕЛЬ** "SISTEM ALUMINYUM SANAYI VE TICARET A.S.". Адрес: Calmakli Mevki Akcaburgaz Mah. 58. Sok. No:4 Irac-Esenyurt/ISTANBUL 34522, Турция. Телефон +90 212 886 87 87, факс +90 212 886 53 29. E-mail: sistem@sistemaluminum.com.tr.

**ИЗГОТОВИТЕЛЬ** "SISTEM ALUMINYUM SANAYI VE TICARET A.S.". Адрес: Calmakli Mevki Akcaburgaz Mah. 58. Sok. No:4 Irac-Esenyurt/ISTANBUL 34522, Турция. Телефон +90 212 886 87 87, факс +90 212 886 53 29. Адрес производства: Ergene-1 OSB, Vakiflar OSB Mah. Istanbul Caddesi No:21A/A Ergene/TEKIRDAG 59930, Турция

**ОРГАН ПО СЕРТИФИКАЦИИ** ОС "ТНБ СЕРТ" ООО "Технологии пожарной безопасности", Россия, 141315, Московская область, г. Сергиев Посад, Московское шоссе, д. 25, тел. (499) 489725, info@trb-cert.ru, ОГРН: 108030802906. Аттестат аккредитации № ТРПБ.RU.ПБ25 выдан 03.10.2013 Федеральной службой по аккредитации "Росаккредитация".

**ПОДТВЕРЖДАЕТ, ЧТО** Панели облицовочные композитные с наполнителем из поливинилдифторида (ПВДФ) общей толщиной от 3 мм до 6 мм (информация об объекте сертификации: ММ, Т.М. "TECHBOND", "ALUTECHBOND", "RETTECHBOND", поливинилдифторидная облицовка "SA TECHBOND". Серийный выпуск.

код ОК 005 (ОКП) 52 7510

**СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ ТЕХНИЧЕСКОГО РЕГЛАМЕНТА (ТЕХНИЧЕСКИХ РЕГЛАМЕНТОВ)** Технический регламент о требованиях пожарной безопасности (Федеральный закон от 22.07.2008 № 123-ФЗ). Класс пожарной опасности строительных материалов - КМ5, см. Приложение №1 (бланк № 0534375)

код ОКПС 760612

**ПРОВЕДЕННЫЕ ИССЛЕДОВАНИЯ И ИЗМЕРЕНИЯ** Протокол сертификационных испытаний № 3269-СТР от 06.04.2015 г. ИЦ (ИСПЫТАНИЯ) и ИЗМЕРЕНИЯ "ТНБ ТЕСТ" ООО "Технологии пожарной безопасности", № ТРПБ.RU.ИИ14 от 25.08.2010 г.

**ПРЕДСТАВЛЕННЫЕ ДОКУМЕНТЫ** Документы, представленные заявителем в орган по сертификации и качество достоверности которых подлежат требованиям технического регламента (технической документации)

СРОК ДЕЙСТВИЯ СЕРТИФИКАТА СООТВЕТСТВИЯ с 07.04.2015 по 06.04.2020

Руководитель (заместитель-руководителя) органа по сертификации: Ю.Н. Гришин (инициалы, фамилия)

Эксперт (эксперты): Д.А. Капранов (инициалы, фамилия)

**70 LAT**  
**Instytut Techniki Budowlanej**  
razem ku przyszłości

Jednostka notyfikowana nr 1488 | Czołnek EOTA | Certyfikaty akredytacji PCA nr: AB 023  
ZAKŁAD BADAŃ OGNIOWYCH | 02-856 Warszawa | ul. Kaszewów 21 | tel. 22 853 34 27 | fax 22 847 23 11 | fire@itb.pl | www.itb.pl

**KLASYFIKACJA W ZAKRESIE REAKCJI NA OGIEN**  
wg PN-EN 13501-1+A1:2010

Numar umowy: 02909/14/Z00NP

Zleceniodawca:	MGT Corp. Sp. z o.o. ul. Wyspiańskiego 37 32-050 Skawina
Opracowana przez:	Zakład Badań Ogniwowych Instytutu Techniki Budowlanej ul. Filtrowa 1 00-611 Warszawa
Nazwa wyrobu:	Płyty Alutechbond FR (płaskie)
Raport klasyfikacyjny nr:	02909.2/14/Z00NP
Wydanie numer: 1	Egzemplarz nr: 1
Data wydania:	2015.06.09

Niniejszy raport klasyfikacyjny składa się z pięciu stron, może być używany lub powielany wyłącznie w całości.

**1. Wprowadzenie**  
Niniejszy raport klasyfikacyjny określa klasyfikację nadaną dla płyt Alutechbond FR (płaskich) zgodnie z procedurami podanymi w PN-EN 13501-1+A1:2010.

**2. Szczegółowe informacje o klasyfikowanym wyrobie**  
**2.1 Postanowienia ogólne**  
Wyrób jest określony, jako okładziny ściennie.

00-611 Warszawa | ul. Filtrowa 1 | tel. 22 825 04 71 | fax 22 825 52 86 | Dyrektor tel. 22 825 28 85 | 22 825 13 03 | fax 22 825 77 30 | KRS: 0000158785 | Regon: 000063850 | NIP: 525 000 93 58 | PKO S.A. O/Warszawa | ul. Nowogrodzka 11 | 00-513 Warszawa | nr konta 7712405918111000048134568 | www.itb.pl | instytut@itb.pl

