

Cam Taşıyıcı Korkuluk Sistemleri
Whole Glass Railing Systems

alurail®

YENİ NESİL
KORKULUK SİSTEMLERİ

NEXT GENERATION
RAILING SYSTEMS

2020
Ürün Kataloğu
Product Catalogue

panorama®

Cam Taşıyıcı Korkuluk Sistemleri
Whole Glass Railing Systems

1979 yılından bugüne her geçen gün gelişen, kendini yenileyen, daha iyi ve daha güzeli hedefleyen GÜRSAN®; kaliteli ürün, memnun müşteri politikası ile bugün 7.000 m2 kapalı alanda faaliyet gösteren entegre tesisi ve uzman personeli ile sizlere hizmet vermekten kıvanç duyuyor.

GÜRSAN® Alüminyum, tecrübe ve birikimleri ışığında hızla büyüyen markaları ile geliştirdiği tüm ürünlerini sizlerle buluşturmanın gururunu yaşıyor.

Firmamız, kaliteli ve titiz çalışmalarının karşılığında ISO 9001 ve TSEK belgeleri ile onurlandırılmıştır.

panorama®; ***alurail®*** 'in cam taşıyıcı korkuluk sistemleri ile ilgili alt markası olup, klasik alüminyum korkuluklarda sıkça kullanılan dikey taşıyıcı profillerin mimaride yarattığı görsel kaygıları bertaraf etmek için geliştirilmiştir. Küpeşte uygulama alanına, yükseklikler ve mukavemet beklentilerine göre model ve cam kalınlıkları belirlenen sistemlerimizi iki başlık altında gruplamaya çalıştık.

a) -S başlıklı sistemlerimiz daha hafif yüklerin söz konusu olduğu projeler için geliştirilmiş, 10-13,5 mm arası cam kalınlıklarını kabul edecek şekilde dizayn edilmiştir. Cam üzerinde küpeşte profili kullanımı tavsiye edilir.

b) -X başlıklı sistemlerimiz ise daha yüksek yüklerin söz konusu olduğu durumlarda, 15-25,5 mm arası camlar kullanılacak şekilde tasarlanmış olup 3 kN/m kadar yatay yüklere ve EN 12600 standartlarına uygun çarpma testlerinden başarı ile geçmişlerdir. Tercihe göre cam üzeri küpeştesiz kullanıma da uygundur.

GÜRSAN® Aluminium was established at 1979 and since than our aim is to develope and provide the best possbile products & service to our customers. Our slogan is Quality Products –Satisfied Customers. We are proud to serve you with our proficient staff in our 7.000 sqm integrated facilities. Thanks to the qualified work our company is honored with ISO 9001 and TSEK Quality Certificates.

panorama® is the sub brand of ***alurail®*** which we have developed to get rid the vertical support used in classic aluminium railings and to have a more clear view.

We have classified our system under two headlines depending on the height, expected loads and building categories.

a) The Systems under the headline "S" are designed to be combined with glass thicknesses from 10 mm to 13,5 mm. These Systems are developed for projects which are subject of lower loads. We recommend to finish these systems with a suitable handrail profile.

b) The systems under the headline "X" are developed for pojects which will be exposed to higher loads and are designed to be combined with glass thickness from 15 mm to 25,5 mm. All of the systems under this headline are tested and certified with upto 3 kN/mt horizantal loads and dynamic (impact) loads according to EN 12600 standarts. You can use these systems without any handrail.

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ALÜMİNYUM İMALAT SANAYİ LTD. ŞTİ.

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Cam Taşıyıcı Korkuluk Sistemleri
Whole Glass Railing Systems

Uygulama alanları ve ebatlarına bağlı olarak, istenen mukavemetlere göre değişen kalınlıklarda üretilmekte olan camlar, standart (işlemsiz) cam olarak adlandırılır. Normal üretim süreci tamamlandıktan sonra yapısının daha da güçlendirilmesi, ısıl işlemler ve PVB membranlar yardımı ile lamine edilerek sağlanmaktadır. Küpeşte sistemlerimizde kullanılacak camlar iki kategoride incelenebilir:

a) Isı ile Sertleştirilmiş Camlar: Standart üretilmiş camlara temper işlemi uygulanarak sertlik, direnç ve mukavemet kazandırılır. Eşit dağıtılan yükler altında işlem görmemiş camlara göre dayanım direnci iki kat artar. Ortaya çıkan bu ürüne **temperli** cam adı verilir.

b) Triplex (Lamine) Camlar: Temperli ya da tempersiz tek cam sınıflarında, kırılma sonucu oluşacak boşluktan kaynaklanabilecek güvenlik zaafiyetlerini bertaraf edebilmek için laminasyon işlemi uygulanır. Aynı ya da iki farklı kalınlıklarda üretilmiş tek cam plakaların özel yapıştırıcı polivinil bütiral (PVB) tabakalar yardımı ile ısı ve basınç altında birleştirilmesi sonucunda üretilir. Ortaya çıkan bu yeni ürüne Triplex (Lamine) cam adı verilir.

PVB lamine katmanlarının her biri 0,38 mm kalınlığında üretilmektedir. Cam dayanımını ve elastikiyetini arttırmak için katman sayısı (0,38-0,76-1,14-1,52) ile çoğaltılabilir. Temperli camlarda Avrupa normlarında **(EN 12600)** en az iki (0,76) PVB membran kullabılmasına dikkat çekilmektedir.

EN 12543 ve **EN 12600** standartlarına göre üretilen camları iki sınıfa ayırabiliriz:

1. Standart Tempersiz Triplex (Lamine) Cam
2. Isı ile Sertleştirilmiş Temperli Triplex (Lamine) Cam

Hem temper hem de laminasyon işlemleri ile camların birleştirilmesi sonucu darbe ve basınç dirençleri 5-10 kat arası artmaktadır.

alurail® 'in kalite ve müşteri memnuniyeti hedefleri doğrultusunda geliştirildiği Panorama Sistemlerinde güvenlik, hem teoride hem pratikte ayrı ayrı ele alınmıştır.

Tüm ürünlerimiz dünyada akredite olmuş test sertifikasyon merkezlerinden biri olan **Instituto Giardoano** tarafından **NFP01-0313:1998, NFP08-301:1991, UNI 10807:1999, UNI EN 14019:2016 ve UNI EN 12600:2004** standartlarına göre sertifikalandırılmıştır.

Glasses are produced in different thicknesses to be used for many different purposes. Afterwards glass panels can be strengten with either tempering (heat threatment) or laminating. We can classify the glass panels to be used in railing systems in two catagories and choose the most suitable one according to the system and loads which they will be subject of.

a) Heat Threated (Tempered) Glass Panels: Ordinary glass panels can be strenghten by heat threatment (tempering). This process makes the glass panels twice more strong compared to the standart ones. This type of glass panels are broken in small pieces which are not sharp. These small parts don't harm any person.

b) Triplex (Laminated) Glass Panels: These panels are produced by laminating two different glass panels with PVB films under pressure and heat. The PVB films are 0,38 mm thick and they can be used different quantities to reach differen thicknesses (0,38-0,76-1,14-1,52 mm). According to **EN 12600** minimum two PVB film layers should be used. The glass panels which will be laminated to one another can be ordinary panels or heat threated panels. When two tempered glass panels are laminated the result can be 5-10 times stronger agianst loads and impacts than by an ordinary glass panel. The advantage of using laminated glass panels is that the glass panels will remain on the PVB film even when the panel will be broken.

As we believe that safety is the most important issue in Whole Glass Railing Systems we have let all of our models being tested and certified at **Instituto Giordano** according **NF P01-013:1998, NF P08-301:1991, UNI 10807:1999, UNI EN 14019:2016 and UNI 12600:2004** standarts.

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Zemin Üstü Yandan Baskılı Cam Taşıyıcılı Korkuluk Sistemi



X10



panorama X10, 8+8 mm ya da 10+10 mm temperli lamine camlar ile uygulanmaktadır. Zeminin düz ve eğimsiz olduğu alanlarda tercih edilir.

Cama baskı sağlamak amacı ile yan yüzeyinde açılan özel setuskur vidalar ve iç baskı plakaları yardımı ile sıkıştırma sağlanır. En önemli özelliği; camda oluşabilecek hata ve kırılmalarda hızlı ve hasarsız müdahale imkanı sağlar. Taşıyıcı gövde yapısı, tercihe göre oval ya da köşeli kapak kullanımına imkan tanır.

2 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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Top Mount System with Lateral Bracing Screws



X10





panorama X10 can be combined with 8 mm + 8 mm or 10+10 mm glass panels. It is mostly prefered at straight floors with no inclination.

The glass panels are fixed by the pressure plate which is activated by the set screws located at the internal side of the suporting shoe. The system enables very fast and easy glass change in case of a glass breakage. You can choose one of our oval or straight cladding profiles to finish the system.

Tested and approved with 2 kN/mt load.

Our products are patented.

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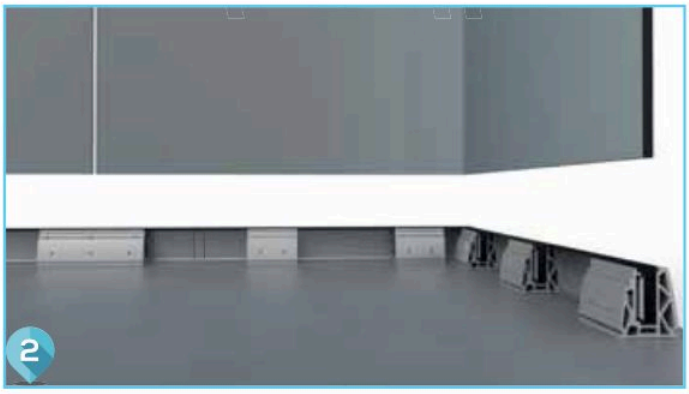
Whole Glass Railing Systems





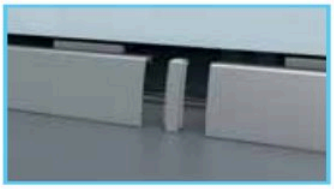












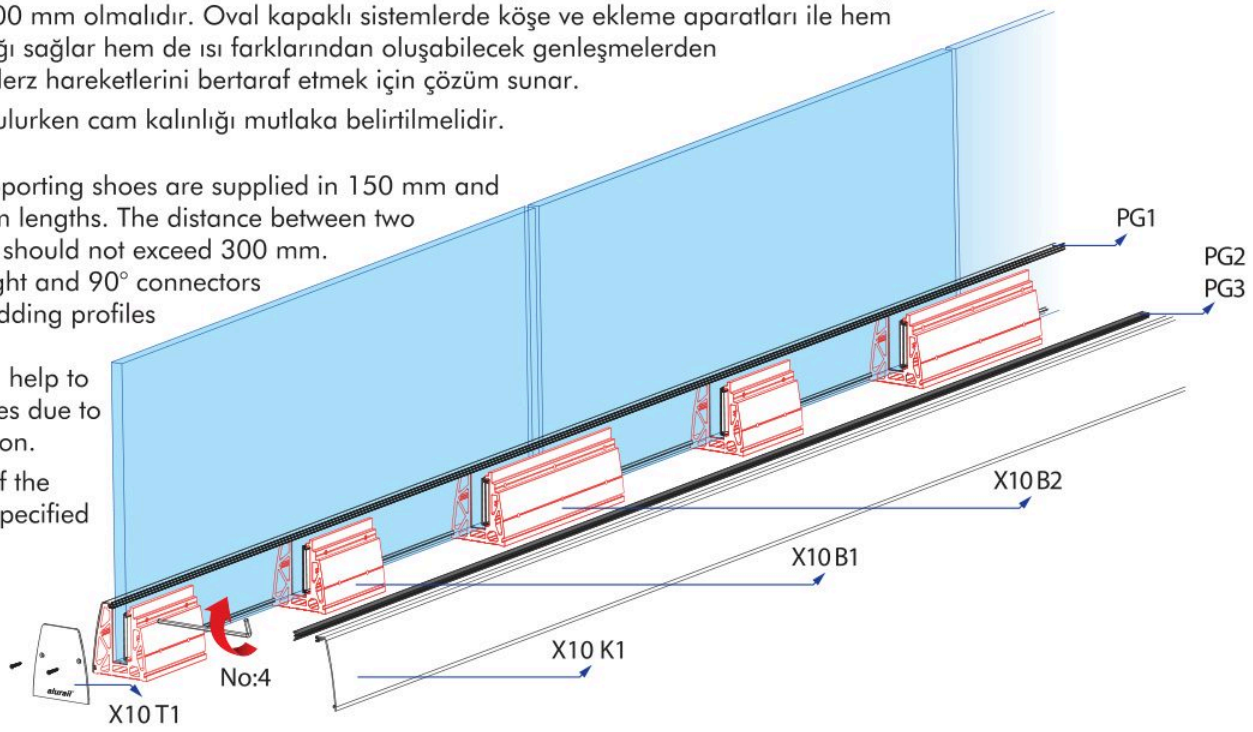


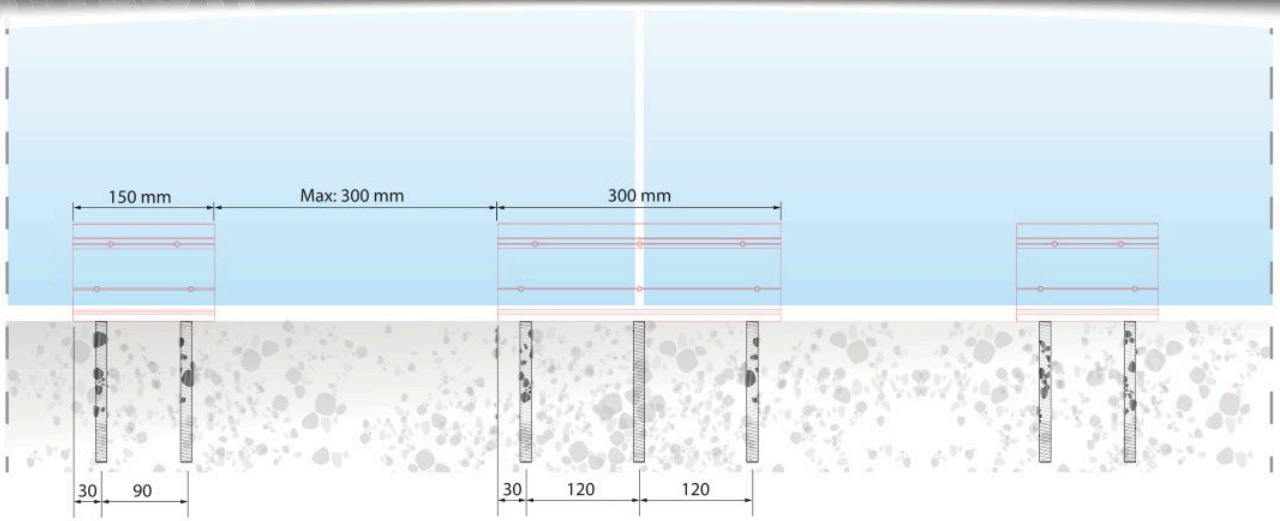
150 mm ve 300 mm parçalar halinde kullanılır. Taşıyıcı bazalar arasında kalan boşluklar max. 300 mm olmalıdır. Oval kapaklı sistemlerde köşe ve ekleme aparatları ile hem montaj kolaylığı sağlar hem de ısı farklarından oluşabilecek genleşmelerden kaynaklanan derz hareketlerini bertaraf etmek için çözüm sunar.

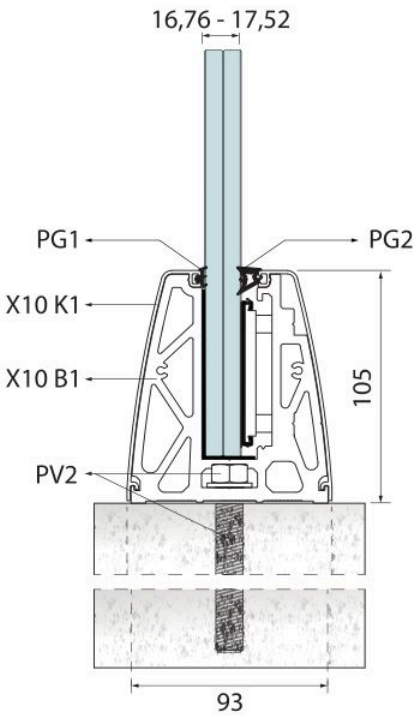
Sipariş oluşturulurken cam kalınlığı mutlaka belirtilmelidir.

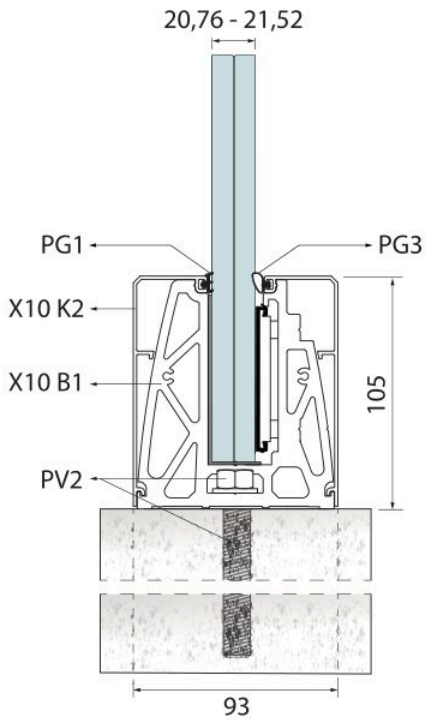
The supporting shoes are supplied in 150 mm and 300 mm lengths. The distance between two adjacent shoes should not exceed 300 mm. There are straight and 90° connectors for the oval cladding profiles which ease the installation and help to get rid of failures due to termal elongation.

The thickness of the glass must be specified when ordering.



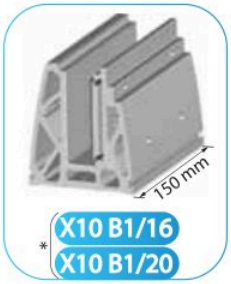




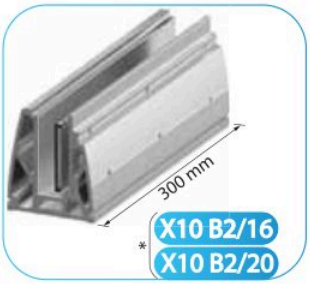



X10 K1


X10 K2



* X10 B1/16
X10 B1/20



* X10 B2/16
X10 B2/20


X10 T1


X10 T1A


X10 T2


X10 T2A

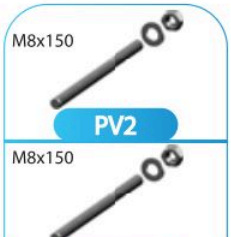

X10 K1B


X10 K1D


PG1



PG2
PG3



PV2
PV2S

* Ürün kodu kullanılacak cam kalınlığına (8+8 mm / 10+10 mm) göre seçilir.
* The product code is selected according to the thickness (8+8 mm / 10+10 mm) of the glass to be used.

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Zemin Üstü Yandan Baskılı Ayarlı Cam Taşıyıcılı Korkuluk Sistemi



XV10



panorama XV10, en önemli özelliği meyilli olan zemin kaplama yüzeylerinde iç taraftan müdahale ile camlara ±2° hareket kabiliyeti kazandırmasıdır. Bu kabiliyeti ile cam üst kısımlarının hizaya getirilebilmesinde son derece başarılı bir ürün olup küpeşte kullanımı tercih edilmeyen projelerde sıkça uygulanmaktadır.

Özellikle cam üzerinde küpeşte düşünülmeyen mimari tasarımlar için camlar arasında oluşacak hiza farklarını ayarlama imkanı sunar.

Aynı gövdeye iki farklı (oval-köşeli) kapak takılabilme özelliği ile beğenilerinize sunulur.

2 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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Top Mount Adjustable System with Lateral Bracing Screws



XV10





panorama XV10, the biggest benefit of using this system is the ability of aligning the glass panels upto ±2° by fixing a set screw from the internal side. This ability helps a lot in projects where no handrail will be used on top of the glass. The system can be finished with one of the oval and straight cladding profiles upon your choice.

Tested and approved with 2 kN/mt load.

Our products are patented.

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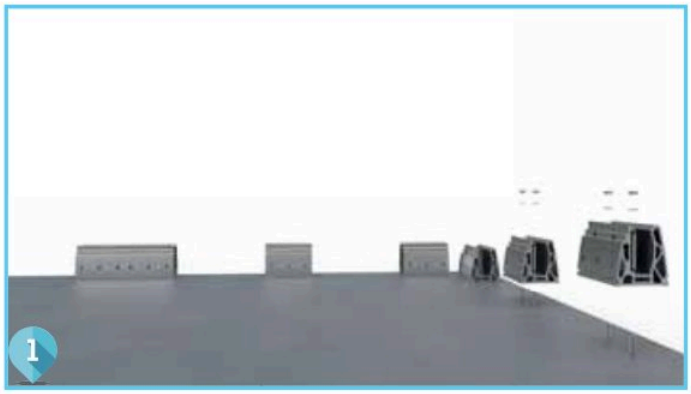
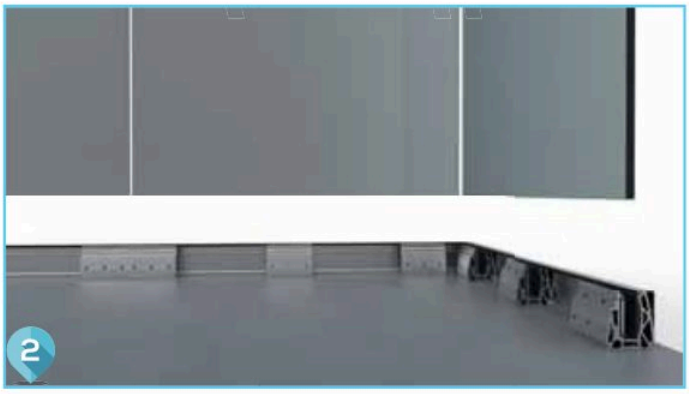
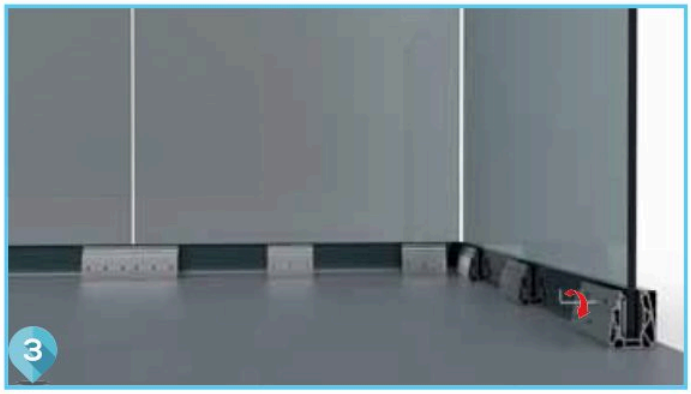
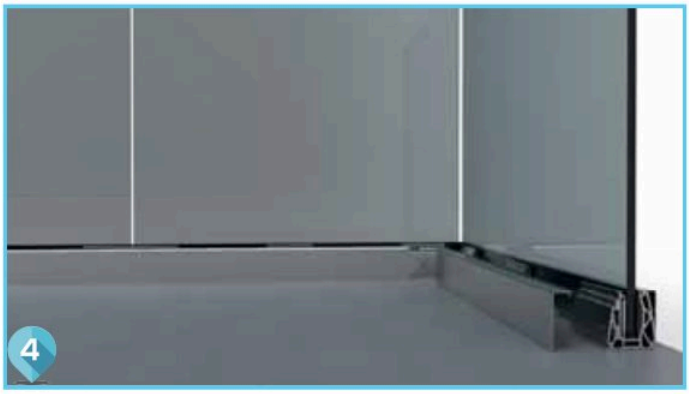
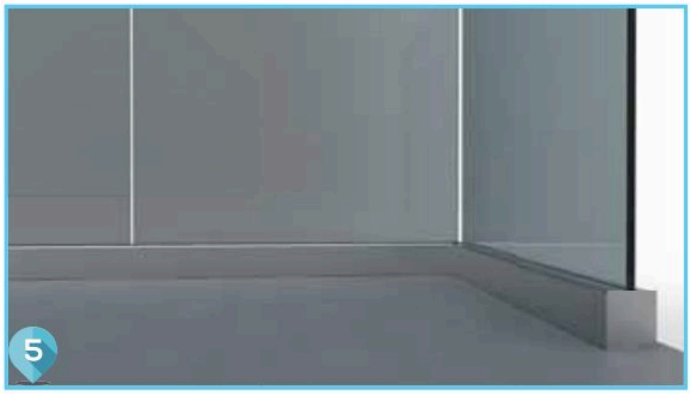
Whole Glass Railing Systems

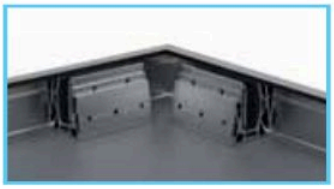










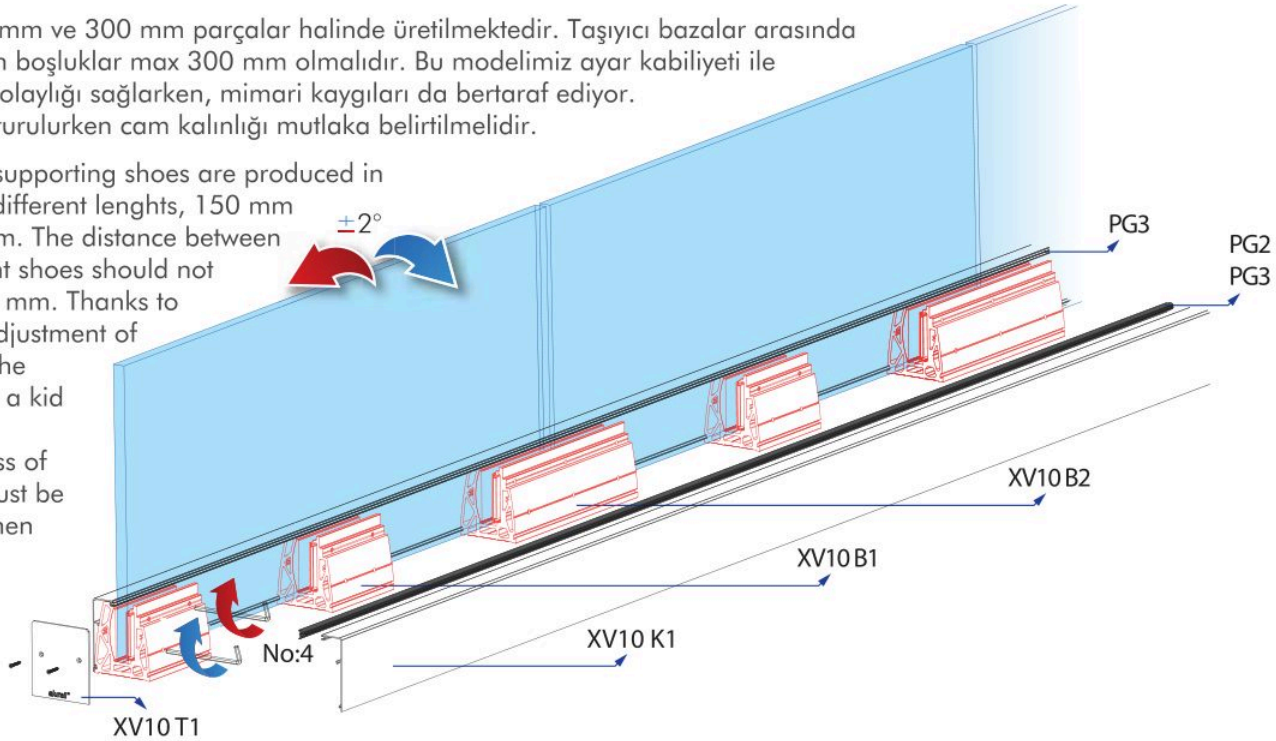


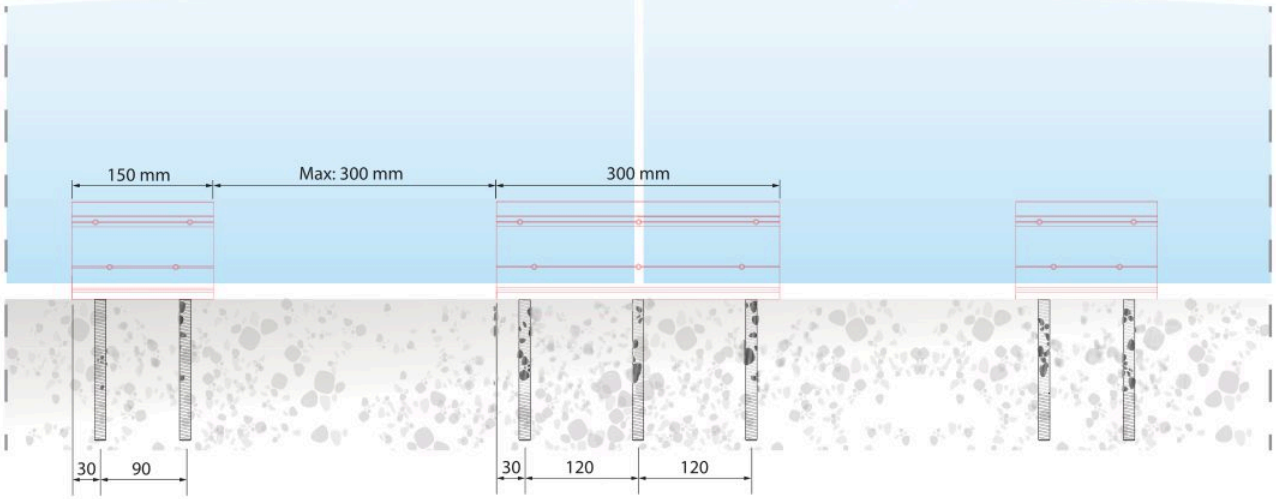


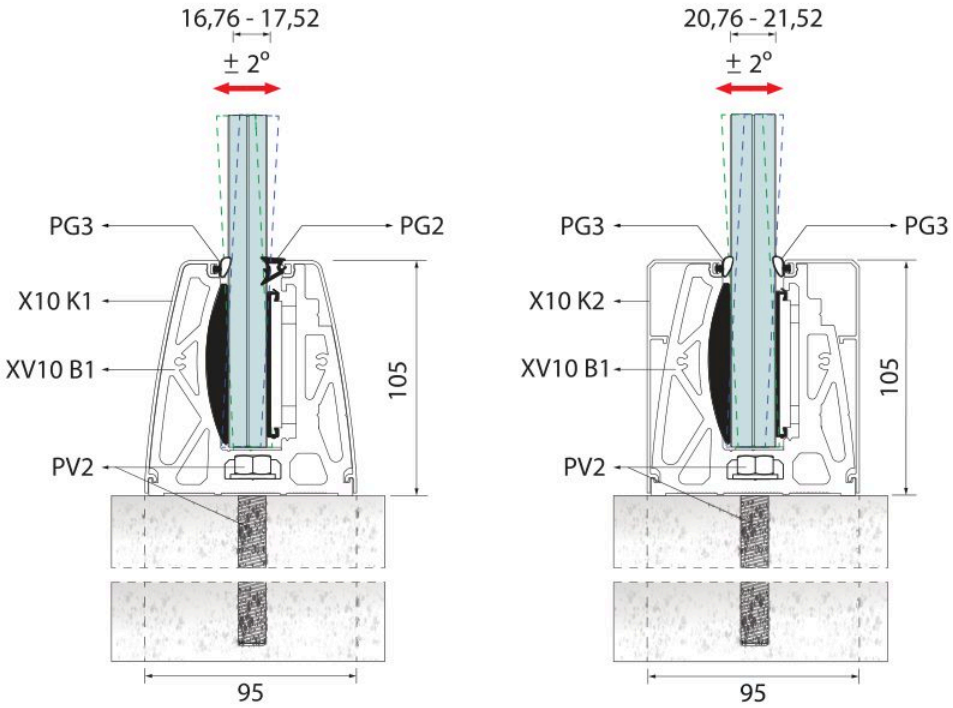


150 mm ve 300 mm parçalar halinde üretilmektedir. Taşıyıcı bazalar arasında kalan boşluklar max 300 mm olmalıdır. Bu modelimiz ayar kabiliyeti ile uygulama kolaylığı sağlarken, mimari kaygıları da bertaraf ediyor.
Sipariş oluşturulurken cam kalınlığı mutlaka belirtilmelidir.

The supporting shoes are produced in two different lenghts, 150 mm and 300 mm. The distance between two adjacent shoes should not exceed 300 mm. Thanks to the angle adjustment of the system the installtion is a kid game.
The thickness of the glass must be specified when ordering.

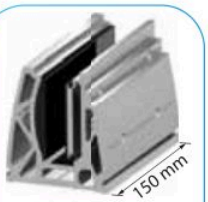




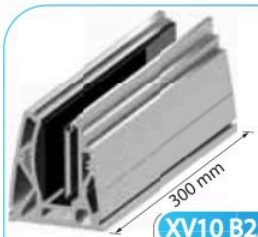



X10 K1


X10 K2



* XV10 B1/16
XV10 B1/20



* XV10 B2/16
XV10 B2/20



XV10 T1



XV10 T1A



XV10 T2



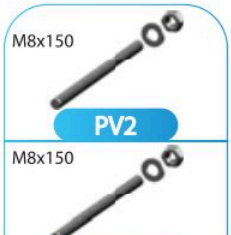
XV10 T2A


X10 K1B


X10 K1D



PG2
PG3



PV2
PV2S

* Ürün kodu kullanılacak cam kalınlığına (8+8 mm / 10+10 mm) göre seçilir.
* The product code is selected according to the thickness (8+8 mm / 10+10 mm) of the glass to be used.

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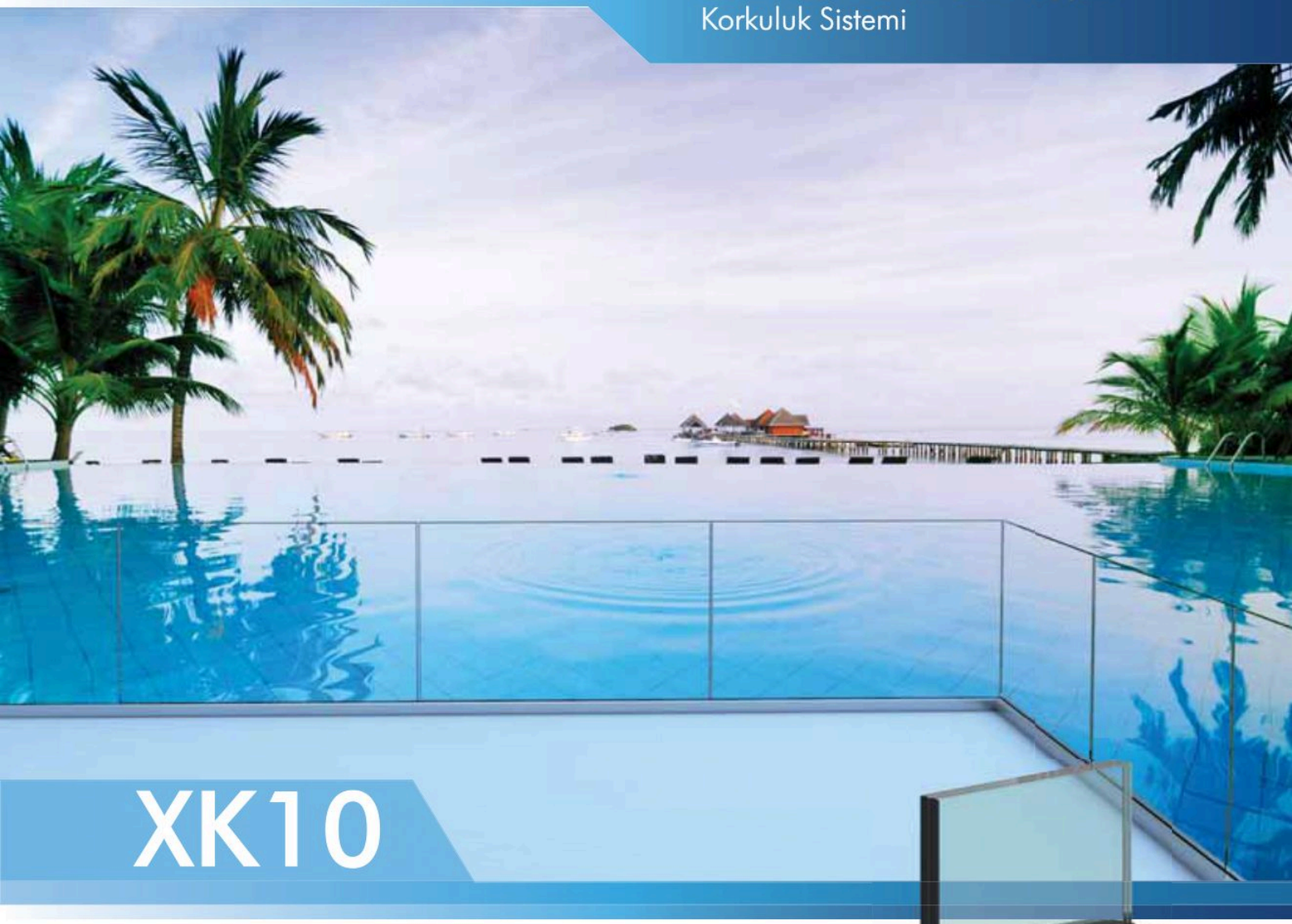
Zemin Üstü Kamalı Cam Taşıyıcılı Korkuluk Sistemi



XK10



panorama XK10; 8+8 mm ya da 10+10 mm temperli lamine camlar ile uygulanan bu sistem, zeminin düz ve eğimsiz olduğu alanlarda tercih edilir. X10'dan farklı olarak, sistemin plastik kamalar yardımı ile cam taşıyıcı bazaya sabitlenmesidir.

Segmentinin en ekonomik maliyetine sahip olması nedeni ile sıkça tercih edilmektedir.

2 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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Top Mount System with Wedges



XK10





panorama XK10, you can use 8+8 mm or 10+10 mm glass panels at this system. The main difference of this system from X10 is that the glass panels are fixed with hard plastic wedges. With this characteristic it is the most economic and the most preferable system of this range.

Tested and approved with 2 kN/mt load.

Our products are patented.

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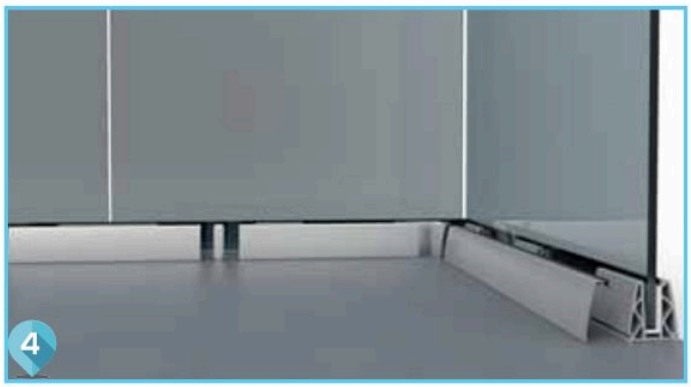
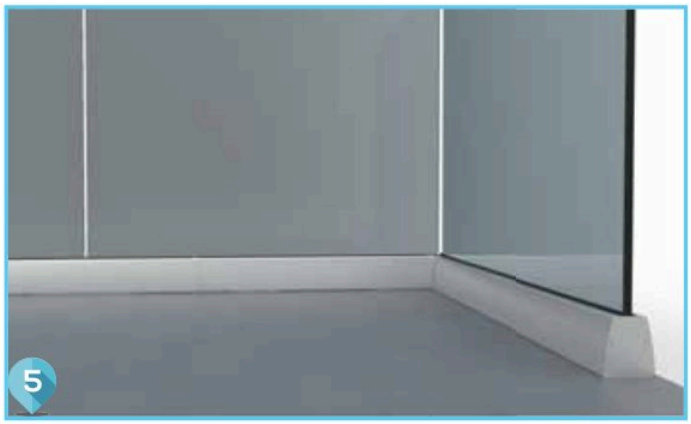
Whole Glass Railing Systems





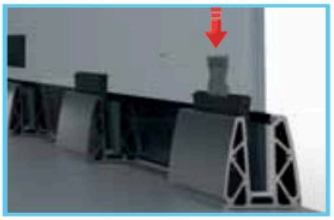


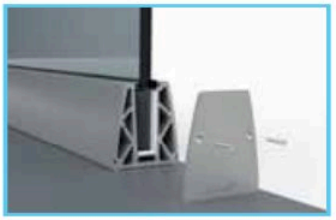










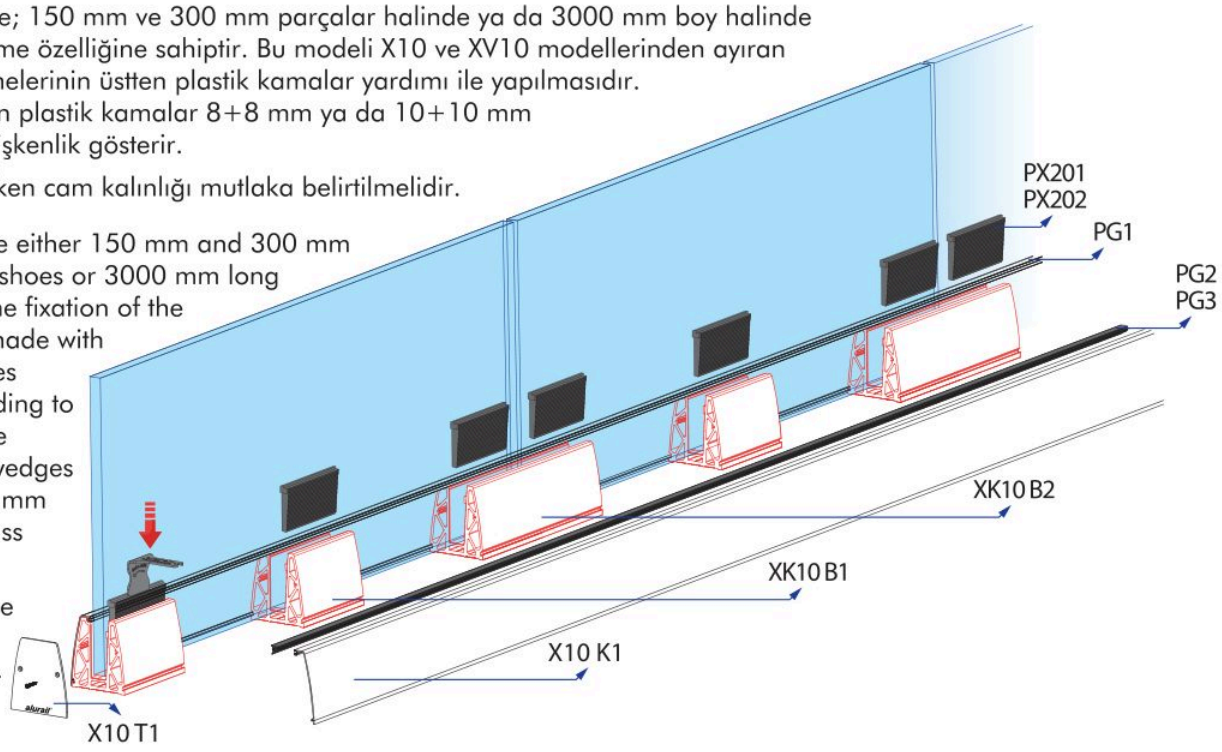


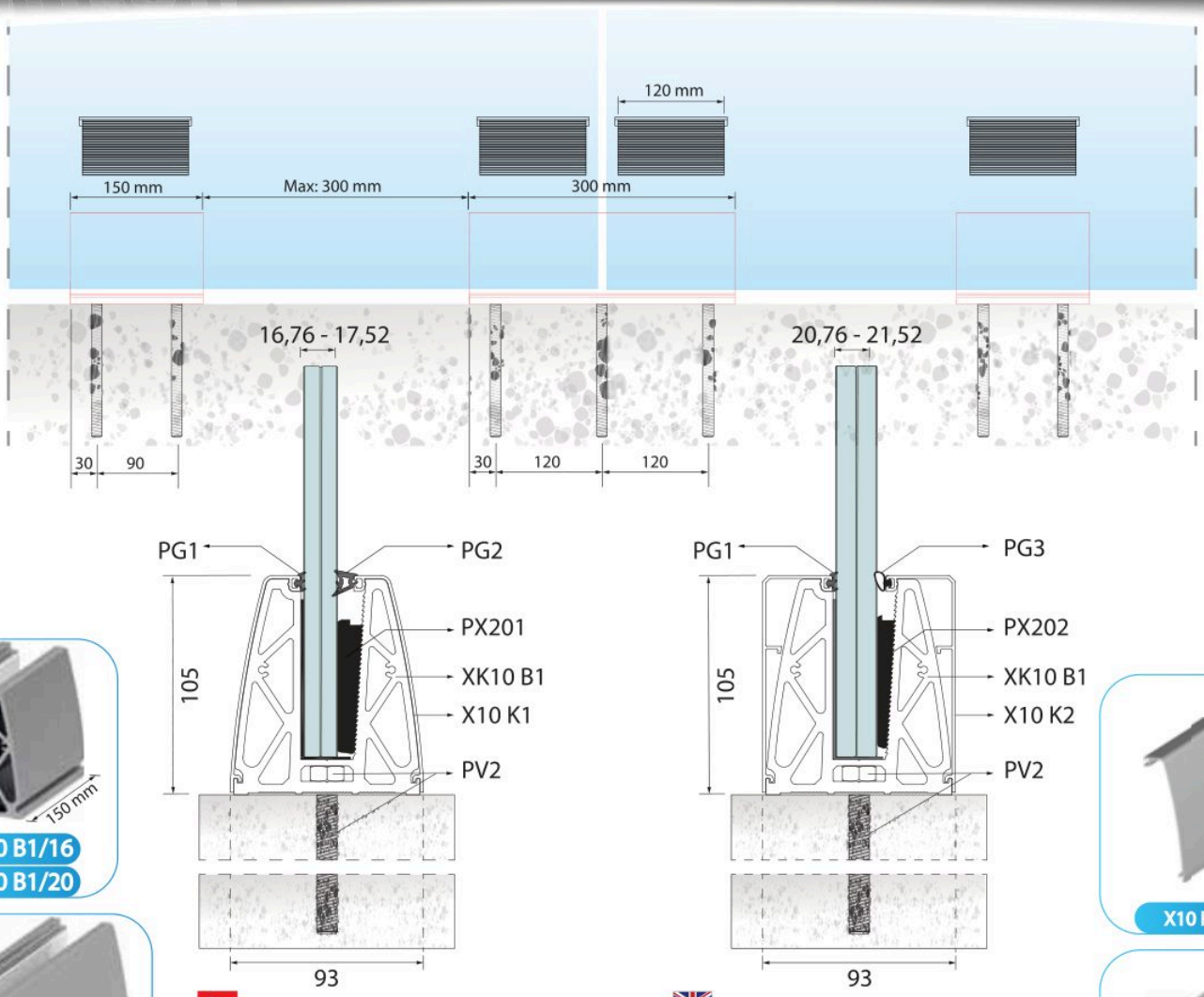
Tercihe göre; 150 mm ve 300 mm parçalar halinde ya da 3000 mm boy halinde kullanılabilme özelliğine sahiptir. Bu modeli X10 ve XV10 modellerinden ayıran yönü cam sabitlemelerinin üstten plastik kamalar yardımı ile yapılmasıdır. Sistemde kullanılan plastik kamalar 8+8 mm ya da 10+10 mm camlara göre değişkenlik gösterir.

Sipariş oluşturulurken cam kalınlığı mutlaka belirtilmelidir.

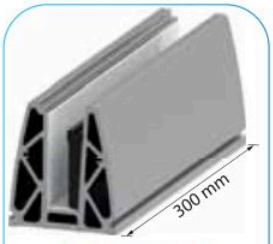
You can use either 150 mm and 300 mm supporting shoes or 3000 mm long continous ones. The fixation of the glass panels are made with hard plastic wedges which differ according to the thickness of the panel. There are wedges available for 8+8 mm or 10+10 mm glass panels.

The thickness of the glass must be specified when ordering.





* XK10 B1/16
XK10 B1/20



* XK10 B2/16
XK10 B2/20

150 mm'lik (XK10 B1) ve 300 mm'lik (XK10 B2) bazalarda iç PVC ve sıkıştırma kamaları mevcuttur.

*Cam kalınlığı siparişde belirtilmelidir.

Boy kullanımında (XK10 B3) PX200 kodlu PVC levha ile PX201veya PX202 kodlu sıkıştırma kamaları ayrıca sipariş edilir.

The PVC plate and the wedges are existing in the 150 mm (XK10 B1) and 300 mm (XK10 B2) suporting shoes.

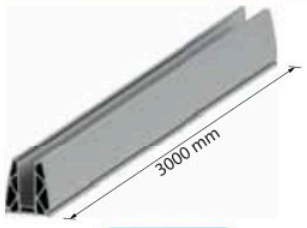
*Please define your glass thickness.

For the base shoe XK10 B3, the PVC plate PX200 and the wedges PX201 or PX202 have to be ordered seperately.

X10 K1



X10 K2



** XK10 B3



X10 T1



X10 T1A



X10 T2



X10 T2A



PV2



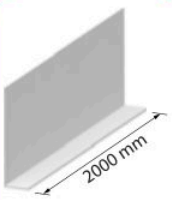
PV2S



X10 K1B



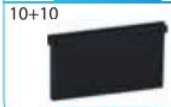
X10 K1D



PX200



PX201



PX202



PG1



PG2



PG3



PA1

* Ürün kodu; kullanılacak cam kalınlığına (8+8 mm / 10+10 mm) göre seçilir.
** XK10B3 profilde, zemin bağlantı delik aksları 250 mm de bir işlenmiş olarak sunulur.
* The product code is selected according to the thickness (8+8 mm / 10+10 mm) of the glass to be used.
** The anchoring holes on the base XK10B3 are located at every 250 mm.

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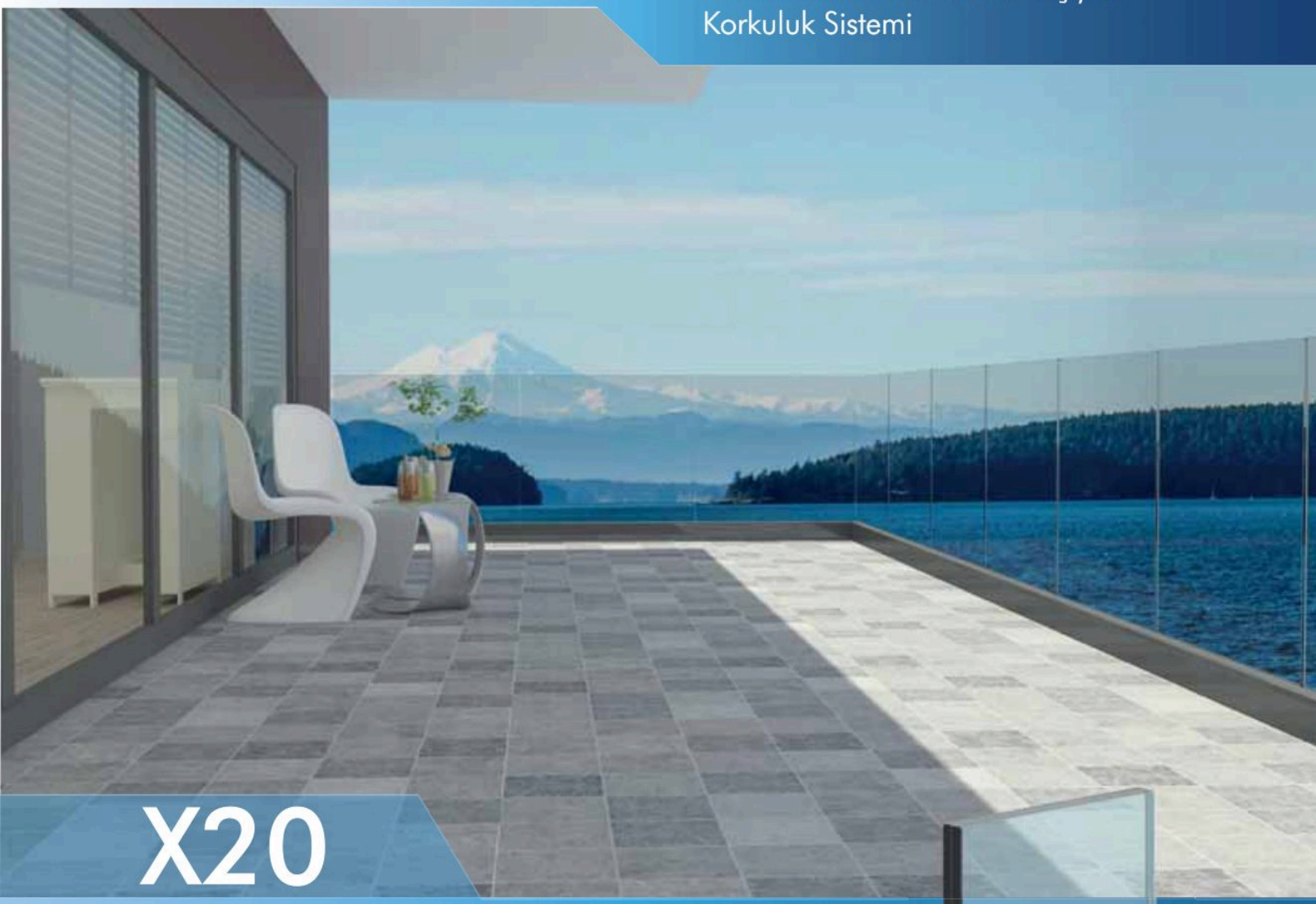
Zemin Üstü Kamalı Cam Taşıyıcılı Korkuluk Sistemi



X20



panorama X20 sistemimiz hem boy hem parça kullanımına uygun olarak tasarlanmıştır. Statik beklentilerin yükseldiği projelerde boy kullanım tercih edilmelidir. Cam, sertleştirilmiş alüminyum taşıyıcılara plastik kamalar ile sabitlenir.

2 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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RAILING SYSTEMS

panorama®

Top Mount System with Wedges



X20



panorama X20; It is designed to be used either as 150 mm and 300 mm blocks or as 3000 mm long continous shoe. Similar to System XK10 the glass panels are fixed with hard plastic wedges.

Tested and approved with 2 kN/mt load.



Our products are patented.

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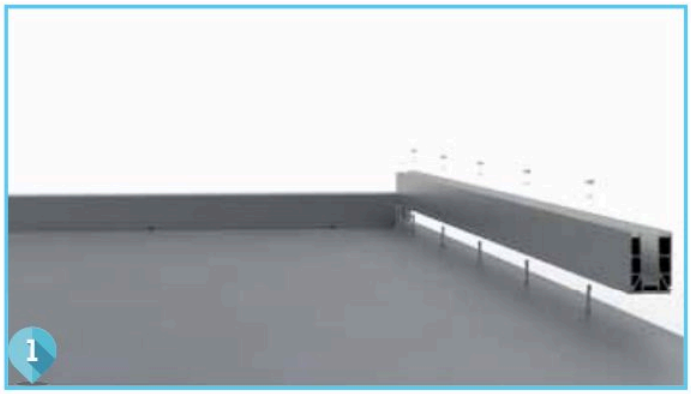
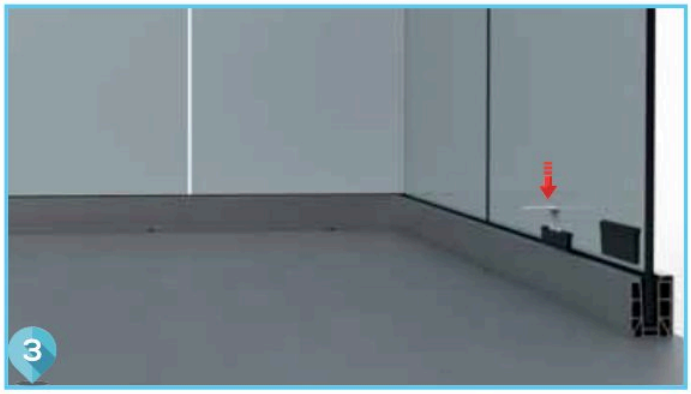
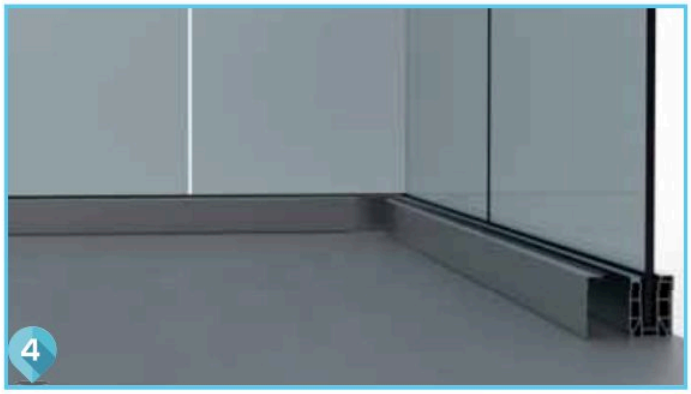
Whole Glass Railing Systems

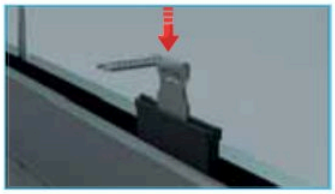












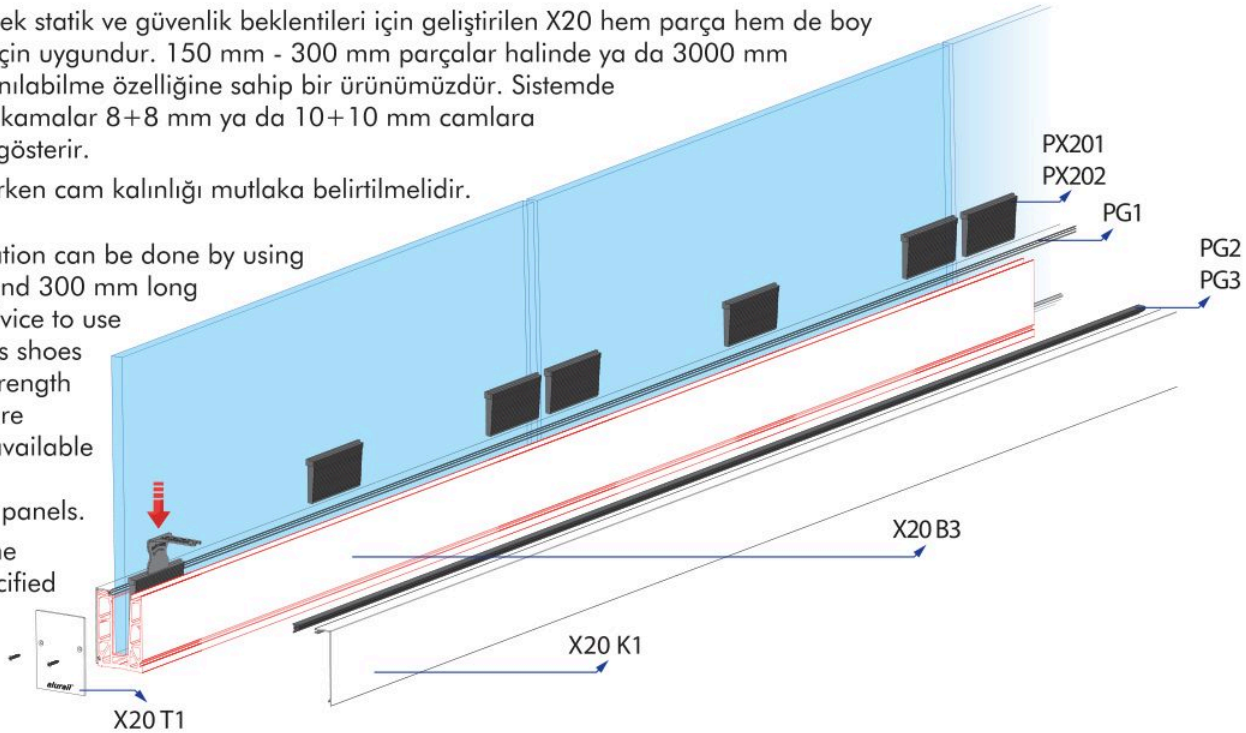


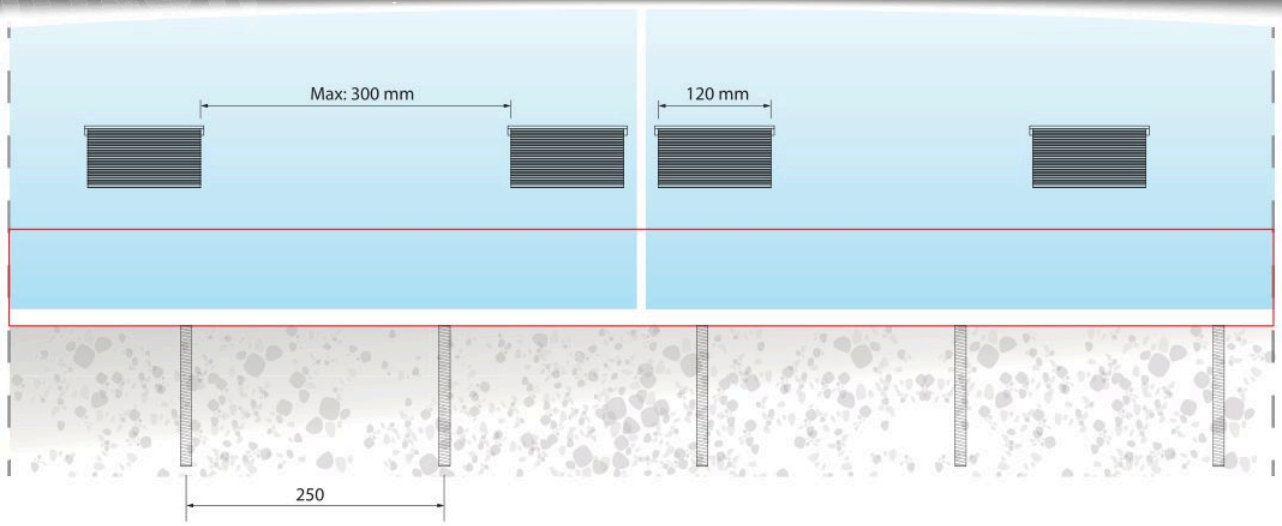
Daha yüksek statik ve güvenlik beklentileri için geliştirilen X20 hem parça hem de boy kullanımı için uygundur. 150 mm - 300 mm parçalar halinde ya da 3000 mm boy halinde kullanılabilme özelliğine sahip bir ürünümüzdür. Sistemde kullanılan plastik kamalar 8+8 mm ya da 10+10 mm camlara göre değişkenlik gösterir.

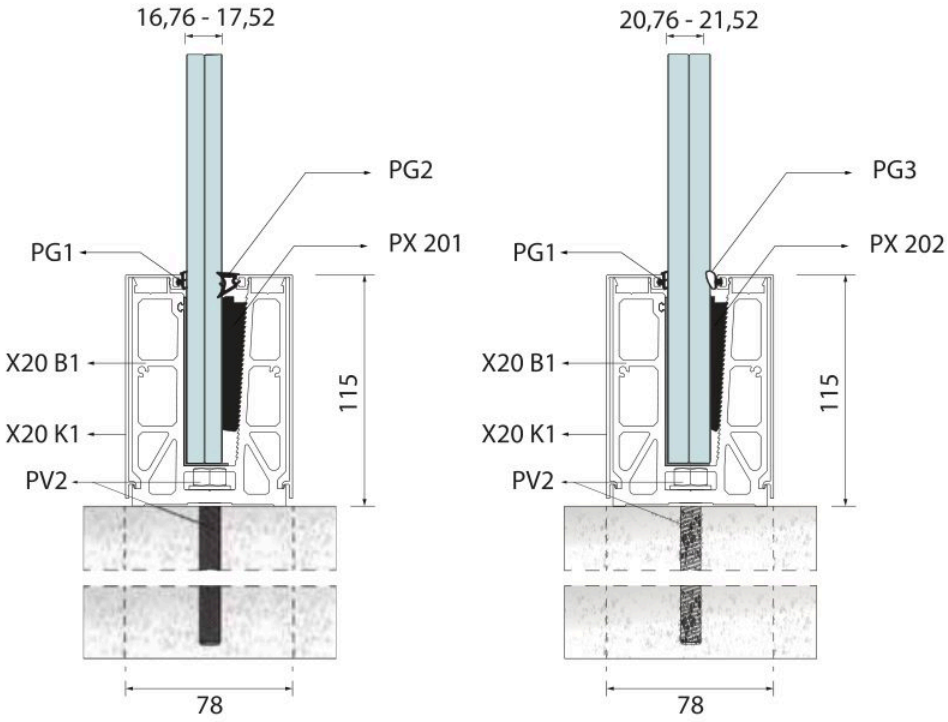
Sipariş oluşturulurken cam kalınlığı mutlaka belirtilmelidir.

The instalation can be done by using 150 mm and 300 mm long blocks. But we advice to use 3000 mm contious shoes to satisfy higher strength demands. There are different wedges available for 8+8 mm or 10+10 mm glass panels.

The thickness of the glass must be specified when ordering.







150 mm'lik (X20 B1) ve 300 mm'lik (X20 B2) bazalarda iç PVC ve sıkıştırma kamaları mevcuttur.

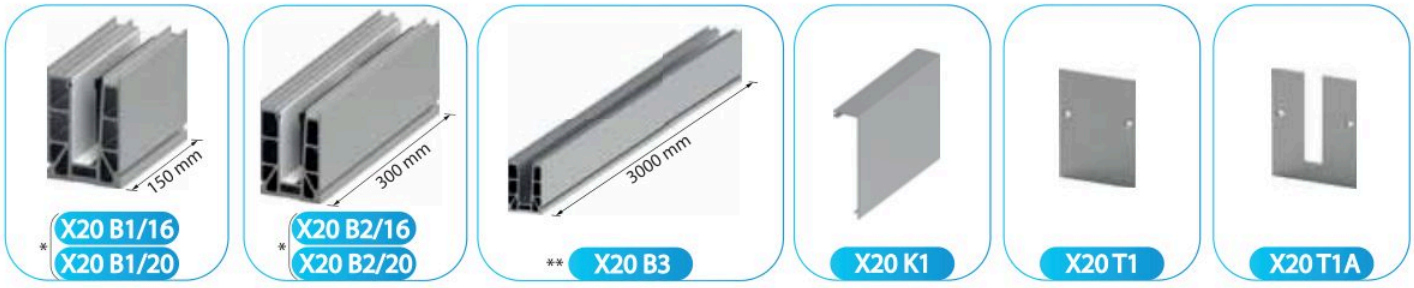
*Cam kalınlığı siparişde belirtilmelidir.

Boy kullanımında (X20 B3) PX200 kodlu PVC levha ile PX201veya PX202 kodlu sıkıştırma kamaları ayrıca sipariş edilir.

The PVC plate and the wedges are existing in the 150 mm (X20 B1) and 300 mm (X20 B2) suporting shoes.

*Please define your glass thickness.

For the base shoe X20 B3, the PVC plate PX200 and the wedges PX201 or PX202 have to be ordered seperately.





* Ürün kodu; kullanılacak cam kalınlığına (8+8 mm / 10+10 mm) göre seçilir.
** X20B3 profilde, zemin bağlantı delik aksları 250 mm de bir işlenmiş olarak sunulur.
* The product code is selected according to the thickness (8+8 mm / 10+10 mm) of the glass to be used.
** The anchoring holes on the base X20B3 are located at every 250 mm.

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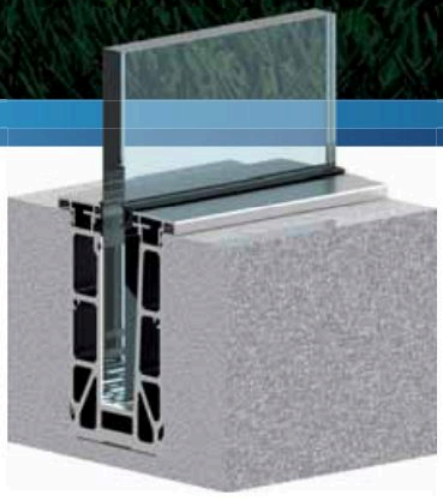
Zemin İçi Kamalı
Cam Taşıyıcılı Korkuluk Sistemi



X20Z



panorama X20Z, X20 sistemimizin boy baza kullanılarak zemin içinde uygulanan tipidir. Daha çok şeffaf alan sağlamaya yönelik bu çalışmada, zeminde sistem kesiti kadar bırakılacak boşluklara yerleştirilir. Cam ve fitiller yerleştirildikten sonra tamamlayıcı kapaklar ile şık bir görünüm elde edilir.

2 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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In Floor System with Wedges



X20Z





panorama X20Z; it the in floor version of X20 where the Base shoe is used continously. At this system the base shoe is installed under the finished floor level. It is mostly prefered in the projects at which a more clear view is wanted.

Tested and approved with 2 kN/mt load.

Our products are patented.

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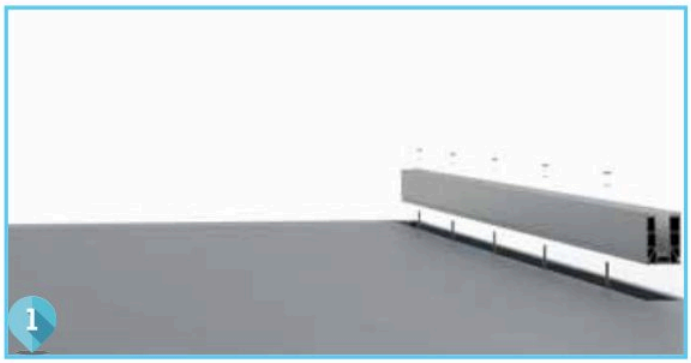
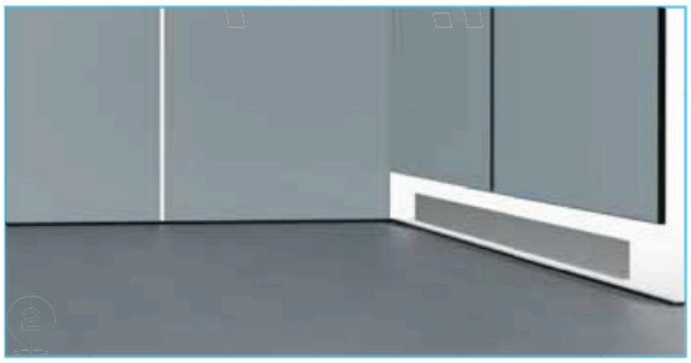
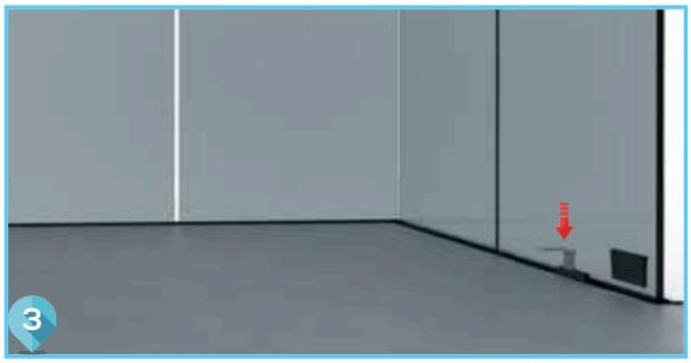
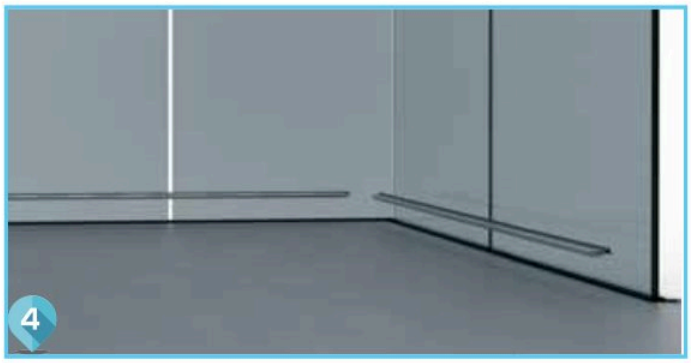
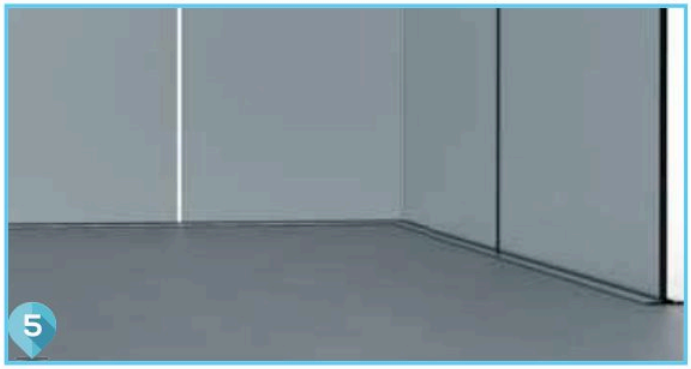
Whole Glass Railing Systems



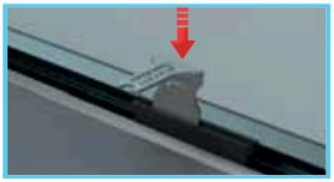


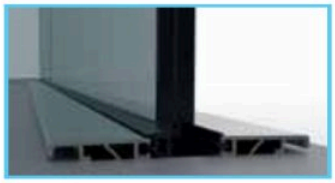




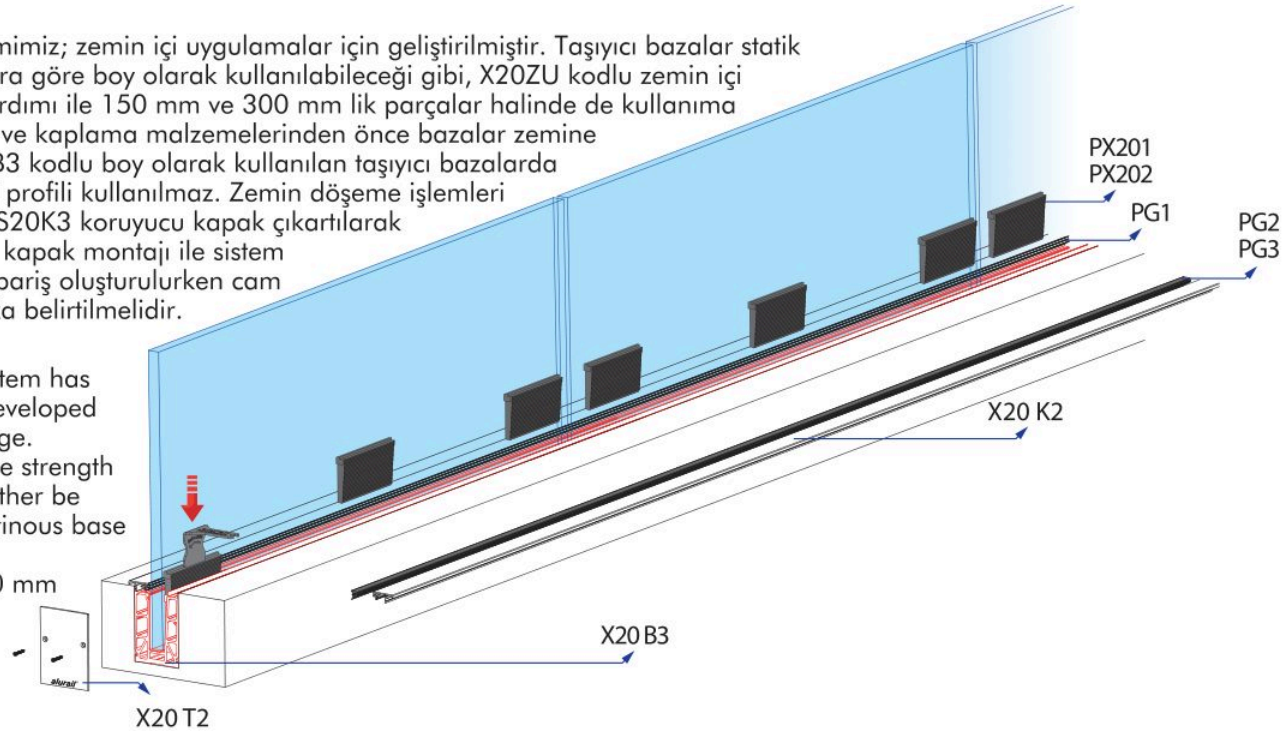




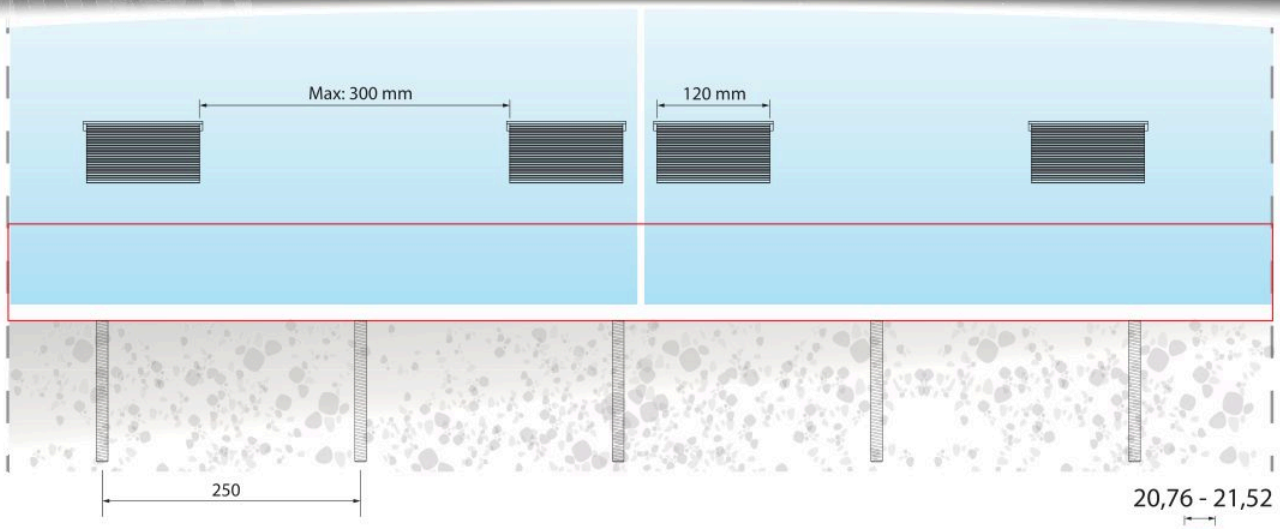


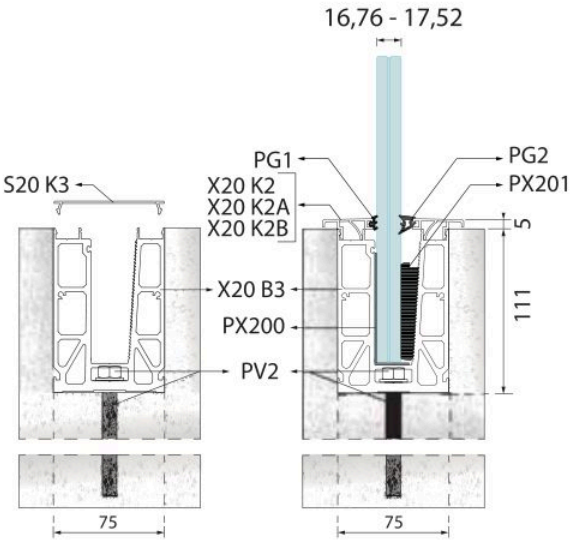


Bu sistemimiz; zemin içi uygulamalar için geliştirilmiştir. Taşıyıcı bazalar statik ihtiyaçlara göre boy olarak kullanılabileceği gibi, X20ZU kodlu zemin içi kanal profili yardımı ile 150 mm ve 300 mm lik parçalar halinde de kullanıma uygundur. Şap ve kaplama malzemelerinden önce bazalar zemine sabitlenir. X20B3 kodlu boy olarak kullanılan taşıyıcı bazalarda zemin içi kanal profili kullanılmaz. Zemin döşeme işlemleri bittikten sonra S20K3 koruyucu kapak çıkartılarak cam ve bitirme kapak montajı ile sistem tamamlanır. Sipariş oluşturulurken cam kalınlığı mutlaka belirtilmelidir.

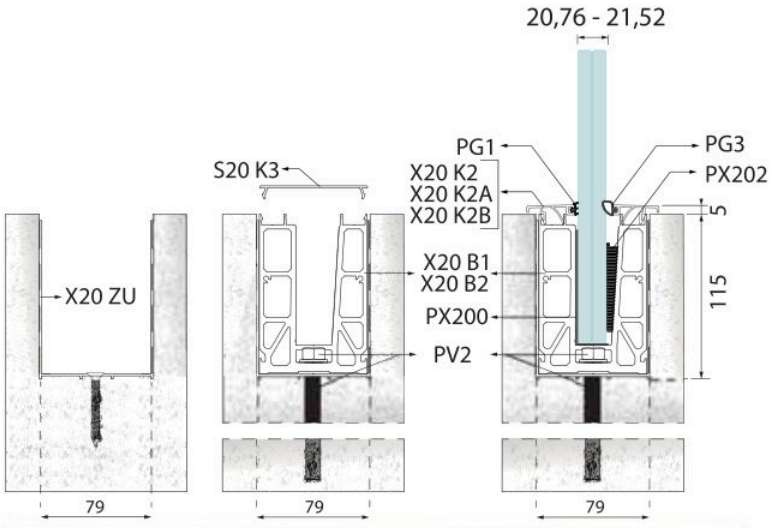


This system has been developed for in-floor usage. According to the strength needs, it can either be applied as continous base profile or as 150 mm & 300 mm long shoes. In this case the Shoes are placed in the X20ZU guide profile. In both cases the supporting shoe is fixed the the floor before the leveling concrete and the covering material. The closer profile is applied to keep the glass groove clean. After the floor covering is finished the cover is removed and the glass panels are fixed with hard platic wedges. The system is finished with the cladding profiles.





Zemin içi boy baza kullanımı
Detail for continous base usage



Zemin içi 150-300 mm parça baza kullanımı
Detail for 150-300 mm blocks usage

150 mm'lik (X20 B1) ve 300 mm'lik (X20 B2) bazalarda iç PVC ve sıkıştırma kamaları mevcuttur.

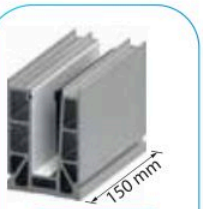
*Cam kalınlığı siparişde belirtilmelidir.

Boy kullanımında (X20 B3) PX200 kodlu PVC levha ile PX201veya PX202 kodlu sıkıştırma kamaları ayrıca sipariş edilir.

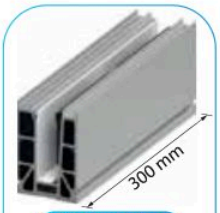
The PVC plate and the wedges are existing in the 150 mm (X20 B1) and 300 mm (X20 B2) suporting shoes.

*Please define your glass thickness.

For the base shoe X20 B3, the PVC plate PX200 and the wedges PX201 or PX202 have to be ordered seperately.



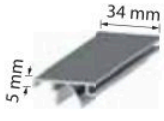
* X20 B1/16
X20 B1/20



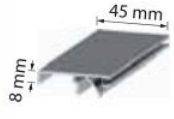
* X20 B2/16
X20 B2/20



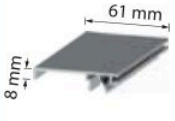
** X20 B3



X20 K2



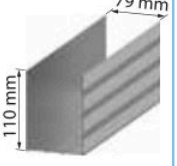
X20 K2A



X20 K2B



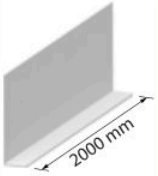
X20 T2



X20Z U



S20 K3



PX200



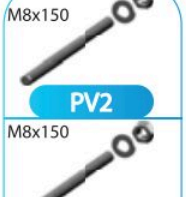
PX201
PX202



PG1



PG2
PG3



PV2
PV2S



PA1

* Ürün kodu, kullanılacak cam kalınlığına göre seçilir.
** X20 B3 profilde, zemin bağlantı delik aksları 250 mm'de bir işlenmiş olarak sunulur.
** The product code is selected according to the thickness of the glass to be used.*
*** The anchoring holes on the base X20 B3 are located at every 250 mm.*

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Zemin Üstü Kamalı Cam Taşıyıcılı Korkuluk Sistemi



X21



panorama X21 yoğun insan ve rüzgar sirkülasyonunun yaşanabileceği alanlar için dizayn edilmiştir.

Alüminyum dolu taşıyıcı gövde boy olarak kullanılır.
Kullanılacak cam kalınlıkları 10+10 mm ya da 12+12 mm dir.

Gövde yapısı ve özelliği sayesinde küpeşte yüksekliği 1200 mm'ye kadar uygulanabilir.

3 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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Top Mount System with Wedges



X21





panorama X21 is designed to resist heavy loads. The massive rail is used continuous and is suitable to install 10+10 mm or 12+12 mm glass panels up to 1200 mm height.

Tested and approved with 3 kN/mt load.

Our products are patented.

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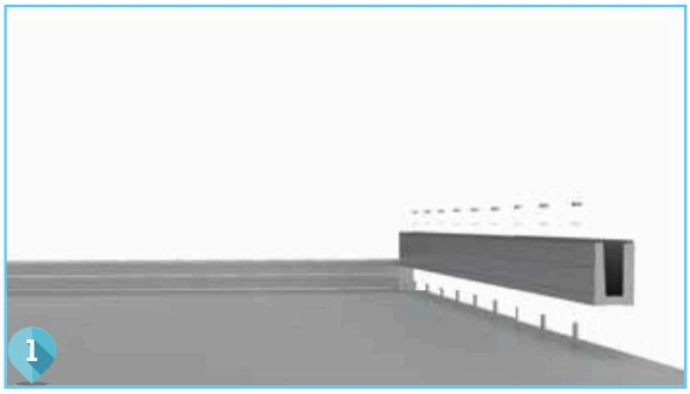
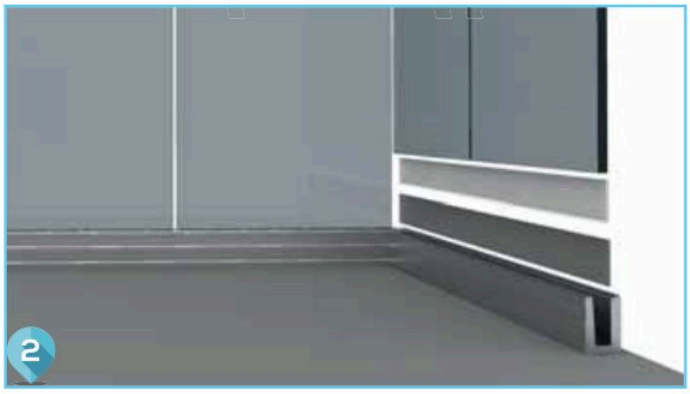
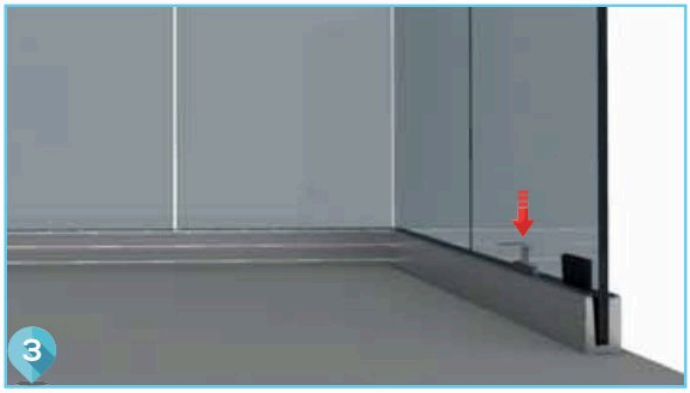
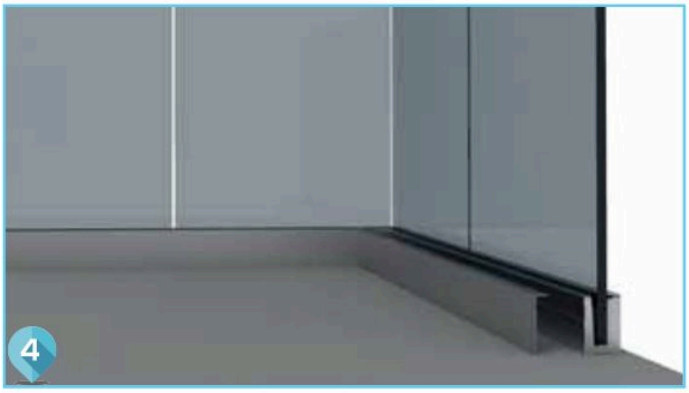
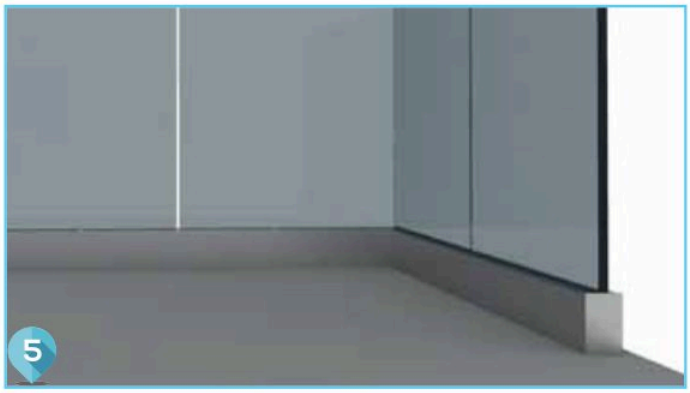
Whole Glass Railing Systems

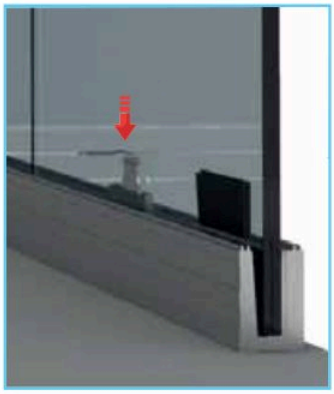


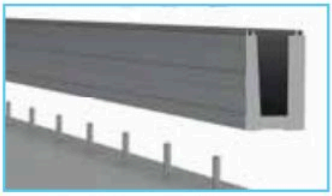








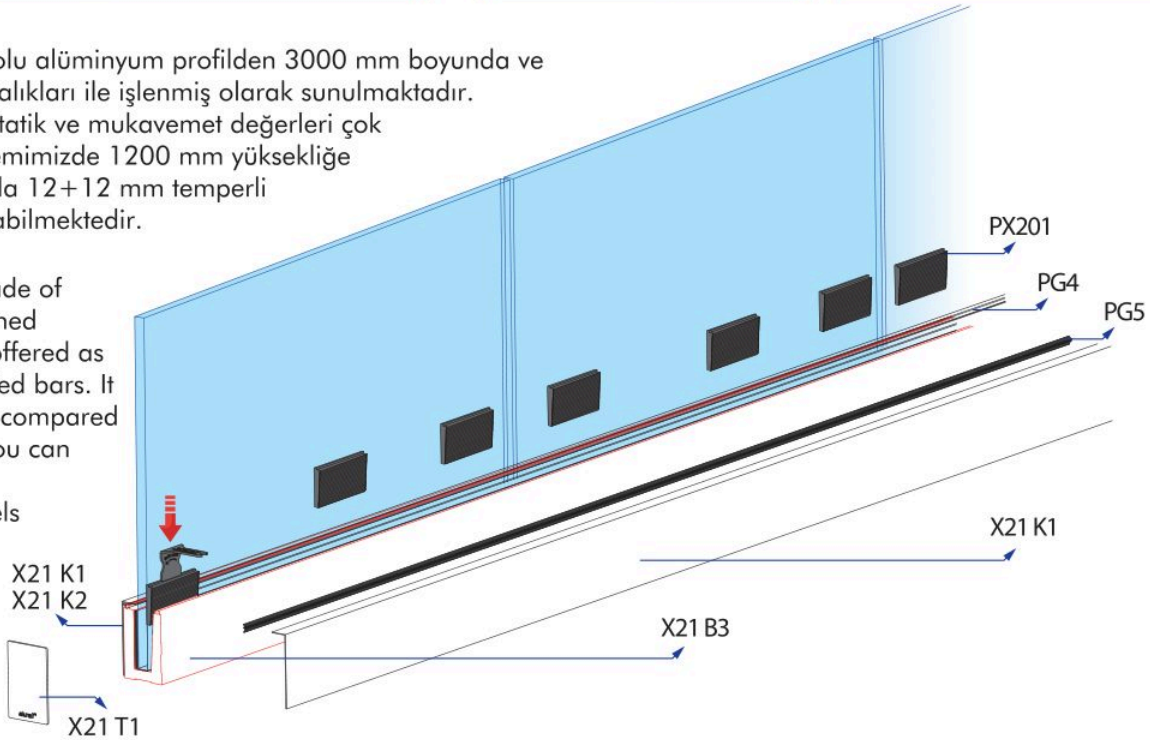


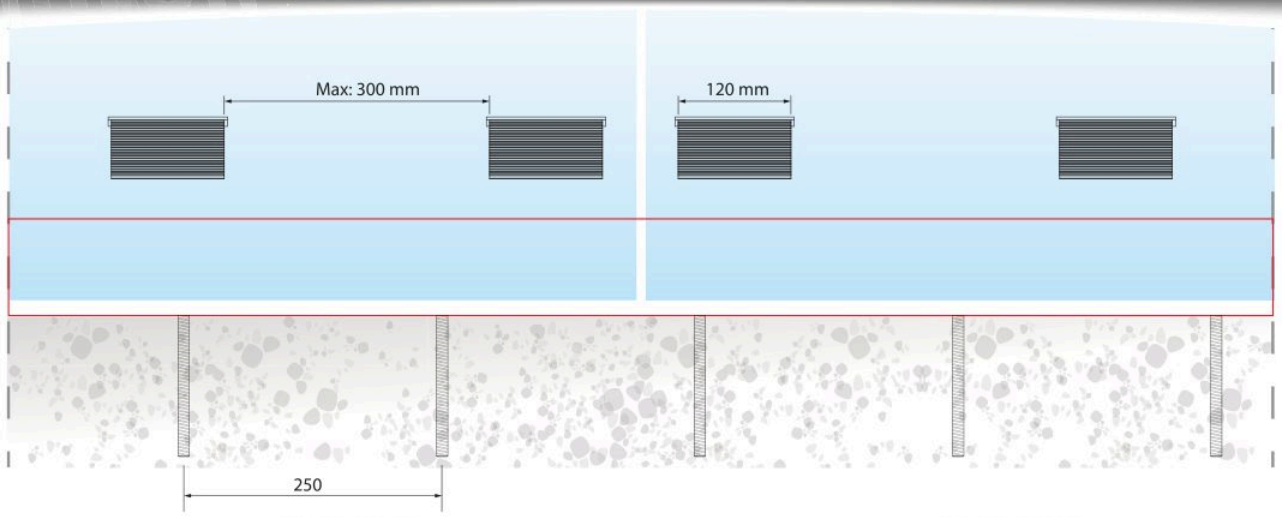


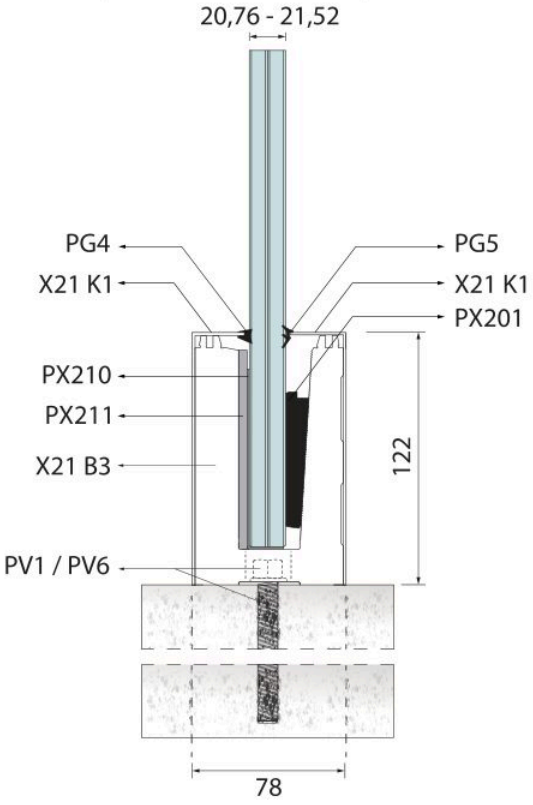


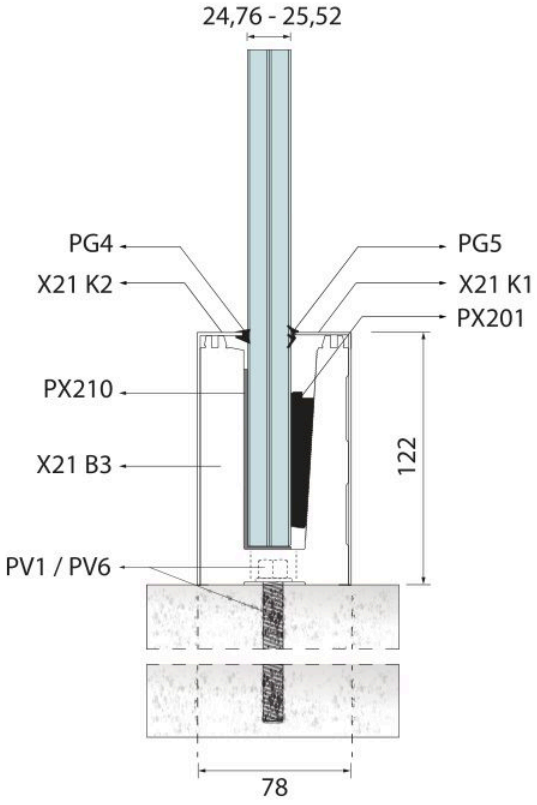
Sertleştirilmiş dolu alüminyum profilden 3000 mm boyunda ve 250 mm aks aralıkları ile işlenmiş olarak sunulmaktadır. Diğer sistemlere göre statik ve mukavemet değerleri çok daha yüksektir. Bu sistemimizde 1200 mm yüksekliğe kadar 10+10 mm ya da 12+12 mm temperli lamine camlar kullanılabilmektedir.

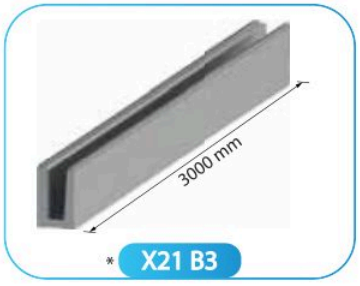
This system; made of spacially hardened massive aluminium is offered as 3000 mm long predrilled bars. It is much more stronger compared to the other systems. You can use of 10+10 mm or 12+12 mm glass panels upto 1200 mm height.











* X21 B3


X21 K1



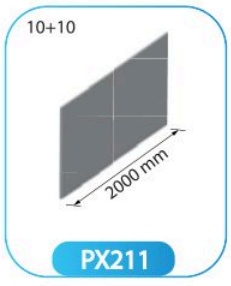
X21 K2



X21 T1



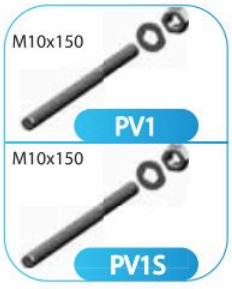
PX210



PX211

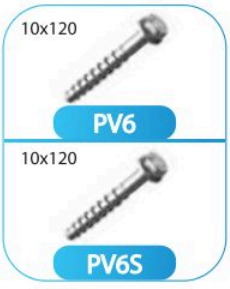

PX201


PG4
PG5



PV1

PV1S



PV6

PV6S


PA1

* X21 B3 profilde, zemin bağlantı delik aksları 250 mm'de bir işlenmiş olarak sunulur.
* *The anchoring holes on the base X21 B3 are located at every 250 mm.*

panorama®

Yandan Montaj Kamalı Cam Taşıyıcı Korkuluk Sistemi



X21A



panorama X21A yoğun insan ve rüzgar sirkülasyonunun yaşanabileceği projeler için geliştirilmiştir.

Dolu alüminyumdan sertleştirilmiş taşıyıcı gövdenin boy halinde kullanılması ile yüksek performans sağlanmıştır. Sistemin en belirgin özelliği, yandan bağlantı kabiliyeti sayesinde mekanlarınızda alan kaybını azaltmasıdır. Ana gövdenin alından bağlanması ile zemin üzerinde yükseklik oluşturmaz ve daha çok görsel alan imkanı sunar.

Küpeşte yüksekliği en fazla 1200 mm, cam kalınlıkları 10+10 mm ya da 12+12 mm olarak tavsiye edilir.

3 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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NEXT GENERATION
RAILING SYSTEMS

panorama®

Lateral Mount System with Wedges



X21A





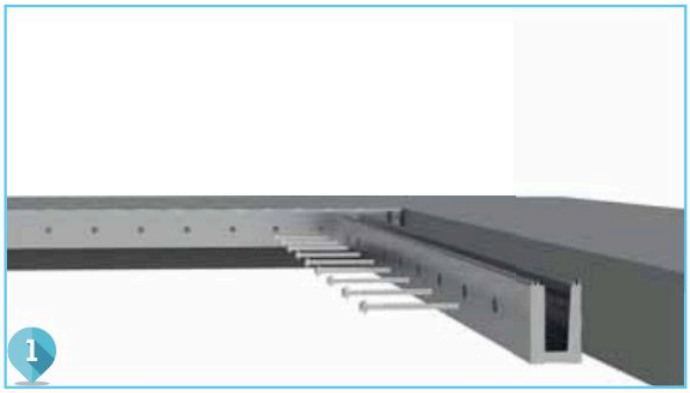
panorama X21A is developed to be used at buildings with lots of human traffic and high wind loads.

Thanks to its massive structure and specially hardened Aluminium raw material, its provides very high strength performance.

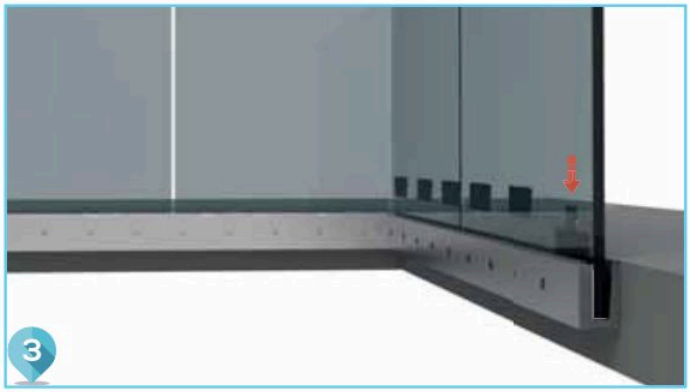
As it is installed lateral to the floor, it minimizes the loss of space and offers you an unlimited view. You can install 10+10 mm or 12+12 mm glass panels up to 1200 mm height.

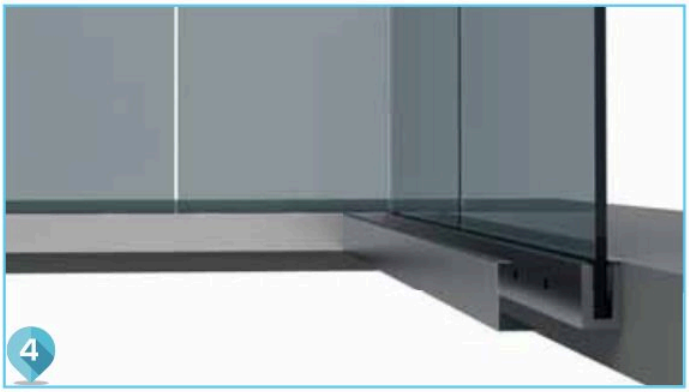
Tested and approved with 3 kN/mt load.

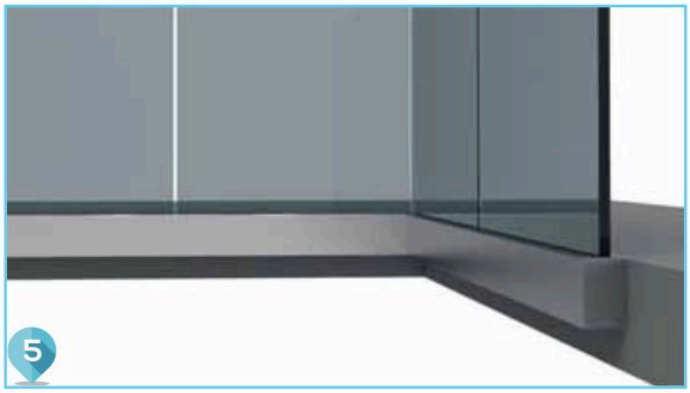
Our products are patented.











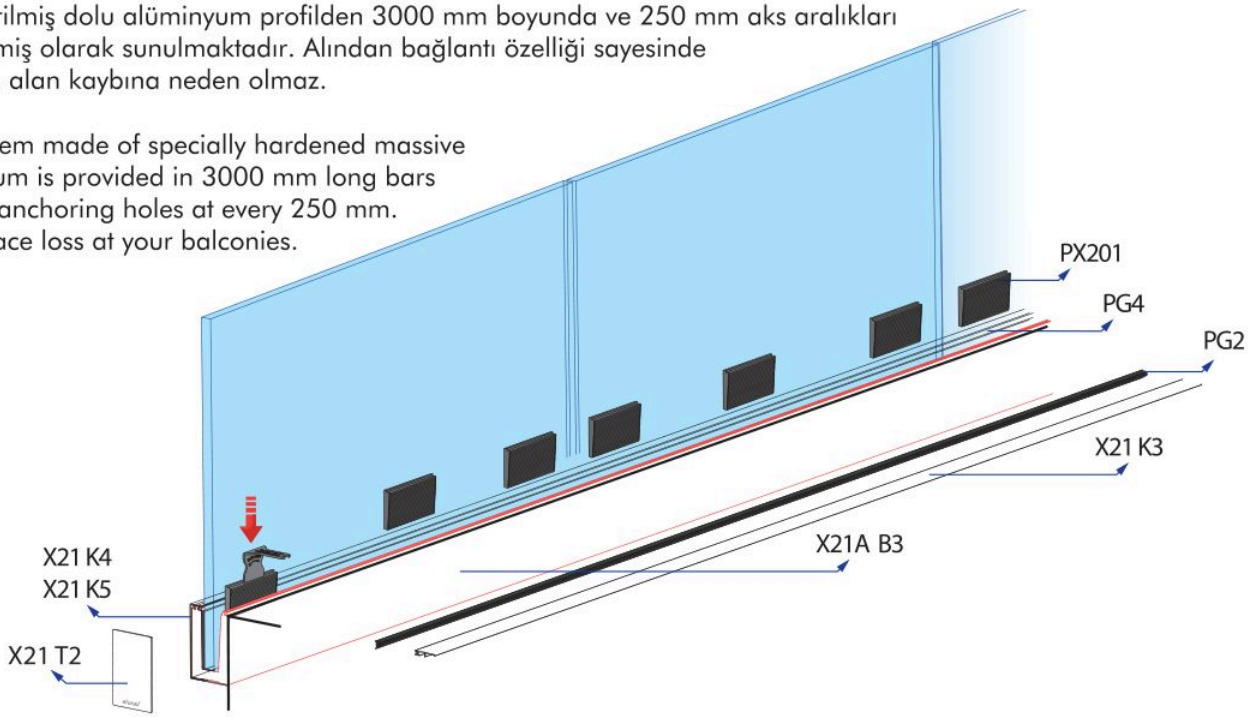


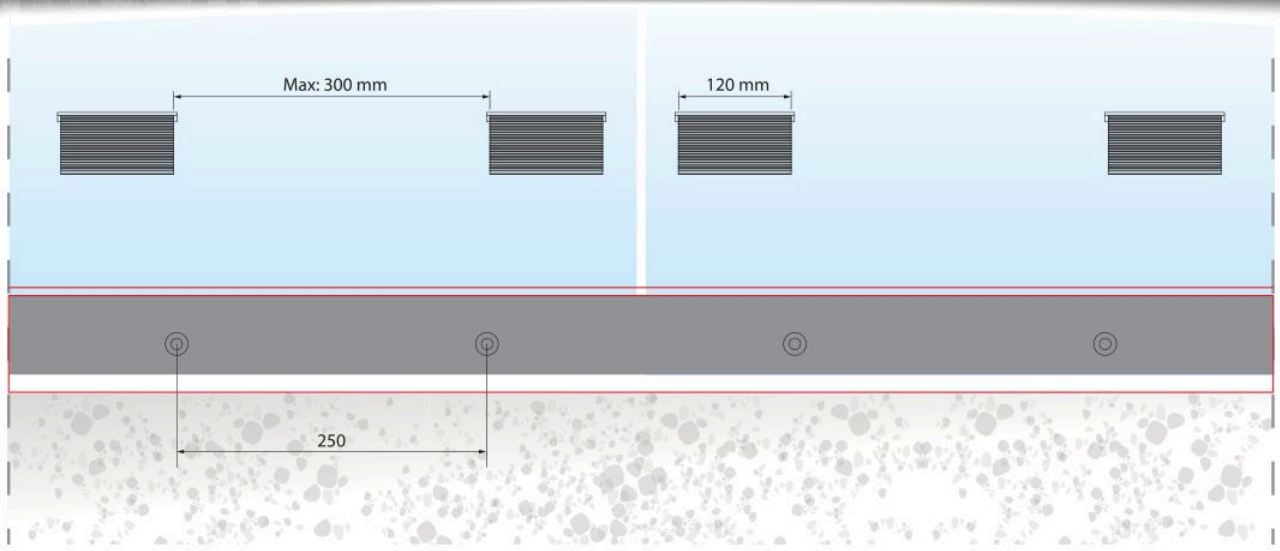


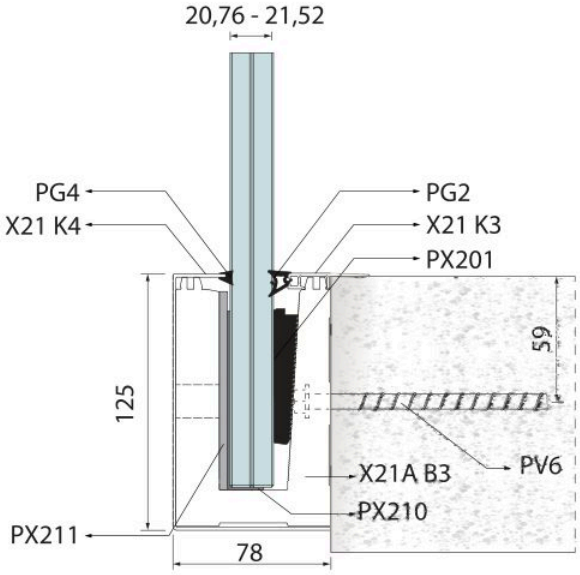


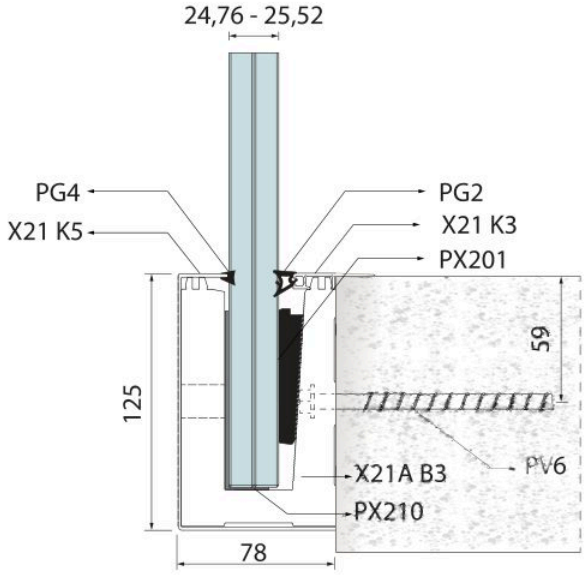
Sertleştirilmiş dolu alüminyum profilden 3000 mm boyunda ve 250 mm aks aralıkları ile işlenmiş olarak sunulmaktadır. Alından bağlantı özelliği sayesinde mekanlarınızda alan kaybına neden olmaz.

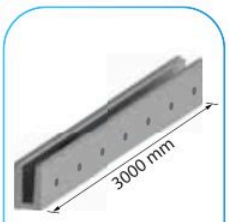
The System made of specially hardened massive aluminium is provided in 3000 mm long bars with predrilled anchoring holes at every 250 mm. It minimizes space loss at your balconies.





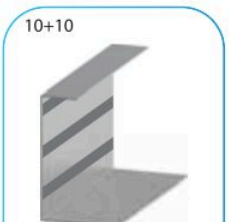




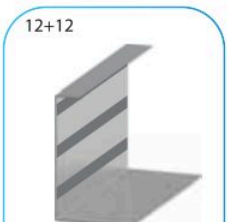


* X21A B3

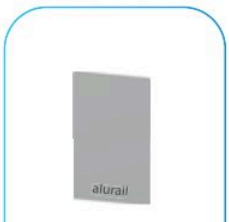

X21 K3



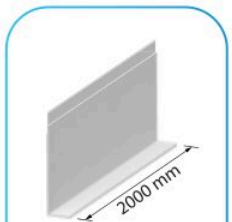
X21 K4



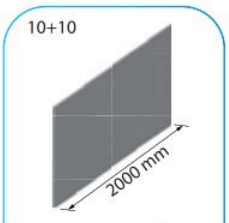
X21 K5



X21 T2



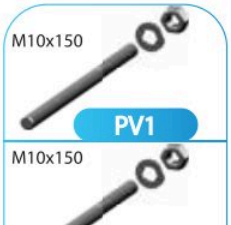
PX210



PX211

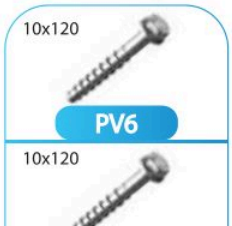

PX201


PG2
PG4



PV1

PV1S



PV6

PV6S


PA1

* X21A B3 profilde, zemin bağlantı delik aksları 250 mm'de bir işlenmiş olarak sunulur.
* *The anchoring holes on the base X21A B3 are located at every 250 mm.*

panorama®

Zemin Üstü Kamalı
Cam Taşıyıcı Korkuluk Sistemi



XE21





panorama XE21 sertleştirilmiş alüminyum profil taşıyıcı gövdenin boy halinde kullanılması sayesinde yüksek mukavemet sağlanmaktadır.

Yoğun insan ve rüzgar sirkülasyonunun yaşanabileceği projeler için geliştirilmiştir.

Küpeşte yüksekliği en fazla 1200 mm, cam kalınlıkları 10+10 mm ya da 12+12 mm olarak tavsiye edilir.

2 kN/m yatay yüklere dayanıklıdır.

Ürünlerimiz patentlidir.

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Top Mount System
with Wedges



XE21





panorama XE21 offers high strength and stability thanks to the continuous usage of the specially hardened aluminium honeycomb structure.

This system is developed for projects with high wind and lateral loads. It is adviced to be used upto 1200 mm height with 10+10 mm or 12+12 mm glass panels.

Tested and approved with 2 kN/mt load.

Our products are patented.

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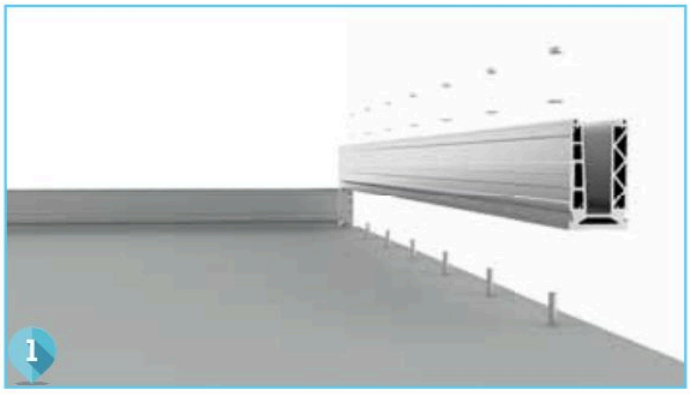
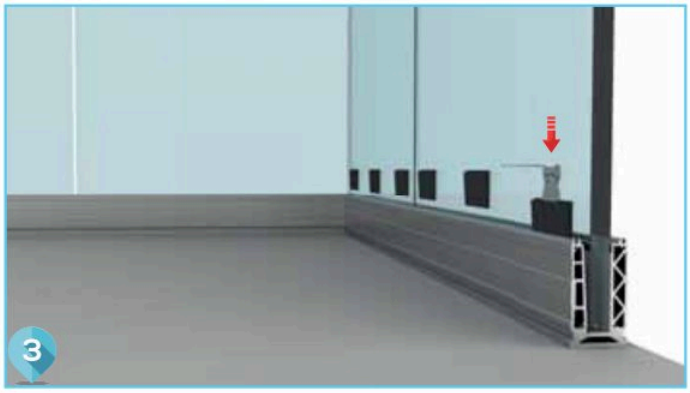
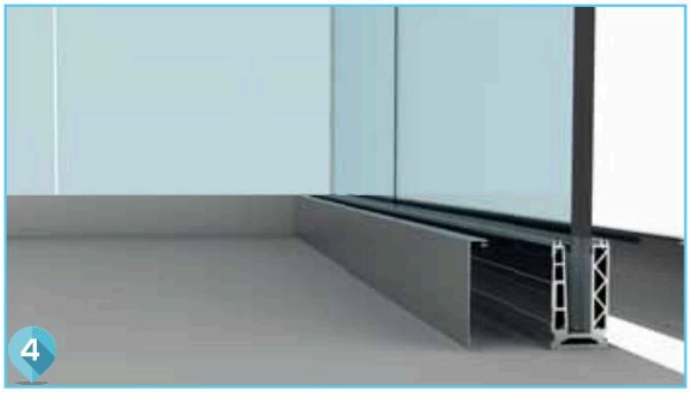
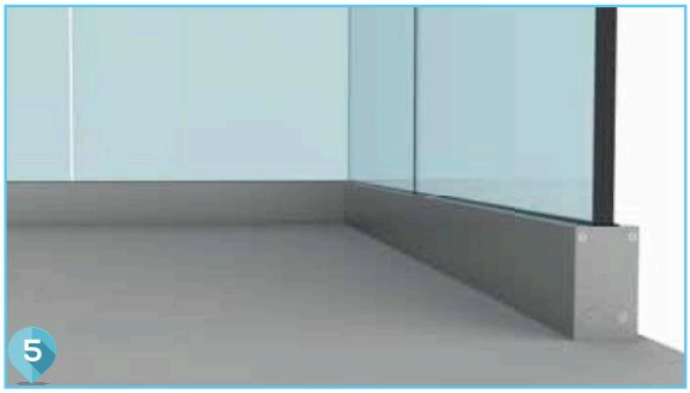
Whole Glass Railing Systems

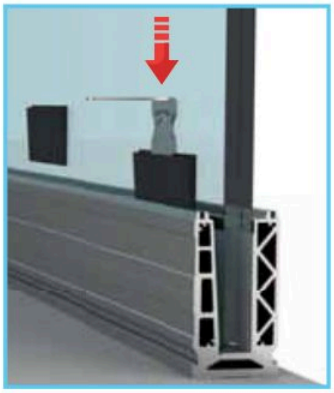


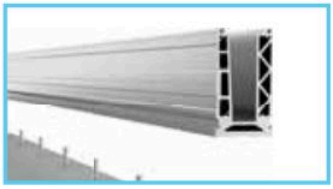








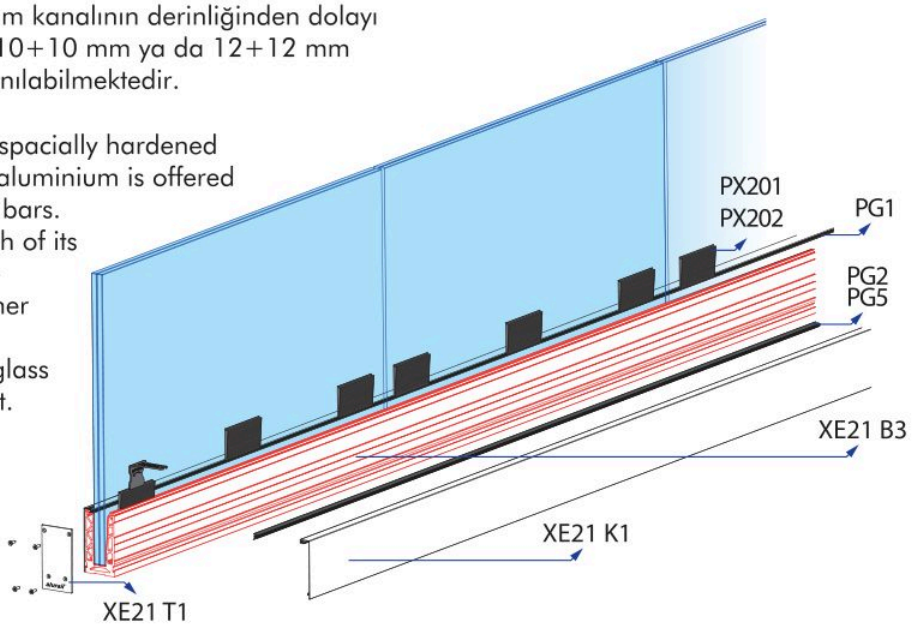


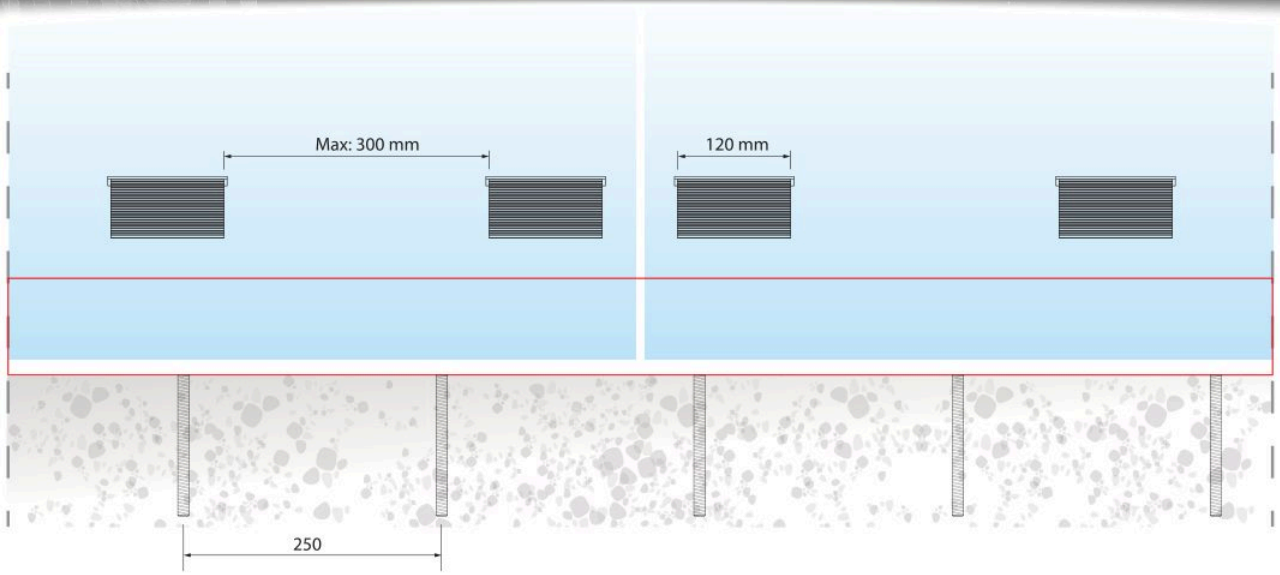


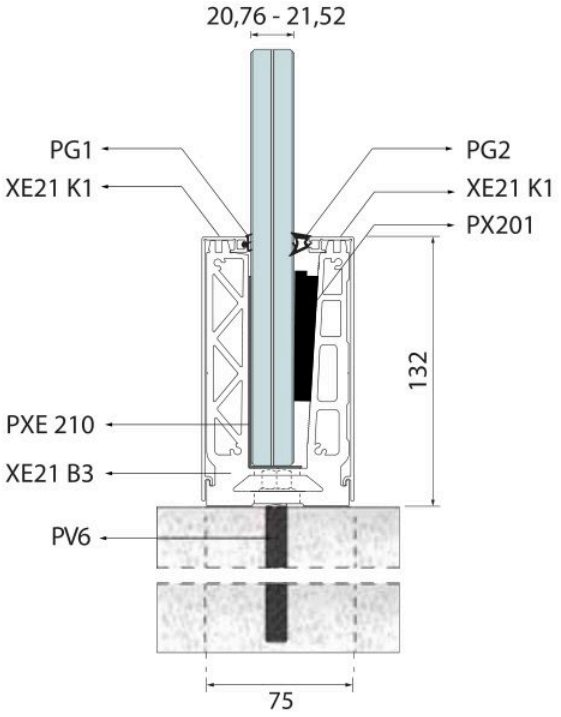


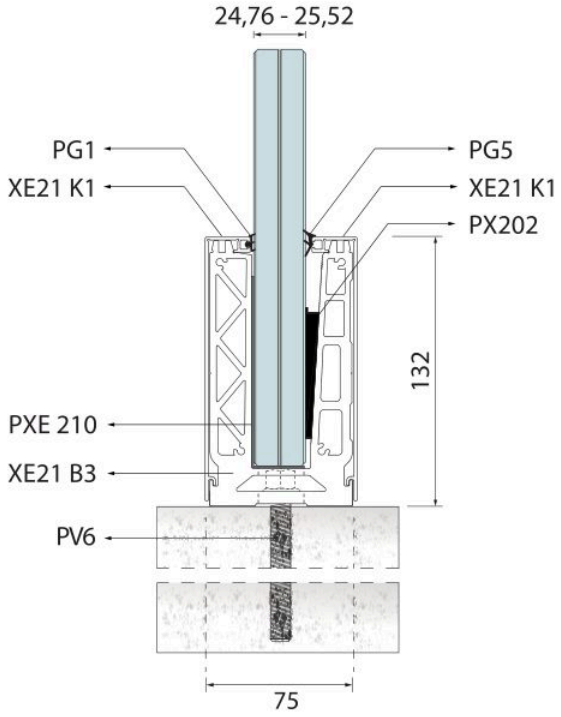
Sertleştirilmiş alüminyum profilden 3000 mm boyunda ve 250 mm aks aralıkları ile işlenmiş olarak sunulmaktadır. Diğer sistemlere göre statik ve mukavemet değerleri çok daha yüksektir. Bu sistemimizde cam kanalının derinliğinden dolayı 1200 mm yüksekliğe kadar 10+10 mm ya da 12+12 mm temperli lamine camlar kullanılabilmektedir.

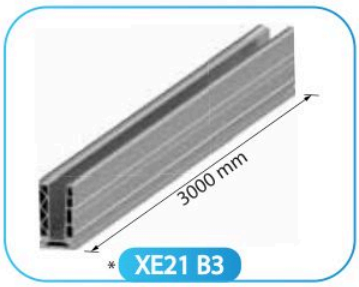
This system; made of spacially hardened honeycomb structure aluminium is offered as 3000 mm long predrilled bars. Thanks to the increased depth of its glass groove it is much more stronger compared to the other systems. You can use of 10+10 mm or 12+12 mm glass panels upto 1200 mm height.













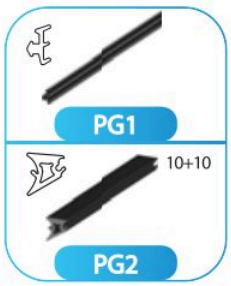




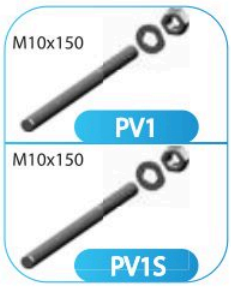


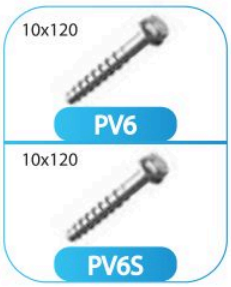












* XE21A B3 profilde, zemin bağlantı delik aksları 250 mm'de bir işlenmiş olarak sunulur.
* *The anchoring holes on the base XE21A B3 are located at every 250 mm.*

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Yandan Montaj Kamalı
Cam Taşıyıcı Korkuluk Sistemi



XE21A



panorama XE21A sertleştirilmiş alüminyum profil taşıyıcı gövdenin boy halinde kullanılması sayesinde yüksek mukavemet sağlanmaktadır.

Yoğun insan ve rüzgar sirkülasyonunun yaşanabileceği projeler için geliştirilmiştir. Yandan bağlantı kabiliyeti sayesinde mekanlarınızda alan kaybını azaltır, zemin üzerinde yükseklik oluşturmaz ve daha çok görsel alan imkanı sunar.

Küpeşte yüksekliği en fazla 1200 mm, cam kalınlıkları 10+10 mm ya da 12+12 mm olarak tavsiye edilir.

2 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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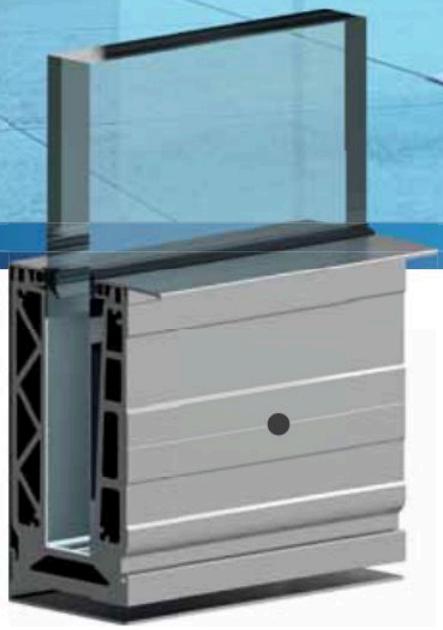
Lateral Mount System with Wedges



XE21A





panorama XE21A offers high strength and stability thanks to the continuous usage of the specially hardened aluminium honeycomb structure.

This system is developed for projects with high wind and lateral loads. Due its lateral mounting ability it offers an uninterrupted view. It is adviced to be used upto 1200 mm height with 10+10 mm or 12+12 mm glass panels.

Tested and approved with 2 kN/mt load.

Our products are patented.

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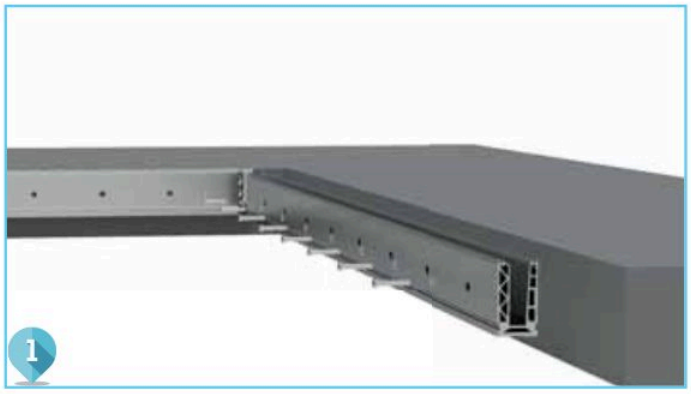
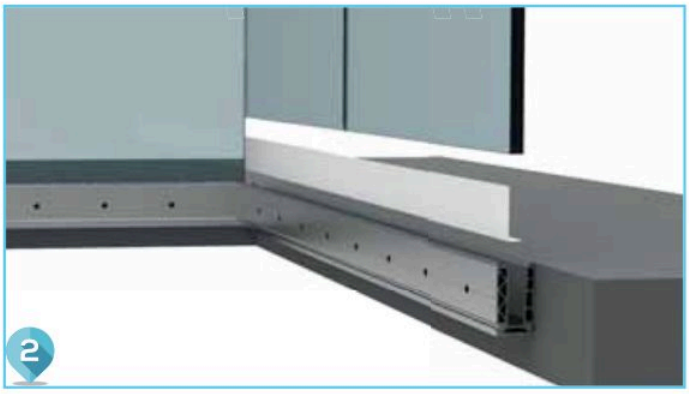
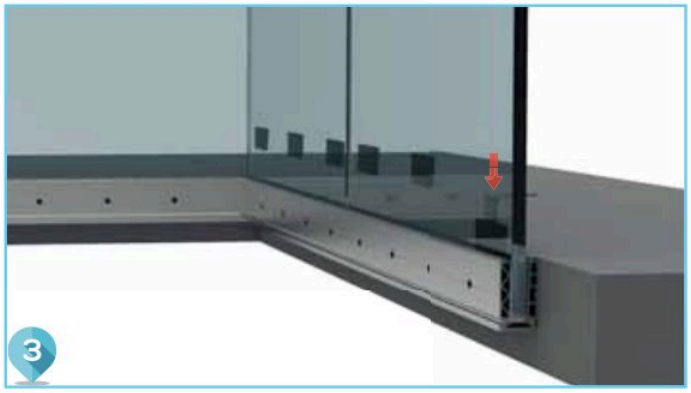
Whole Glass Railing Systems

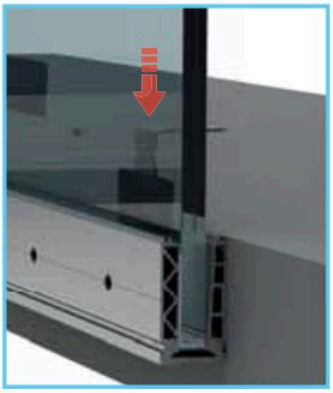










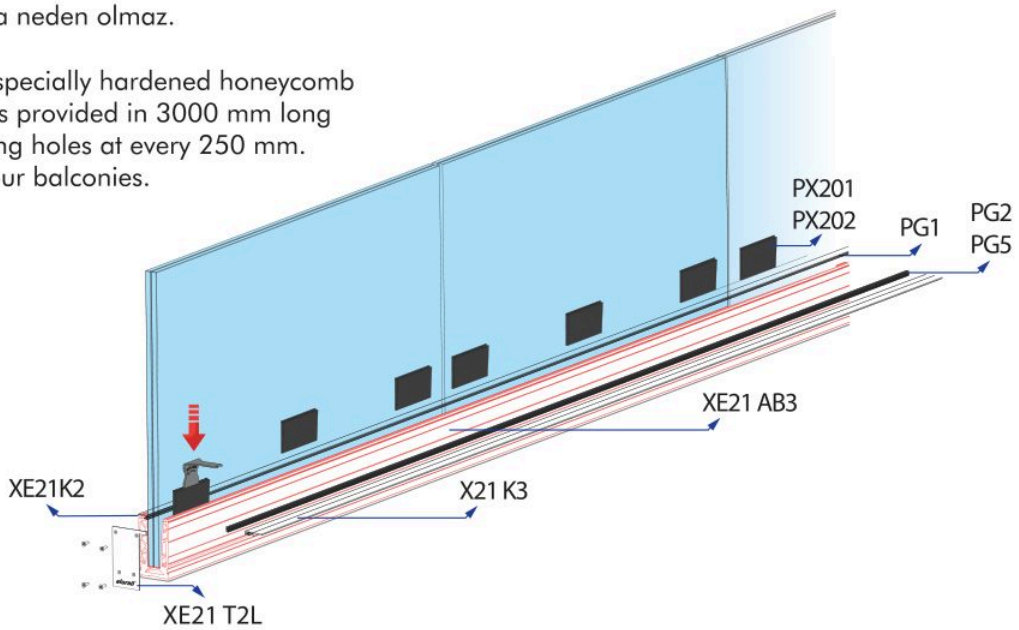


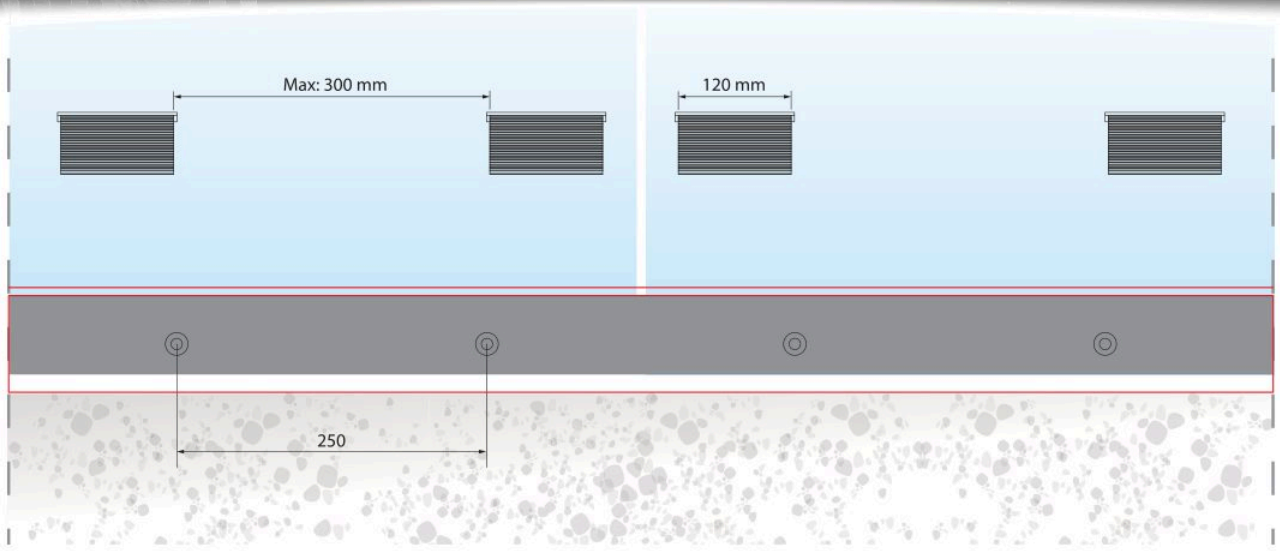


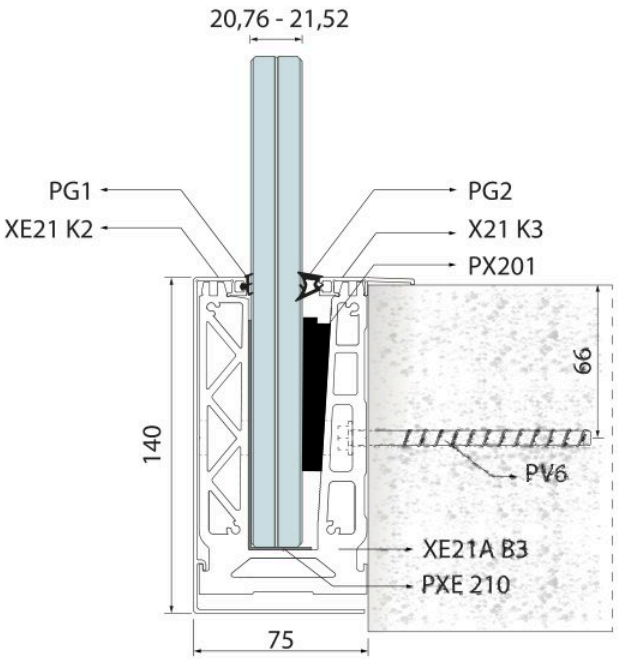


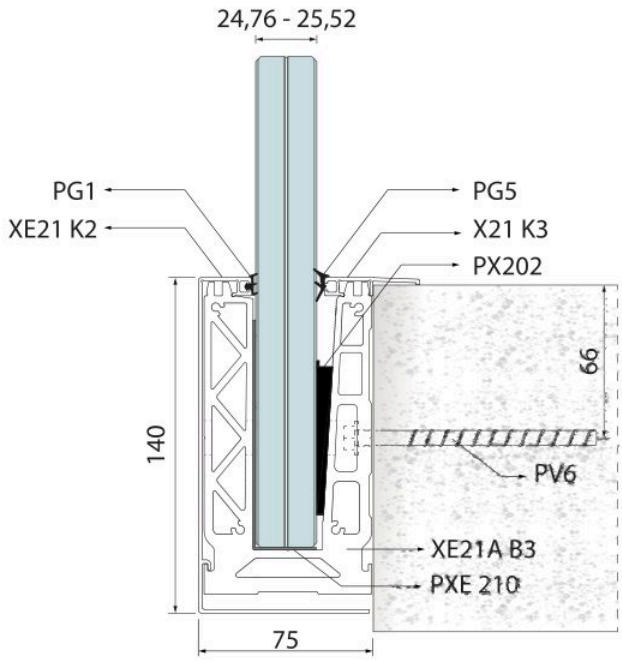
Sertleştirilmiş alüminyum profilden 3000 mm boyunda ve 250 mm aks aralıkları ile işlenmiş olarak sunulmaktadır. Alından bağlantı özelliği sayesinde mekanlarınızda alan kaybına neden olmaz.

The system made of specially hardened honeycomb structure aluminium is provided in 3000 mm long bars with predrilled anchoring holes at every 250 mm. It minimizes space loss at your balconies.











* XE21A B3



XE21 K2



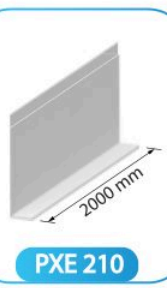
X21 K3



XE21 T2L



XE21 T2R



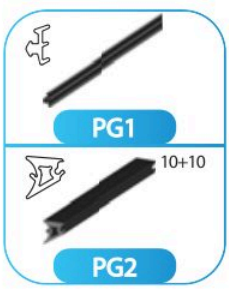
PXE 210



PX201



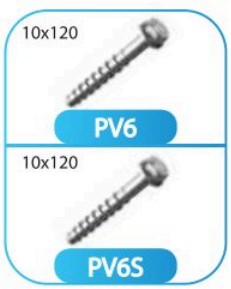
PX202



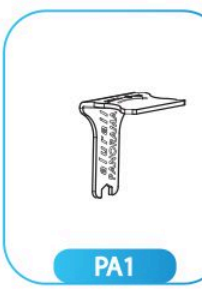
PG2



PG5



PV6 PV6S



PA1

* XE21A B3 profilde, zemin bağlantı delik aksları 250 mm'de bir işlenmiş olarak sunulur.
* *The anchoring holes on the base XE21A B3 are located at every 250 mm.*

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Zemin Üstü L Tipi Kamalı Cam Taşıyıcı Korkuluk Sistemi



X22



panorama X22, ana taşıyıcı gövdesi dolu alüminyum malzemeden boy kullanımına uygun olarak tasarlanmıştır.

10+10 mm temperli lamine cam ile sunulmaktadır. Tasarımındaki en önemli özelliği, zemine bağlantı için ana gövde aksından içeri doğru kaçırılmış ilave ankraj plakası sayesinde mekanlarınızda alan kaybını azaltmasıdır.

2 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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NEXT GENERATION RAILING SYSTEMS

panorama®

L Type Top Mount System with Wedges



X22





panorama X22 is a massive, heavy duty system designed to be used as continuous rails. It is suitable for usage of 10 mm + 10 mm glass panels. Thanks to its unique structure and additional anchoring brackets, it can be installed up to the edge of the floor which will maximize your balconies effective space.

Tested and approved with 2 kN/mt load.

Our products are patented.

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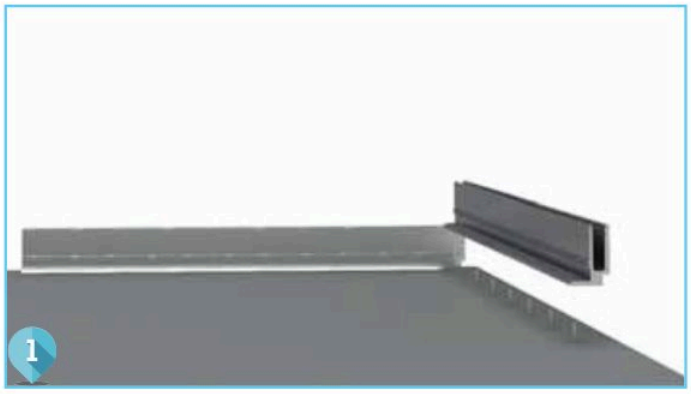
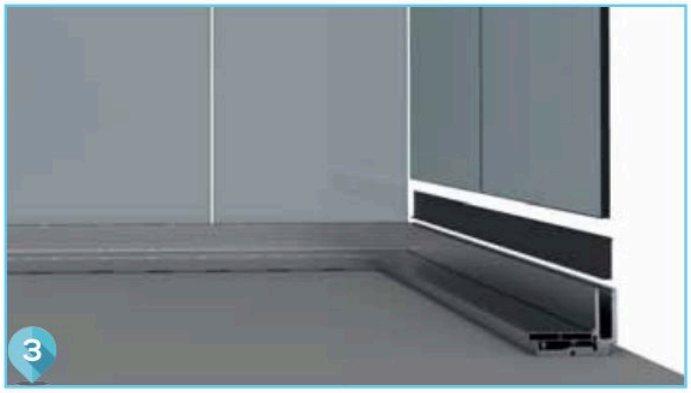
Whole Glass Railing Systems

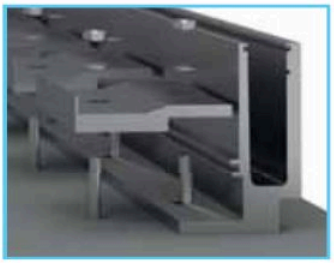








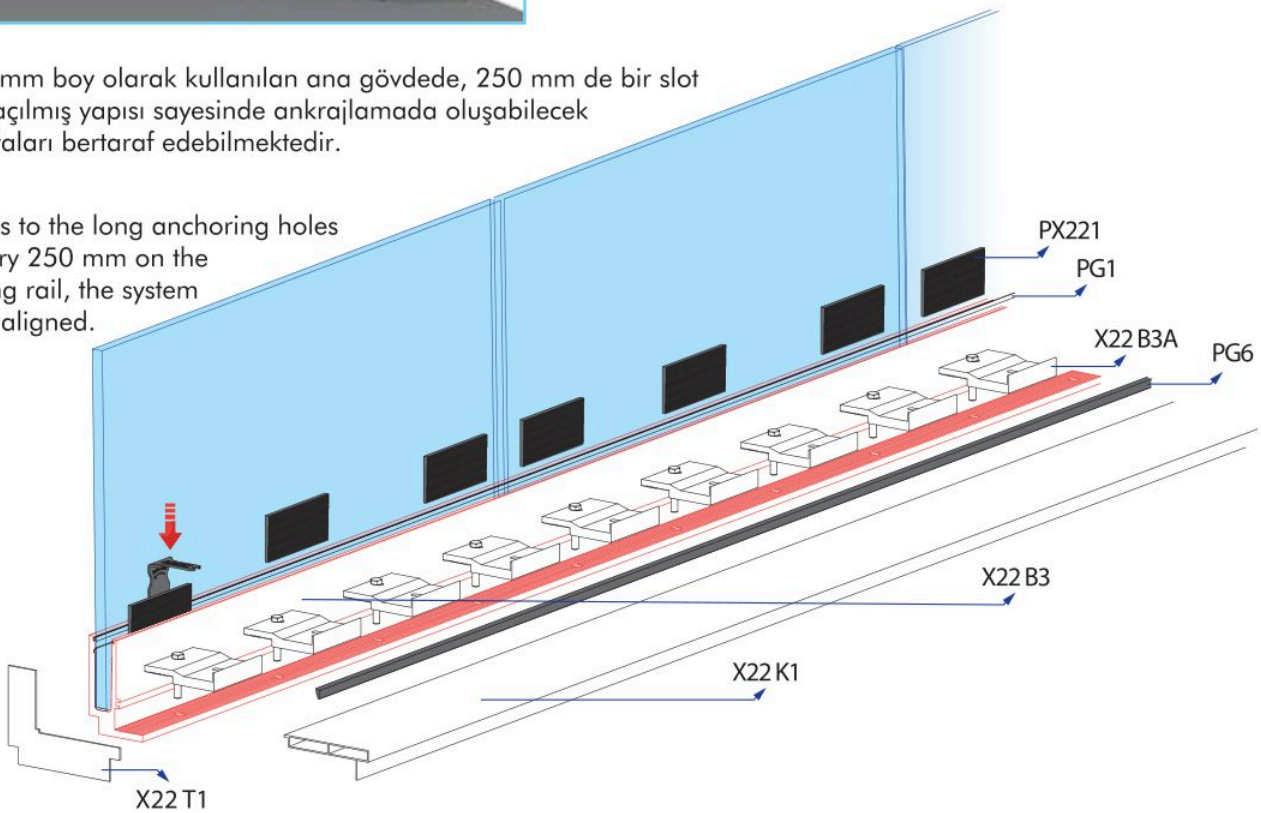


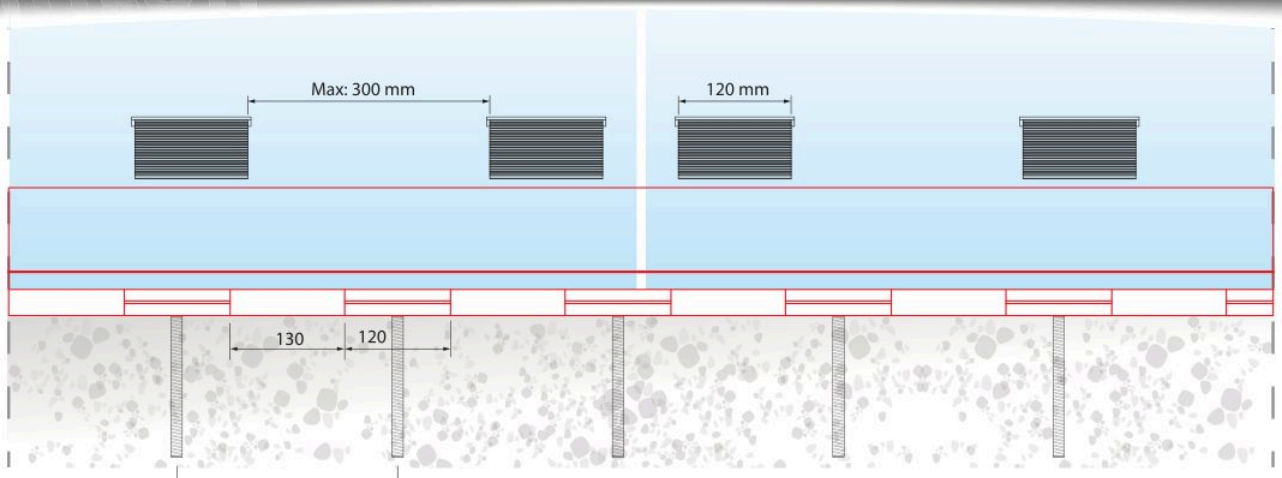


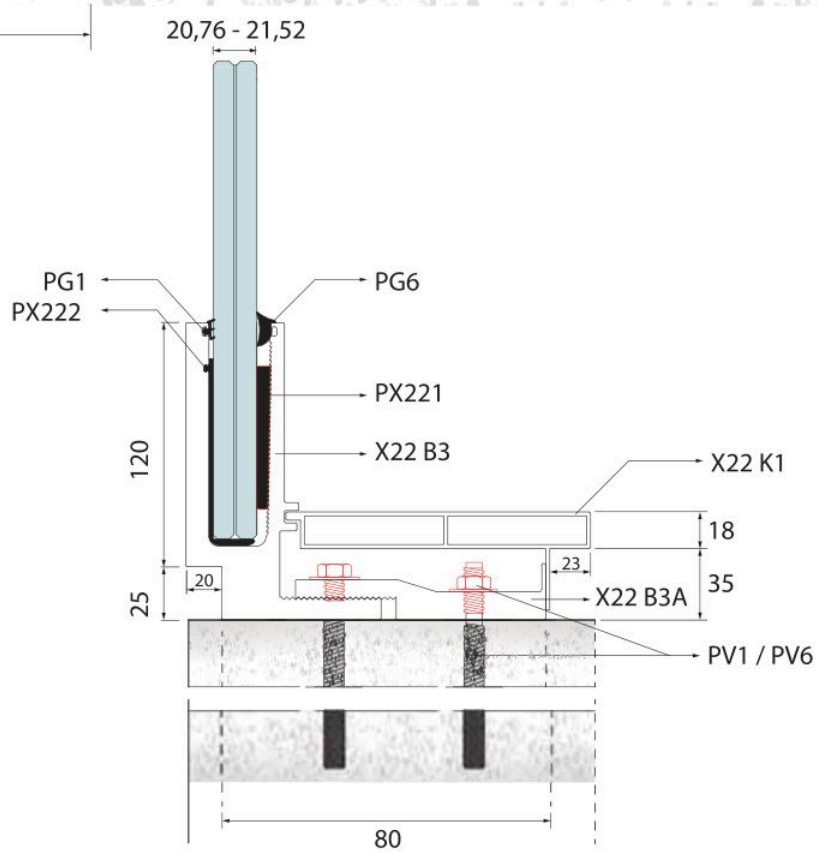


3000 mm boy olarak kullanılan ana gövdede, 250 mm de bir slot delik açılmış yapısı sayesinde ankrajlamada oluşabilecek milimetrik hataları bertaraf edebilmektedir.

Thanks to the long anchoring holes at every 250 mm on the 3000 mm long rail, the system can be easily aligned.

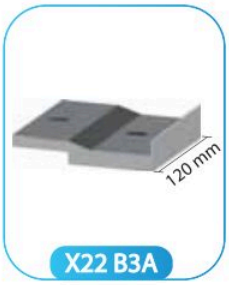




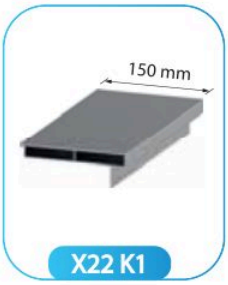




* X22 B3



X22 B3A



X22 K1



X22 T1



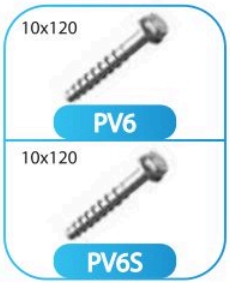
PX221



PX222



PV1



PV6

PV6S



PG1



PG6



PA1

* X22 B3 profilde, zemin bağlantı delik aksları 250 mm'de bir işlenmiş olarak sunulur.
* *The anchoring holes on the base X22 B3 are located at every 250 mm.*

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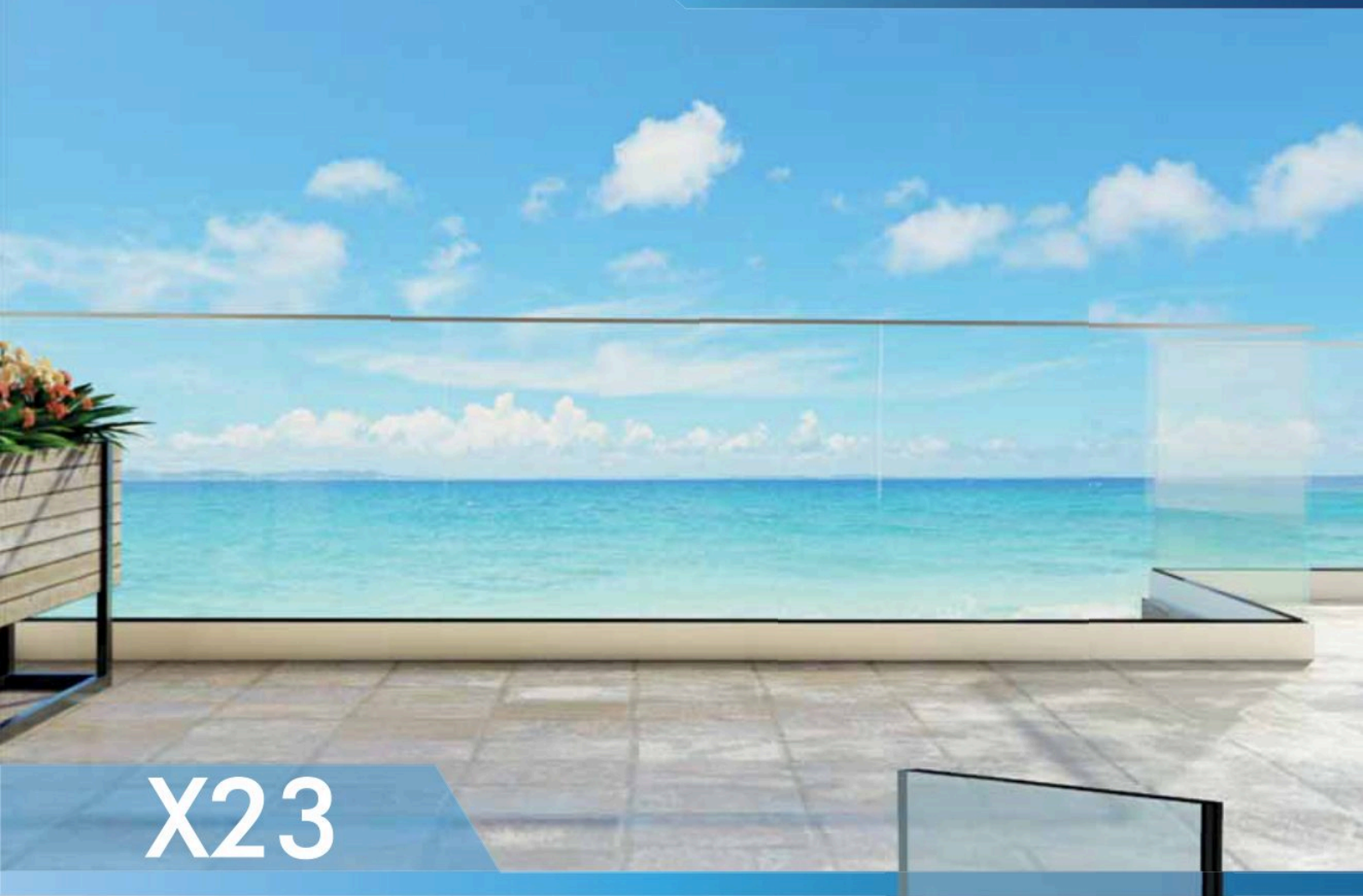
Zemin Üstü Kamalı
Cam Taşıyıcı Korkuluk Sistemi



X23



panorama X23 ana taşıyıcı gövdesi dolu alüminyum malzemeden boy kullanımına uygun olarak tasarlanmıştır.

8+8 mm temperli lamine cam ile sunulmaktadır.
Tasarımındaki en önemli özelliği 40 mm enindeki taban yapısı ile mekanlarınıza daha fazla alan kazancı sağlamasıdır.

1 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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Top Mount Slim System with Wedges



X23





panorama X23 is a massive slim base system for 8+8 mm glass. This system is designed for continuous usage. Thanks to its slim design with only 40 mm width it offers more space.

Tested and approved with 1 kN/mt load.

Our products are patented.

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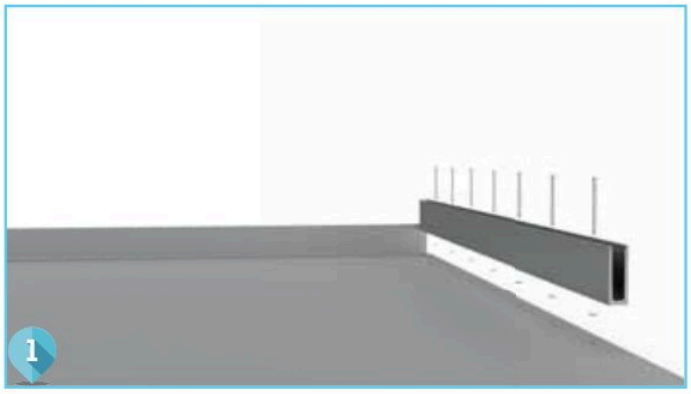
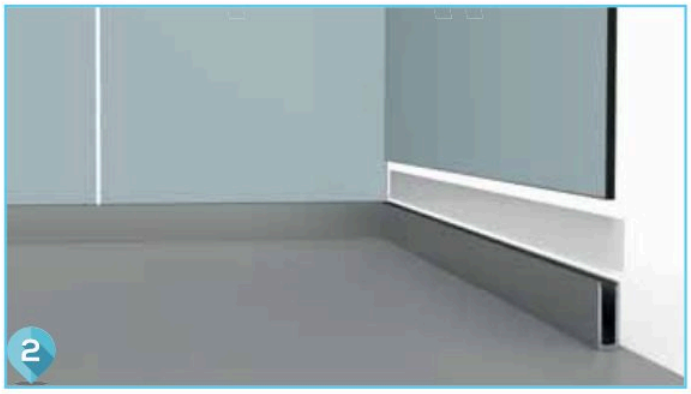
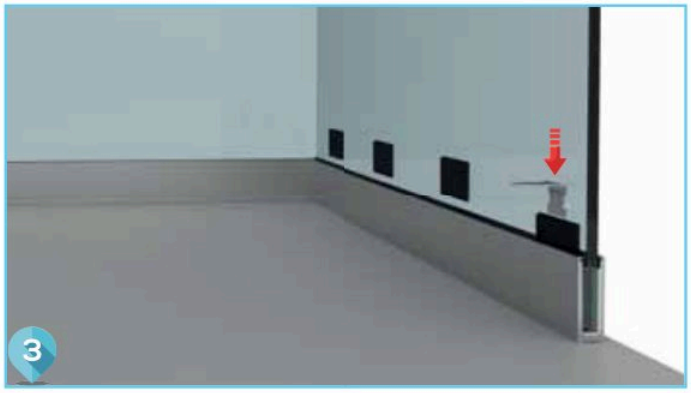
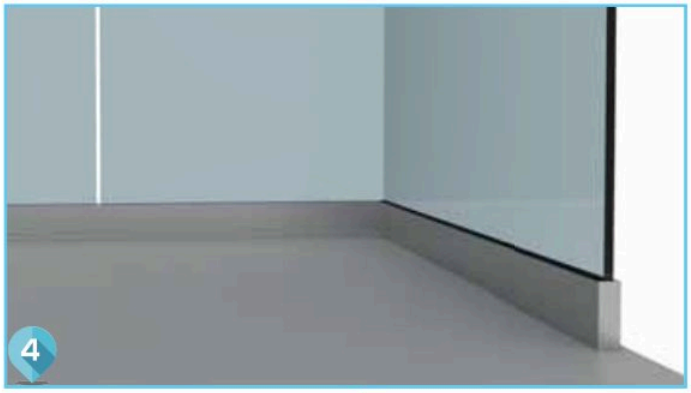
Whole Glass Railing Systems







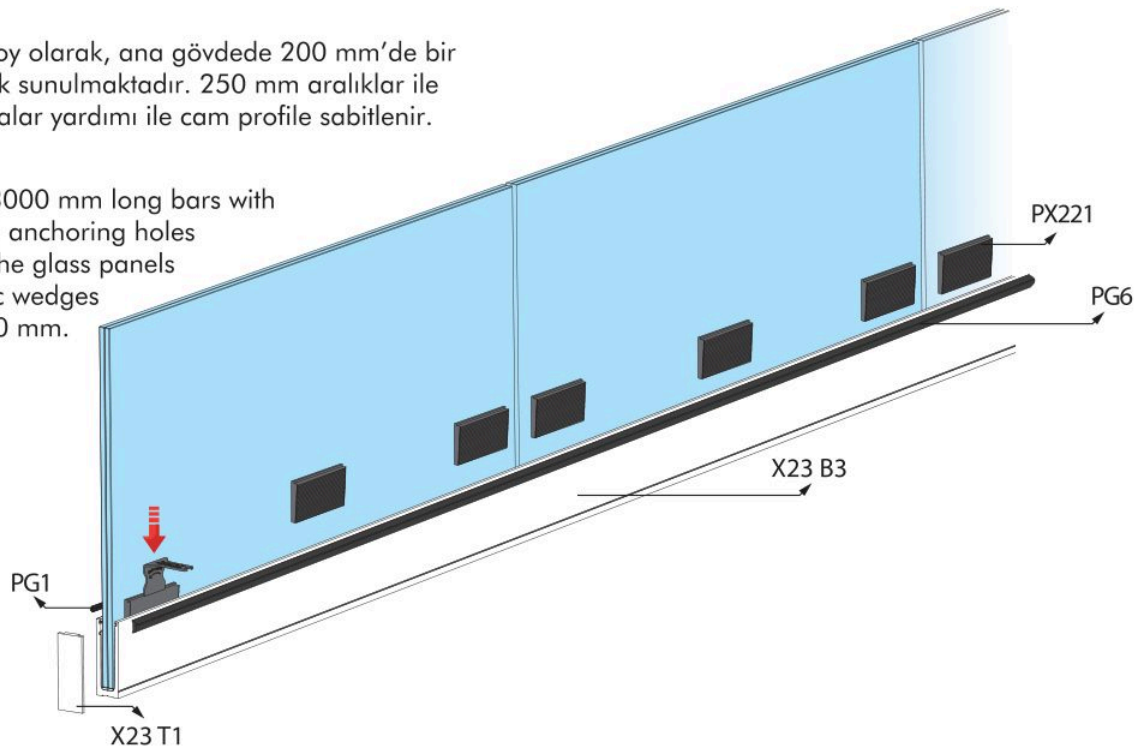


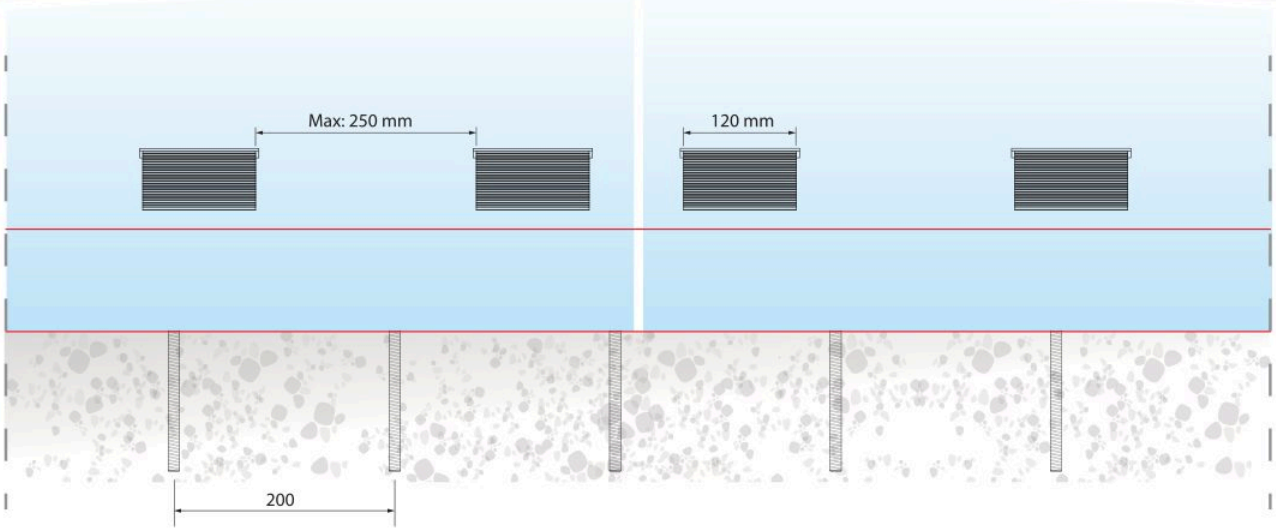


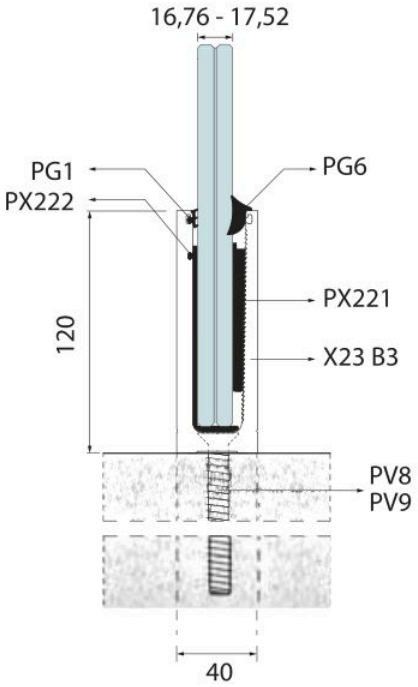


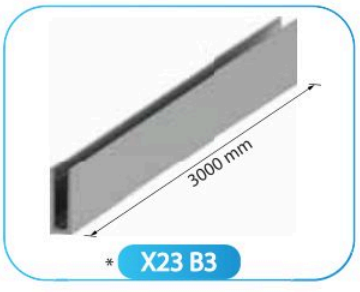
3000 mm boy olarak, ana gövdede 200 mm'de bir delik açılarak sunulmaktadır. 250 mm aralıklar ile kullanılan PVC kamalar yardımı ile cam profile sabitlenir.

Offered as 3000 mm long bars with ready drilled anchoring holes at every 200 mm. The glass panels are fixed with plastic wedges applied at every 250 mm.





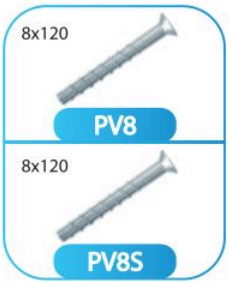


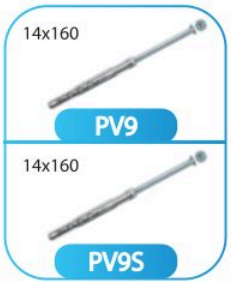


















* X23 B3 profilde, zemin bağlantı delik aksları 200 mm'de bir işlenmiş olarak sunulur.
* *The anchoring holes on the base X23 B3 are located at every 200 mm.*

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Zemin Üstü Kamalı
Cam Taşıyıcılı Korkuluk Sistemi



M20



panorama M20-M21 sistemlerimiz oval ve köşeli formlarda iki ayrı model olarak üretilmiştir. Boy kullanımı için tasarlanan bu ürünlerin en önemli özelliği, camın arkasındaki plastik parçanın değiştirilmesi ile 6+6 mm ya da 8+8 mm temperli lamine camların kullanımına imkan vermesidir. Camlar taşıyıcı profillere özel plastik kamalar ile sabitlenir.

1 kN/m yatay yüklere dayanıklıdır.



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Top Mount System with Wedges



M21





panorama M20-M21 systems are developed in two options. The one with oval form is called as M20 where the one with straight form is called as M21. These two systems are designed to be used as continuous rails. You can use 6+6 mm or 8+8 mm glass panels by changing the plastic spacers behind the glass. The glass panels are fixed with plastic wedges.

Tested and approved with 1 kN/mt load.

Our products are patented.

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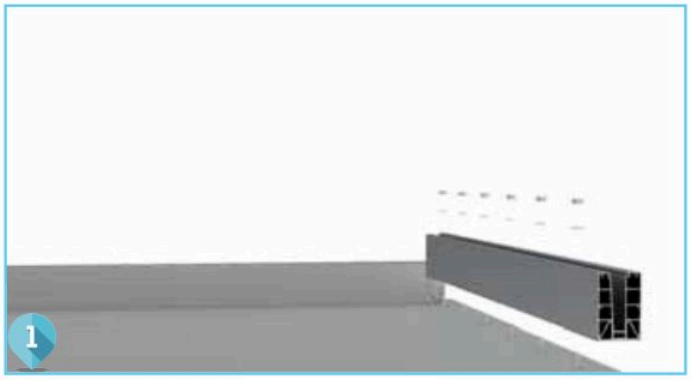
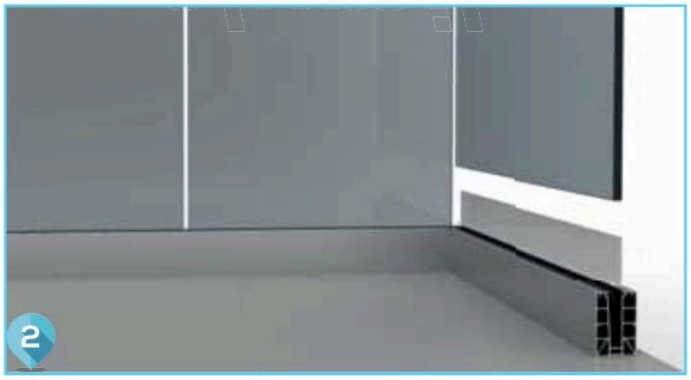
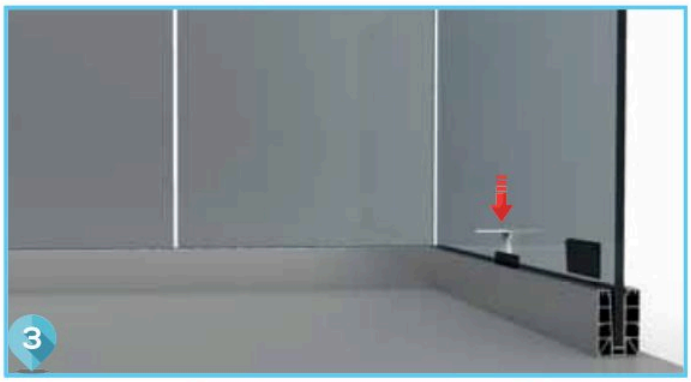
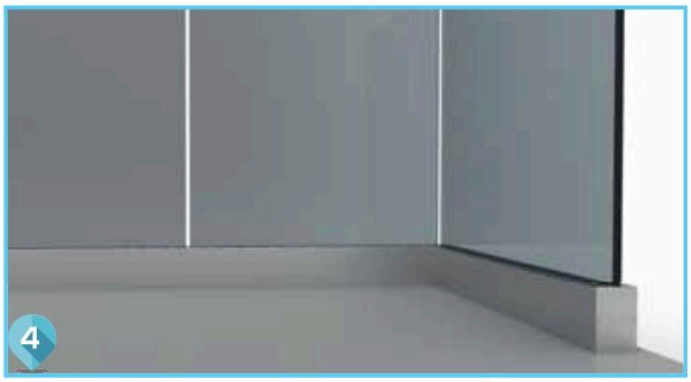
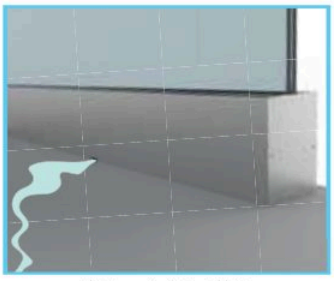
Whole Glass Railing Systems

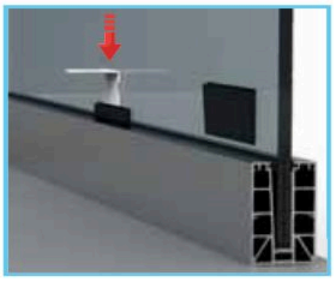


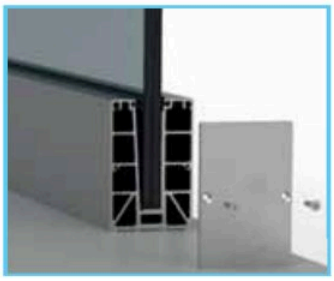








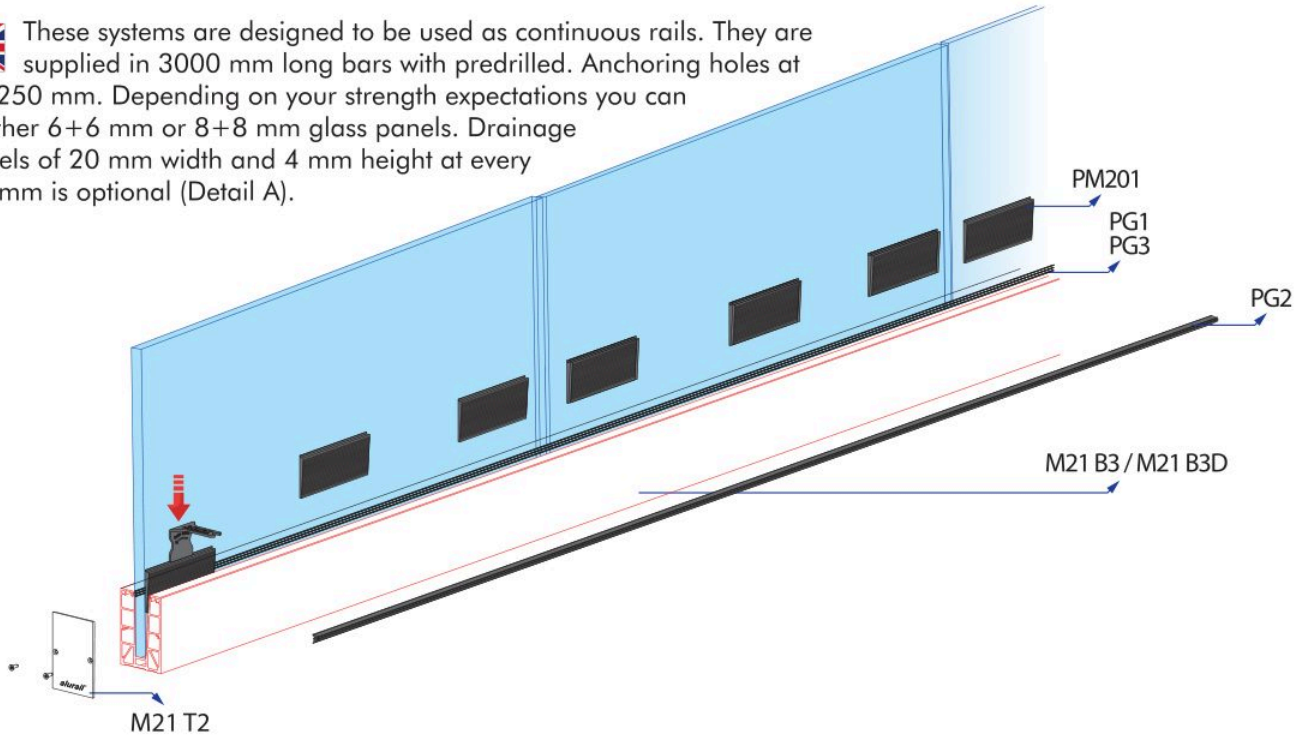


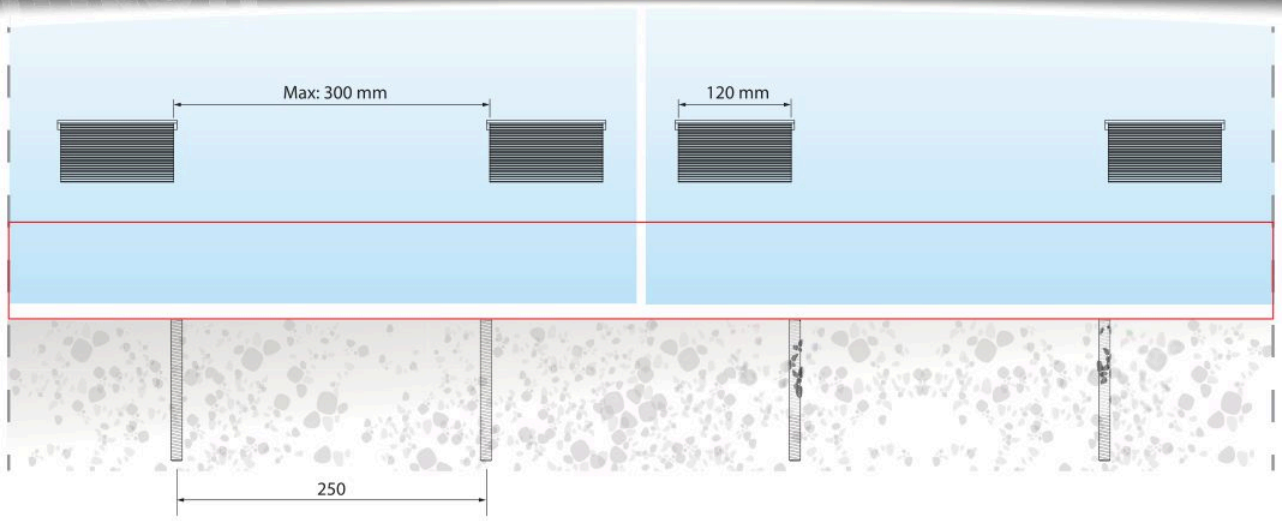


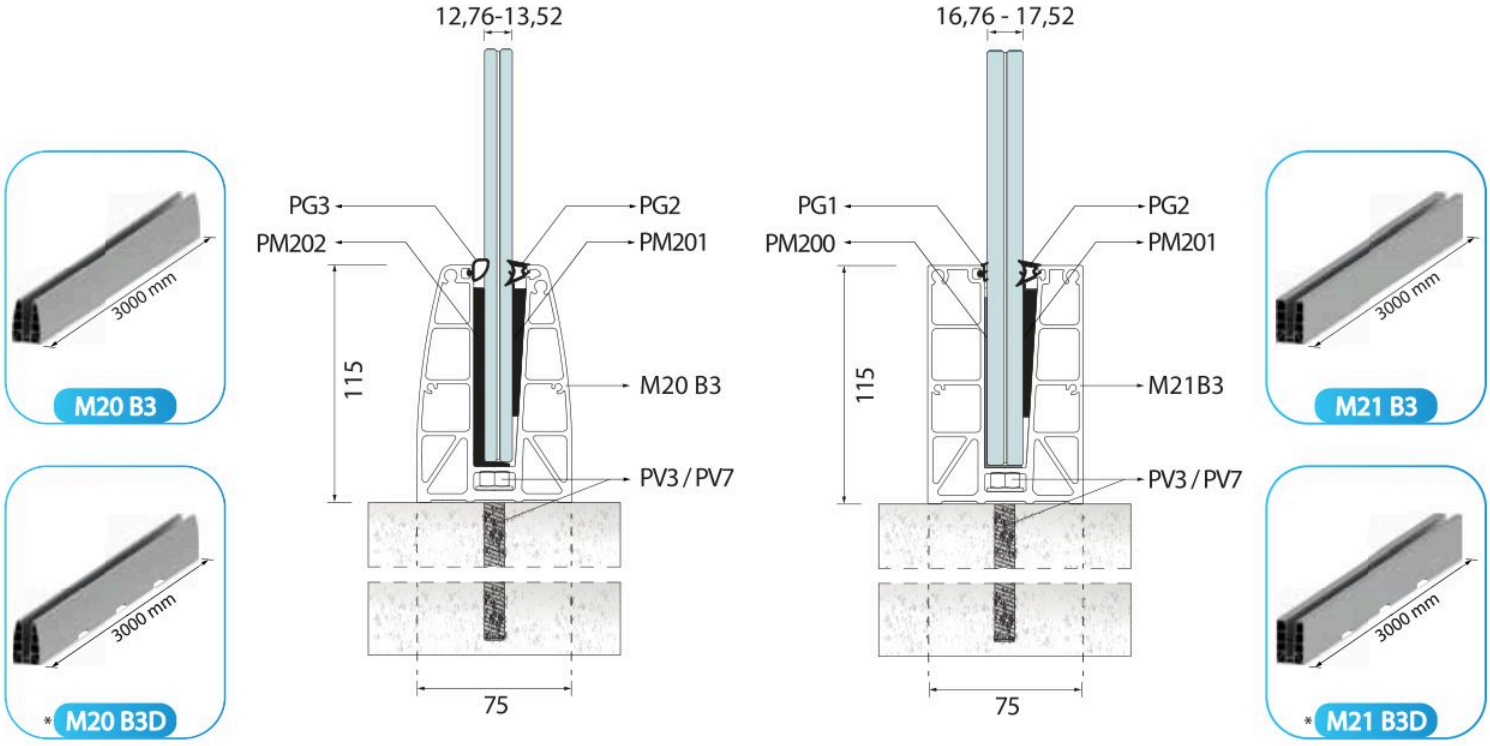
Detay A / Detail A

Bu sistemler boy kullanımına uygun olarak dizayn edilmiştir. 3000 mm uzunluğunda işlenmiş olarak sunulan bu modellerimizin öne çıkan en önemli özelliği; statik ve güvenlik beklentilerinize göre 6+6 mm ya da 8+8 mm camlar ile kullanılabilmesidir. M20 ve M21 kodlu ürünlerimizde isteğe bağlı olarak; sistem içerisine girebilecek yağmur vb. suları bertaraf edebilmek için 1000 mm aralıklar ile 20x4 mm ebatlarında tahliye kanalları açılabilmektedir (Detay A).

These systems are designed to be used as continuous rails. They are supplied in 3000 mm long bars with predrilled. Anchoring holes at every 250 mm. Depending on your strength expectations you can use either 6+6 mm or 8+8 mm glass panels. Drainage channels of 20 mm width and 4 mm height at every 1000 mm is optional (Detail A).











* Sistem içerisine girebilecek yağmur vb. suları bertaraf edebilmek için 1000 mm aralıklar ile 20x4 mm ebatlarında tahliye kanalları açılabilmektedir.
* *Drainage channels of 20 mm width and 4 mm height at every 1000 mm is optional.*

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Zemin Üstü Yandan Baskılı Cam Taşıyıcılı Korkuluk Sistemi



S10



panorama S10 üst küpeşte kullanılacak şekilde daha hafif yükler için tasarlanmıştır. 5+5 mm ya da 6+6 mm temperli lamine cam kullanımına uygundur. Taşıyıcı profiller 150 mm ve 300 mm parçalar halinde üretilmiştir. Bu taşıyıcıların sıkıştırma mekanizmaları sistem üzerinde mevcuttur. 300 mm'lik taşıyıcı pabuçlar iki ayrı camın birbiri ile birleştiği noktada, 150 mm'likler ise aradaki boşluklarda kullanılmaktadır.

Taşıyıcı profil yapısı oval ve köşeli kapak kullanımına uygun tasarlanmıştır.

0,75 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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alurail®
YENİ NESİL
KORKULUK SİSTEMLERİ
NEXT GENERATION
RAILING SYSTEMS

panorama®

Top Mount System with Lateral Bracing Screws



S10



panorama S10, this system is designed to resist lower loads. You can use 5+5 mm or 6+6 mm glass panels at this system. The glass panels are fixed by the pressure plate which is activated by the set screws located at the internal side of the suporting shoe. You can choose one of our oval or straight cladding profiles to finish the system.

Tested and approved with 0,75 kN/mt load.



Our products are patented.

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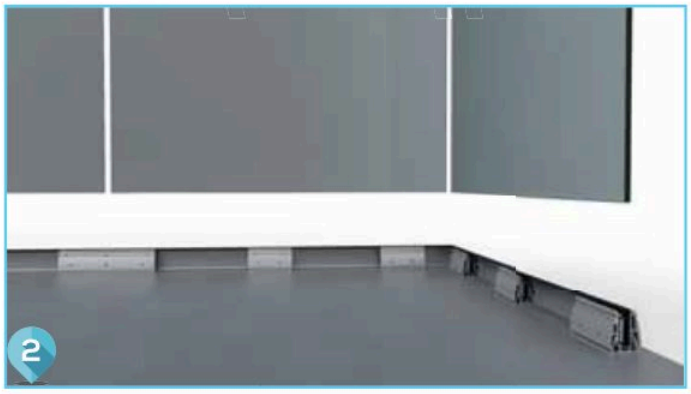
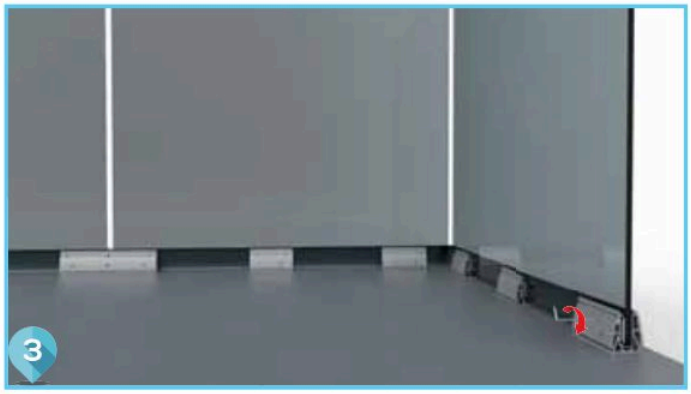
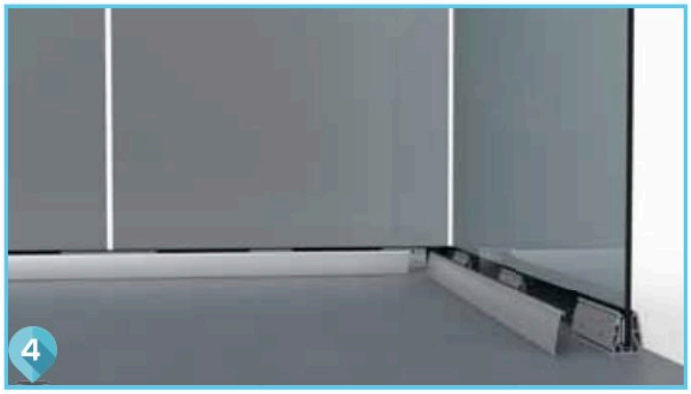
Whole Glass Railing Systems











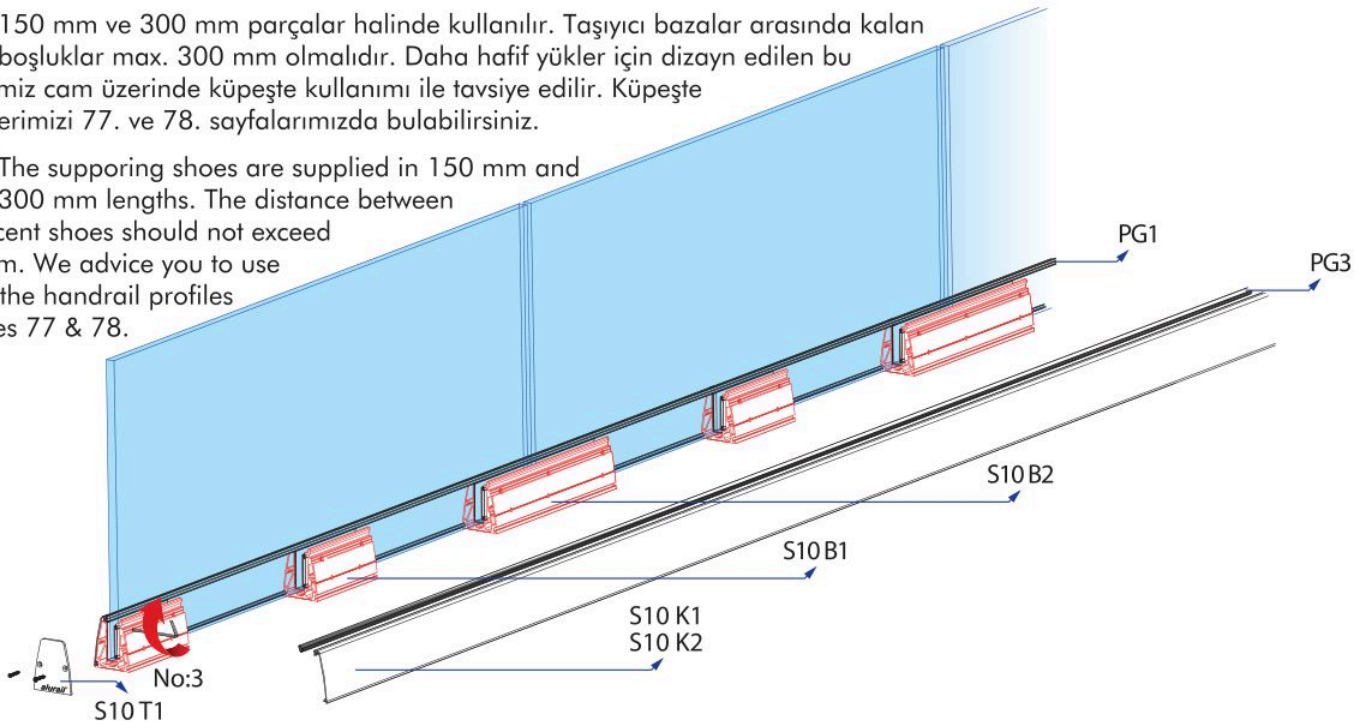


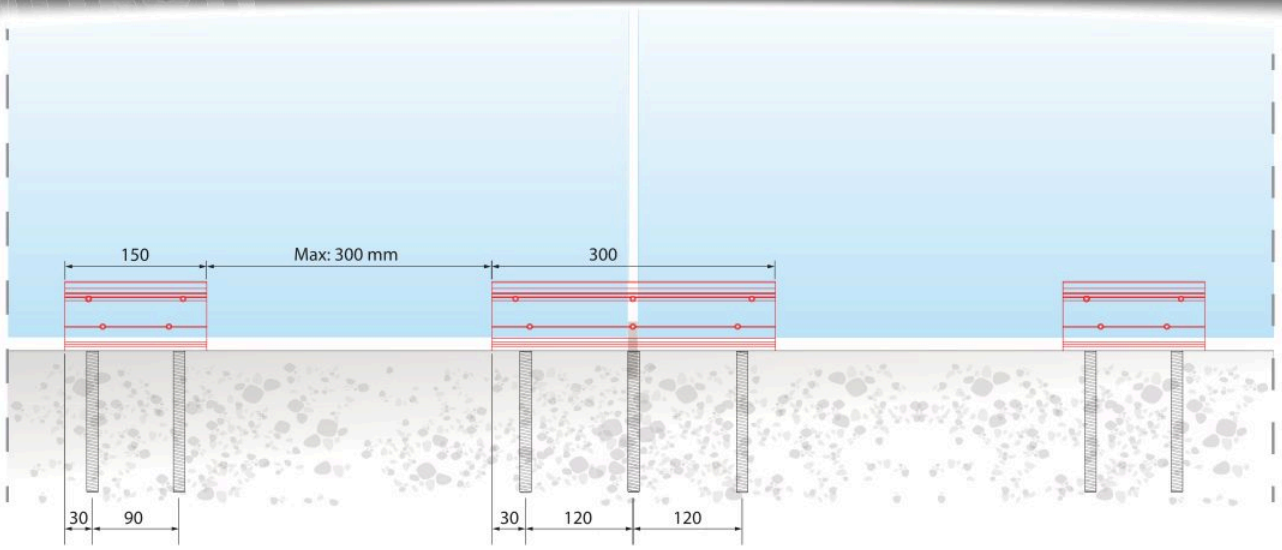


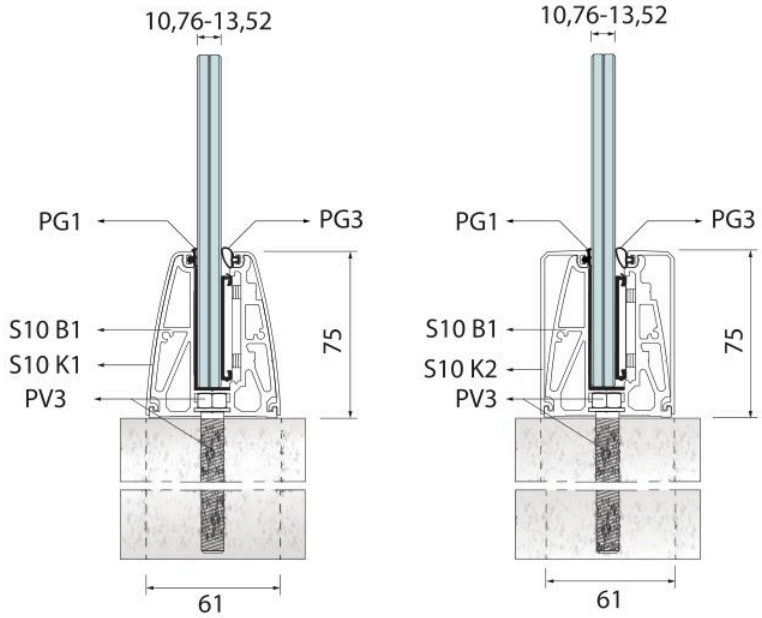


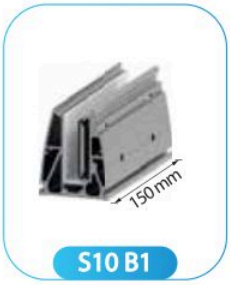
150 mm ve 300 mm parçalar halinde kullanılır. Taşıyıcı bazalar arasında kalan boşluklar max. 300 mm olmalıdır. Daha hafif yükler için dizayn edilen bu sistemimiz cam üzerinde küpeşte kullanımı ile tavsiye edilir. Küpeşte modellerimizi 77. ve 78. sayfalarımızda bulabilirsiniz.

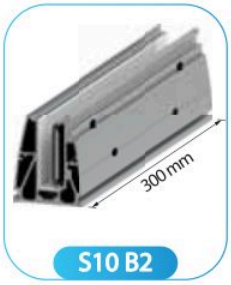
The supporing shoes are supplied in 150 mm and 300 mm lengths. The distance between 2 adjacent shoes should not exceed 300 mm. We advice you to use one of the handrail profiles at pages 77 & 78.




150
Max: 300 mm
300
30
90
30
120
120


10,76-13,52
PG1
PG3
S10 B1
S10 K1
PV3
75
61
10,76-13,52
PG1
PG3
S10 B1
S10 K2
PV3
75
61


150 mm
S10 B1


300 mm
S10 B2

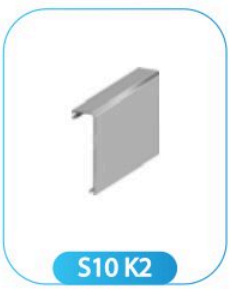

S10 T1

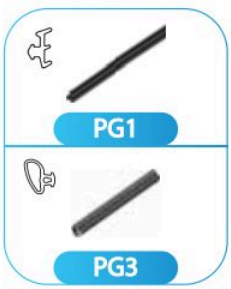

S10 T1A

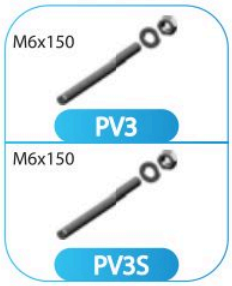

S10 T2


S10 T2A


S10 K1


S10 K2


PG1
PG3


M6x150
PV3
M6x150
PV3S

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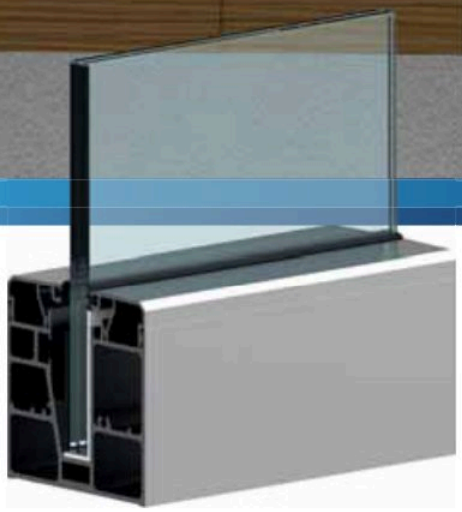
Zemin Üstü Kamalı Cam Taşıyıcılı Korkuluk Sistemi



S20



panorama S20, 5+5 mm ya da 6+6 mm camlarda yalnızca boy kullanımına uygun olarak, hafif yükler için geliştirilmiş cam taşıyıcı sistemdir. Camın sisteme sabitlenmesi plastik kamalar ve civatalar yardımı ile oluşturulur.

Küpeşte kullanımı ile tavsiye edilir.

0,75 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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YENİ NESİL
KORKULUK SİSTEMLERİ
NEXT GENERATION
RAILING SYSTEMS

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Top Mount Sytem with Wedges



S20





panorama S20; it is designed to resist lower loads and to be used only as continous base shoe. The usage of a suitable handrail profile is highly recommended.

Designed for 0,75 kN/mt load.

Our products are patented.

Whole Glass Railing Systems

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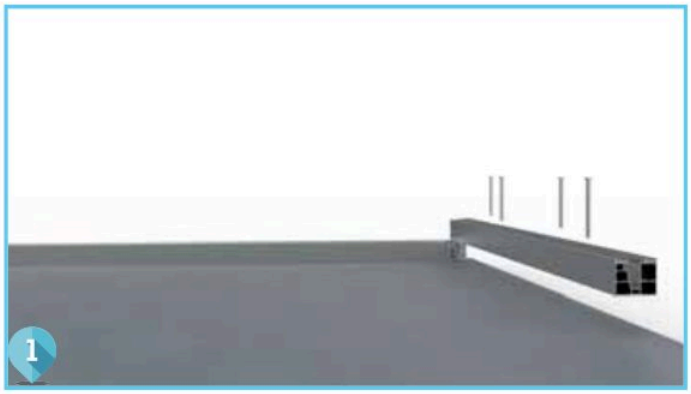
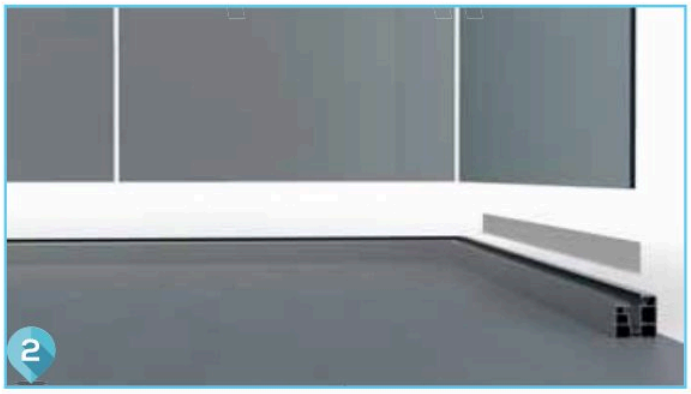
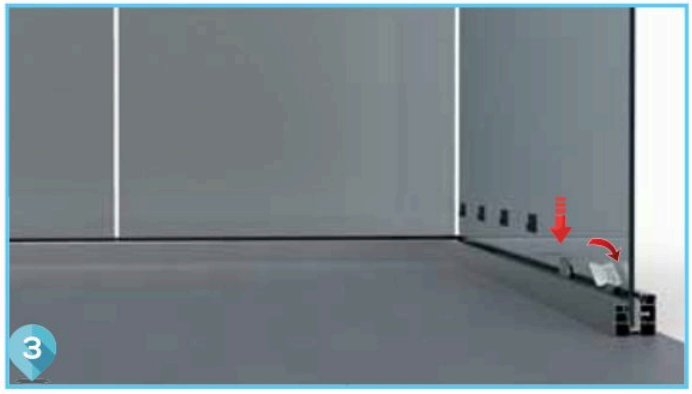
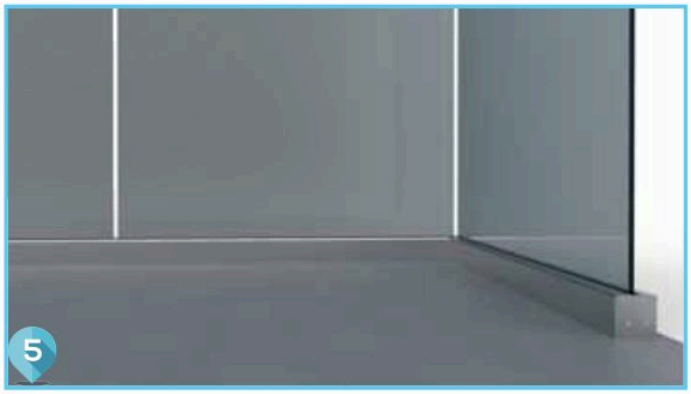
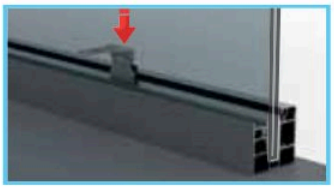






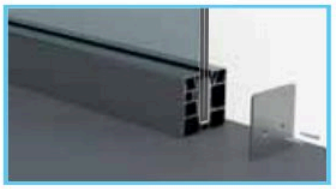






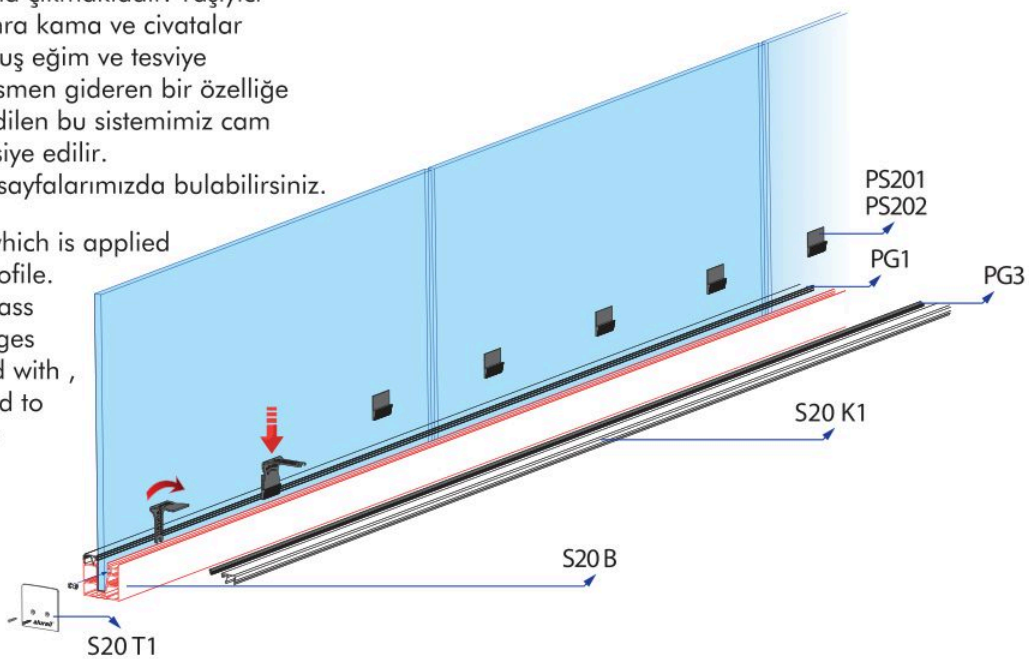


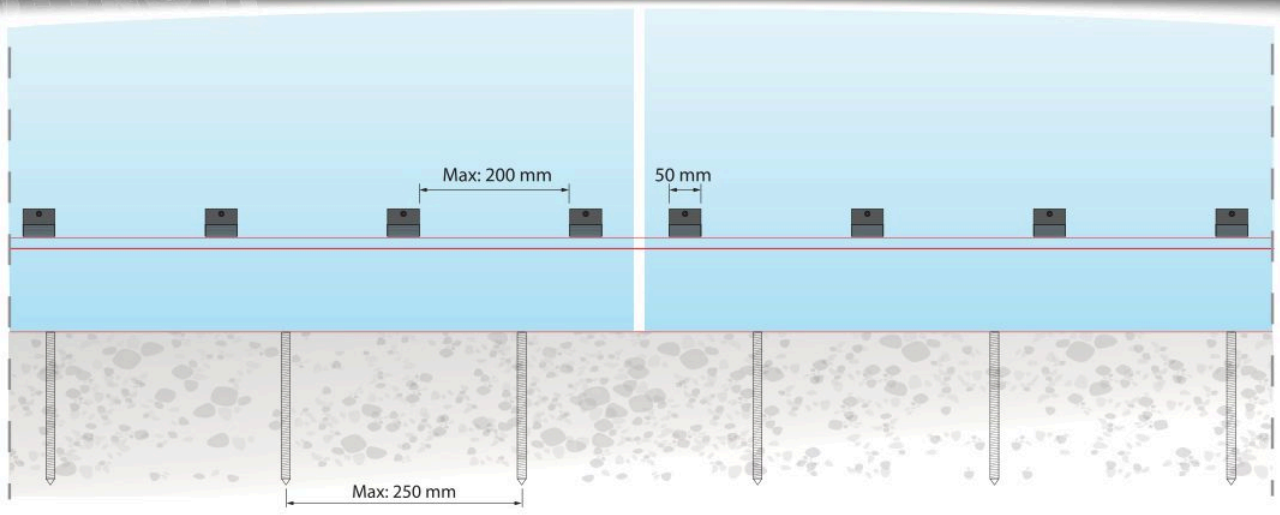


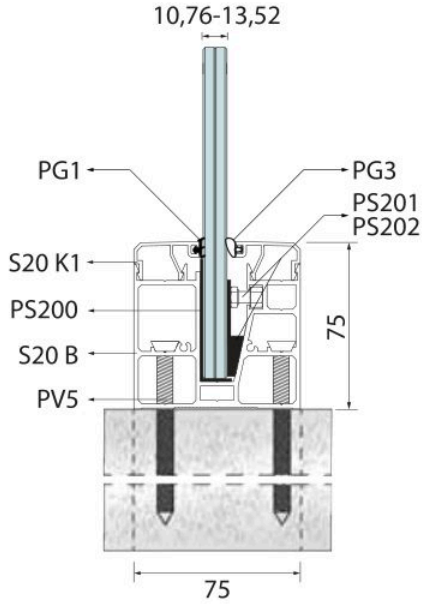


Boy kullanımına göre tasarlanmış bu sistem ekonomik yönü ile ön plana çıkmaktadır. Taşıyıcı baza zemine monte edildikten sonra kama ve civatalar ile cam sabitlenir. Zeminde oluşmuş eğim ve tesviye bozukluklarını boy kullanımı ile kısmen gideren bir özelliğe sahiptir. Hafif yükler için dizayn edilen bu sistemimiz cam üzerinde küpeşte kullanımı ile tavsiye edilir.
Küpeşte modellerimizi 77. ve 78. sayfalarımızda bulabilirsiniz.

It is an economic system which is applied as continous base shoe profile. This partially helps aligning the glass panels in inclined floors. The wedges fixing the glass panels are secured with , an additional bolt. We recommend to use one of our handrails at pages 77 & 78.




Max: 200 mm
50 mm
Max: 250 mm


10,76-13,52
PG1
PG3
PS201
PS202
S20 K1
PS200
S20 B
PV5
75
75


S20 B
S20 K1
S20 T1
S20 T1A

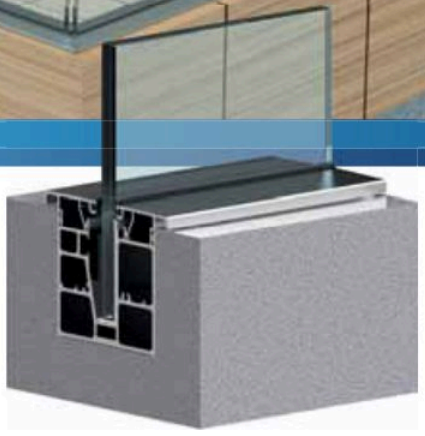

2000 mm
PS200
(5+5)
PS201
(6+6)
PS202
PG1
PG3
7,5x150
PV5
PA1

panorama®

Zemin İçi Kamalı Cam Taşıyıcılı
Korkuluk Sistemi



S20Z



panorama S20Z, S20 sistemimizin zemin içinde uygulanan modelidir. Daha çok şeffaf alan sağlamaya yönelik bu çalışmada, zeminde sistem kesiti kadar bırakılacak boşluklara yerleştirilir. cam ve fitiller yerleştirildikten sonra tamamlayıcı kapaklar ile şık bir görünüm elde edilir.

0,75 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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In Floor System with Wedges



S20Z



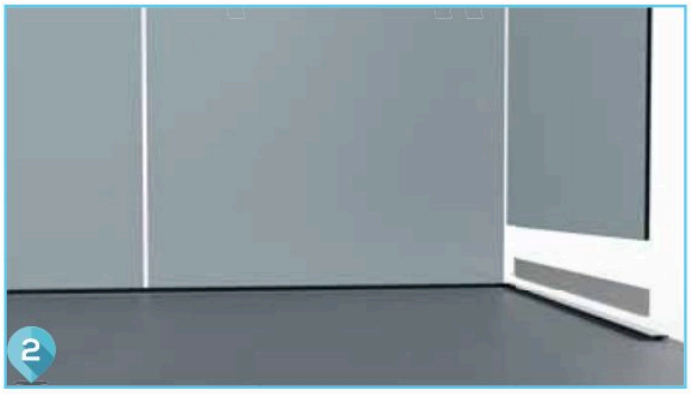
panorama S20Z; it the in floor version of S20. At this system the base shoe is installed under the finished floor level. It is mostly prefered in the projects at which a more clear view is wanted.

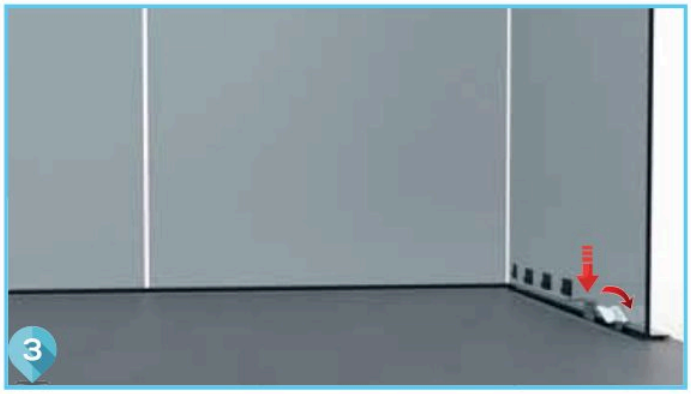
Designed for 0,75 kN/mt load.

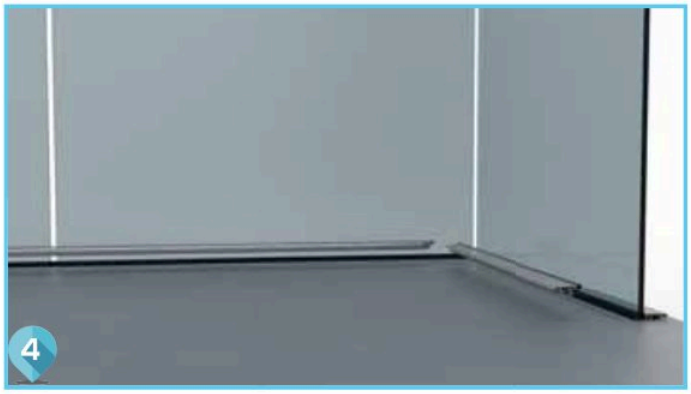


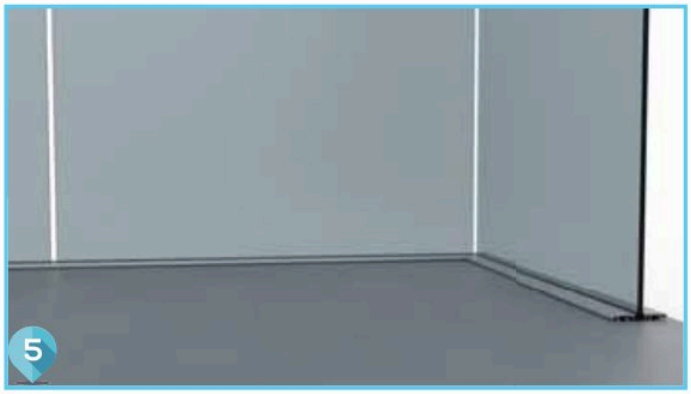
Our products are patented.

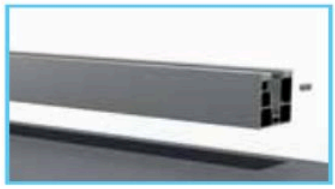


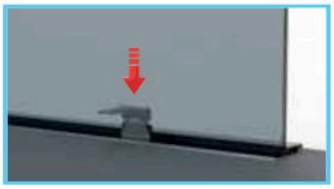










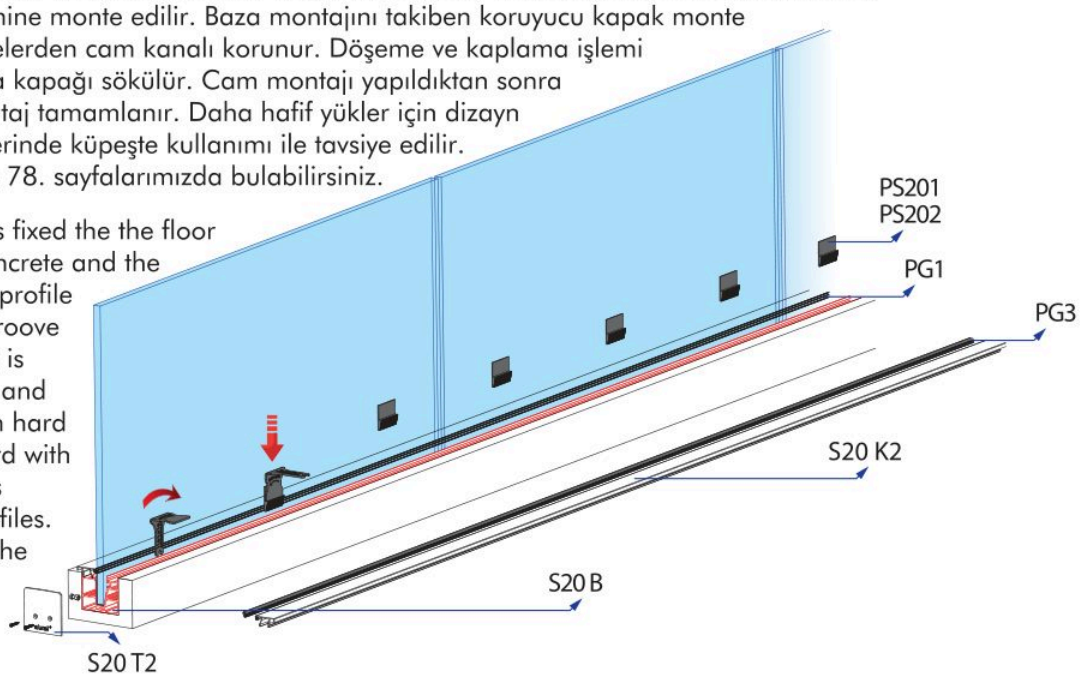


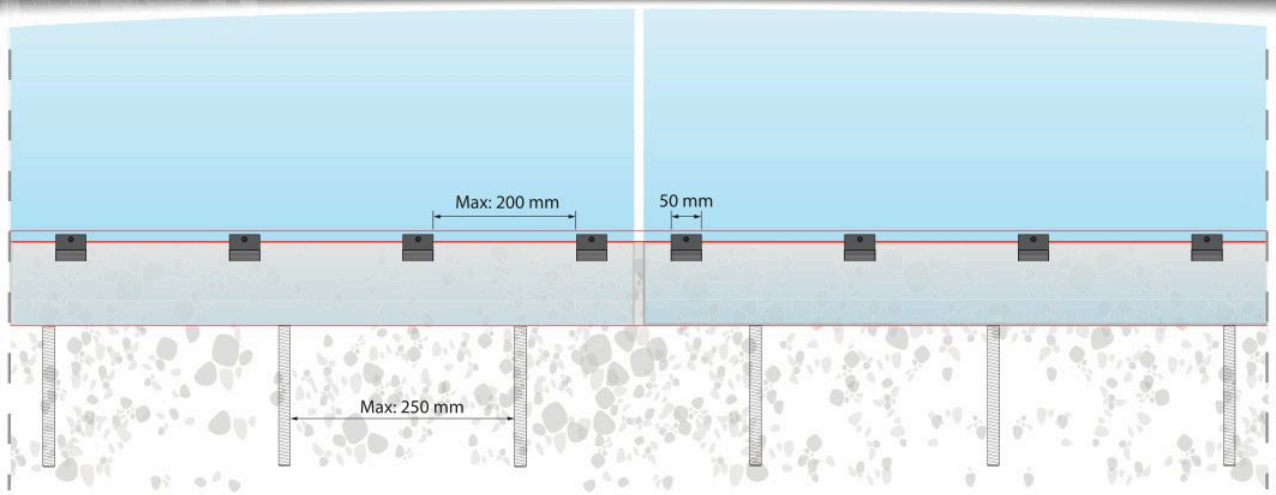


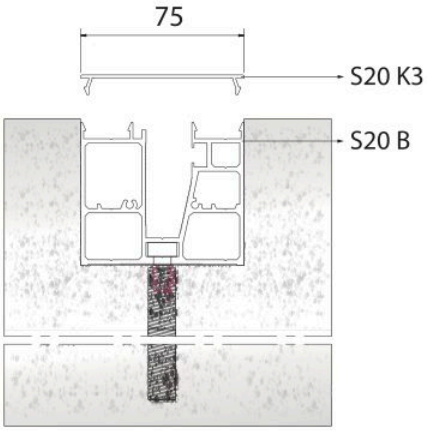


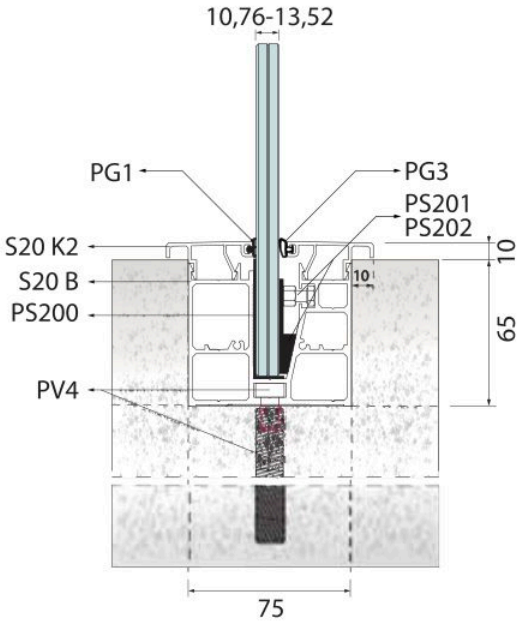
Camın şeffaf görüntüsünü zeminden itibaren oluşmasını sağlar. Uygulamada şap ve kaplamadan önce taşıyıcı profil zemine monte edilir. Baza montajını takiben koruyucu kapak monte edilerek; sıva, alçı vb. maddelerden cam kanalı korunur. Döşeme ve kaplama işlemi bittikten sonra, kanal koruma kapağı sökülür. Cam montajı yapıldıktan sonra bitirme kapağı takılarak montaj tamamlanır. Daha hafif yükler için dizayn edilen bu sistemimiz cam üzerinde küpeşte kullanımı ile tavsiye edilir. Küpeşte modellerimizi 77. ve 78. sayfalarımızda bulabilirsiniz.

The supporting shoe is fixed the the floor before the leveling concrete and the covering material. The closer profile is applied to keep the glass groove clean. After the floor covering is finished the cover is removed and the glass panels are fixed with hard platic wedges which are securd with additional bolts. The system is finished with the cladding profiles. We advice you to use one of the handrail profiles at pages 77 & 78.










S20 B


S20 K2


S20 K3



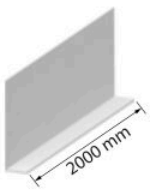
S20 T1



PV4


PG1

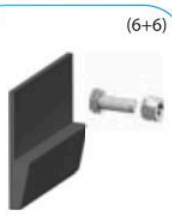

PG3



PS200



PS201



PS202



PA1

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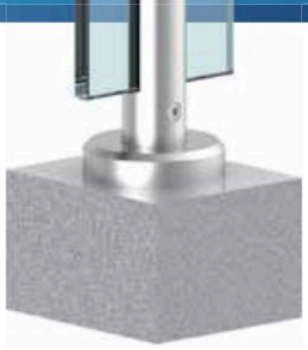
Cam Taşıyıcı Ayaklı Korkuluk Sistemi



X30



panorama X30, cam taşıyıcı ayaklar üç ayrı noktadan zemine saplamalar ve kimyasal dübeller yardımı ile sabitlenir. Bozuk zeminler için ±2° ayar sağlayabilen paslanmaz çelikten mamül taban plakası (X30 V) mevcuttur ve isteğe bağlı olarak sunulmaktadır. Daha çok cam kesiti arzulayan mimari çözümlerin tercihi olmaktadır.

0,75 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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Top Mount Glass Clamp (Spigot) System



X30

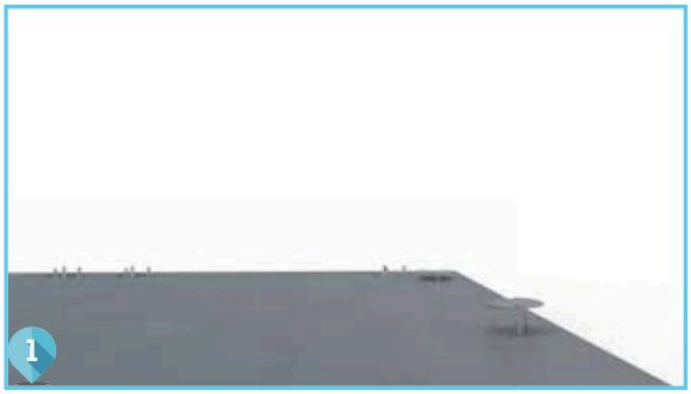




panorama X30; the glass clamps are installed to the ground with 3 pcs M8 rods. An optianal base plate (X30V) made of AISI 304 grade stainless steel which helps to align the glass upto ±2° can be supplied seperately. It is mostly prefered by projects at which more glass view is wanted.

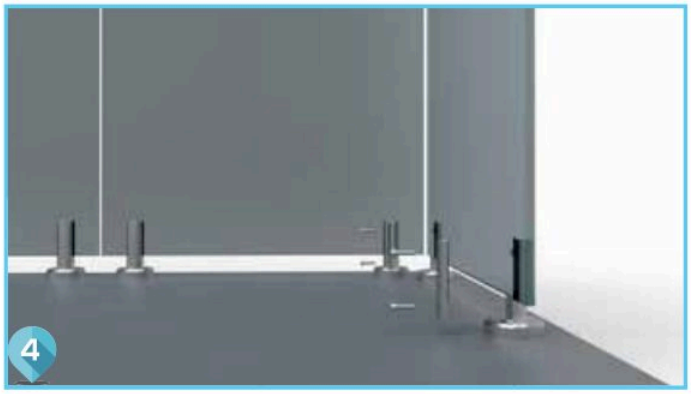
Designed for 0,75 kN/mt load.

Our products are patented.

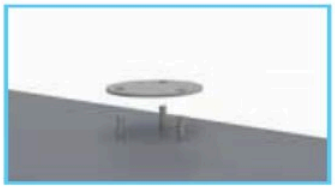












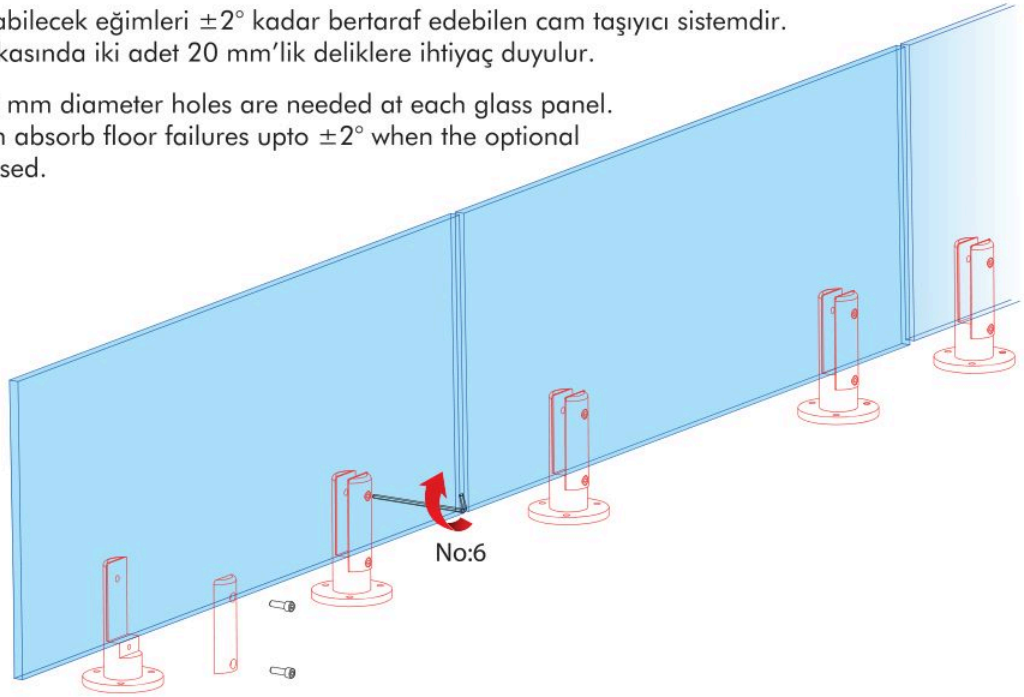


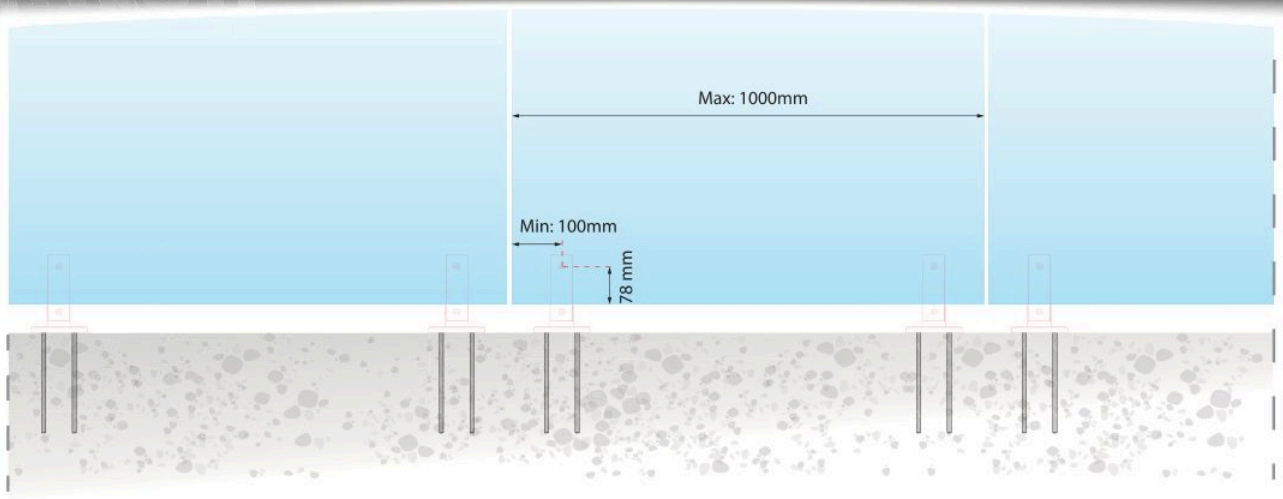




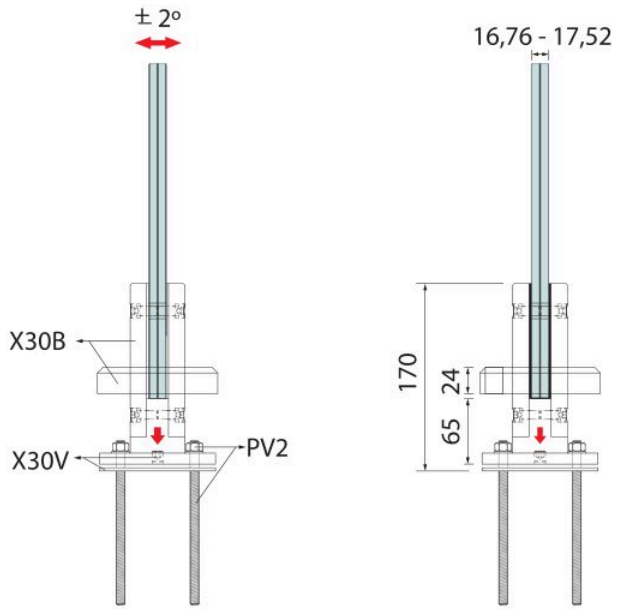
Zeminde oluşabilecek eğimleri ±2° kadar bertaraf edebilen cam taşıyıcı sistemdir.
Her cam tabakasında iki adet 20 mm'lik deliklere ihtiyaç duyulur.

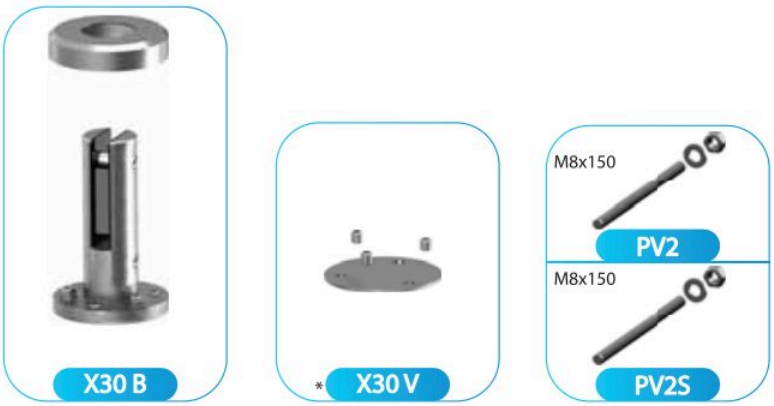
2 Pieces of 20 mm diameter holes are needed at each glass panel.
The clamp can absorb floor failures upto ±2° when the optional base plate X30 V is used.





Cam Delme Çapı / Glass Drilling Diameter : Ø20 mm

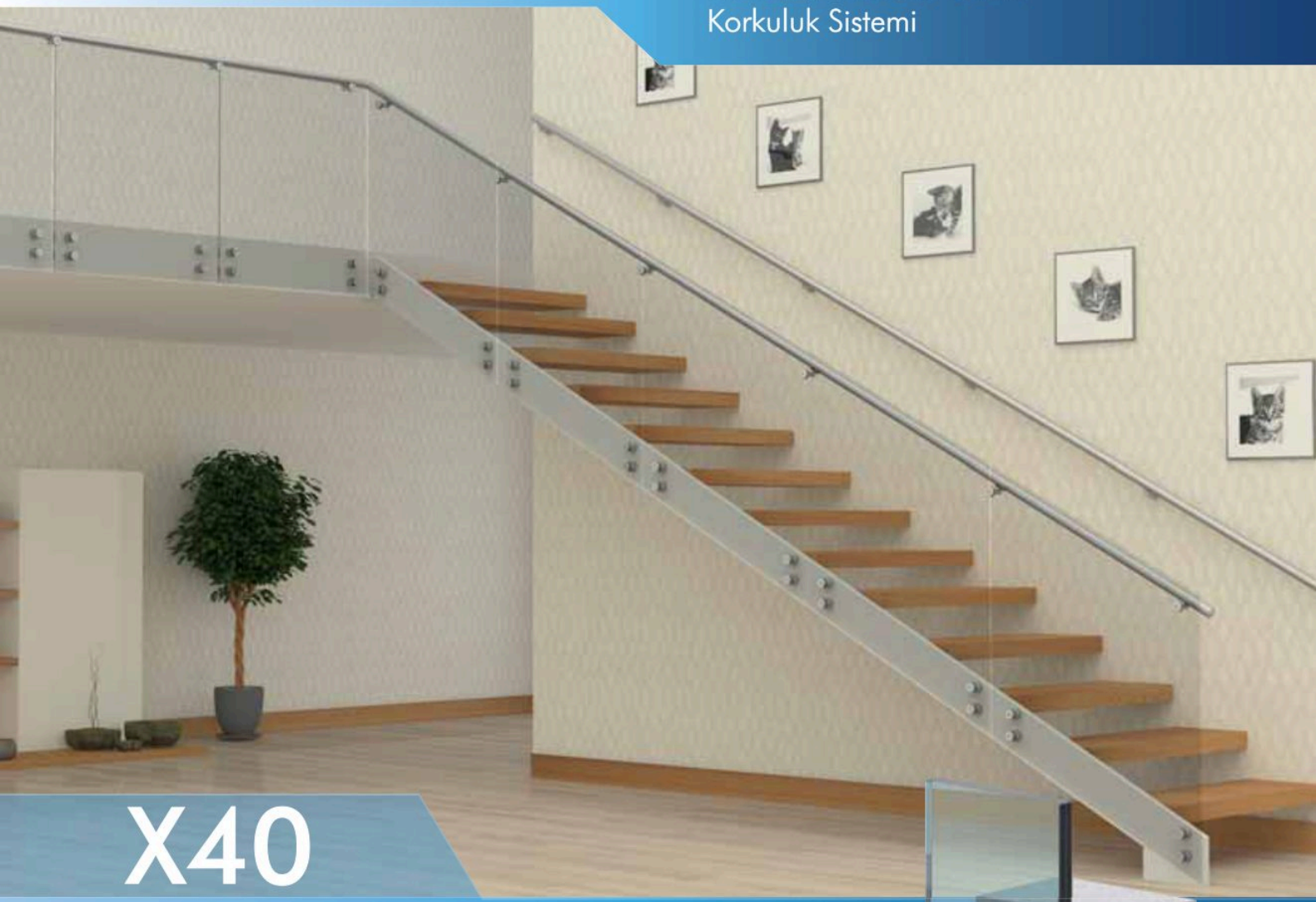




* X30 V ±2° hareket gerektirebilecek döşemelerde kullanılır.
* X30 V is used at floors which require adjustment upto ±2°.

panorama®

Noktasal Tutuculu Camlı Korkuluk Sistemi



X40



panorama X40 özellikle iç mekanların vazgeçilmez çözümleri arasında yer almaktadır.

Bu sistemimiz geliştirilirken, doğabilecek zemin ve montaj hatalarını belirli ölçülerde bertaraf edebilecek ayrıntılar ile donatılmıştır.

Aks arasında ve yüzeyde oluşabilecek iki yönlü hataları 10 mm'ye kadar tolere edebilmektedir. Her cam için 4 adet noktasal tutucu kullanılması tavsiye edilmektedir. Delik çapları 20 mm olmalıdır.

1 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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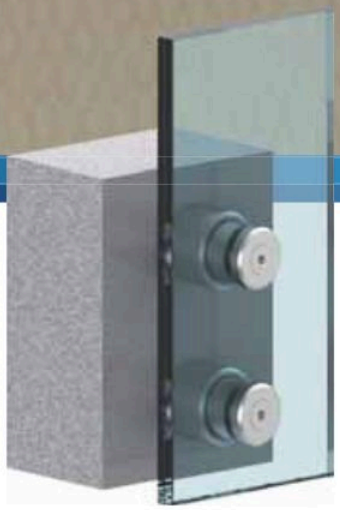
YENİ NESİL
KORKULUK SİSTEMLERİ
NEXT GENERATION
RAILING SYSTEMS

panorama®

Lateral Mount Point Fixing System



X40





panorama X40 is the most preferable solution for indoor applications and for stairs.

This accessory is designed to eliminate floor level and installation failures upto certain limits. We recommend to use 4 clamps for each 1 meter wide glass panel.

Tested and approved with 1 kN/mt load.

Our products are patented.

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Whole Glass Railing Systems









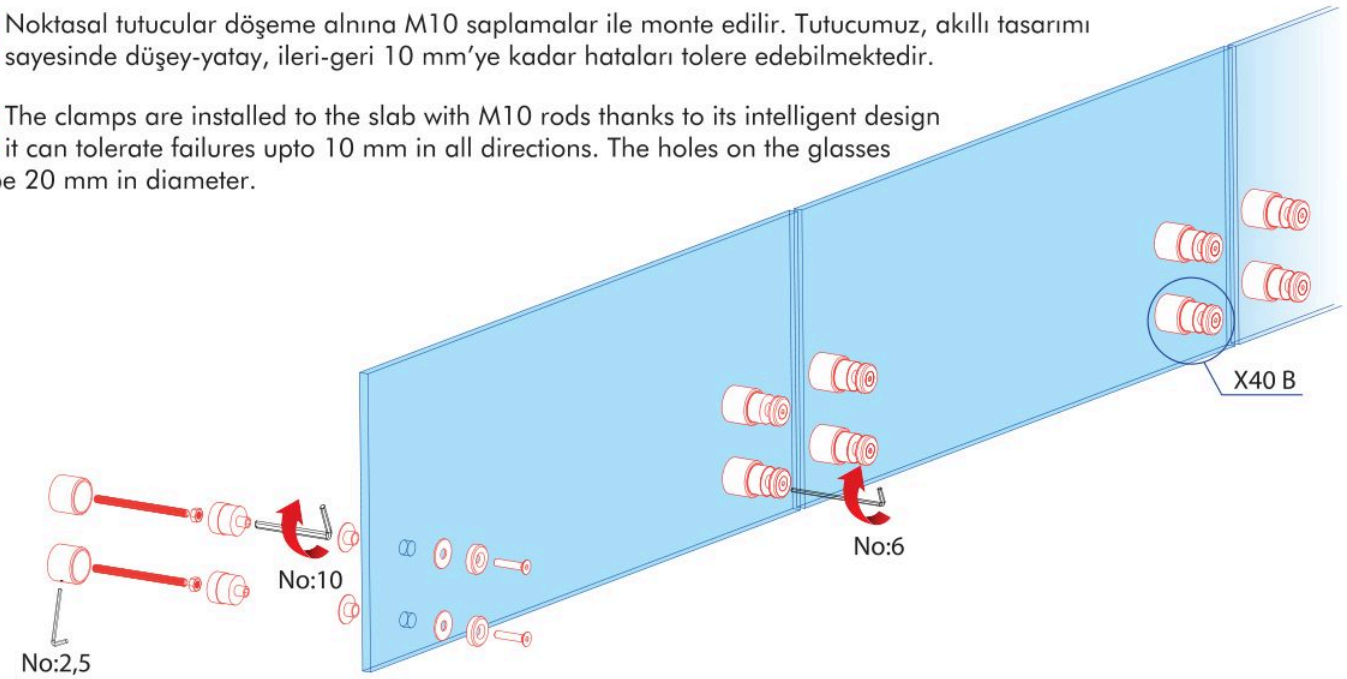


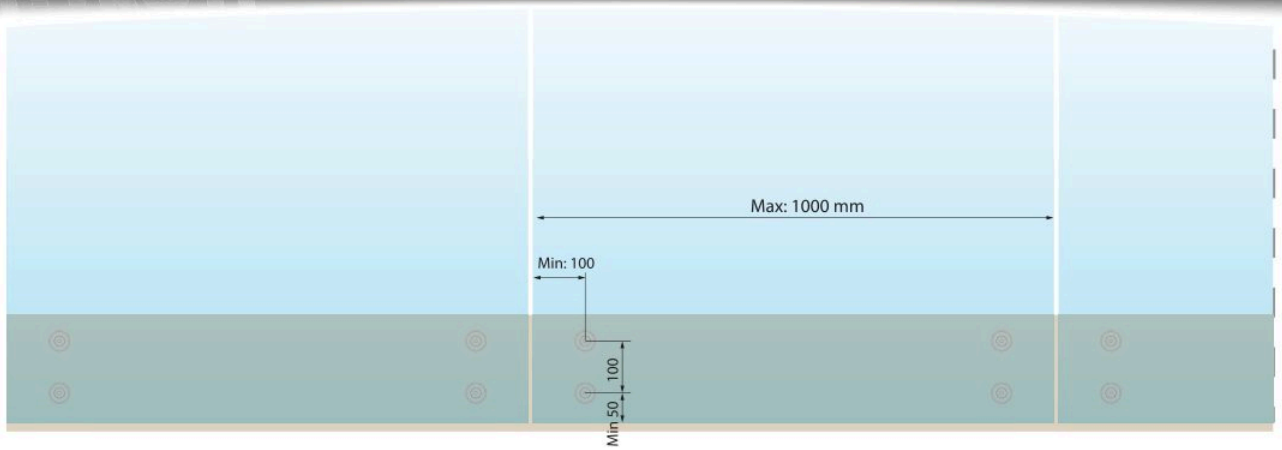




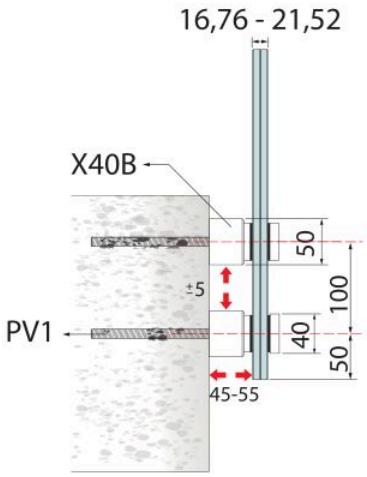
Noktasal tutucular döşeme alnına M10 saplamalar ile monte edilir. Tutucumuz, akıllı tasarımı sayesinde düşey-yatay, ileri-geri 10 mm'ye kadar hataları tolere edebilmektedir.

The clamps are installed to the slab with M10 rods thanks to its intelligent design it can tolerate failures upto 10 mm in all directions. The holes on the glasses must be 20 mm in diameter.





Cam delme çapı / Glass drilling diameter : Ø20 mm

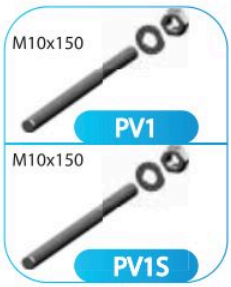












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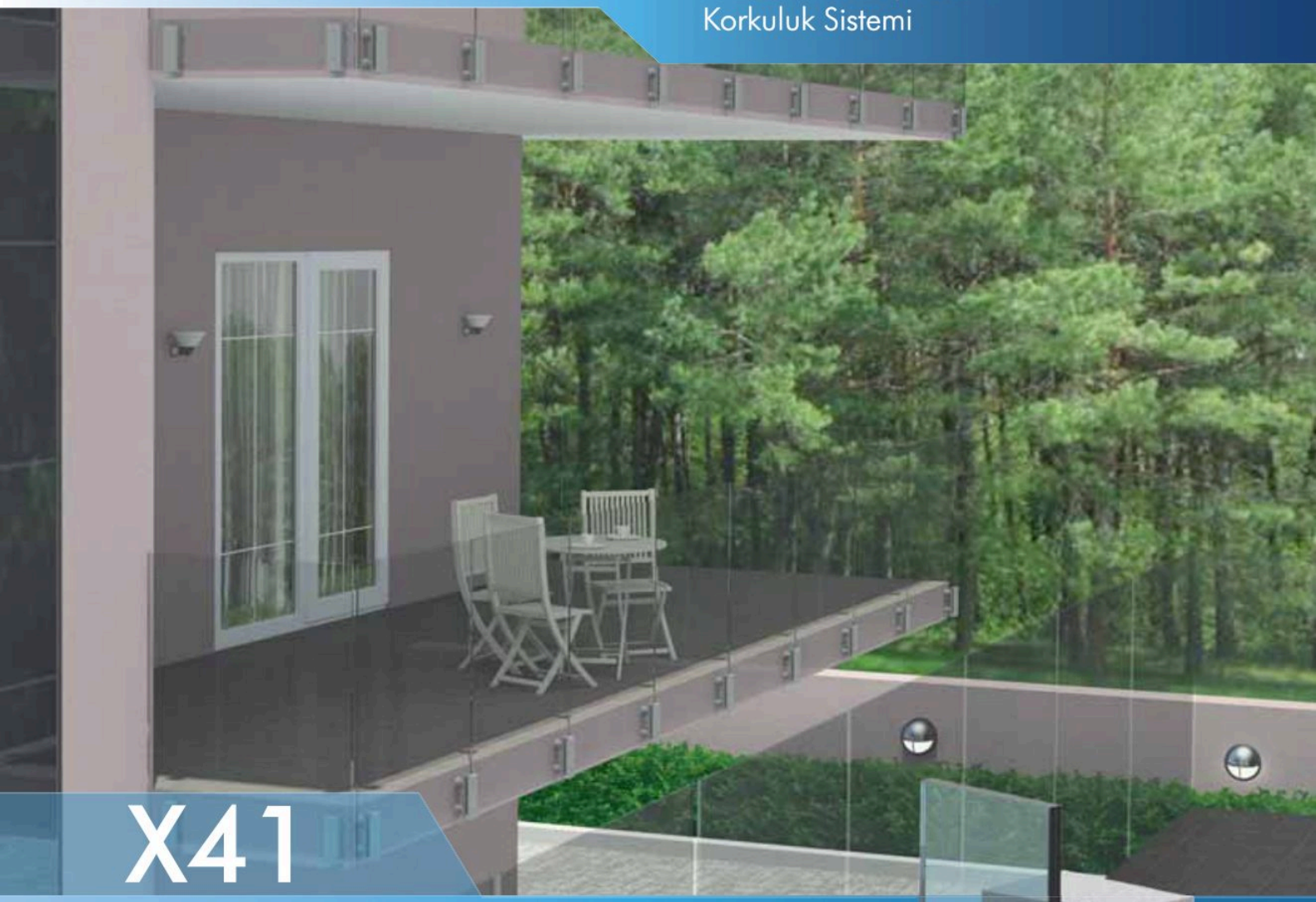
Alından Montajlı Camlı Korkuluk Sistemi



X41



panorama X41, X40 kodlu tutucularımıza 14 mm kalınlığında, 200x65 mm ölçülerinde iki adet lama plaka ilave edilerek geliştirilmiş sistemimiz olup en önemli özelliği cama delik delme ihtiyacını en aza indirmesidir.

1 kN/m yatay yüklere dayanıklıdır.



Ürünlerimiz patentlidir.

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RAILING SYSTEMS

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Lateral Mount Glass Clamp System



X41





panorama X41 is a derivative product of X40 after adding 2 Pcs 14mm thick 200x65 mm plates.
The biggest advantage of this product is to minimize the need of drilling holes on the glass panels.

Tested and approved with 1 kN/mt load.

Our products are patented.

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Whole Glass Railing Systems











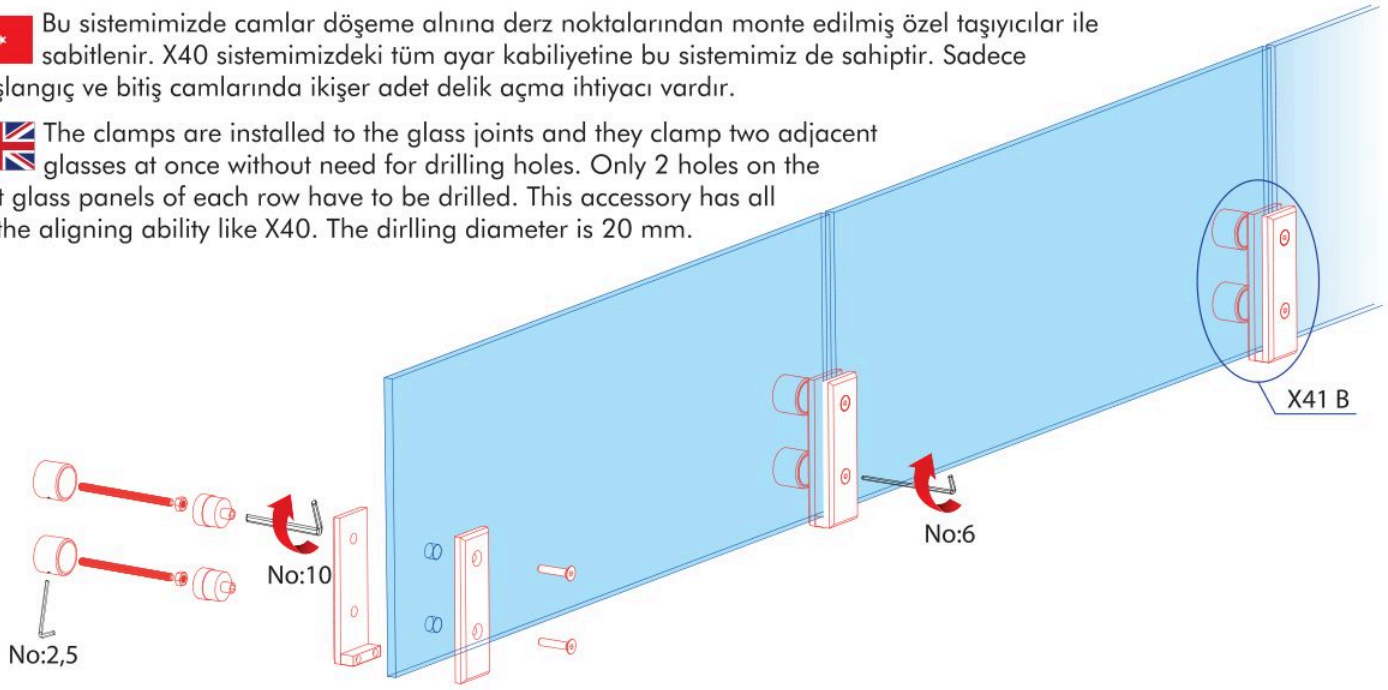


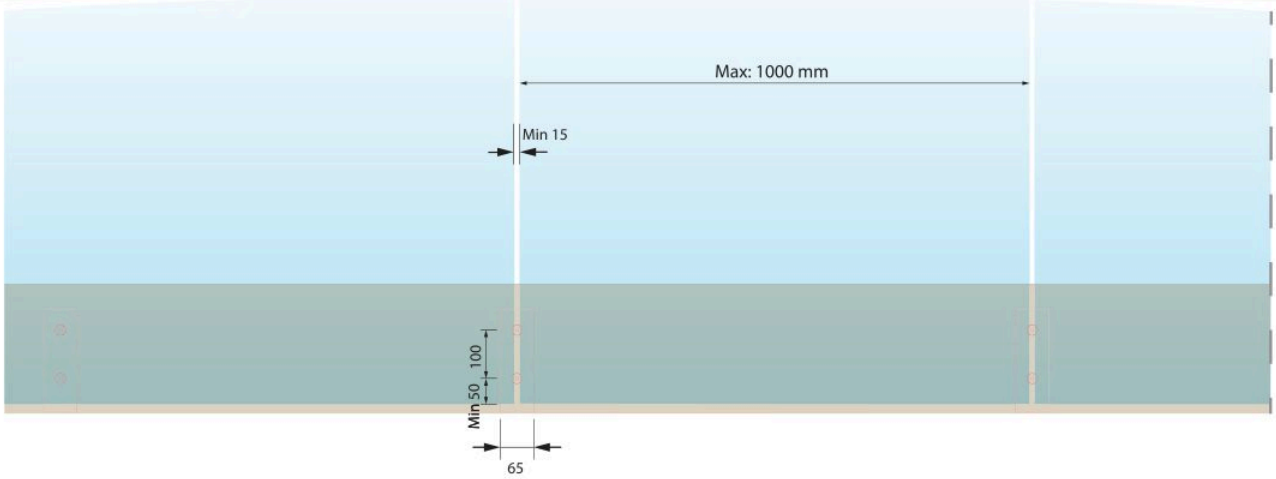




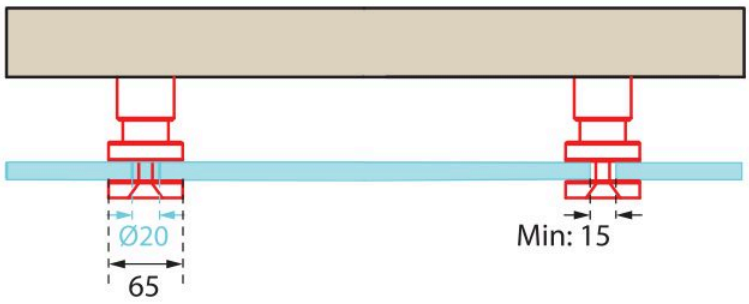
Bu sistemimizde camlar döşeme alnına derz noktalarından monte edilmiş özel taşıyıcılar ile sabitlenir. X40 sistemimizdeki tüm ayar kabiliyetine bu sistemimiz de sahiptir. Sadece başlangıç ve bitiş camlarında ikişer adet delik açma ihtiyacı vardır.

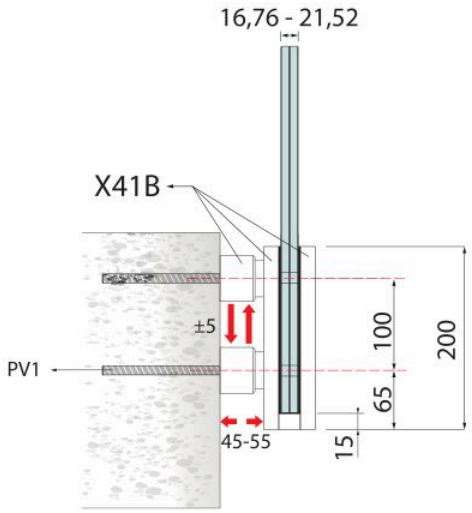
The clamps are installed to the glass joints and they clamp two adjacent glasses at once without need for drilling holes. Only 2 holes on the last glass panels of each row have to be drilled. This accessory has all of the aligning ability like X40. The dirlling diameter is 20 mm.



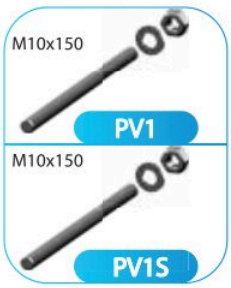


Köşe cam taşıyıcılar için cam delme çapı / Glass drilling diameter : Ø 20 mm









panorama®

Lama Dikme Taşıyıcılı Camlı Korkuluk Sistemi

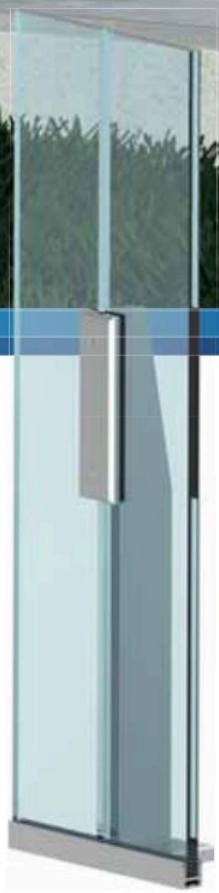


X50

panorama X50, camları derz noktalarından sabitleyen bir lama dikme sistemidir. Sadece başlangıç ve bitiş camlarında ikişer adet delik açma ihtiyacı vardır. Diğer sistemlerimize göre camları daha yukarıdan desteklediğinden, yüksek mukavemet sağlamaktadır.

1 kN/m yatay yüklere dayanıklıdır.





Ürünlerimiz patentlidir.

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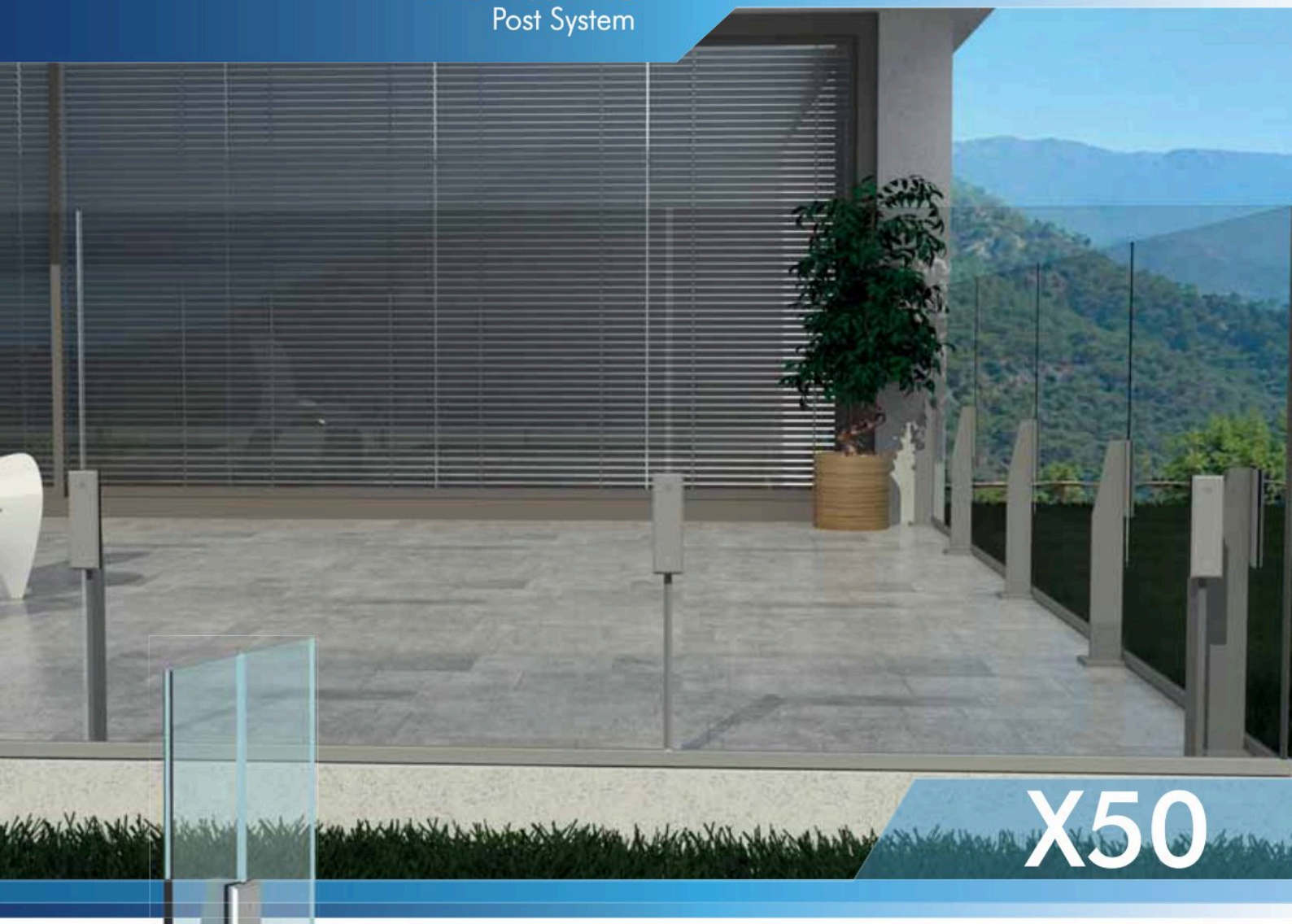
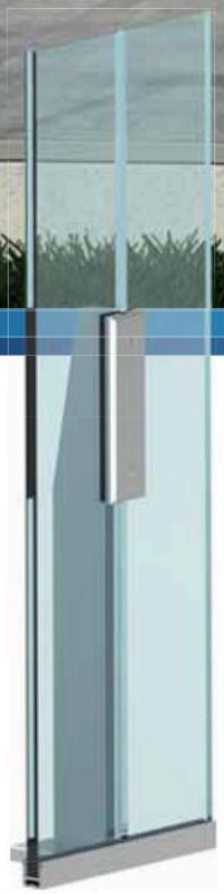
Glass Supporting Post System



X50



panorama X50, is a glass supporting post which clamps two adjacent glass panels from their joints at once. You will have a perfect stability as the glasses are supported from a higher level compared to other systems. The glass panels are finished in the profile PK310X which is installed on the floor.

Tested and approved with 1 kN/mt load.



Our products are patented.

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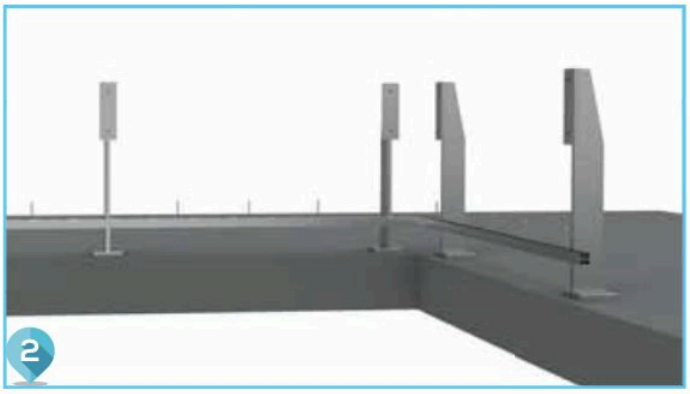
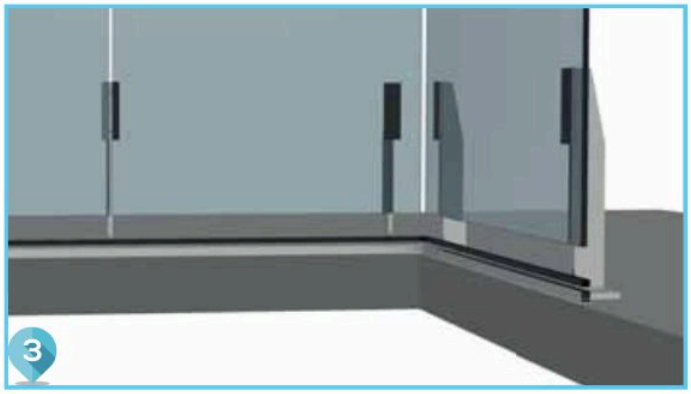
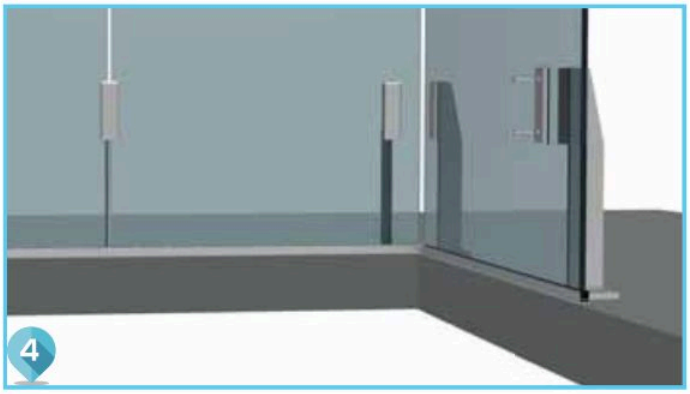
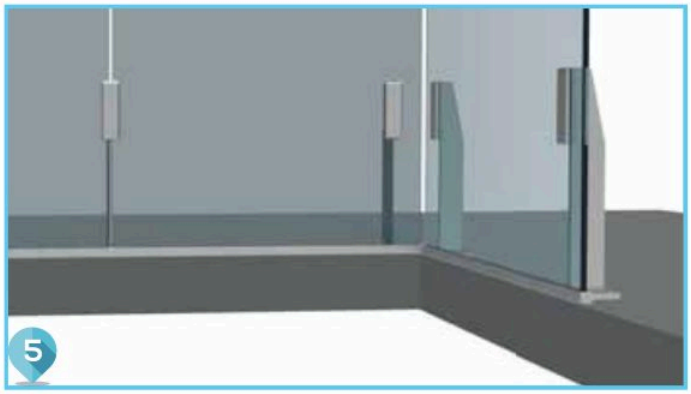
Whole Glass Railing Systems

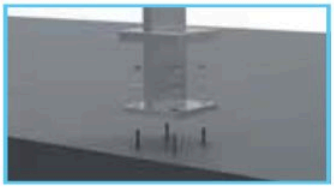


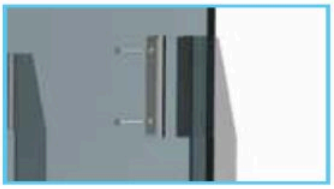










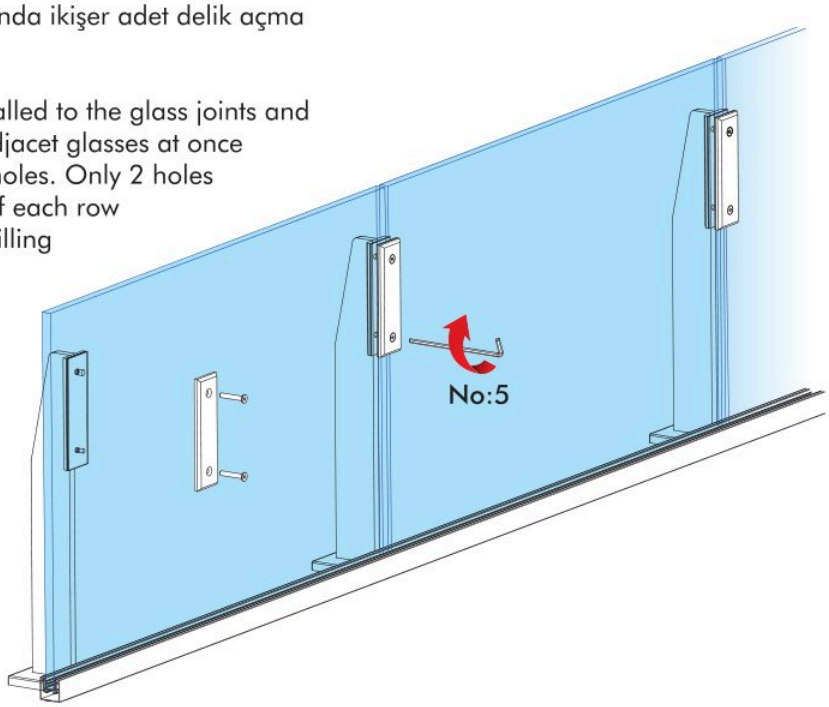


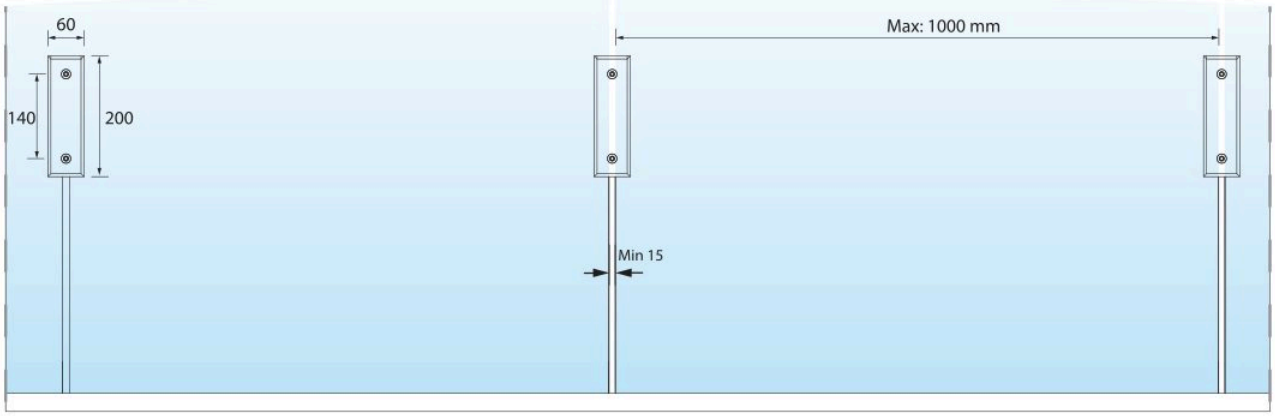




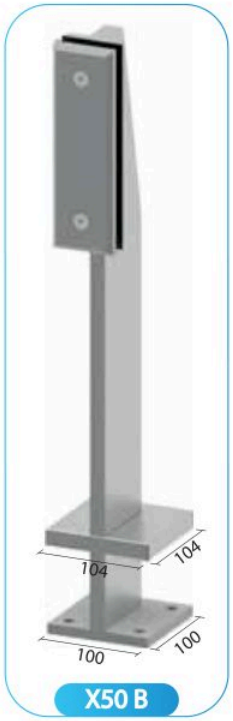
panorama X50, camları derz noktalarından sabitleyen bir lama dikme sistemidir. Sadece başlangıç ve bitiş camlarında ikişer adet delik açma ihtiyacı vardır.

The posts are installed to the glass joints and they clamp two adjacet glasses at once without need for drilling holes. Only 2 holes on the last glass panels of each row have to be drilled. The drilling diameter is 20 mm.

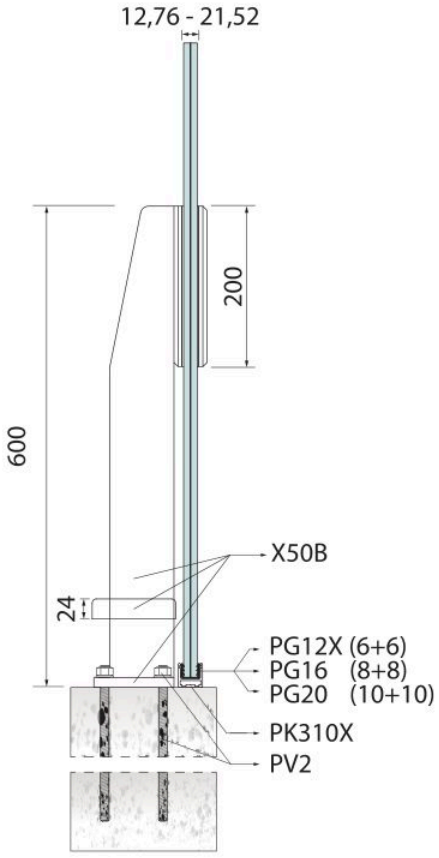


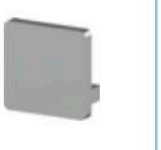


Köşe taşıyıcı dikmeler için cam delme çapı / Glass drilling diameter : Ø 20 mm

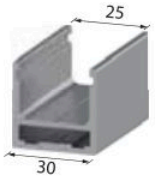


X50 B





PT 310X



PK 310X



PG12X



PG16



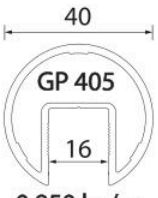
PG20



PV2



PV2S



0,850 kg/m




GF 403F



GS 402HE



GS 402F


GB 402F

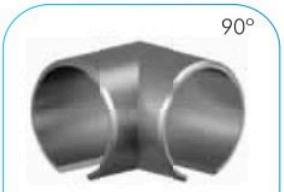

GT 403F



1,095 kg/m




GF 507F



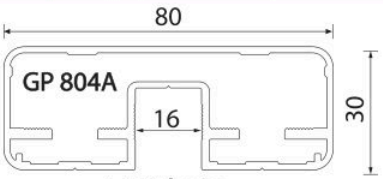
GS 502HE



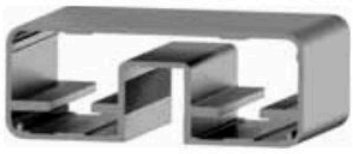
GS 502F


GB 502F

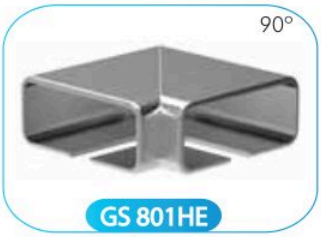

GT 503F



1,420 kg/m

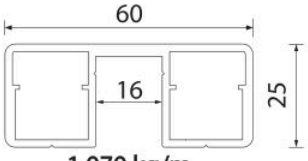



GF 801D



GS 801HE

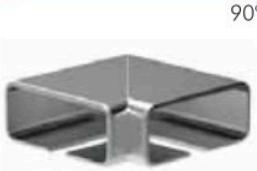

GT 801



1,070 kg/m




GF 611D

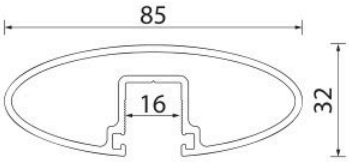


GS 611HE

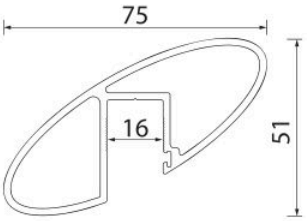

GT 612





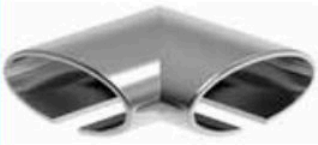


EPK5
1,300 kg/m



EPK6
1,320 kg/m

EPK5 90°



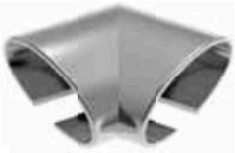
EDK 51

EPK6 90°



EDK 61

EPK6 90°



EDK 63

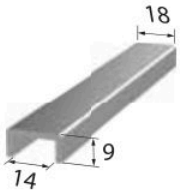


EFK 51



ETK 11

6+6



PU 120

5+5



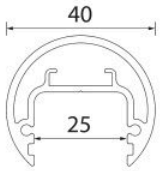
PG 10

6+6



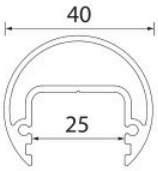
PG 12





PK 400X
0,830 kg/m

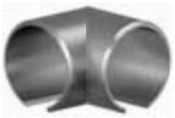




PK 400XE
0,703 kg/m



PF 400X



PD 400X



PD 406X

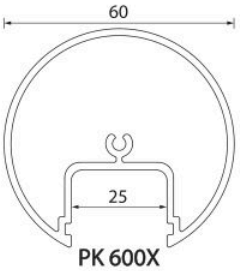


PB 406X



PT 400X

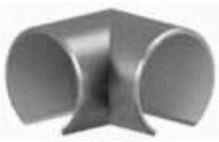




PK 600X
1,180 kg/m



PF 600X

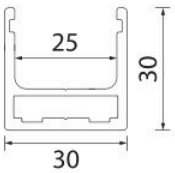


PD 600X



PT 600X





PK 310X
0,673 kg/m

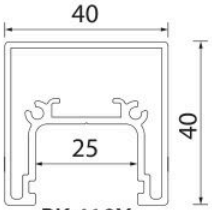


PT 310X

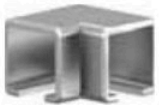


PD 310X





PK 410X
0,940 kg/m



PD 410X



PD 415X



PD 416X



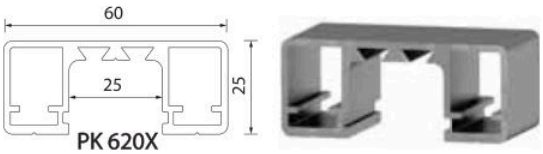
PF 410X



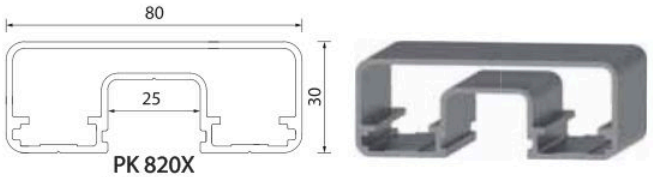
PT 410X



PA 410X

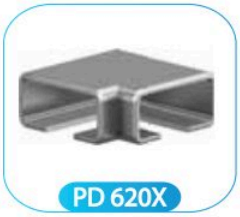


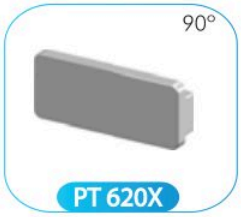
PK 620X
1,100 kg/m



PK 820X
1,380 kg/m

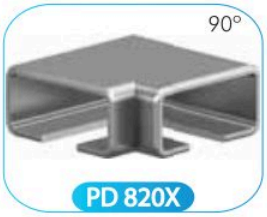

PF 620X


PD 620X

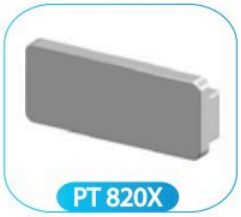


PT 620X


PF 820X



PD 820X


PT 820X

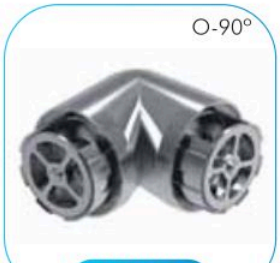





GM 103

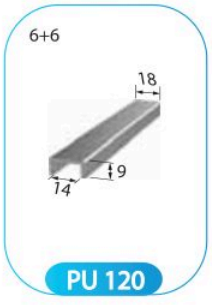

PM 103


GF 507T

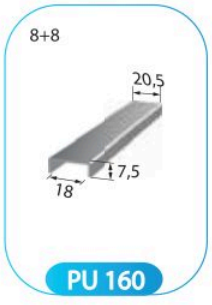


GS 504A

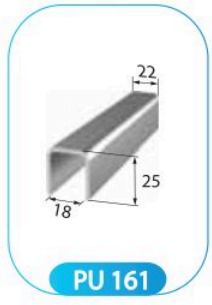

GT 503E



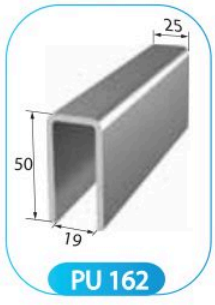
PU 120



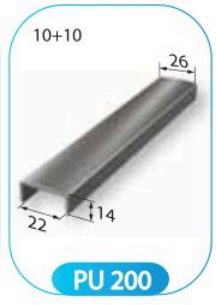
PU 160



PU 161



PU 162



PU 200



PG 12X



PG 16



PG 20

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