ALUMINCO®
ALUMINIUM BUILDING SYSTEMS

Crystaline® railing system

Glass Supporting System

Systèmes de Garde Corps Vitres

Creativity in progress

ALUMINCO, headquartered in Inofyta Viotias, was the first company in this sector which, since its establishment, launched the production of items made of cast aluminium in traditional designs.

After 31 years of experience in the aluminium sector, the company has evolved into a vertically integrated aluminium industry.

Its production facilities include integrated processing, powder coating, assembly, finishing, packaging and storage units for the products it produces and delivers.

ALUMINCO offers a wide range of aluminium products and systems, architectural and construction solutions, which include:

- A full range of tilt & turn as well as sliding, cold and thermal break aluminium systems, as well as curtain wall
- A variety of designs on aluminium panels for any architectural or construction requirement, with an emphasis on style, functionality and safety
- Safety doors and reinforced doors for main entrances suitable for private or commercial buildings. Available in traditional or modern designs, in a large variety of patterns and colors
- Railing systems f or balconies, patios and stairs. In traditional and modern designs, made of cast aluminium, aluminium or inox type profiles and glass railing systems
- Outdoor systems, such as Pergolas, shading systems, canopies, gates, fences and lighting posts, offering integrated solutions for the construction of high demand buildings

ALUMINCO exports its products to over 60 countries globally and is always at the forefront of innovative development of products and systems satisfying the most demanding clients.

The powder coating process is certified by QUALICOAT and SEASIDE CLASS (seaside class processing) specifications. Furthermore, ALUMINCO also conforms to the ISO 9001 certified by TUV Austria, for quality management system and the ISO 14001 environmental management system.

All aluminium and railing systems are designed, developed and tested by our Research & Development department and are then certified by established institutes and international organizations, such as the IFT Rosenheim in Germany, the Instituto Giordano in Italy, the EKANAL (Greek Center of Aluminium Development) in Greece.

ALUMINCO, siégeant à Inofyta Viotias (40km d' Athènes et 70km de l' aéroport international Eleftherios Venizelos) fut la première société en Grèce qui a lance la fabrication de produits en aluminium en fond d' alu au design classique.

Avec son expérience de plus de 31 ans, la société a évoluée dans une industrie d' aluminium verticale grâce aux investissement et développement des sa capacité de production.

ALUMINCO offre une vaste gamme de produits et systèmes en aluminium, en satisfaisant de demande les plus exigeantes, tels que:

- Une gamme complète de Systèmes de menuiserie, ouvrant a la française, coulissant, coulissant a lever, mur rideau, en rupture thermique ainsi qu' en sérié froide.
- Une gamme varie de panneaux en aluminium, compatible avec tout les systèmes de menuiserie, au style contemporain ou classique
- Des portes d' entrée, portes de sécurité, adaptable aux bâtiments prive ou même de commerciaux, grâce aux grand choix de modèles
- Une gamme de systèmes de garde corps, le plus complet du marche.
- Nos systèmes d' ombrage, Pergolas, marquises, clôtures et portails et éclairage ne laissent pas aucune espace qui n' est pas «habillé» par ALUMINCO.

Les produits ALUMINCO sont diffusés dans plus de 60 pays a travers le monde! Guidés par nos clients et par la demande du marche, nous nous efforçons de satisfaire les demandes les plus exigeantes, aussi bien en qualité que en fonctionnalité.

Notre plant de laquage électrostatique, et procédure de laquage sont bien certifies par QUALICOAT et selon spécifications de SEASIDE CLASS.

Le respect d' ALUMINCO pour l'environnement est bien prouvé par ISO 14001, et ISO 9001 (norme internationale) émis par l' organisme TUV d' Autriche (gestion / management de la qualité).

Pour suivre les tendances architecturales fortes, ALUMINCO et son équipe, commence par la conception, le design et finissent par la mise en œuvre de l' ensemble de produits et systèmes.

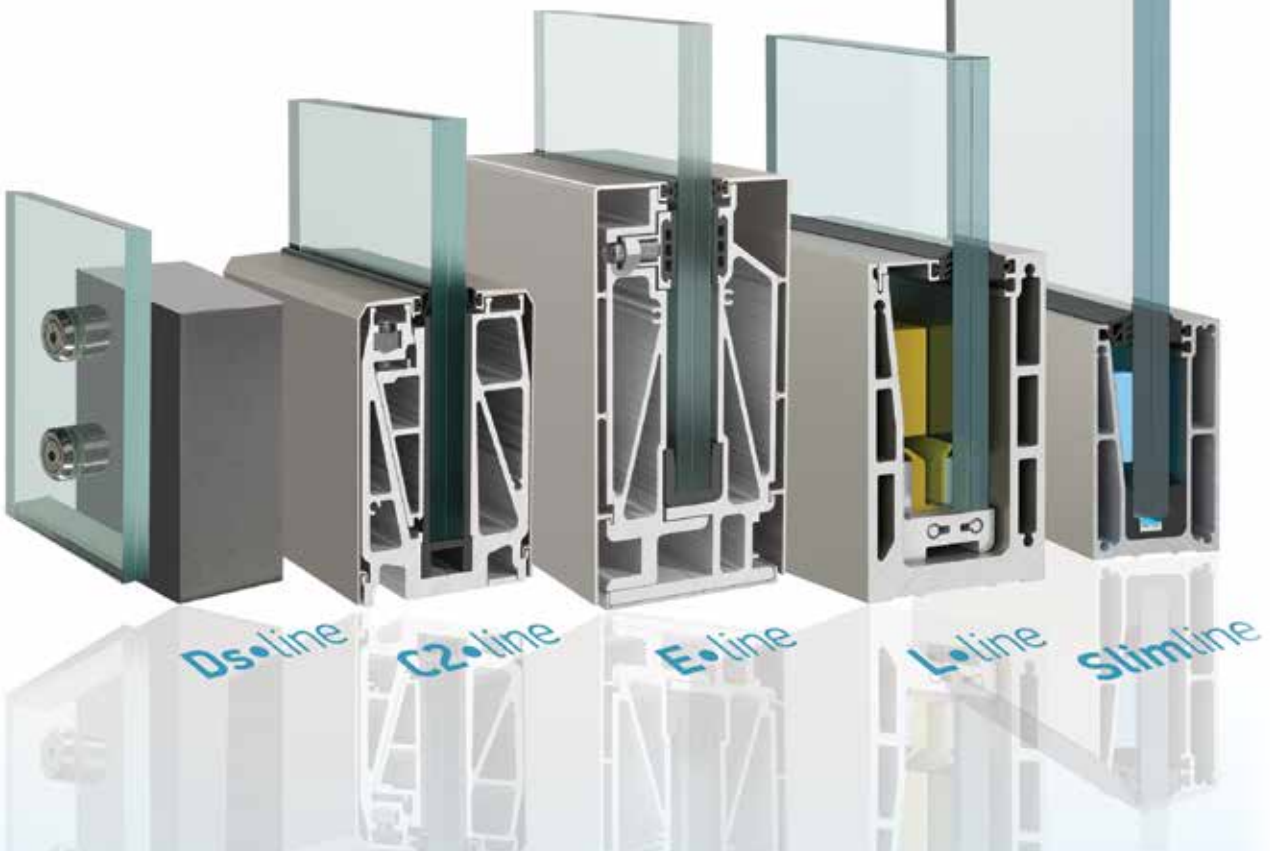
SYSTEMS MATRIX - INDEX

SYSTEM SYSTÈME	MOUNTING MONTAGE			GLASS THICKNESS [1] ÉPAISSEUR DE VERRE [1]	LOAD
	Top Mount Sur Sol	Side Mount Latéral	In-Floor Encastré		
A LINE	■			17.52 mm	≤ 1 kN/m
A10 LINE	■			10.76 mm	≤ 0.5 kN/m
A20 LINE	■			17.52 mm	≤ 0.5 kN/m
A20U LINE			■	17.52 mm	≤ 0.5 kN/m
B LINE	■			17.52 / 21.52 mm	≤ 1 kN/m
C2 LINE	■			17.52 / 21.52 mm	≤ 1 kN/m
C2U LINE			■	17.52 / 21.52 mm	≤ 1 kN/m
D LINE		■		17.52 / 21.52 mm	≤ 1 kN/m
DS LINE		■		17.52 / 21.52 mm	≤ 1 kN/m
DC LINE		■		17.52 / 21.52 mm	≤ 0.5 kN/m
DC LINE NO DRILL		■		17.52 / 21.52 mm	≤ 0.5 kN/m
E LINE	■			17.52 - 25.52 mm	≤ 3 kN/m
L LINE	■	■		17.52 - 21.52 mm	≥ 3 kN/m
SLIM LINE	■	■	■	11.52 - 21.52 mm	≤ 1 kN/m

1. GLASS: Laminated Tempered Glass
VERRE: Verre trempé laminé

DOMAIN OF APPLICATION [2] DOMAIN D' APPLICATION [2]			TESTED & APPROVED BY TESTÉ & APPROUVÉ					PAGE
Private Privé	Commercial	Public Publique	IFT Rosenheim	BBRI	FTL	Instituto Giordano	Intertek	
■	■		■			■		12
■			■					18
■				■				26
■								32
■	■			■		■		38
■	■		■		■	■		46
■	■							54
■	■					■		62
■	■					■		70
								76
■				■				82
■	■	■	■	■	■			88
■	■	■		■			■	96
■	■		■					127

2. PRIVATE: Spaces such as Houses, Residences, Villas / USAGE RESIDENTIEL: Espaces comme Maisons, Résidences, Villas
COMMERCIAL: Spaces such as Offices, Shops, Retails / USAGE COMMERCIAL: Espaces tels que Bureaux, Centres commerciaux
PUBLIC: Spaces such as Shopping Malls, Stadiums, Airports / ESPACES PUBLIQUES: Espaces tels que centres commerciaux, stades, aéroports



General information

Aluminium

No other material can match the characteristics of aluminum. Light Weight/ Poids but strong at the same time, resisting to the most severe weather conditions, due to the application of oxide layer that protects the metal from corrosion. This layer is further strengthened by anodisation, providing even greater weather resistance. Furthermore, it is the most environmental friendly metal, as it is fully recyclable and non-toxic.

Aluminium has a unique combination of attractive properties:

- Low Weight/Poids
- High strength
- Superior malleability
- Easy machining
- Excellent corrosion resistance
- Easy to mill, drill, cut, punch, bend, weld, bond, tape.

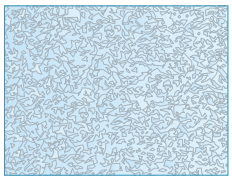
Unless stated otherwise in our catalogue, all of Crystalline types are brushed and anodized, make them ideal for both indoor and outdoor use.

Cleaning: Aluminium products can be cleaned with warm water and soap.

Some 75 percent of all aluminium ever produced is still in use! Aluminium can be reused for the same purposes over and over again. Unlike many other materials, aluminium does not lose its unique properties. Furthermore, the energy needed to produce secondary aluminium is only 5 percent of the original energy input.

Use of glass panels in Crystalline installations

A wide range of glass panels can be integrated with Crystalline system, in various thicknesses and characteristics according to specifications. There are two main categories according to EN12543 and EN12600 specified by the European Union concerning the thermal treatment of the glass.



Toughened Glass
Thermally Toughened glass

More specifically, EN12543 specifies the use of tempered and laminated glass with the insert of PVB membranes .This type of glass panels have the following qualities:

a) In case of breakage, they do not break in large and sharp pieces.

b) Even in case of such breakage , the broken glass pieces remain attached on the PVB surface without putting in danger the safety of nearby persons. The fabrication of these tempered and laminated glass panels is being carried out by thermal treatment of ordinary glass which is afterwards sandwiched together with the PVB membranes to give the various grades and thickness of laminated glass panels.

Laminated Glass
TRIPLEX glass with PVB membrane

In the following pictures show the different types of breakage:

a) Tempered and laminated glass, and,

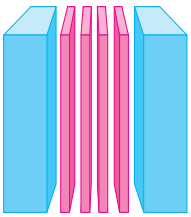
b) Ordinary tempered glass.

PVB films

The common characteristics amongst the two categories mentioned previously, are the use of the PVB interlayer films.

The film is of a tough yet pliable material known as polyvinyl butyral (PVB), placed in layers between the glass.

Rollers press the layers together to expel any air pockets. The glass is then heated to 70°C in a pressurized oil bath to permanently bond all layers together. Typically the thickness of each PVB film is 0,38 mm, additional layers of glass and PVB film increase the strength of the material. Applying two interlayers of film, the thickness becomes 0,78 mm, with three at 1,14 mm and so on.



Glass
PVB film

Apart from the different thickness of glass and PVB, a wide range of colored PVB , for example grey, blue green or yellow is available, offering a particular esthetique to modern buildings.

According to European Normes (EN 12600) the minimum number of films required is two, however ALUMINCO recommends the use of glass with four PVB films for maximal security.

Even in the event of glass breakage, the two layers are held together by the PVB, allowing the sheet as a whole to bend and absorb the impact. This characteristic is especially important for places where safety or security are paramount.

Types of securit glasses

The most common type Triplex glass consists of the combination of Heat Strengthened Glass – PVB – Heat Strengthened Glass. The result of a Heat Strengthened glass panel will resist two times stronger than ordinary glass, where a unified static force has been applied (EN 12543), to one of the same thickness.

The second type of Triplex glass, and the one which meets the safety criteria is Thermally Toughened Glass, and its combination with PVB, known as toughened glass. Toughened Glass is manufactured by subjecting the finished glass size to a heating and cooling treatment which set up high compressive stresses at the surface, and balancing tensile stresses in the center of the glass, thus increasing its strength. The result is a glass that is 5 times stronger than ordinary glass.

Heat strengthened glass is produced by a similar process to toughened glass, however, the strength developed is about half that of toughened glass, and its breakage resembles that of annealed glass.

ALUMINCO strongly recommends the use of Heat Strengthened Glass with the installation of any type of Crystalline system.

Choice of colors

Aluminco offers you with a choice of three standard colors for aluminium profiles and accessories of Crystalline systems: **A-001 Matt & A-432 Gloss anodizing** colors and metallic powder coating color **Anodic 420**.

ANODIZING
A-001 Matt & A-432 Gloss

By defining every architectural or professional desire, Crystalline systems are also offered in a wide range of quality colors **upon request**: gloss and matt finishes, metallic and anodizing colors, RAL, super durable powder coating colors and sublimation wood effects.

METALLIC
Anodic 420

ALUMINCO Certifications

Customer satisfaction and quality assurance are both high on our list of properties. We strive, together with our suppliers, to guarantee permanent high quality.

- Quality Management System Certification
(According to the international EN ISO 9001:2015)
- Environmental Management System Certification
(According to the international EN ISO 14001:2004)
- Certificate of Compliance QUALICOAT
(Certificate of Quality Painting Aluminium Profiles)
- Certificate of quality QUALANOD
(Certificate of quality of anodized aluminum profiles)

Sustainability

Aluminco makes every effort to reduce any negative environmental impacts resulting from production processes. This means that Aluminco is passionately dedicated in sustainability, by being at the forefront the development of energy saving, recycling and waste management and sustainable products.

Informations générales

Aluminium

Il est difficile de trouver un autre matériel avec tells caractéristiques que aluminium. Léger mais robuste en même temps, résistant au conditions climatiques les plus sévères, grâce al' application d' une couche fine d' oxyde qui l' en protège de corrosion. Cette couche devient encore plus forte par le procédure d' anodisation pour une protection contre la corrosion le plus efficace.

A ne pas oublier que l' aluminium est totalement recyclable et respectueux de l' environnement.

Ses caractéristiques uniques

- Léger & robuste
- Non toxique
- Propriété mécanique excellent
- Usinage facile
- Résistant au corrosion
- Rapport prix – qualité excellent

Sauf autrement indique, la finition standard de toutes profiles du système Crystalline sont disponible an aluminium anodise et brosse en teint d' inox.

Saviez vous que 75 pour cent de produits fabrique n aluminium, sont toujours utilisables. Aluminium peut être recycle pour plusieurs fois.

Ses caractéristiques mécaniques ne sont pas déformés comme dans des autres cas. L' énergie utilise pour recycle l' aluminium est a 5% par rapport a son production primaire.

Généralités sur les garde corps Crystalline

Le système Crystalline offre des solutions polyvalentes ou des différent dimensions de verre, selon le type et Avis Technique, sont adaptes. Pour des raisons liées a la sécurité des personnes, ces éléments verriers doivent conformer aux Normes Européens (EN12543 &EN12600) qui spécifie le traitement thermique par un processus de trempe (refroidissement rapide).

Toughened Glass
Thermally Toughened glass

Plus précisément, la gamme de systèmes Crystalline s' installe avec de verre trempe et feuilleté ou lamine de son nom technique, constitue d' au moins deux feuilletés de verre séparées par de films intercalaires (PVB).

Laminated Glass
TRIPLEX glass with PVB membrane

C' est grâce aux ces propriétés mécaniques et résistance au choc, que même au cas de blessure, le verre ne présent pas aucune risque lorsque les pièces casses sont retenue par le film PVB.

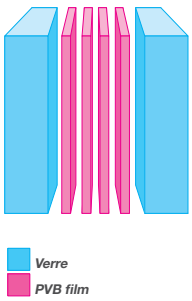
La fabrication de verres trempes et feuilletés est fait par un traitement thermique qui rendent le verres ces qualités de sécurité.

Les photos ci-dessous montrent les différent types de brisure :

a) Verre trempe
b) Verre trempe et feuilleté

PVB films

Le membrane PVB est un intercalaire qui retient les fragments de verre en cas de casse due a des heurts accidentels, le vitrage reste en place, si encadre et il n' y a pas de chute de morceaux dangereux.



L' épaisseur d' un membrane PVB est de 0,38 mm, en pratique on utilise plusieurs membranes de cette épaisseur afin d' accroître la durabilité et l' élasticité du vitrage feuilleté. En ajoutant deux membranes l' épaisseur devient 0,76 mm en ajoutant un troisième cela devient 1,14 mm etc… le PVB est disponible dans une gamme de couleurs allant du transparent, le gris le jaune et beaucoup d' autres combinaisons qui permettent de réaliser une balustre en harmonie avec l' esthétique de résidence.

Pour être en règle avec les European Standards (EN 12600), il faut au moins utiliser 2 membranes PVB entre deux parties de vitrage. Pour utiliser nos système Crystalline, ALUMINCO recommande de toujours regarder situation par situation et de ne jamais hésiter a mettre un PVB en trop pour accroître la sécurité.

Typologie de verre trempe et feuilleté

Le verre, matériaux de construction, est un moyen d' ajouter de style et élégance, mais ce qui est le plus important c' est la sécurité de personnes.

Dernièrement, le verre a utilise avec les garde corps vitres, sont de verre trempe et feuilleté.

Le verre feuilleté est un assemblage de feuilles de verres et d' intercalaires de nature plastique. Les intercalaires peuvent se présenter sous forme de film, généralement (Poly-Vinyle-Butyral).

Ses caractéristiques, ils conservent les propriétés lumineuses et énergétiques, des produits de base. Une fois trempes, ils ne peuvent plus être découpés ni façonnés.

Le verre feuilleté pour bâtiment fait l'objet de la norme EN ISO 12543.

Les couleurs

Aluminco vous offre un choix de trois couleurs standard pour les profilés en aluminium et accessoires de systèmes Crystallins: brillant et mat couleurs d'anodisation et de la couleur métallique en poudre et couleur anodique 420.

ANODIZING
A-001 Matt & A-432 Gloss

En définissant chaque désir architectural ou professionnel, les systems Crystallins sont également proposés dans une large gamme de couleurs de qualité sur demande: brillant et mat finitions, métalliques et anodisation couleurs RAL, couleurs en poudre ultra durables et les effets de bois de sublimation.

METALLIC
Anodic 420

ALUMINCO Certifications

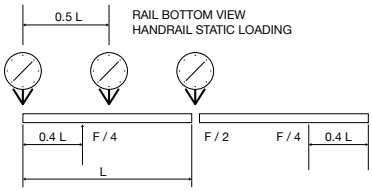
La satisfaction du client et l'assurance qualité sont au sommet de notre liste de propriétés. Nous nous efforçons, en collaboration avec nos fournisseurs, pour garantir une haute qualité permanente.

- Certification Système de Management Qualité
(Selon l'international EN ISO 9001: 2015)
- Environmental Management System Certification
(Selon l'international EN ISO 14001: 2004)
- Certificat de Conformité QUALICOAT
(Certificat de qualité Peinture Profils Aluminium)
- Certificat de qualité QUALANOD
(Certificat de qualité des profils en aluminium anodisé)

Durabilité

Aluminco fait tous les efforts pour réduire les impacts environnementaux négatifs résultant des processus de production. Cela signifie que Aluminco est passionné par le développement durable, en étant à l'avant-garde dans le développement de l'économie d'énergie, recyclage et gestion des déchets et des produits durables.

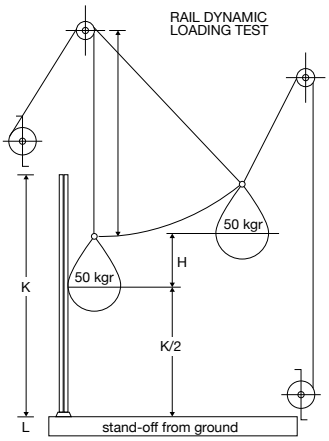
Description of Rail Tests



The object of the test is to verify the behaviour of the balustrade under:

Static Loads

Horizontal outwardly directed static service and safety loads (linearly distributed and point horizontal loads). The load is applied at the central point of handrail, and then at two symmetrical points, a quarter and three quarters of the way along the handrail, whilst deformation is measured halfway along the overall Length/Longueur.



Dynamic Loads

It is the impact test using a suspended soft body of 50 kg, comprising an Aluminium solid tube, along with two tyres, or another bag full of small Aluminium spheres, always totalling Weight/Poids of 50 kg as soft body load. Impact points on glass panel are shown on following photos.

Drop Height (H), for soft body mass 50 kg = 0,5 KN :

300 mm = 0,30 m -> Housing / Residential Category

450 mm = 0,45 m -> Offices / Commercial Category

700 mm = 0,70 m -> Public / Mall Category

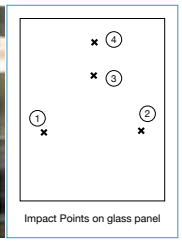
900 mm = 0,90 m -> Public / Mall Category

Max. Permissible Horizontal Deflection = K/300,

Max. Rail Height = K = 1200 mm

Using, **Max. Permissible Horizontal Deflection = 4 mm = 0,004 m:**

During impact test, no falling glass fragments may become detached that could cause personal injury, and also the filling element of the rail must not separate from the structure of the balustrade, and the glass must continue to exercise its function under the application of a punctual load of 200 N=20 kg for 30 seconds. The impact body must not pass through the balustrade upon impact.



Impact Points on glass panel

Category for Impact Test Certification	Drop Height (m)	Impact Velocity (m/sec) SQRT (2gH)	Impact Load (kg) caused by soft body 50 kg = 0.5 KN onto the Glass Panel	Impact Time (milliseconds)	Impact Dynamic Energy (Joules=Nm) 0.5 KN x Drop Height = mgH
Housing, Residential	0.30	2.43	3690	1.6	150
Office, Commercial	0.45	3.00	5625	1.3	225
Public, Mall	0.70	3.70	8556	1.0	350
Public, Mall	0.90	4.20	11025	0.96	450

Rail Test Categories: Private use – 0.5 KN (0.5 KN/m): A1, A2, B1

Relatively light constructions can be used for applications in homes. The glass balustrade must be able to withstand 0,5 KN per linear meter.

Commercial use – 1 KN (1 KN/m): A2, B1, B2, C1

Glass balustrades in offices require the use of heavier materials. The glass must be thicker and the profiles must obviously be adapted accordingly. The glass balustrade must be able to withstand 1 KN per linear meter.

Public use – Stadiums – 1.5 KN-3 KN (3 KN/m): C2, C3, D, E

Public spaces and stadiums, where lot of people may assemble in small space, require robust balustrades. Glass thickness and heavy profiles provide safety under heavy loads. The glass Balustrade must be able to withstand up to 3 KN per linear meter.

Type of occupancy	Description	Example of use
A1	All areas within or serving exclusively a single occupancy dwelling including stairs, landing etc., but excluding external balconies and edges of trafficable roofs where the level is greater than three (3) meters above the adjoining ground level.	Internal or external balconies where the level is more than one (1) meter, but less than three (3) meters, above the adjoining ground level for single occupancy dwelling up to 2 storeys.
A2	All other areas of residential buildings except those defined in A1.	External balconies of multi-storey buildings where the level of the balcony is more than three (3) meters above the adjoining ground level.
B1	Office, work and storage areas not covered elsewhere, with light, non-public pedestrian traffic routes, including light access stairs, gangways and areas used for maintenance purposes.	A single office at mezzanine level of a small showroom, maintenance areas and the like.
C1	Areas where people may congregate without obstacles for moving people, but not susceptible to overcrowding, including fire escape portions of residential buildings.	Stairs, landings, corridors, ramps, external balconies, edges of roofs, footways and pavements and the like within building cartilage adjacent to basement or sunken areas.
C2	Areas where people mayn congregate with table and fixed seating but not susceptible to overcrowding, including fire escape portions of all buildings other than residential.	Restaurants, bars and the like.
C3, C4	Areas where people may congregate and are susceptible to overcrowding.	Theatres, stadiums, cinemas, discotheques, auditoriums, assemble areas and bars and the like.
D	All retail areas excluding areas susceptible to overcrowding.	Public areas of banks shopping centers and the like.
E	Vehicular and traffic areas	Pedestrian areas in car parks including stairs, landings and the like except areas where there is a danger of dynamic vehicle impact.

Table 2.1 Type of occupancy

Type of occupancy (*1)	Uniformly distributed load (KN/m) (*2), (*3)	Point load applied to top rail (kN) (*2), (*3), (*4)	Uniformly distributed load applied to the infill (KPa) (*2)	Point load applied to part of the infill (KN) (*2), (*4)
A1, B1	.4	.6	.5	.25
A2, B2, C1	.75		1	.5
C2, D, E	1.5		1.5	1.5
C3, C4	3		1.5	1.5

Table 2.2 Design live loads
*(*1) The type of occupacy for building is tabulated in the table 2.1*
*(*2) The applied load may act inward, outward or downward*
*(*3) The applied loads act on the hand rail*
*(*4) Point and uniform loads are not concurrent*

Institutes for Rail Load Tests / Rail Test Norms

Instituto Giordano S.P.A- Italy:

Test Norm NFP01-013: 1988 – Static Loading of Rails with Rail top
Test Norm NFP08-301: 1991 – Dynamic Loading of Glass Rails for Housing Function
Test Norm UNI-10807: 1999 – Dynamic Loading of Glass Rails for Office Function

IFT Rosenheim- Germany:

Test Norm TRAV: 2003-01 – Dynamic Loading of Glass Rails
Test Norm NFP01-013: 1988 – Static Loading of Glass Rails

BBRI (CAR INSTITUTE BELGIUM):

Test Norm NBN-B03-004: 2010 - Static Loading & Dynamic Loading of Balustrades of Buildings
Test Norm NBN / DTD-B03-004: 2015 - Static Loading & Dynamic Loading of Balustrades of Buildings

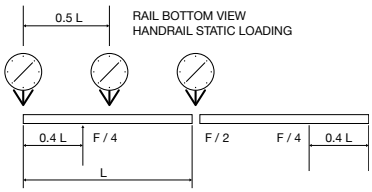
FTL (FLORIDA):

Test Norm FBC section 1607.7.1.1-1607.7.1.2: Static Loading – Concentrated Load Balustrade Test
Test Norm ANSI Z971: Dynamic Loading of Balustrades of Buildings – Drop Test
Test Norm ASTM- E1996: Dynamic Missile Impact Test – Glass Balustrades

INTERTEK (AMERICA – PENNSYLVANIA):

Structural tests according to Section 1607.8.1 & Section 2407.1.1 of Chapter 17 (Structural Tests and Special Inspections) of IBC 2015 International Building Code®.
Static Loading – Concentrated Load Balustrade Test

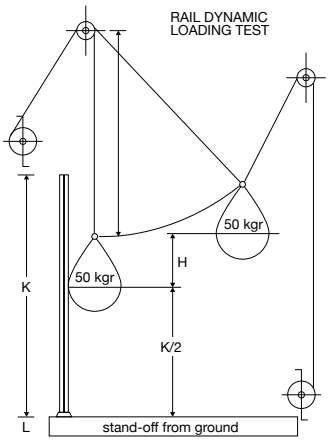
Description de test du garde-corps



Le but du test est de vérifier le comportement de la balustrade sous:

Les charges statiques

La fonction de sécurité d'essai pour le main courante. Mettre en œuvre la charge horizontale dirigées vers l'extérieur (linéairement répartis et les charges horizontales punctal). La charge est appliquée au point central de la main courante, puis en deux points symétriques, un quart et trois quarts du chemin le long de la main courante, tandis que la déformation est mesurée à mi-chemin le long de la longueur totale.



Charges Dynamiques

Il est le test d'impact en utilisant un corps mou suspendu de 50 Kg, comprenant un tube solide en aluminium, ainsi que deux pneus, ou un autre sac plein de petites bullets d'aluminium, toujours un total de poids de 50 Kg aussi doux de charge du corps. les points d'impact sur le panneau de verre sont présentés sur les photos suivantes.

Hauteur de chute (H), pour la masse de corps mou 50 Kg = 0.5 KN :

300 mm = 0.30 m -> Logement / Résidentiel Catégorie

450 mm = 0.45 m -> Bureaux / Centre Commerciale

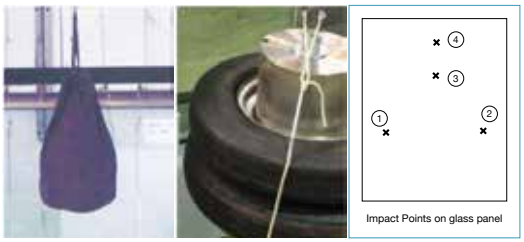
700 mm = 0.70 m -> Publique / Mall Catégorie

900 mm = 0.90 m -> Publique / Mall Catégorie

Max. Adm Déviation Horizontale = K/300, Max. garde- corps Hauteur = K = 1200 mm

Utilisation, Max. admissible déviation horizontale = 4 mm = 0.004 m:

Au cours du test d'impact, pas de fragments de verre qui tombent peuvent se détacher qui pourrait causer des blessures, ainsi que l'élément de remplissage du rail ne doit pas se séparer de la structure de la balustrade, et le verre doit continuer à exercer sa fonction dans l'application d'une ponctuelle charge de 200 N = 20 Kg pendant 30 secondes. Le corps d'impact ne doit pas passer à travers la balustrade lors de l'impact.



Catégorie de certification Impact Test Tomber	Hauteur (m)	Impact (m/sec) SQRT (2gH)	l'impact de charge (Kg) a provoqué 50 Kg = 0.5 KN par corps mou	Impact de temps (milliseconds)	Impact dynamique Énergie (Joules=Nm) 0.5 KN x Hauteur de chute = mgH
Logement, Résidentiel	0.30	2.43	3690	1.6	150
Bureau, Commercial	0.45	3.00	5625	1.3	225
Public, Centre commercial	0.70	3.70	8556	1.0	350
Public, Centre commercial	0.90	4.20	11025	0.96	450

Essai du produit fini Catégories: Logement / Usage Résidentiel - 0.5 KN (0.5 KN/m): A1, A2, B1

Relativement constructions légères peuvent être utilisées pour des applications dans les maisons. La balustrade en verre doit être capable de résister à 0.5 KN par mètre linéaire.

Fonction de bureau - 1 KN (1 KN / m): A2, B1, B2, C1

Balustrades en verre dans les bureaux nécessitent l'utilisation de matériaux plus robuste. Le verre doit être plus épais et les profils doit évidemment être adaptée en conséquence. La balustrade en verre doit être capable de résister à une 1 KN par mètre linéaire.

Fonction publique - Stades - 1.5 KN-3 ON (3 KN / m): C2, C3, D, E

Des espaces publiques et des stades, où beaucoup de gens peuvent se réunir dans un petit espace, nécessitent des balustrades robustes. L'épaisseur du verre et des profils lourds offrent une sécurité sous de lourdes charges. La balustrade en verre doit être capable de résister jusqu'à 3 KN par mètre linéaire.

Type d'occupation	Description	Lieu d' utilisation
A1	Toutes les régions à l'intérieur, ou de servir exclusivement un logement en occupation simple, y compris les escaliers, l'atterrissage, etc., mais à l'exclusion des balcons et les bords des toits circulables externes dont le niveau est supérieur à trois (3) mètres au-dessus du niveau du sol attenant.	Balcons internes ou externes dont le niveau est plus d'un (1) mètre, mais moins de trois (3) mètres, au-dessus du niveau du sol attenant pour une occupation simple habitation jusqu'à 2 étages.
A2	Toutes les autres zones de bâtiments résidentiels, sauf ceux qui sont définis dans A1.	balcons extérieurs de bâtiments à plusieurs étages où le niveau du balcon est plus de trois (3) mètres au-dessus du niveau du sol adjacent.
B1	Bureau, le travail et les zones de stockage non couverts ailleurs, avec des voies de circulation de lumière, piéton non-public, y compris l'accès à la lumière des escaliers, des passerelles et des zones utilisées à des fins de maintenance.	Un bureau unique au niveau de la mezzanine d'une petite salle d'exposition, les zones d'entretien et autres.
C1	Les zones où les gens peuvent se rassembler sans obstacles pour le déplacement des personnes, mais pas sensibles à la surpopulation, y compris des parties d'évacuation d'incendie de bâtiments résidentiels.	Les escaliers, les débarquements, les couloirs, les rampes, les balcons extérieurs, les bords des toits, des trottoirs et des chaussées et autres dans le bâtiment du cartilage adjacent au sous-sol ou les zones en contrebas.
C2	Les zones où les gens se rassemblent avec table et sièges fixes, mais pas sensibles à la surpopulation, y compris des parties de sortie de secours de tous les bâtiments autres que résidentiels. Restaurants, bars et autres.	Restaurants, bars et autres.
C3, C4	les zones où les gens peuvent se rassembler et sont sensibles à la surpopulation.	Theatres, stadiums, cinemas, discotheques, auditoriums, assemble areas and bars and the like.
D	Toutes les zones de détail hors des zones sensibles à la surpopulation.	Les parties communes de banques centres commerciaux et autres.
E	Éspaces publiques	Les zones avec véhicules et les zones piétonnes dans les parcs de stationnement, y compris les escaliers, les paliers, etc., sauf les zones où il y a un risque d'impact dynamique du véhicule.

Table 2.1 Type d'occupation

Type d'occupation (*1)	Charge répartie uniformément appliquée au remplissage (KN/m) (*2), (*3)	Charge point appliquée à une partie du remplissage (KN) (*2), (*3), (*4)	Charge répartie uniformément appliquée au remplissage (KPa) (*2)	Point load applied to part of the infill (KN) (*2), (*4)
A1, B1	.4	.6	.5	.25
A2, B2, C1	.75		1	.5
C2, D, E	1.5		1.5	1.5
C3, C4	3		1.5	1.5

Table 2.2 Design live loads
*(*1) Le type d'occupation pour la construction est sous forme de tableau dans le tableau 2.1*
*(*2) Charge point appliquée à une partie du remplissage (KN)*
*(*3) Charge point appliquée à main courante (KN)*
*(*4) Charge répartie uniformément appliquée au remplissage (KPa)*

Institutes for Rail Load Tests / Rail Test Norms

Instituto Giordano S.P.A- Italy:

Test de la norme NFP01-013 normes: 1988 - statique chargement de la main courante
Test Norm NFP08-301: 1991 – Test de la Normfonction de logement
Test de la norme UNI-10807: 1999 - Chargement dynamique de verre du garde-corps pour la fonction de bureau

IFT Rosenheim- Germany:

Test Norm TRAV: 2003-01 – Chargement dynamique de verre du garde-corps
Test de la norme NFP01-013 normes: 1988 - statique chargement de la main courante

BBRI (INSTITUT BELGIQUE):

Test Norm NBN-B03-004: 2010 - Chargement statique et dynamique Chargement de balustrades de bâtiments
Test Norm NBN / DTD-B03-004: 2015 - Chargement statique et dynamique Chargement de balustrades de bâtiments

FTL (FLORIDA):

Test Norm FBC section 1607.7.1.1-1607.7.1.2: Chargement statique - Charge concentrée Balustrade test
Test Norm ANSI Z971: alimentation hors chargement Valystrades offs Vyildings - Méthodes d'essai
Test Norm ASTM - E1996: Force de Missile Dynamique Impact test - Verre balustrades

INTERTEK (AMERICA – PENNSYLVANIA):

Structural tests according to Section 1607.8.1 & Section 2407.1.1 of Chapter 17 (Structural Tests and Special Inspections) of IBC 2015 International Building Code®.
Static Loading – Concentrated Load Balustrade Test

A·line

On-floor glass supporting system

The supporting brackets, in hard aluminium alloy, are installed on fully finished floor, ceramic tile, marble or on a balcony parapet.

Glass panels of 88.4 thickness / 17.52mm and maximum height of 1200mm, are anchored with bolts which can easily be removed in case of need without any damage to the floor or system itself. The brackets are covered by the oval shape fascia profiles in anodized finish as well as many other shades of powder coating.

It is an ideal solution for balconies, stairs and building enclosures for high architectural standards, offering an impressive and functional result with no view limit.

Highlights

- Elegant line
- Maximum security
- Uninterrupted view
- Free of maintenance
- Patented system
- Compliance with UNI EN 10807 & NFP01-013
- Optional use of top handrail
- Wide choice of colors: RAL, Sable & anodized

Système de pose sur dalle

Design et securité se completent à la perfection dans la selection CRYSTAL LINE

Type A peut être utilisé dans des éspaces publiques ou privés tant à l' intérieur qu' à l' extérieur.

Le montage se fait avec des verres de 88.4, hauteur maximale à 1200 mm.

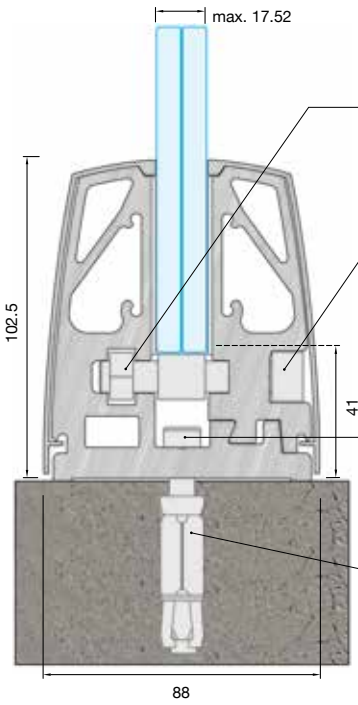
Un système modulaire, qui convient à tous les éspaces et qui offre du style et securité.

Les points forts

- Elégant
- Réponds aux critères de sécurité
- Vue illimite
- Pas d' entretien
- Système breveté
- Selon Avis Technique UNI EN 10807 & NF P01-013
- Option de main courante
- Choix de coloris – RAL, Sable, anodize & teint de bois

A•line
On-floor glass supporting system

Shoe base installation / Installation des embases



DIN 934 M10
Included in the supporting base
Fourni avec l' embase

DIN 912 M10x55
Included in the supporting base
Fourni avec l' embase
Tightening torque 22 Nm
Allen No.8
Cheville à expansion 22 Nm
Allen No.8

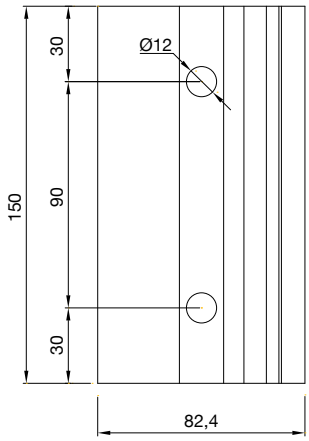
EB912-1070
DIN 912 M10x70
Tightening torque 40 Nm
Allen No.8
Cheville à expansion 40 Nm
Allen No.8

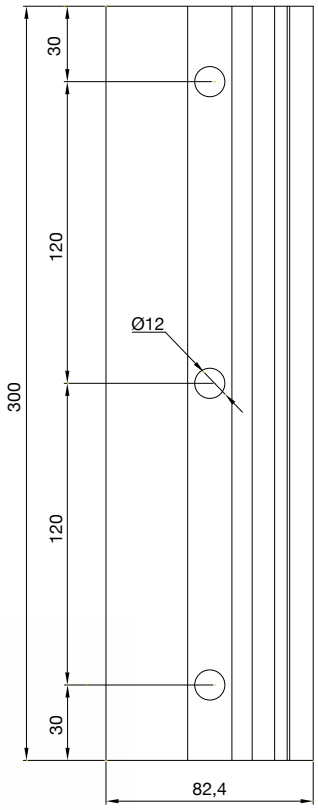
EB01M-1040
M10x40
Included in the supporting base
Fourni avec l' embase
Drill 16 mm

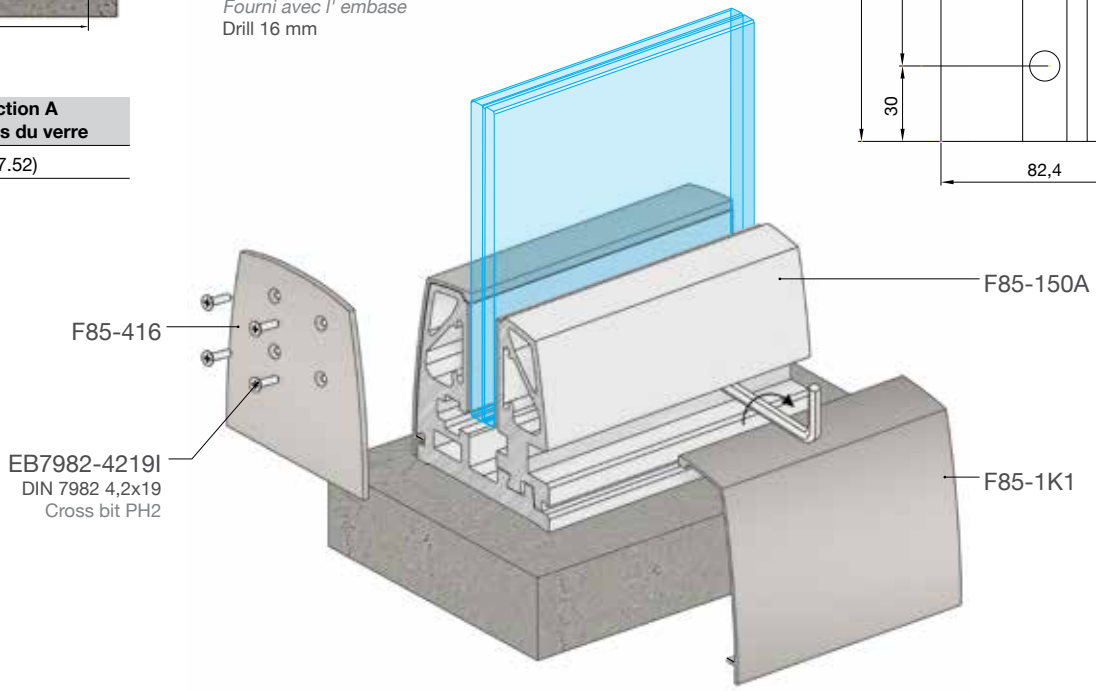
Glass section A Specifications du verre
8.8.4 (17.52)

Fixing point / Entraxe de vis

F85-150A	F85-300A

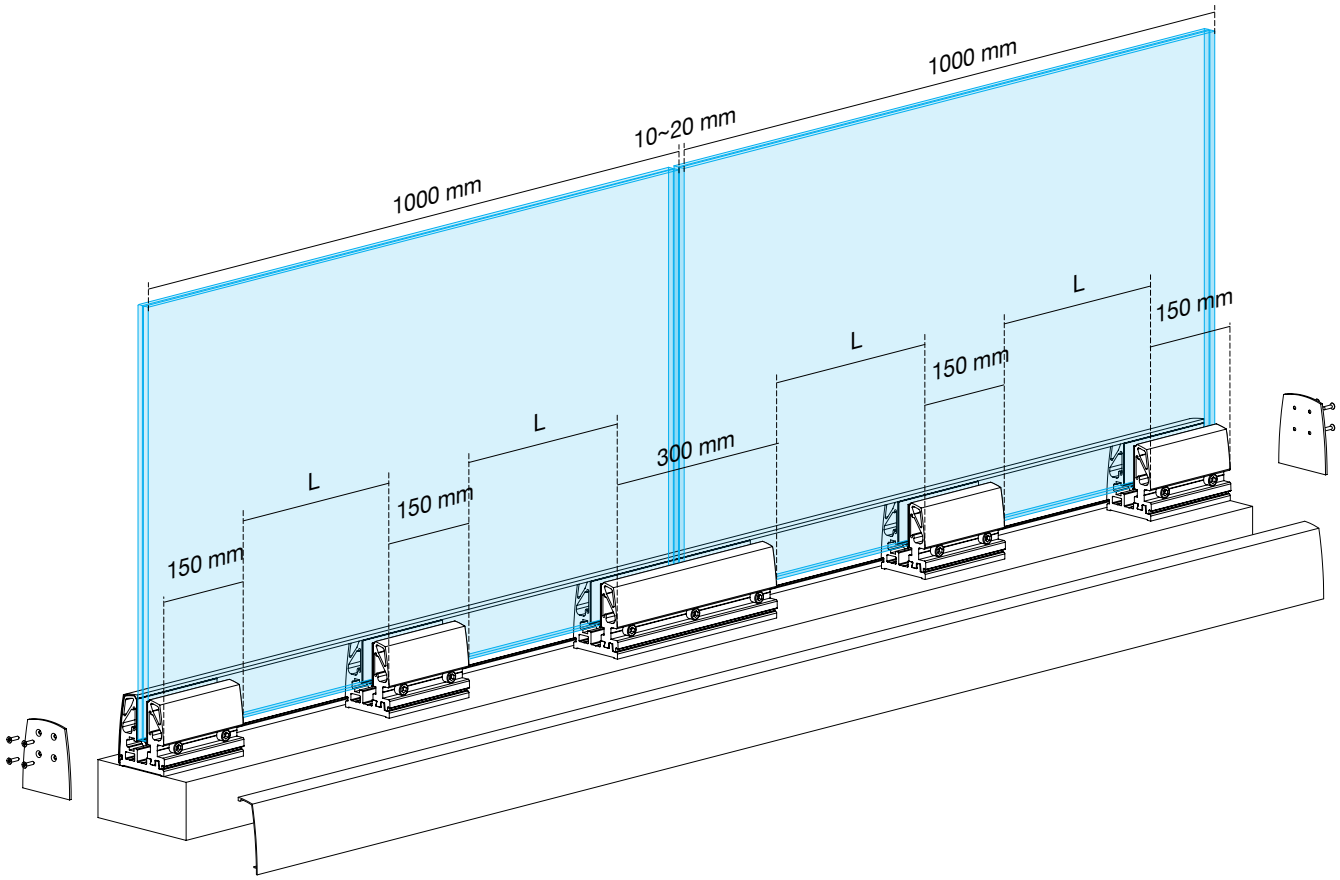






Balustrade Type Type de système	Tempered Glass Panel Type de verre	Height of balustrade Hauteur du balustrade	Static loading category (horizontal loads) Resistance à la charge statique	Dynamic Loading Category (Impact Test) Resistance à la charge dynamique
Crystalline-A	8.8.4	1200 mm	Private & commercial use Usage résidentiel & commercial	Private & commercial use Usage résidentiel & commercial

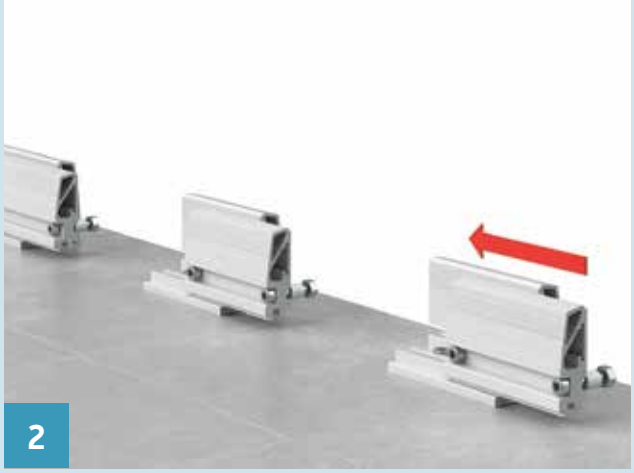
Installation of supporting profile / Installation du profil de sol



Recommended number of bases / m Nombre des embases recomendé	8.8.4 (17.52)			
	Glass height Hauteur du verre	Handrail Main courrante	No. of bases/m No. des embases/m	L
	600 mm	-	3	275 mm
		F85-203	2	700 mm
		F85-204	2	700 mm
	1000 mm	-	3	275 mm
		F85-203	3	275 mm
		F85-204	3	275 mm
	1100 mm	-	4	133 mm
		F85-203	3	275 mm
		F85-204	3	275 mm
	1200 mm	-	5	62,5 mm
		F85-203	4	133 mm
		F85-204	4	133 mm

A•line
On-floor glass supporting system

Installation step by step / Mode de montage



A•line
Système de pose sur dalle

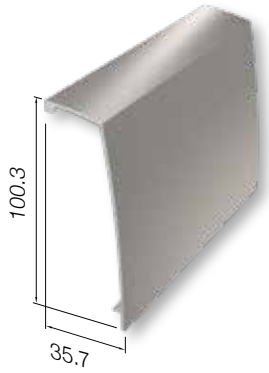
Fixing point / Entraxe de vis

The supporting bases include tightening screws, pressure gaskets and fixing bolts/anchors.
Les chevilles à expansions joints, boulons et ancrages sont tous inclus avec les embases.

Glass base / Embase de support	
Code	**F85-150A**
Pack./Condit.	12 pcs

Glass base / Base de support	
Code	**F85-300A**
Pack./Condit.	6 pcs

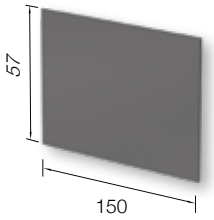
Profiles & accessories / Profiles & accessoires



Base cover / Cache frontal	
Code	**F85-1K1**
Weight/Poids	550gr/m
Length/Longueur	6 m

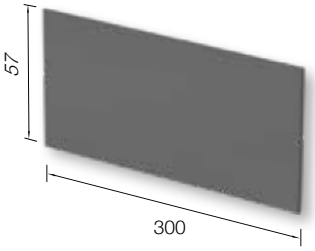
End cap / Embout	
Code	**F85-416**
Pack./Condit.	20 pcs

End cap (perforated) / Embout ouvert	
Code	**F85-416L** (8.8.4)
Pack./Condit.	20 pcs



PVC sheet 1.5 mm/Plaque en PVC 1.5 mm	
Code	**F85-E009**
Color/Couleur	Black/Noir
Length/Longueur	150 mm

Included in the glass support base F85-150A, also available seperately
Fourni avec les embases F85-150A ainsi qu' au detail



PVC sheet 1.5 mm/Plaque en PVC 1.5 mm	
Code	**F85-E010**
Color/Couleur	Black/Noir
Length/Longueur	300 mm

Included in the glass support base F85-300A, also available seperately
Fourni avec les embases F85-300A ainsi qu' au detail

A10·line

On floor support system with 10 mm glass

Light in Weight/Poids but safe for residential and light-Weight/Poids commercial use, this wedge system is designed to be installed on a finished floor, with a laminated glass of 55.2 and thickness of 10.76 mm.

Suitable for the interior as well as exterior balconies, terraces and swimming pools.

Easy and quick to align, the glass panels are secured with gaskets and bolts, supplied by the manufacturer.

Maximum height at 100 cm is recommended and use of top handrail is essential.

Highlights

The perfect choice for private or light commercial use, with impressive simplicity and elegance.

- Attractive slim lines
- Affordable quality for 10 mm glass
- No maintenance required
- Patented system
- Compliance by TRAV specifications
- Quick installation
- Perfect for "French" balconies

Pose sur dalle avec de verre de 10 mm

Pour gagner du temps et de l' argent, choisissez le type A10!

Le système A10, est livré avec l' ensemble des composants necessaires à sa mise en œvre, profiles en aluminium et joints. La solution économique pour des espaces publiques et residentiels.

Le verre est fixe par serrage, aucune perçage de verre n'est requis.

Les points forts

- Élégant et transparent
- Economique
- Système breveté
- Facile et rapide à monter.
- Spécifications selon TRAV (allemands)
- Ideal pour "Julliete" balcons.

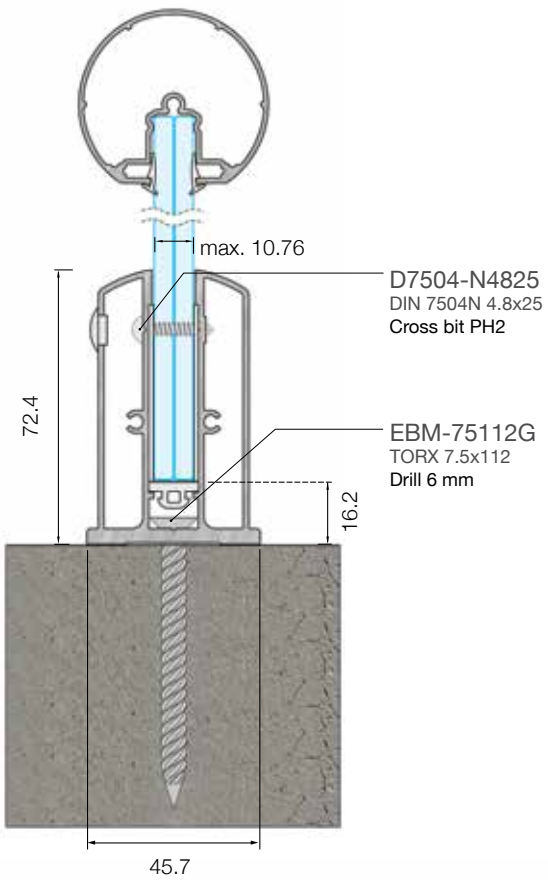
ALTEX

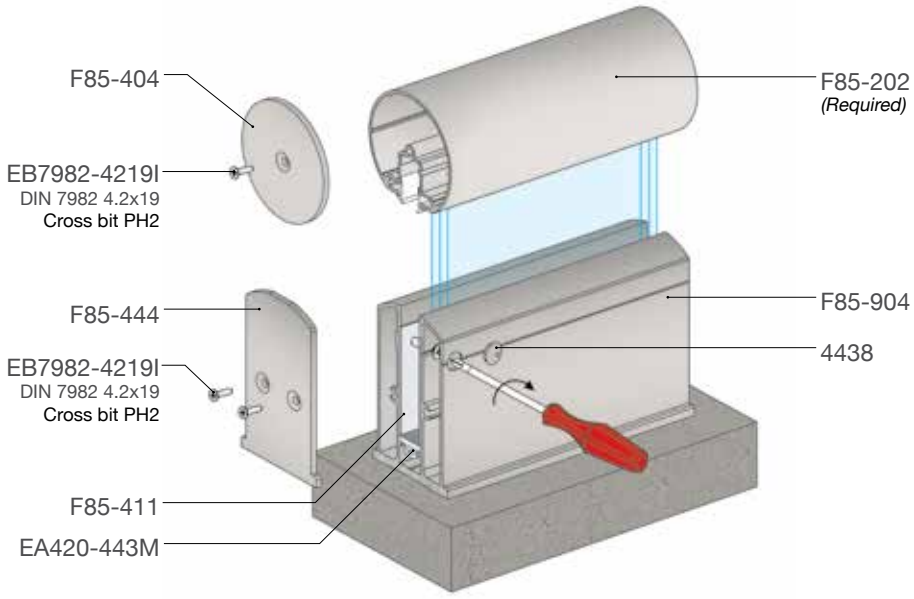
B
OKKER

A10•line

On floor support system with 10 mm glass

Glass section A10 Specifications du verre
5.5.2 (10.76)



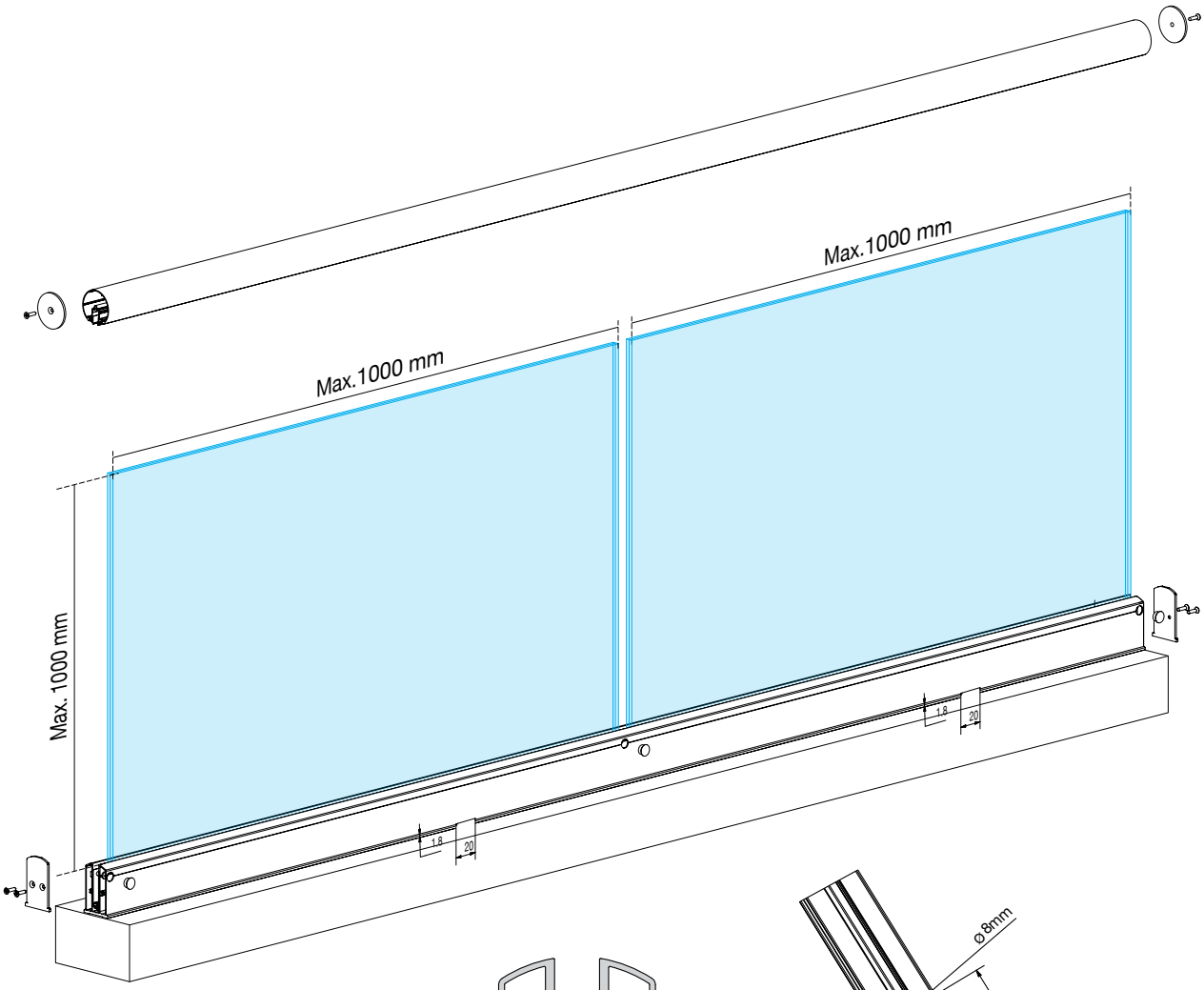


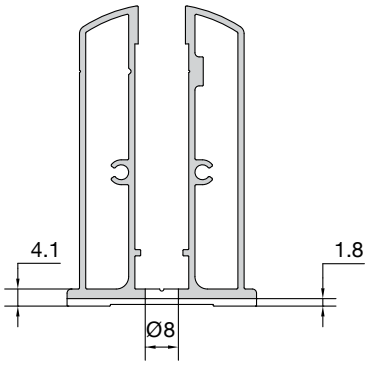
Balustrade Type Type de système	Tempered Glass Panel Type de verre	Height of balustrade Hauteur du balustrade	Static loading category (horizontal loads) Resistance à la charge statique	Dynamic Loading Category (Impact Test) Resistance à la charge dynamique
Crystalline-A10	5.5.2	1000 mm (Only with use of rail top) 1000 mm (Main courante obligatoire)	Residential use Usage résidentiel	Residential use Usage résidentiel

A10•line

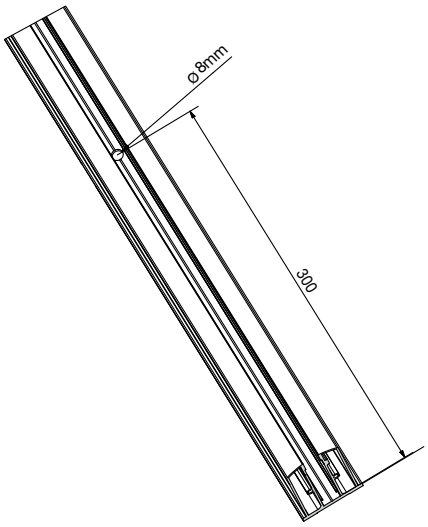
Pose sur dalle avec de verre de 10 mm

Installation of supporting profile / Installation du profil de sol





WATER DRAIN CUTTING
DRAINAGE D' EAU



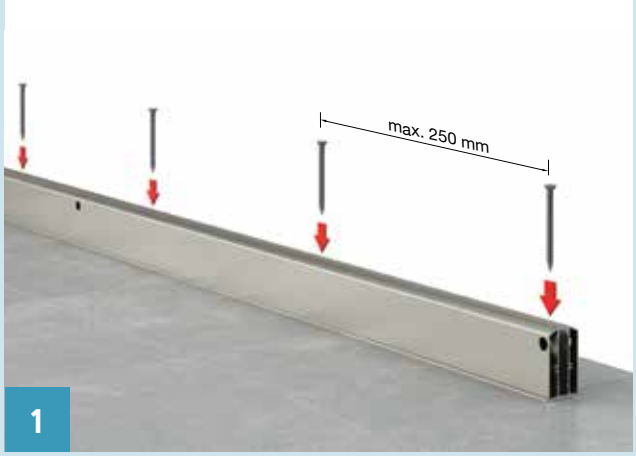
ATTENTION!
System specifications
a) maximum glass high 1000 mm
b) to be installed with hand rail F85-202
c) indispensable use of bolts per meter

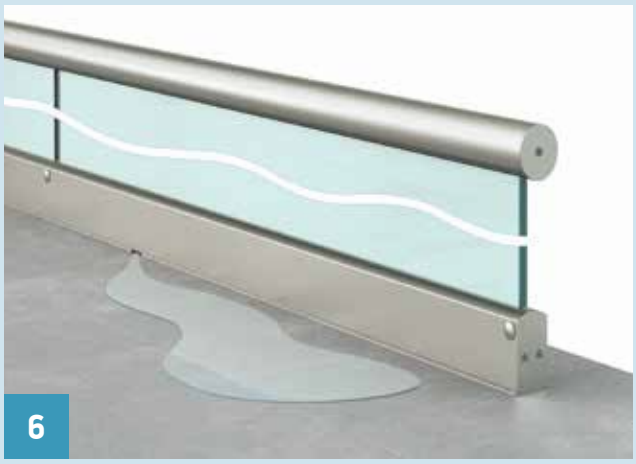
ATTENTION!
Spécification du Système
a) hauteur de verre maximale de 1000 mm
b) utilisation obligatoire de main courante F85-202
c) installation sur dalle avec 4 vis par mètre

A10•line

On floor support system with 10 mm glass

Installation step by step / Mode de montage



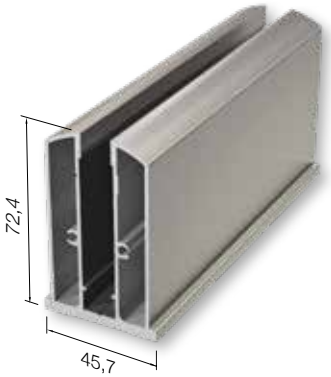


A10•line

Pose sur dalle avec de verre de 10 mm

Glass supporting base / Embases

The supporting bases include fixing bolts/anchors.
Profil de sol fourni avec les boulons et ancrage.



Base profile/Profile d'embase sur sol	
Code	**F85-904**
Weight/Poids	1796 gr/m
Length/Longueur	6 m

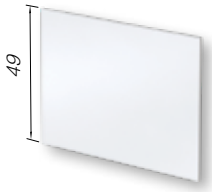
Available in 6 meter pre-cut and pierced, all fixing bolts/anchors are included
Disponible en bars de 6 m de longeur, avec tous les vis

Profiles & accessories / Profiles & accessoires

Round handrail Ø50/Courante Ø50	
Code	**F85-202**
Weight/Poids	721 gr/m
Length/Longueur	6 m

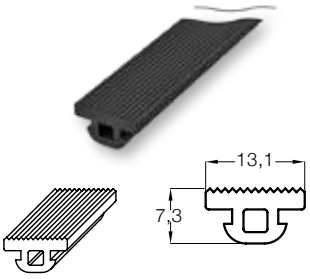
End cap / Embout	
Code	**F85-444**
Pack./Condit.	20 pcs

Hole covering cap / Bouchon	
Code	**4438**
Συσκευασία Pack	50 pcs (blister)
	24 pcs (blister)

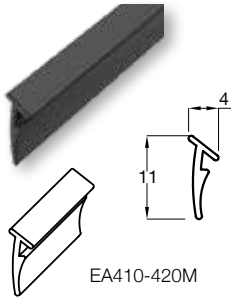


PVC sheet 1 mm/Plaque en PVC 1 mm	
Code	**F85-411**
Color/Couleur	White/Blanc
Length/Longueur	2 m

Gaskets / Joints



Base gasket/Joint du profile de sol	
Code	**EA420-443M**
Length/Longueur	150 m



Handrail gasket Joint de main courante	
Code	**EA410-420M**
Length/Longueur	350 m

Wedge on floor system

This new wedge system is totally frameless, without any intervention of columns or additional support and ensures crystal clear view and unique feeling of freedom.

Highlights

- One-piece floor profile for quick installation
- Optional in- floor installation
- Color choice – RAL, Sable & anodized
- Minimal design
- Limitless transparency and view
- Optional use of handrail
- Totally frameless

Pose sur dalle avec de profile en "U"

Ce système offre une esthetique épurée qui fait rimer design avec fonctionnalité!
L' atout majeur, instalation rapide, gain du temps et de l' argent!

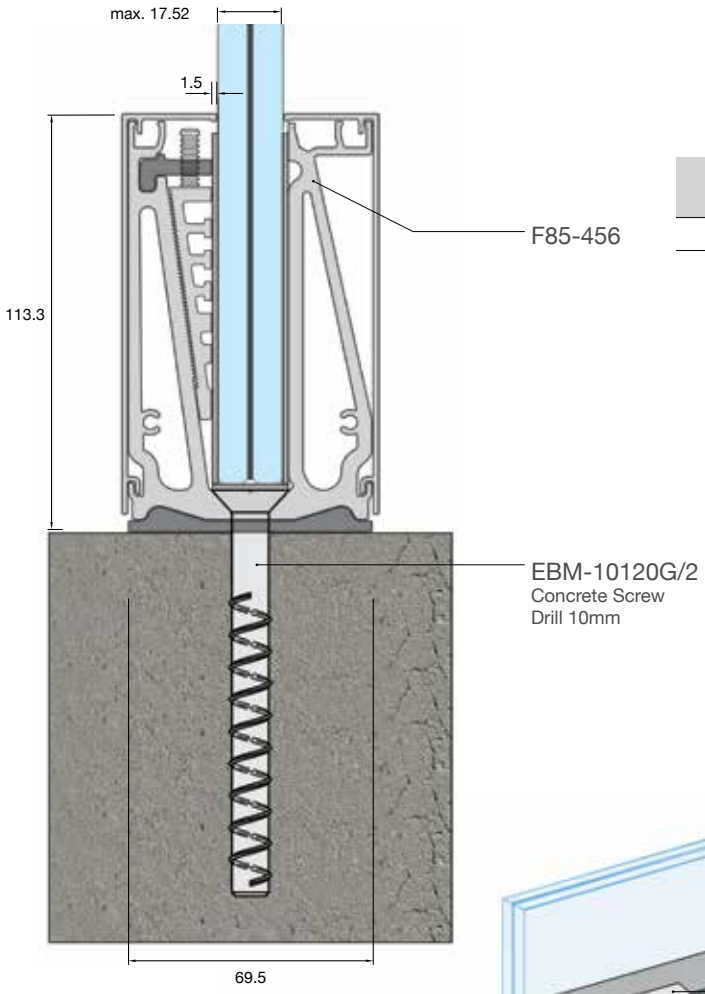
Les points forts

- Support d' un seul block
- Option d' installation encastré
- Choix de coloris – RAL, Samblé & anodizé
- Design minimal
- Vue transparente
- Option de main courante

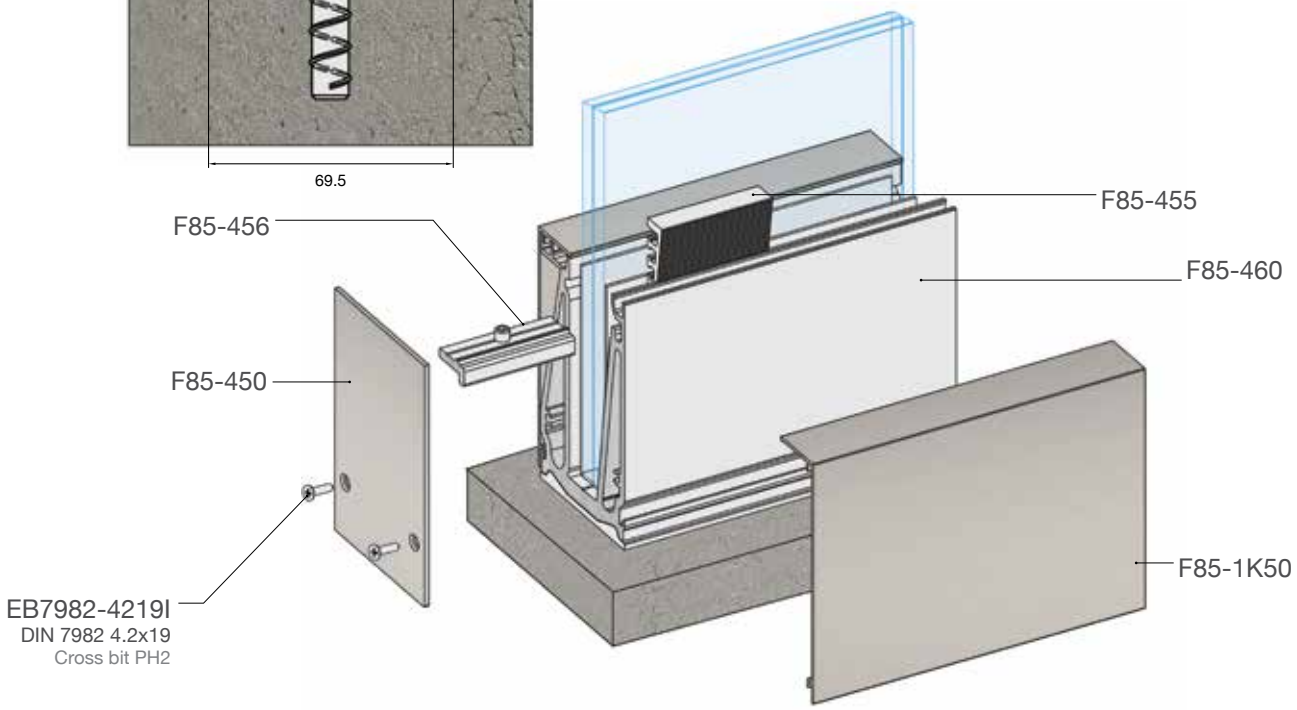
Laissez-vous tenter la qualité superieur et technologie bien pensé

A20•line

On floor support system with 10 mm glass



Glass section A20 Specifications du verre
8.8.4 (17.52)

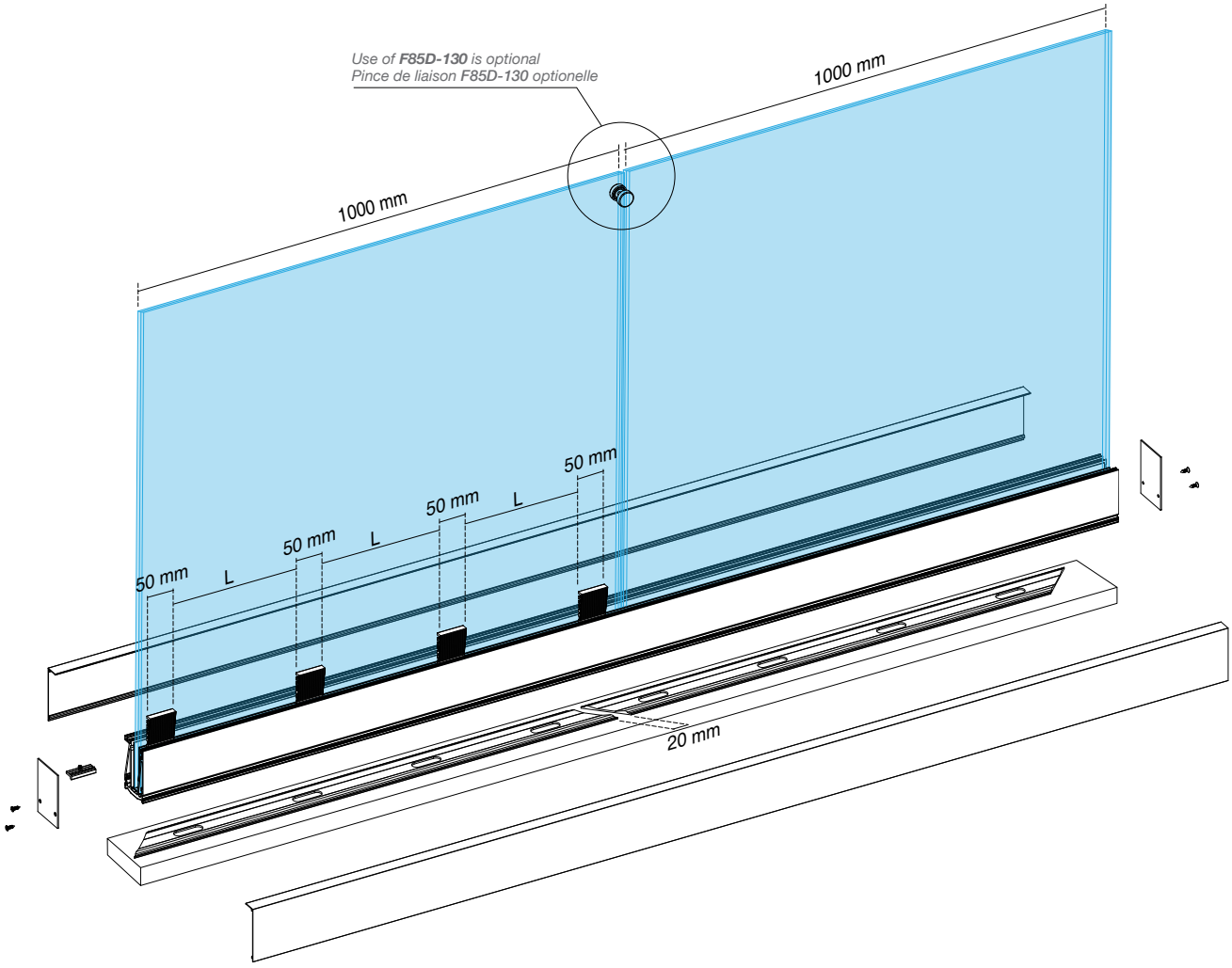


Balustrade Type Type de système	Tempered Glass Panel Type de verre	Height of balustrade Hauteur du balustrade	Static loading category (horizontal loads) Resistance à la charge statique	Dynamic Loading Category (Impact Test) Resistance à la charge dynamique
Crystalline-A20	8.8.2 (DG41)	1200 mm	Residential use Usage résidentiel	Residential use Usage résidentiel

A20•line

Pose sur dalle avec de profile en "U

Installation of supporting profile / Installation du profil de sol

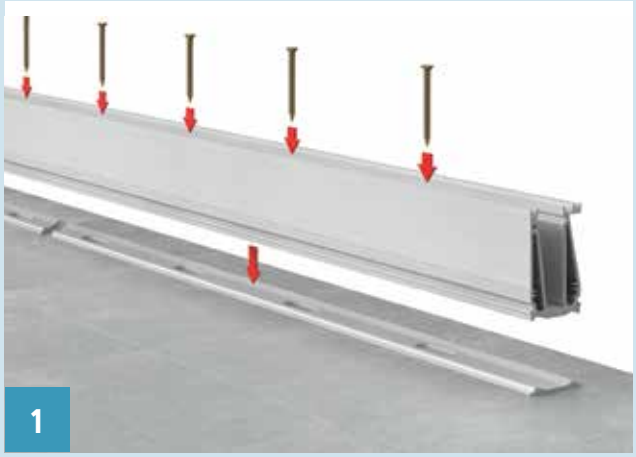


Recommended number of bases / m Nombre des embases recomendé	8.8.4 (17.52)			
	Glass height Hauteur du verre	Handrail Main courrante	No. of bases / m No. des embases / m	L
	600 mm	-	4	265 mm
		F85-203	4	265 mm
		F85-204	4	265 mm
	1000 mm	-	5	190 mm
		F85-203	4	265 mm
		F85-204	4	265 mm
	1200 mm	-	5	190 mm
		F85-203	5	190 mm
		F85-204	5	190 mm

A20•line

On floor support system with 10 mm glass

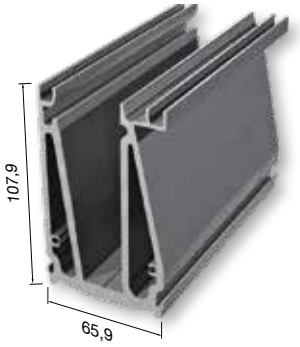
Installation step by step / Mode de montage



A20•line

Pose sur dalle avec de profile en "U

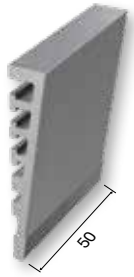
Glass supporting base / Embases



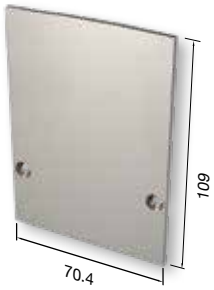
Wedge Profile / Embase verre	
Code	**F85-460**
Length/Longueur	3 m

Available in 3 meter pre-cut and pierced,
all fixing bolts/anchors are included
Disponible en bars de 3 m de longeur, avec tous les vis

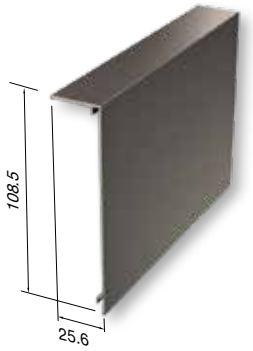
Accessories / Accessoires



Pressure plate / Cale de pression	
Code	**F85-455**
Pack./Condit.	20 pcs



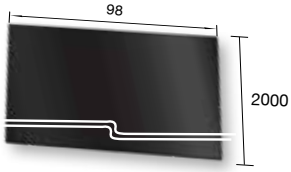
End cap / Embout	
Code	**F85-450**
Pack./Condit.	20 pcs



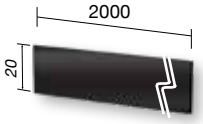
Base cover / Cache frontal	
Code	**F85-1K50**
Weight/Poids	572 gr/m
Length/Longueur	6 m

Drainage base profile Guidage d'embase	
Code	**F85-457**
Length/Longueur	1 m
Pack./Condit.	10 pcs

Pressure plate restrainer Fixation de cale	
Code	**F85-456**
Pack./Condit.	20 pcs



PVC spacer 1.5 mm Plaque en PVC 1.5 mm	
Code	**F85-459**
Color/Couleur	Black/Noir
Length/Longueur	2 m



PVC spacer 1.5 mm Plaque en PVC 1.5 mm	
Code	**F85-458**
Color/Couleur	Black/Noir
Length/Longueur	2 m

ALLEN TORX CONCRETE SCREW 10X120 ANCRAGE POUR BÉTON 10X120	
Code	**EBM-10120G/2**

A20u·line

In-floor Wedge system

A true design statement! The relation of value for money could not be any better!

Floor profile supplied in precut and drilled, at three meter Length/Longueur.

Specified glass is 88.4 and maximum height at 1200 mm.

- 88.4 mm
- 17.52 mm

Système encastré

Une nouvelle conception de système encastré.

Gagnez du temps, et d' argent!

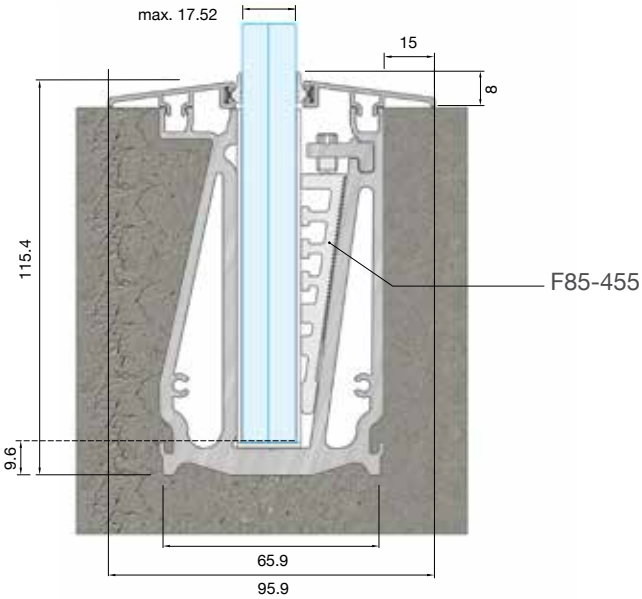
Profilé de sol, prêt à l' emploi, verre préconisé de 88.4, épaisseur de 17.52 mm. Hauteur maximale de 1200 mm.

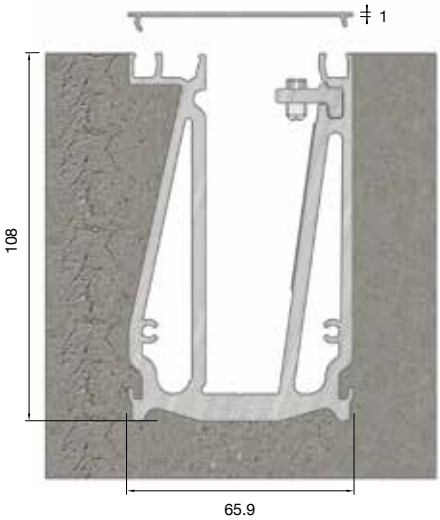
Verre préconisé:

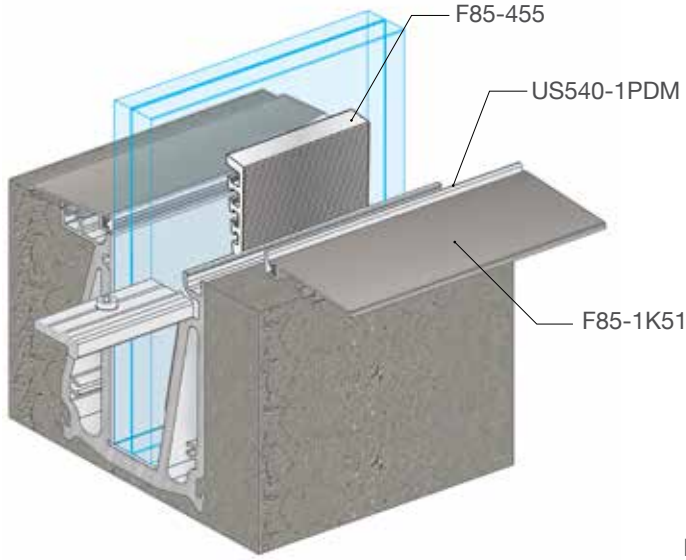
- 88.4 mm
- 17.52 mm

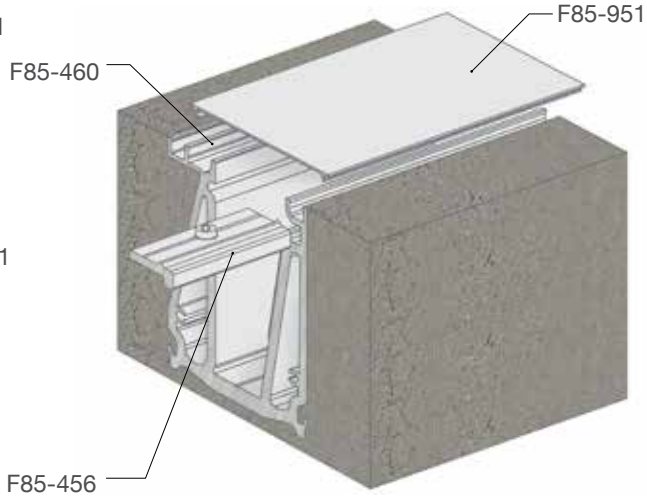
A20u•line
In-floor Wedge system

Glass section A20u Specifications du verre
8.8.4 (17.52)

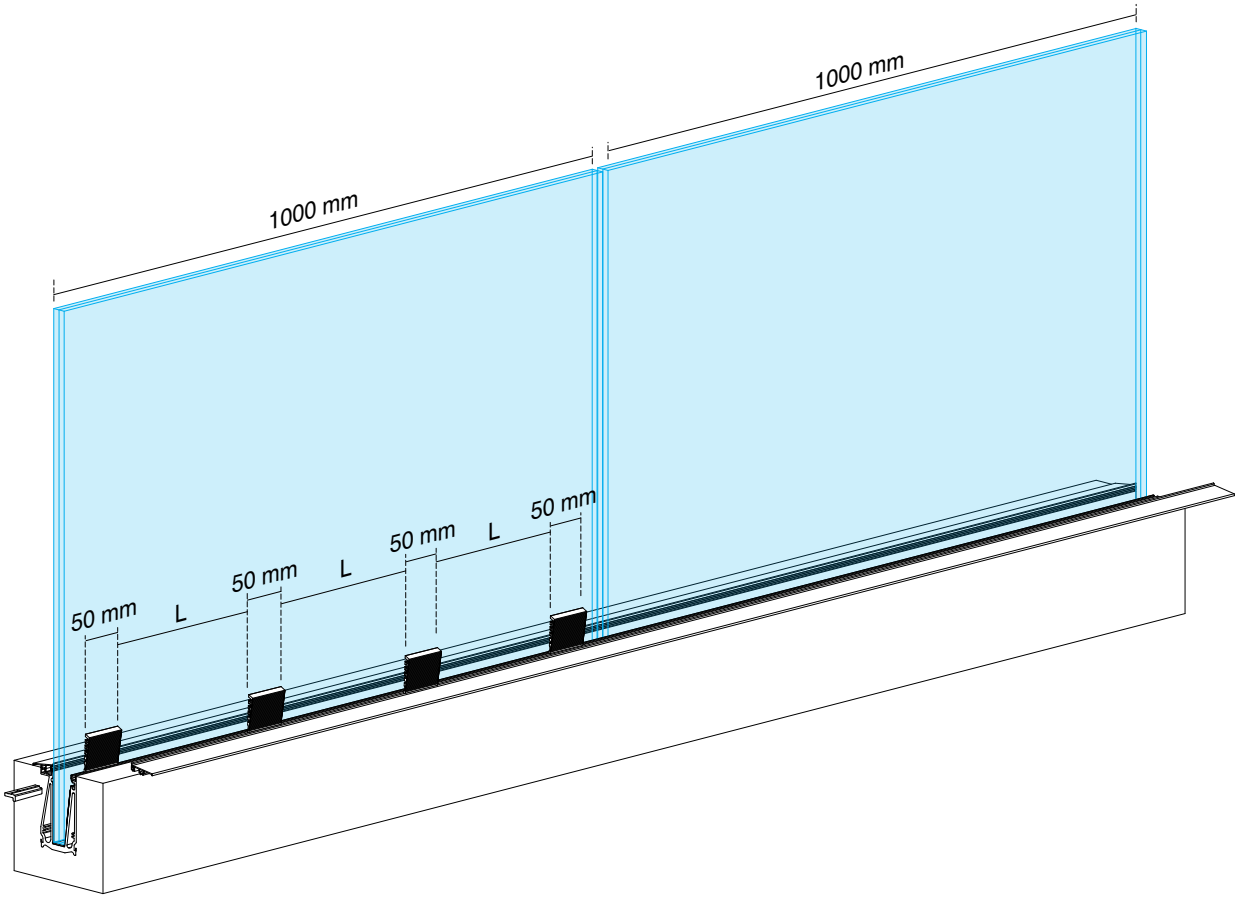








Installation of supporting profile / Installation du profil de sol



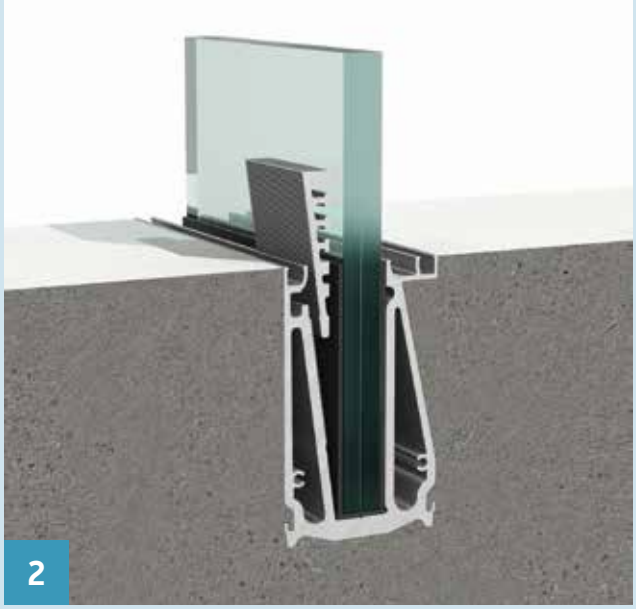
Recommended number of bases / m Nombre des embases recomendé	8.8.4 (17.52)		
Glass height Hauteur du verre	Handrail Main courrante	No. of bases/m No. des embases/m	L
600 mm	-	4	265 mm
	F85-203	4	265 mm
	F85-204	4	265 mm
1000 mm	-	5	190 mm
	F85-203	4	265 mm
	F85-204	4	265 mm
1200 mm	-	5	190 mm
	F85-203	5	190 mm
	F85-204	5	190 mm

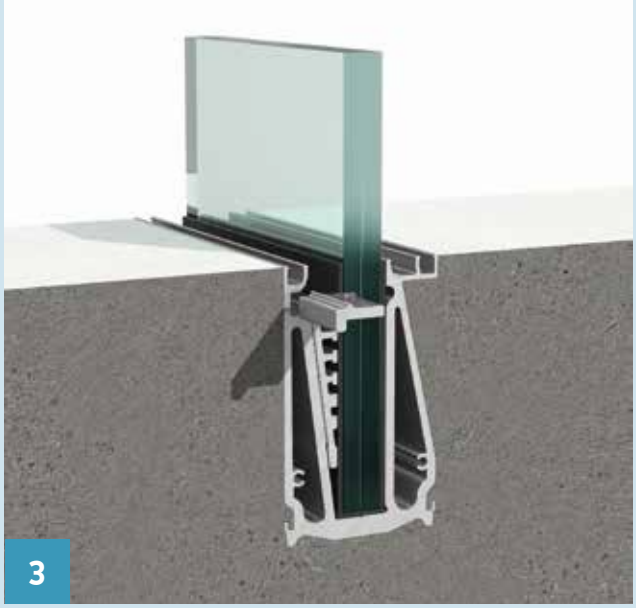
ATTENTION!
Pressure plate restrainer should be slided on floor profile before final fixing.

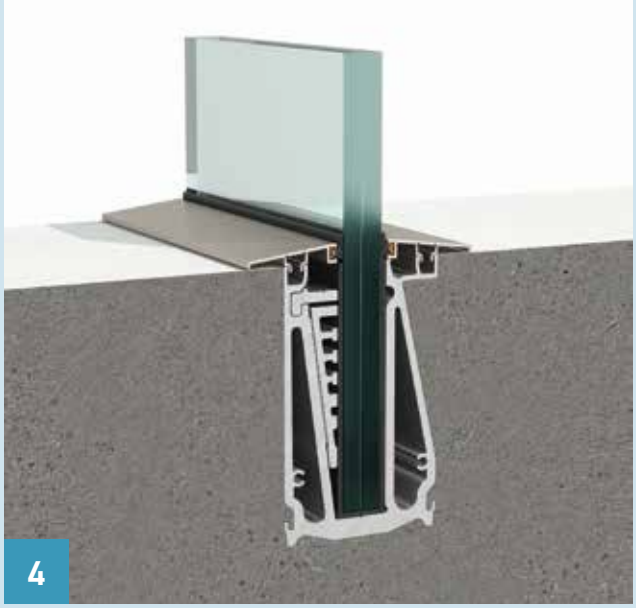
ATTENTION!
Plaque de pression doit être monté avant la pose finale.

A20u•line
In-floor Wedge system

Installation step by step / Mode de montage

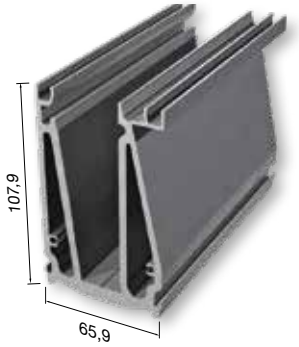






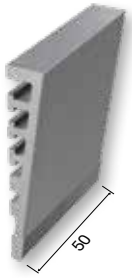
A20u•line
Système encastré

Supporting bases & accessories / Embases & accessoires



Wedge Profile / Embase verre	
Code	**F85-460**
Length/Longueur	3 m

Available in 3 meter pre-cut and pierced, all fixing bolts/anchors are included
Disponible en bars de 3 m de longueur avec tous le vis

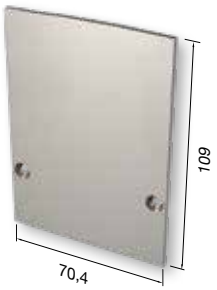


Pressure plate / Cale de pression	
Code	**F85-455**
Pack./Condit.	20 pcs

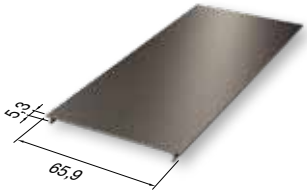
Pressure plate restrainer Fixation de cale	
Code	**F85-456**
Pack./Condit.	20 pcs

Base cover / Cache frontal	
Code	**F85-1K51**
Weight/Poids	216 gr/m
Length/Longueur	6 m

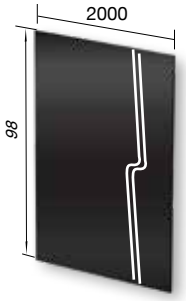
Accessories & gaskets / Accessoires & joints



End cap / Embout	
Code	**F85-450**
Pack./Condit.	20 pcs

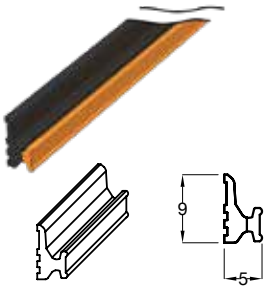


Top cover for F85-460 Profile cache frontal	
Code	**F85-951**
Weight/Poids	235 gr/m
Length/Longueur	6 m



PVC spacer 1.5 mm Plaque en PVC 1.5 mm	
Code	**F85-459**
Color/Couleur	Black
Length/Longueur	2 m

PVC spacer 1.5 mm Plaque en PVC 1.5 mm	
Code	**F85-458**
Color/Couleur	Black
Length/Longueur	2 m



Slug gasket / Joint	
Code	**US540-1PD**
Length/Longueur	200 m

B·line

Adjustable system for on-floor installation

The additional use of a floor guide, on which the supporting bases can be quickly applied and perfectly aligned, makes the concept of this system evolutionary.

Highlights

- Unlimited view
- Maximum security
- Easy alignment
- Additional floor guide
- Additional pressure plates
- Wide range of color choices (RAL, Sable, metallic, anodized & wood finish)
- Optional use of top handrail

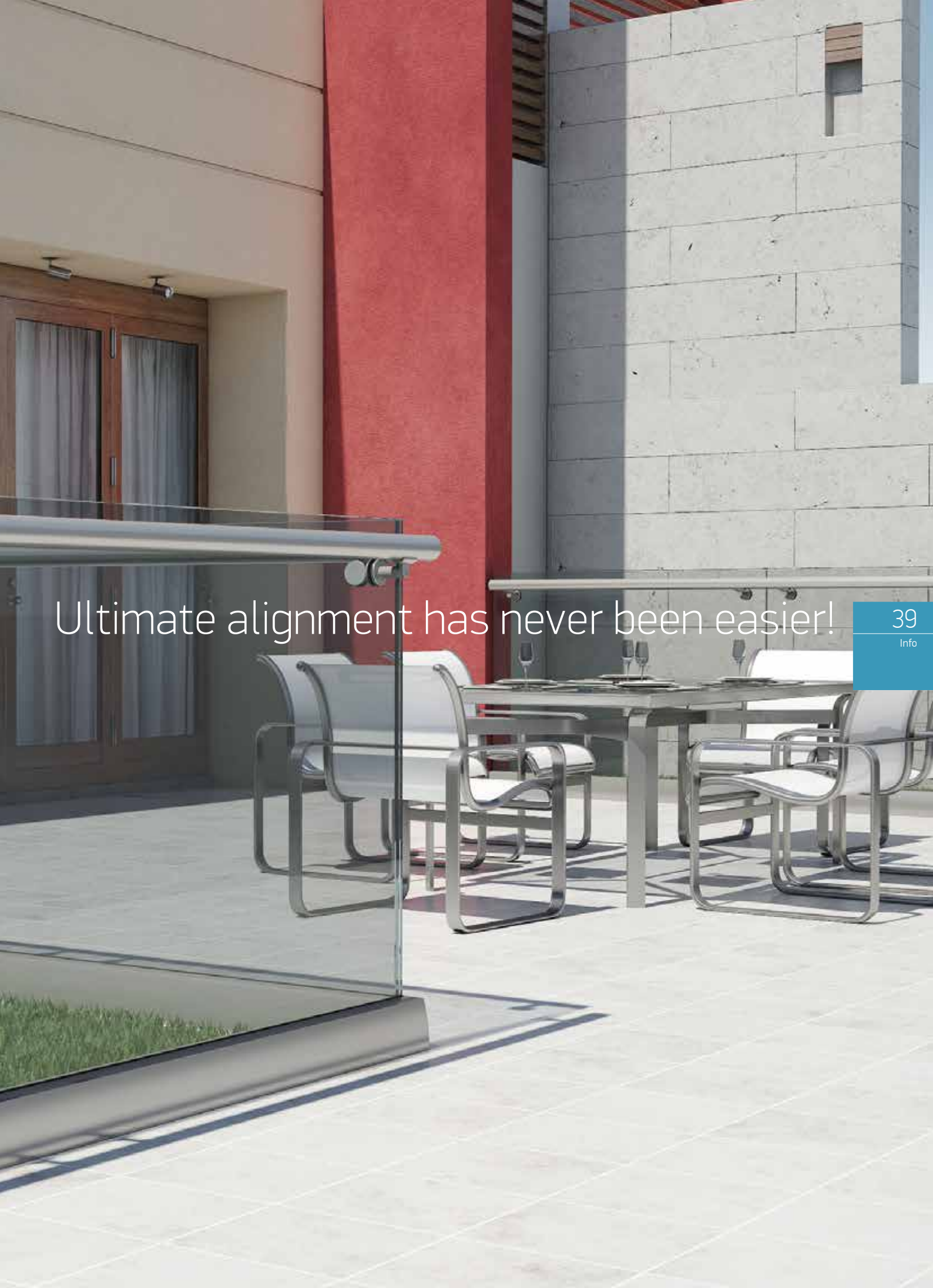
Système réglable, pose sur dalle

Les garde-corps vitrés repondent aux besoins les plus exigeants, ou la delimitation d' une terrace ou balcon est bien pensé. Ses atout principaux resident dans la conception technique.

Le seul profil de sol qui permet un adjustement précis de chaque panneau en verre depuis un coté seulment.

Les points forts

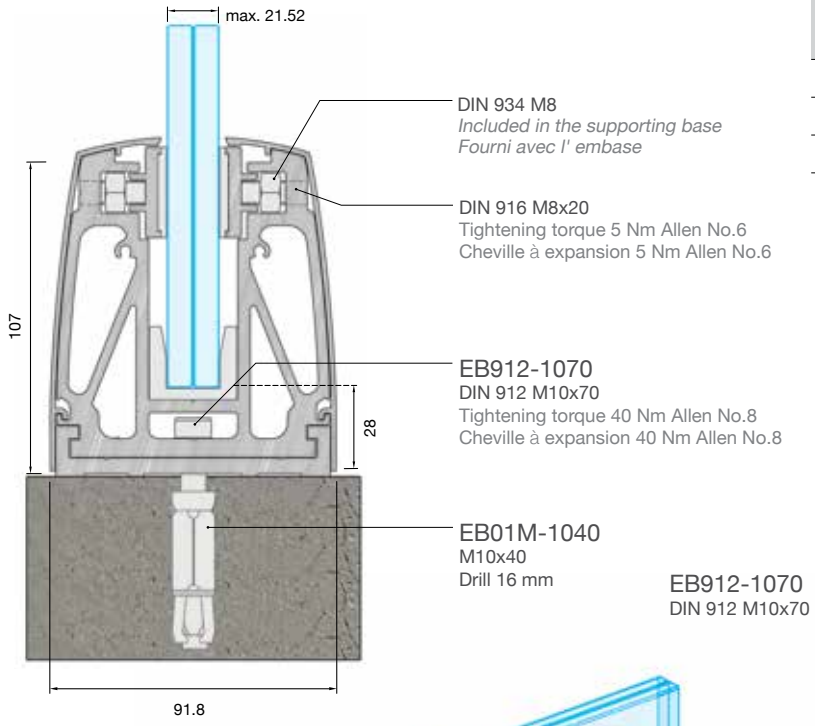
- Transparence illimitée
- Sécurité maximal
- Montage et alignement rapide et soigneux
- Guidage de sol
- Calles de pression
- Choix de coloris (RAL, Sable, anodize & teint de bois)
- Option de main courante


Ultimate alignment has never been easier!

B•line

B•line

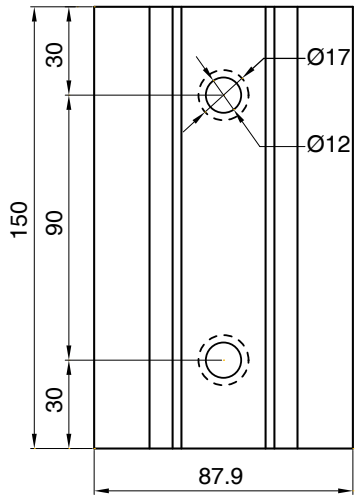
Adjustable system for on-floor installation

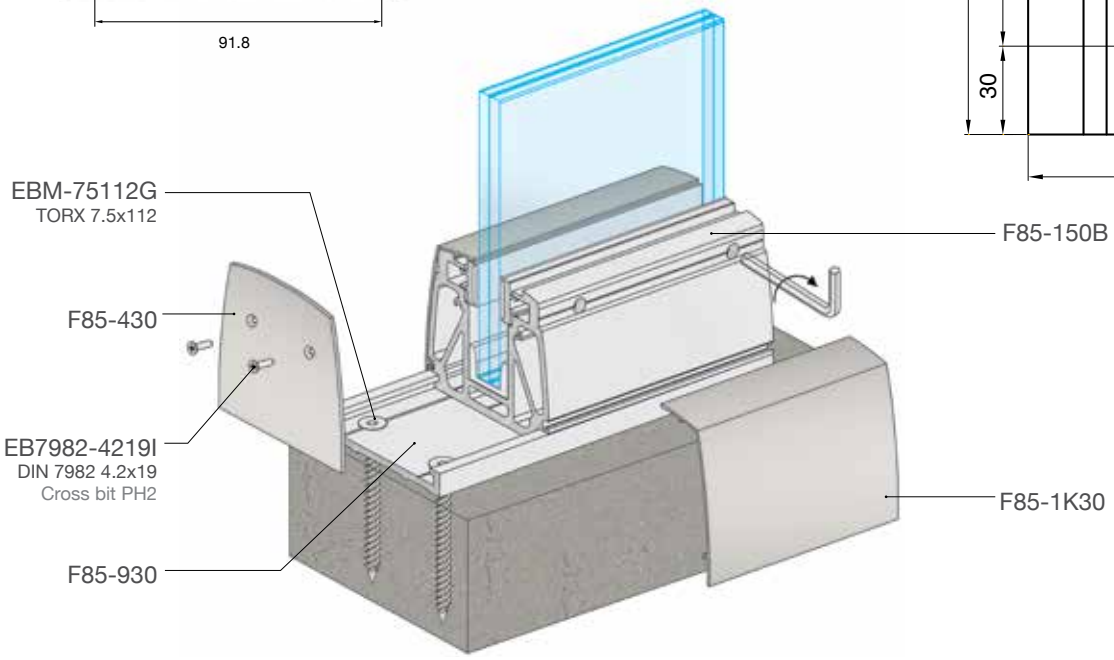


Glass section B Specifications du verre
8.8.4 (17.52)
8.8.2 (16.76)
10.10.4 (21.52)

Fixing point / Entraxe de vis

F85-150B/16	F85-150B/20



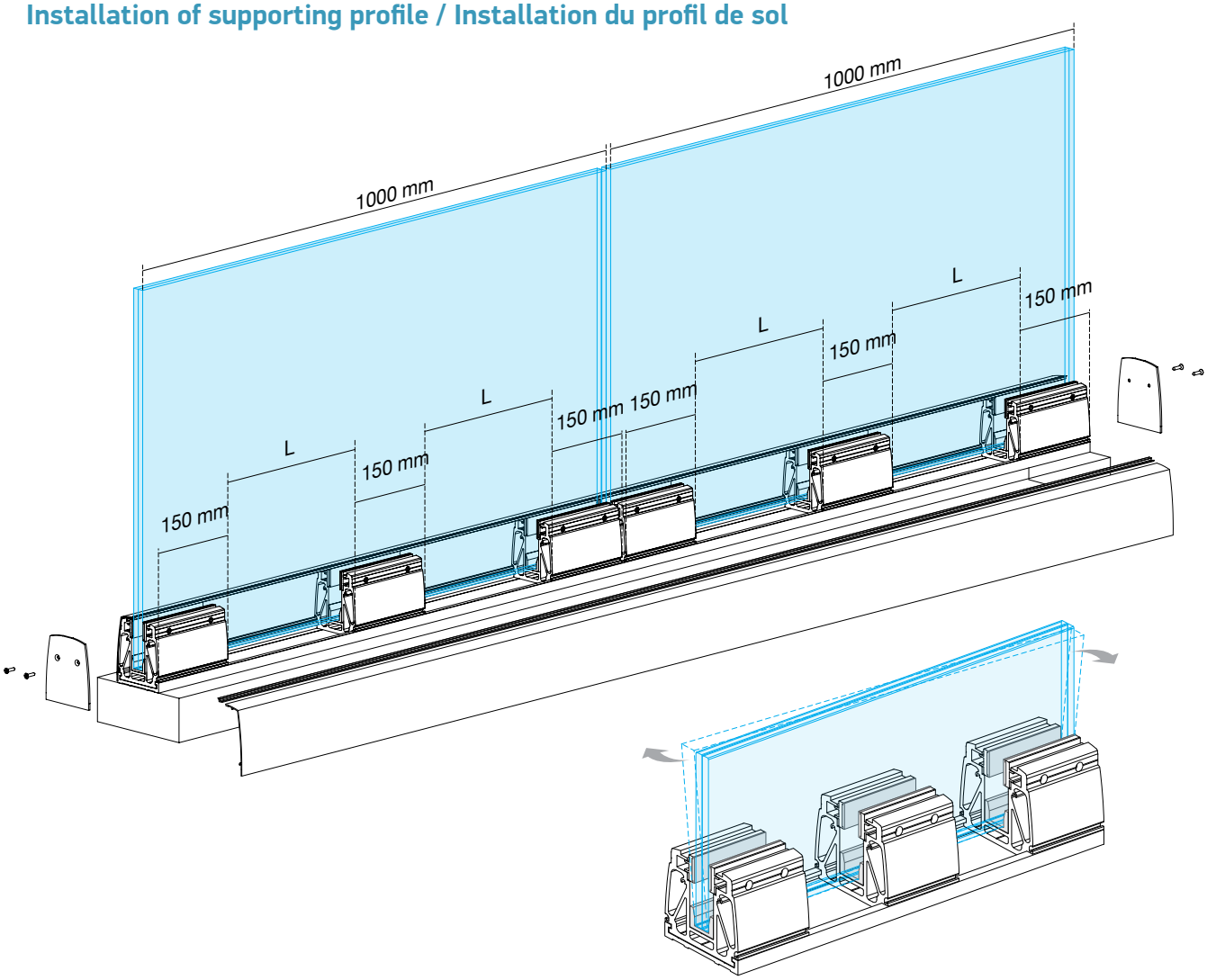


Balustrade Type Type de système	Tempered Glass Panel Type de verre	Height of balustrade Hauteur du balustrade	Static loading category (horizontal loads) Resistance à la charge statique	Dynamic Loading Category (Impact Test) Resistance à la charge dynamique
Crystalline-B	8.8.4	1000 mm	Private & commercial use Usage résidentiel & commercial	Private & commercial use Usage résidentiel & commercial
Crystalline-B	8.8.2 (DG41)	1200 mm	Residential use Usage résidentiel	Residential use Usage résidentiel
Crystalline-B	8.8.2 (DG41)	1200 mm	Residential use, with wind load up to 700 Pa Usage résidentiel, resistance au vent jusqu' à 700 Pa	Residential use Usage résidentiel
Crystalline-B	10.10.4	1200 mm	Private & commercial use Usage résidentiel & commercial	Residential use Usage résidentiel
Crystalline-B	10.10.4 mixed float laminate	1200 mm	Private & commercial use Usage résidentiel & commercial	Residential use Usage résidentiel

B•line

Système réglable, pose sur dalle

Installation of supporting profile / Installation du profil de sol



Recommended number of bases / m Nombre des embases recomendé	8.8.4 (17.52)				10.10.4 (21.52)			
	Glass height Hauteur du verre	Handrail Main courante	No. of bases / m No. des embases / m	L	Glass height Hauteur du verre	Handrail Main courante	No. of bases / m No. des embases / m	L
	600 mm	-	3	275 mm	600 mm	-	3	275 mm
		F85-203	2	700 mm		**F85-203**	2	700 mm
		F85-204	2	700 mm		**F85-204**	2	700 mm
	1000 mm	-	3	275 mm	1000 mm	-	3	275 mm
		F85-203	3	275 mm		**F85-203**	3	275 mm
		F85-204	3	275 mm		**F85-204**	3	275 mm
	1100 mm	-	4	133 mm	1100 mm	-	4	133 mm
		F85-203	3	275 mm		**F85-203**	3	275 mm
		F85-204	3	275 mm		**F85-204**	3	275 mm
	1200 mm	-	5	62.5 mm	1200 mm	-	5	62.5 mm
		F85-203	4	133 mm		**F85-203**	4	133 mm
		F85-204	4	133 mm		**F85-204**	4	133 mm

B•line

Adjustable system for on-floor installation

Installation step by step / Mode de montage

B•line
Système réglable, pose sur dalle

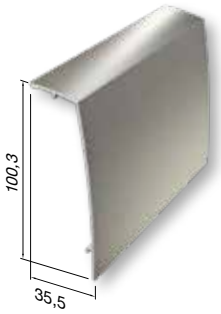
Fixing point / Entraxe de vis

The supporting bases include fixing bolts/anchors.
Profil de sol fourni avec les boulons et ancrage.

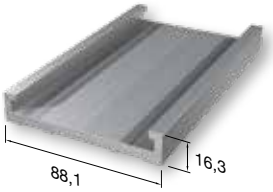
Glass base / Embase de support	
Code	**F85-150B/01/16** (for glass 16 mm)
	F85-150B/03/16 (8.8.4)
Pack./Condit.	12 pcs

Glass base / Embase de support	
Code	**F85-150B/02/20** (for glass 20 mm)
	F85-150B/04/20 (10.10.4)
Pack./Condit.	12 pcs

Profiles & accessories / Profiles & accessoires

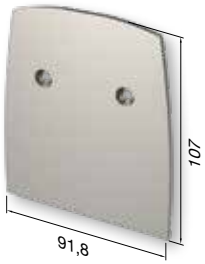


Base cover / Cache frontal	
Code	**F85-1K30**
Weight/Poids	559 gr/m
Length/Longueur	6 m



Base guide Profile rail d' embase 1B30	
Code	**F85-930**
Weight/Poids	1565 gr/m
Length/Longueur	6 m

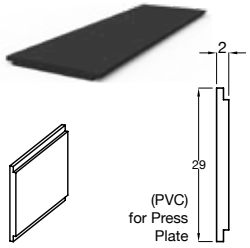
Available in Ral 9006
Disponible en Ral 9006



End cap / Embout	
Code	**F85-430**
Pack./Condit.	20 pcs

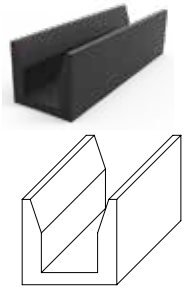
End cap (perforated) Embout ouvert	
Code	**F85-430L** (8.8.4)
	F85-430M (10.10.4)
Pack./Condit.	20 pcs

Gaskets / Joints



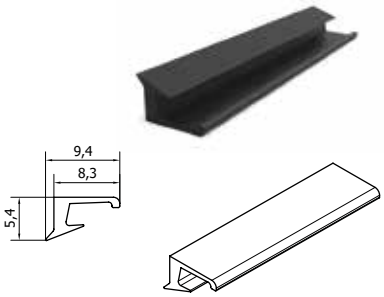
Slug gasket / Joint de fixation	
Code	**F85-421 (F85-431)**
Length/Longueur	150 m

Included in the glass support bases, also available seperately.
Fourni avec l' embase ainsi qu' au detail.



Glass support / Joint de support	
Code	**F85-427** (8.8.4)
	F85-432 (for glass 16 mm)
	F85-433 (for glass 20 mm)
	F85-420 (10.10.4)

Included in the glass support bases, also available seperately.
Fourni avec l' embase ainsi qu' au detail.



Slug gasket / Joint de cale	
Code	**F85-434**
Length/Longueur	250 m

The use of a special slug gasket is necessary only when installing a 8 mm+4PVB+8 mm glass and 16 mm glass.

On-Floor System

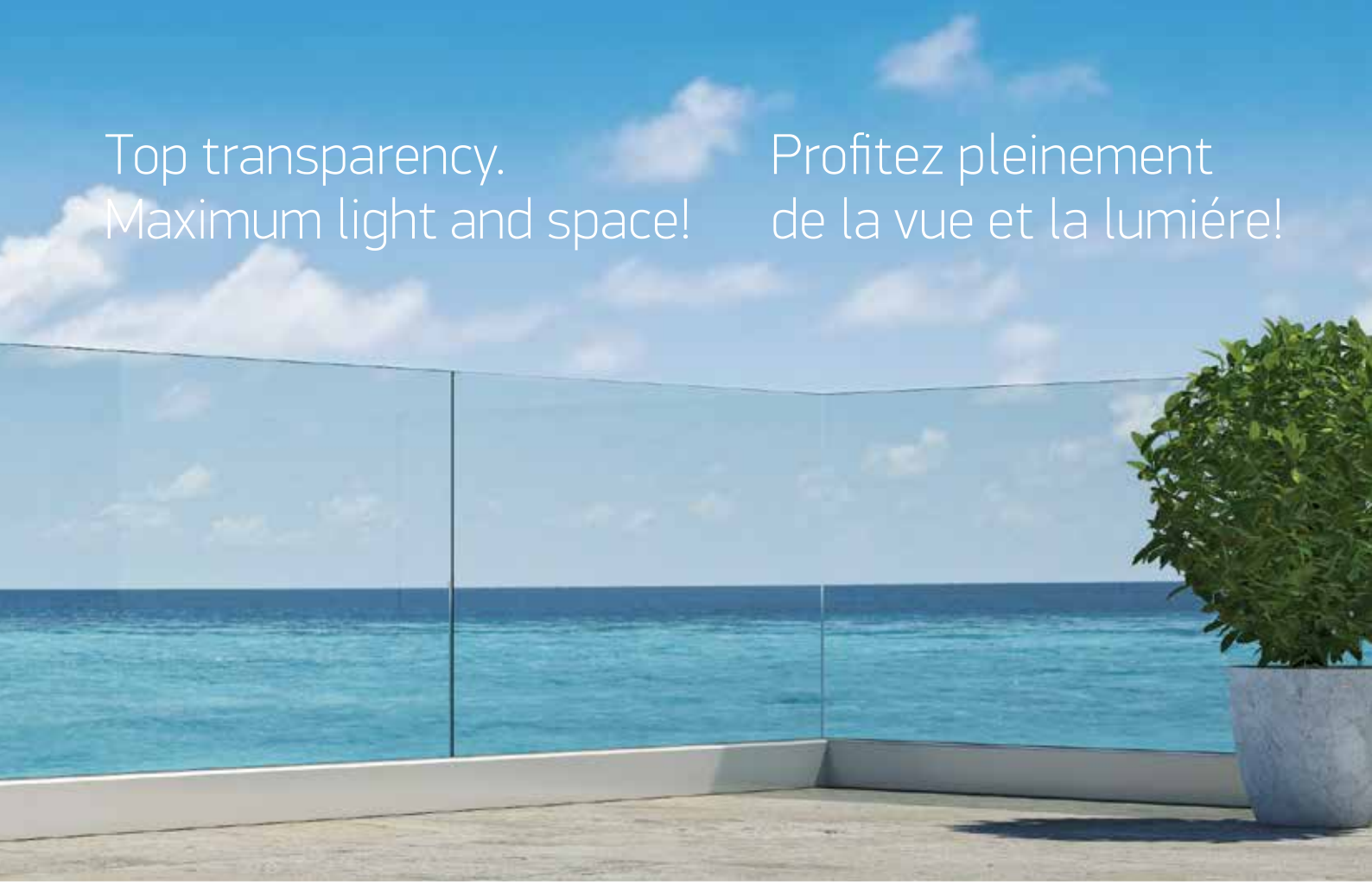
Frame-less glass offers a seamless and stylish appearance which is unmatched by any other balustrade system.

For a sleek and unobtrusive look, Type C2 is the indisputable solution. The square line supporting bases are fixed on the floor and coved by fascia profiles, easy to remove in case of glass replacement.

Glass panels specified for this system are: 88.4, 1010.4, thickness of 17.52 mm & 21.52 mm. Maximum height at 1200 mm.

Highlights

- Frameless.
- Modern and elegant design.
- Complies to the strictest safety regulations (test results available).
- Easy alignment from internal side of balcony.
- Quick installation with a floor guide.
- Possibility of embedding the system.
- Optional use of handrail.



Pose sur dalle

Conçue pour répondre aux critères de sécurités les plus strictes, résidentiel ou commercial tel que halles, salles de loisir et centre commerciaux, hôtels ou même des appartements.

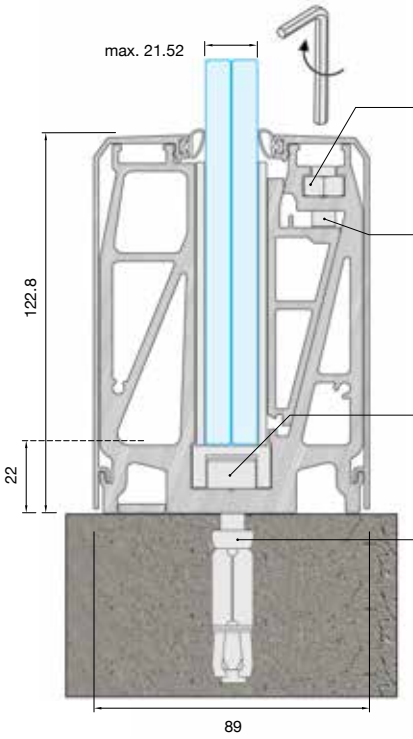
Le changement facile du verre, au cas de brissure, est son atout fort.

Les points forts

- Design épurée
- Certifié par IFT Rosenheim
- Alignement aisé
- Option d' encastrement
- Option de main courante
- Fournis déjà pré-percé
- Mise en œvre simplifiée

C2•line

C2•line
On-Floor System



DIN 934 M8
Included in the supporting base
Fourni avec l' embase

DIN 916 M8x25
Included in the supporting base
Fourni avec l' embase
Tightening torque 5 Nm Allen No.6
Cheville à expansion 5 Nm Allen No.6

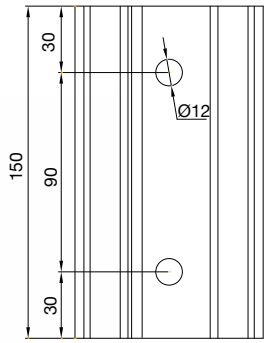
EB912-1070
DIN 912 M10x70
Tightening torque 40 Nm Allen No.8
Cheville à expansion 40 Nm Allen No.8

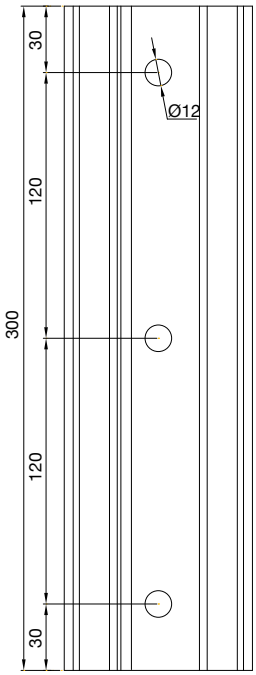
EB01M-1040
M10x40
Drill 16 mm

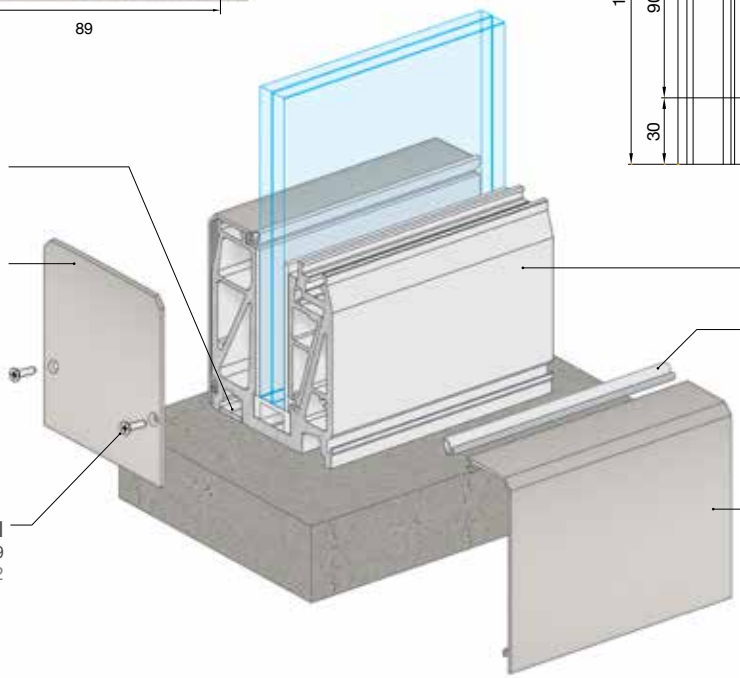
Glass section C2 Specifications du verre
8.8.4 (17.52)
10.10.4 (21.52)

Fixing point
Entraxe de vis

F85-150C2/16 F85-150C2/20	F85-300C2/16 F85-300C2/20







PAT39-120

F85-415/C2

F85-150/C2

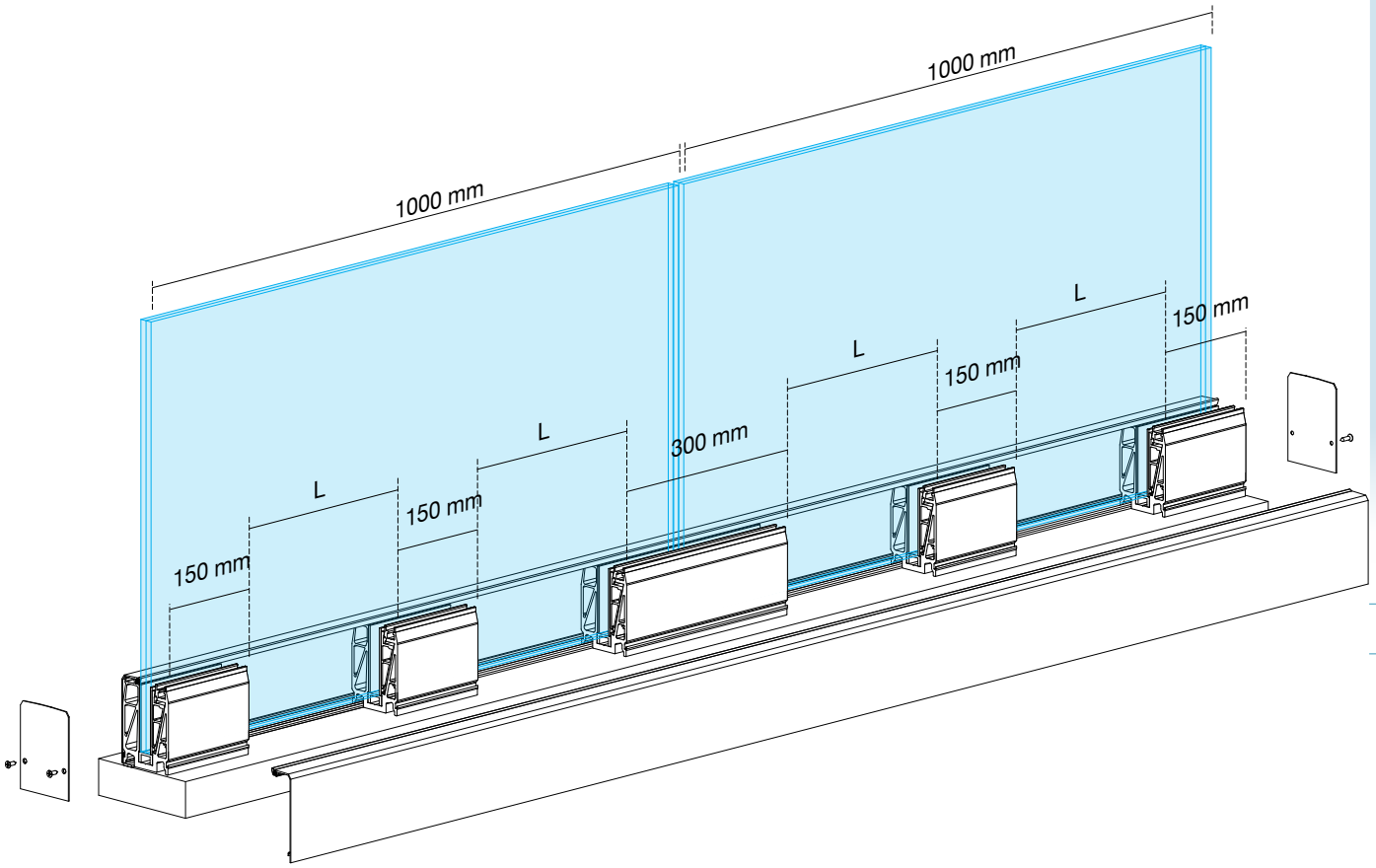
F85-426

F85-1K15

EB7982-4219I
DIN 7982 4.2x19
Cross bit PH2

Balustrade Type Type de système	Tempered Glass Panel Type de verre	Height of balustrade Hauteur du balustrade	Static loading category (horizontal loads) Resistance à la charge statique	Dynamic Loading Category (Impact Test) Resistance à la charge dynamique
Crystalline-C2	8.8.4	1000 mm	Private & commercial use Usage résidentiel & commercial	Private & commercial use Usage résidentiel & commercial
Crystalline-C2	10.10.4	1100 mm		Private & commercial use Usage résidentiel & commercial
Crystalline-C2	8.8.4 (Du Pont Sentry)	1100 mm	Private & commercial use Usage résidentiel & commercial	Private & commercial use, Dynamic Missile Impact Test Weight 4.5 Kg Usage résidentiel & commercial Charge dynamique selon ASTM -E1996

Installation of supporting profile / Installation du profil de sol

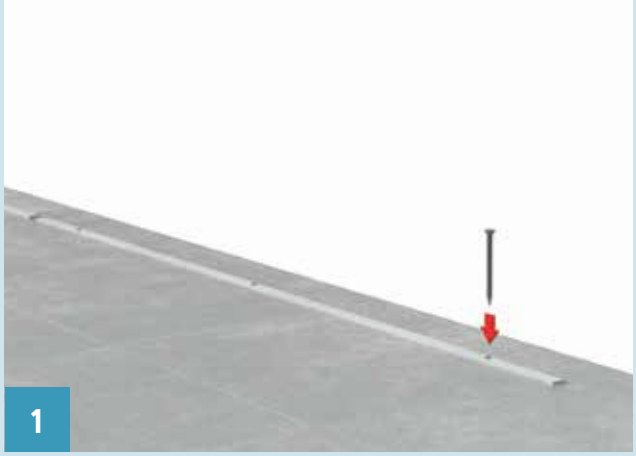


Recommended number of bases / m
Nombre des embases recomendé

8.8.4 (17.52)				10.10.4 (21.52)			
Glass height Hauteur du verre	Handrail Main courrante	No. of bases/m No. des embases/m	L	Glass height Hauteur du verre	Handrail Main courrante	No. of bases/m No. des embases/m	L
600 mm	-	3	275 mm	600 mm	-	3	275 mm
	F85-203	2	700 mm		**F85-203**	2	700 mm
	F85-204	2	700 mm		**F85-204**	2	700 mm
1000 mm	-	3	275 mm	1000 mm	-	3	275 mm
	F85-203	3	275 mm		**F85-203**	3	275 mm
	F85-204	3	275 mm		**F85-204**	3	275 mm
1100 mm	-	4	133 mm	1100 mm	-	4	133 mm
	F85-203	3	275 mm		**F85-203**	3	275 mm
	F85-204	3	275 mm		**F85-204**	3	275 mm
1200 mm	-	5	62.5 mm	1200 mm	-	5	62.5 mm
	F85-203	4	133 mm		**F85-203**	4	133 mm
	F85-204	4	133 mm		**F85-204**	4	133 mm

C2•line
On-Floor System

Installation step by step / Mode de montage

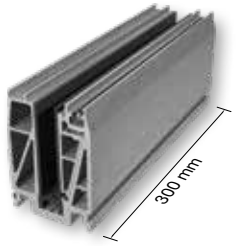


C2•line
Pose sur dalle

Supporting bases / Embases de support

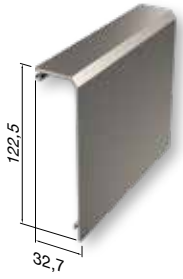
The supporting bases include fixing bolts/anchors / Profil de sol fourni avec les boulons et ancrage.

Glass base / Embase de support	
Code	**F85-150C2/16** (8.8.4)
	F85-150C2/20 (10.10.4)
Pack./Condit.	12 pcs



Glass base / Embase de support	
Code	**F85-300C2/16** (8.8.4)
	F85-300C2/20 (10.10.4)
Pack./Condit.	6 pcs

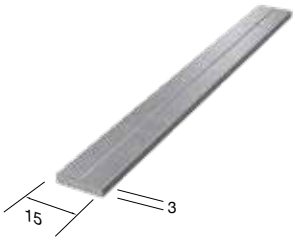
Accessories & gaskets / Accessoires & joints



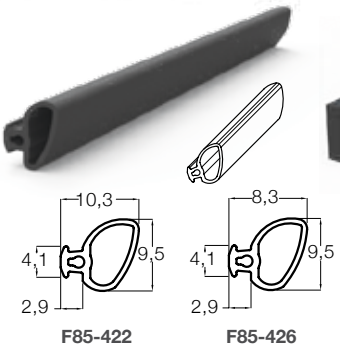
Base cover / Cache frontal	
Code	**F85-1K15**
Weight/Poids	705 gr/m
Length/Longueur	6 m

Side cap / Embout	
Code	**F85-415/C2**
Pack./Condit.	20 pcs

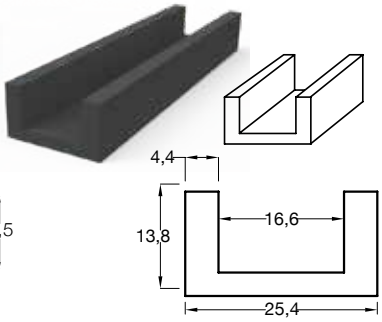
End cap (perforated) / Embout ouvert	
Code	**F85-415/C2 L** (8.8.4)
	F85-415/C2 M (10.10.4)
Pack./Condit.	20 pcs



Alignment profile/Profil d' allignement	
Code	**PAT39-120**
Weight/Poids	121 gr/m
Length/Longueur	6 m

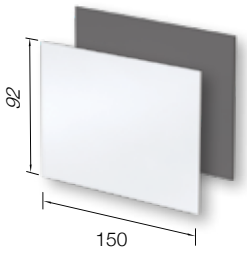


Gasket for base cover Joint de cache fron. F85-1K15	
Code	**F85-422** (8.8.4)
	F85-426 (10.10.4)



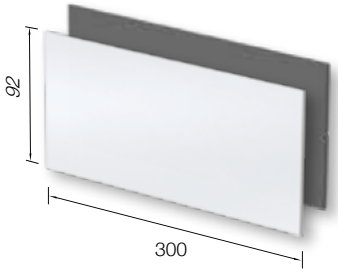
Glass support spacer Embout de profile encastre	
Code	**F85-436**

Included in the glass support bases, also available seperately
Fourni avec l' embase ainsi qu' au detail



PVC sheet / Plaque en PVC	
Code	**F85-E020** ● (1 mm) **F85-E022** ● (3 mm)
Color/Couleur	White/Blanc Black/Noir
Length/Longueur	150 mm

Included in the glass support base F85-150C2, also available seperately
Fourni avec l' embase F85-150C2 ainsi qu' au detail.



PVC sheet / Plaque en PVC	
Code	**F85-E021** ● (1 mm) **F85-E023** ● (3 mm)
Color/Couleur	Λευκό/White/ Blanc Black/Noir
Length/Longueur	300 mm

Included in the glass support base F85-300C2, also available seperately
Fourni avec l' embase F85-300C2 ainsi qu' au detail.

C2u·line

In-floor support system

Glass balustrades are unmatched for their ability to offer safety, visual appeal and practicality to any internal or external area. Type C2U offers all of these qualities and even more, in its “hidden“ in-floor assembly. Ideal for swimming pools, terraces and balconies, for unlimited view.

Glass panels to be used are 88.4 or 1010.4, in thickness of 17.52 mm & 21.52 mm maximum height of 1200 mm.

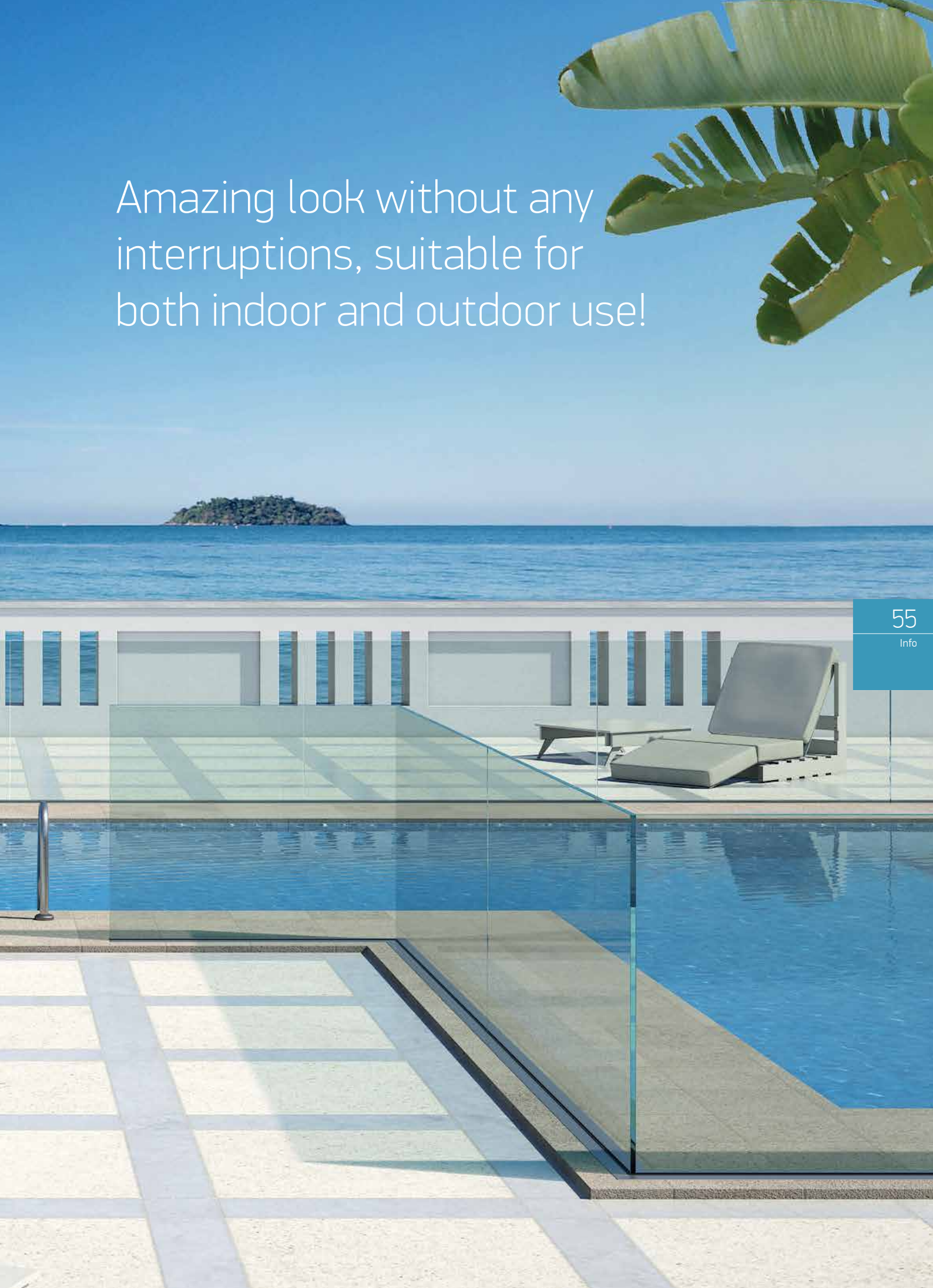
Système Encastré

La vie en Verre!

Avec ses profils de sol encastrés, C2u Line est pratiquement invisible.

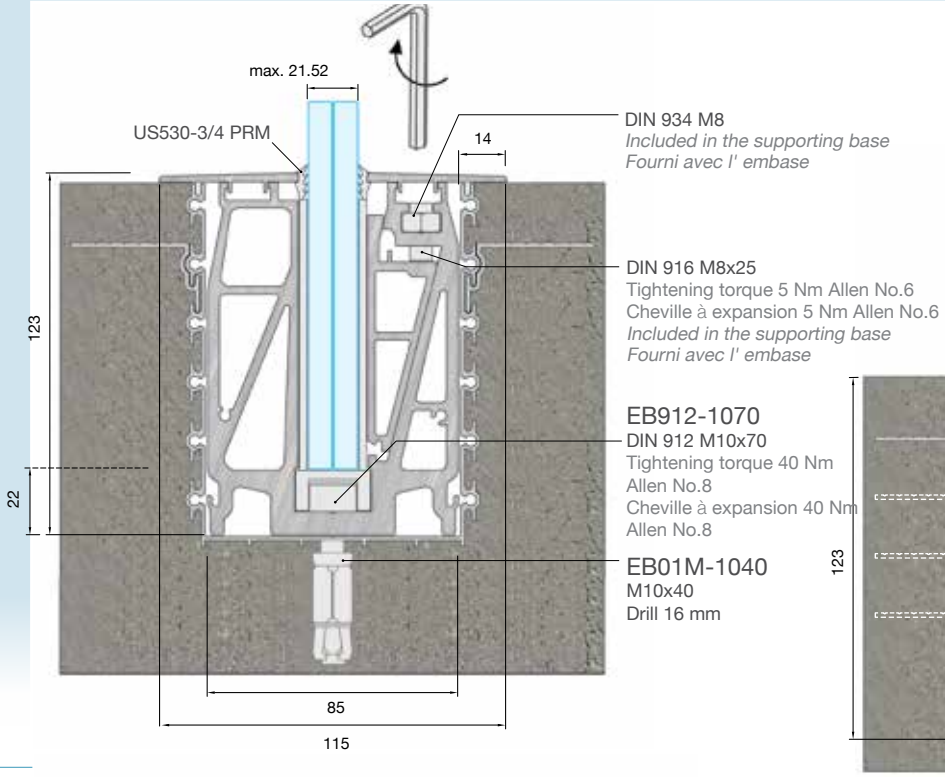
Que votre projet concern une residence, hotel ou centre de loisir, les limites sont suprimés!

Ils offrent maximum de lumière et d' éspace!

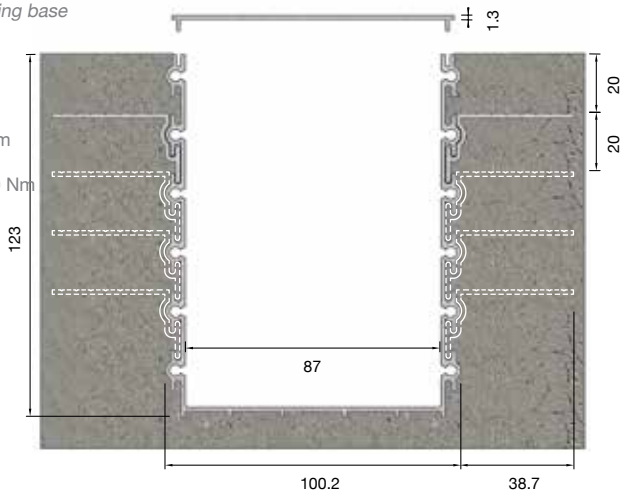

Amazing look without any interruptions, suitable for both indoor and outdoor use!

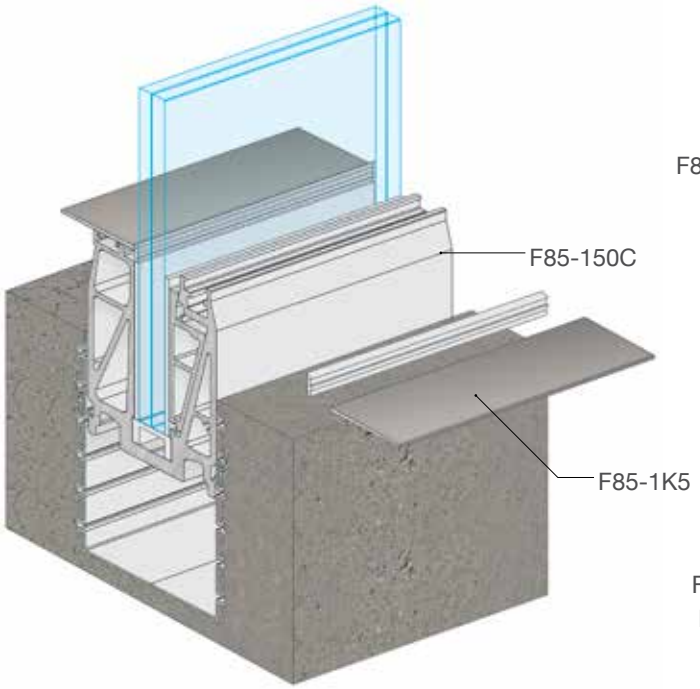
C2u•line

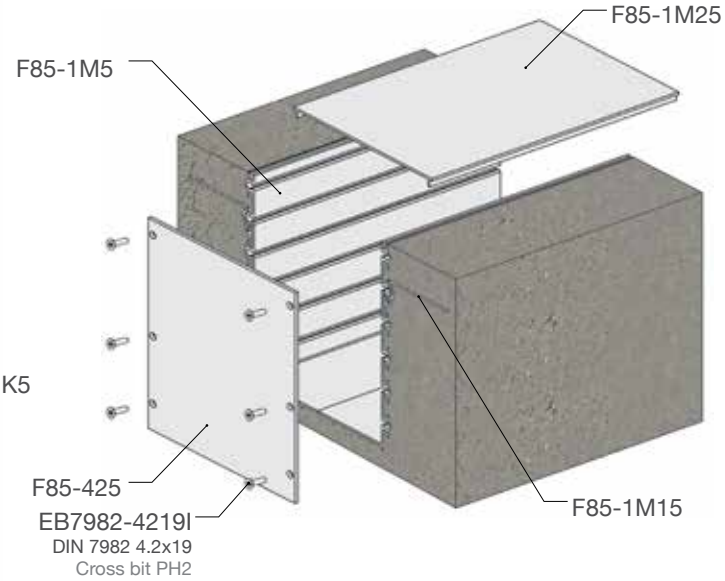
C2u•line
In-floor support system



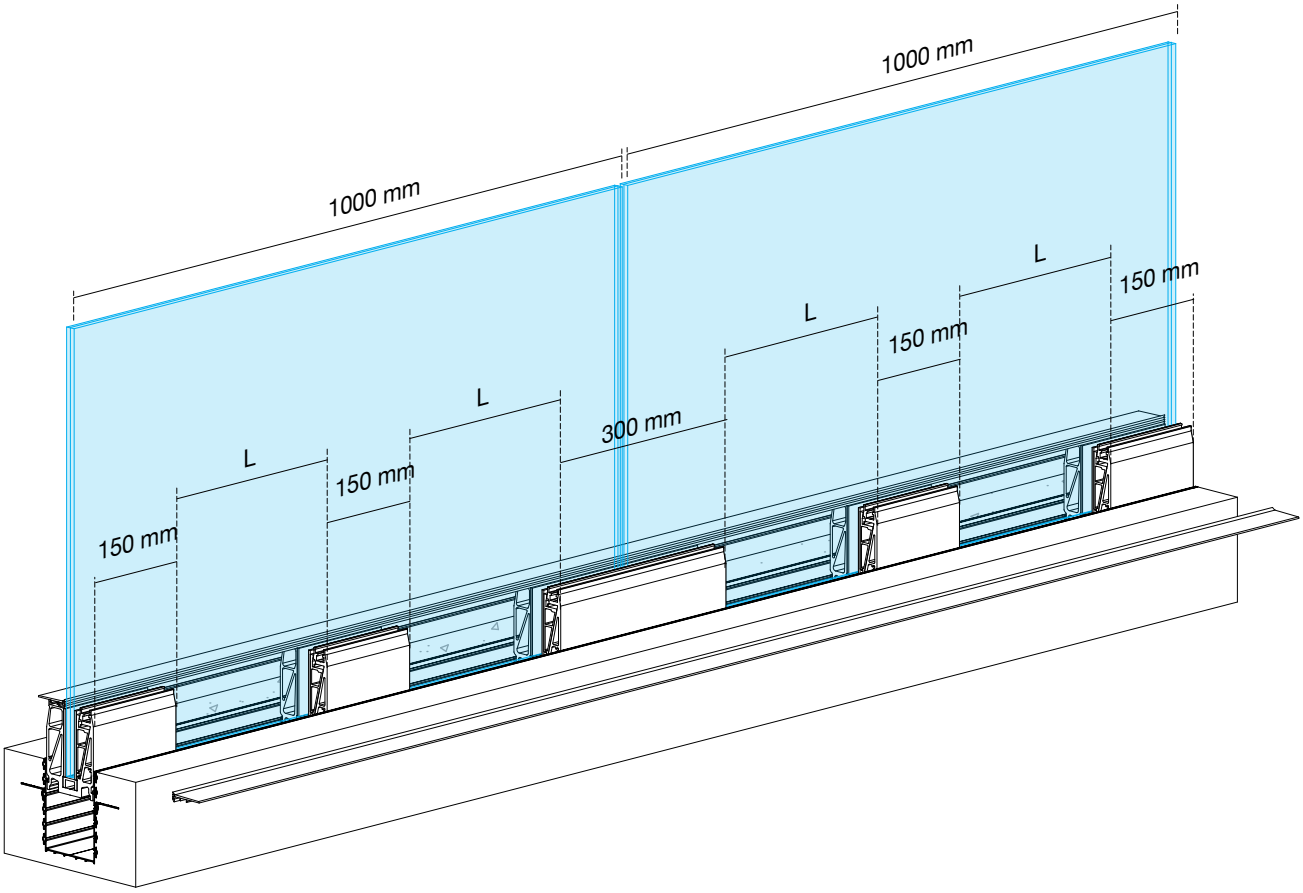
Glass section C2 Specifications du verre
8.8.4 (17.52)
10.10.4 (21.52)







Installation of supporting profile / Installation du profil de sol

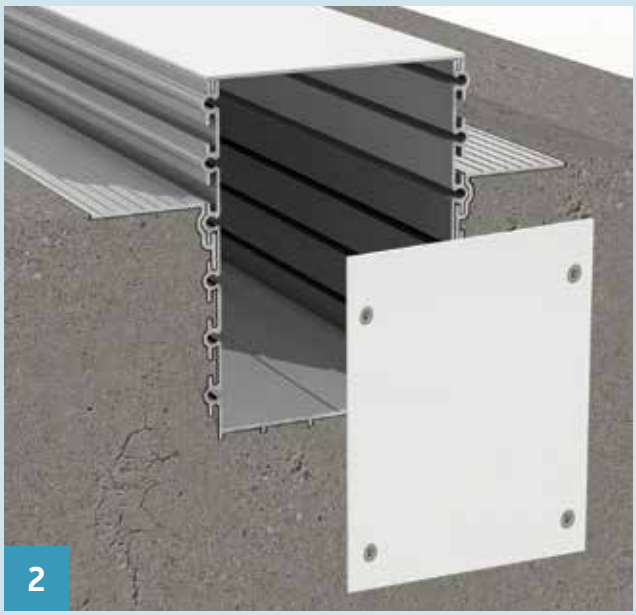


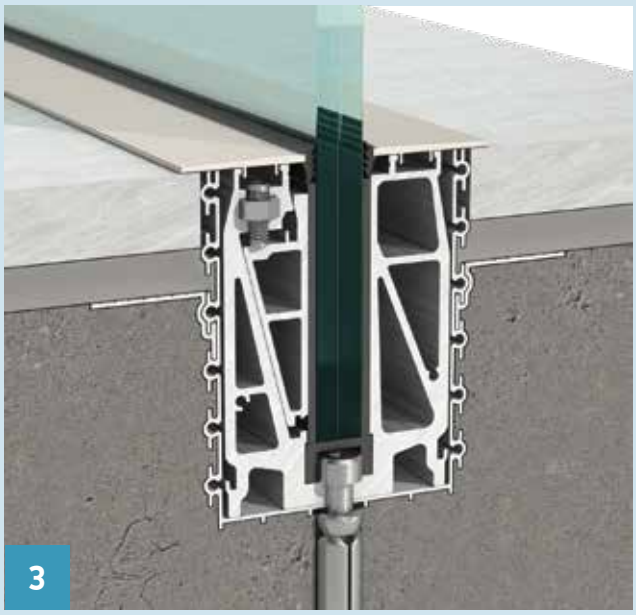
Recommended number of bases / m
Nombre des embases recomendé

8.8.4 (17.52)				10.10.4 (21.52)			
Glass height Hauteur du verre	Handrail Main courrante	No. of bases/m No. des embases/m	L	Glass height Hauteur du verre	Handrail Main courrante	No. of bases/m No. des embases/m	L
600 mm	-	3	275 mm	600 mm	-	3	275 mm
	F85-203	2	700 mm		**F85-203**	2	700 mm
	F85-204	2	700 mm		**F85-204**	2	700 mm
1000 mm	-	3	275 mm	1000 mm	-	3	275 mm
	F85-203	3	275 mm		**F85-203**	3	275 mm
	F85-204	3	275 mm		**F85-204**	3	275 mm
1100 mm	-	4	133 mm	1100 mm	-	4	133 mm
	F85-203	3	275 mm		**F85-203**	3	275 mm
	F85-204	3	275 mm		**F85-204**	3	275 mm
1200 mm	-	5	62.5 mm	1200 mm	-	5	62.5 mm
	F85-203	4	133 mm		**F85-203**	4	133 mm
	F85-204	4	133 mm		**F85-204**	4	133 mm

C2u•line
In-floor support system

Installation step by step / Mode de montage

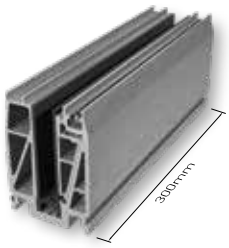




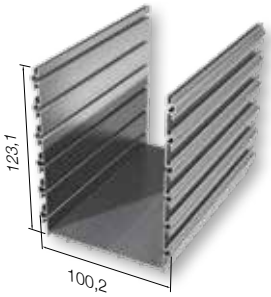
Supporting bases / Embases de support

The supporting bases include fixing bolts/anchors / Profil de sol fourni avec les boulons et ancrage.

Glass base / Embase de support	
Code	**F85-150C2/16** (8.8.4)
	F85-150C2/20 (10.10.4)
Pack./Condit.	12 pcs

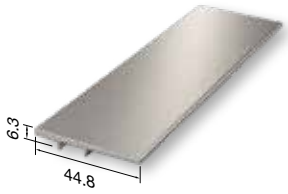


Glass base / Embase de support	
Code	**F85-300C2/16** (8.8.4)
	F85-300C2/20 (10.10.4)
Pack./Condit.	6 pcs



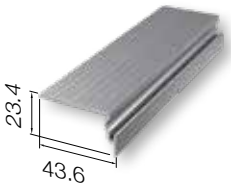
In-floor base guide Profile du guidage encastre	
Code	**F85-1M5**
Weight/Poids	1976 gr/m
Length/Longueur	6 m

Accessories & gaskets / Accessoires & joints

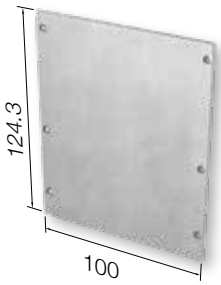


Base cover / Cache frontal	
Code	**F85-1K5**
Weight/Poids	295 gr/m
Length/Longueur	6 m

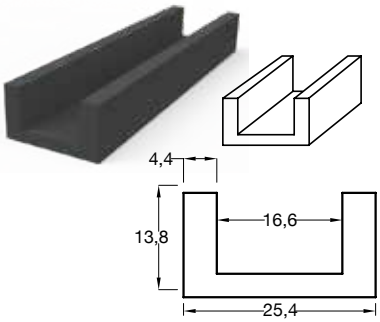
In-floor base guide cover Profile cache frontal du guidage encastre	
Code	**F85-1M25**
Weight/Poids	360 gr/m
Length/Longueur	6 m



Additional profile for in-floor guide Profile supplementaire du guidage encastre	
Code	**F85-1M15**
Weight/Poids	281 gr/m
Length/Longueur	6 m

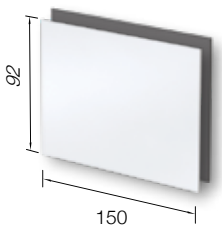


In-floor base guide cap Embout De Guidage Encastre	
Code	**F85-425**
Pack./Condit.	20 pcs



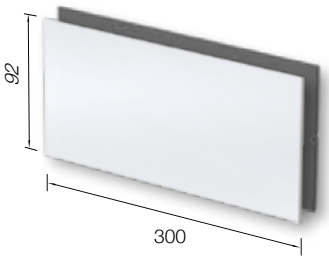
In-floor base guide cap Embout de profile encastré	
Code	**F85-436**

Included in the glass support bases, also available seperately
Fourni avec l' embase ainsi qu' au detail



PVC sheet / Plaque en PVC	
Code	**F85-E020** ● (1 mm) **F85-E022** ● (3 mm)
Color/Couleur	White/Blanc Black/Noir
Length/Longueur	150 mm

Included in the glass support base F85-150C2, also available seperately
Fourni avec l' embase F85-150C2 ainsi qu' au detail.



PVC sheet / Plaque en PVC	
Code	**F85-E021** ● (1 mm) **F85-E023** ● (3 mm)
Color/Couleur	White/Blanc Black/Noir
Length/Longueur	300 mm

Included in the glass support base F85-300C2, also available seperately
Fourni avec l' embase F85-300C2 ainsi qu' au detail.

Gasket for base cover F85-1K5 Joint pour profil de finition F85-1K5	
Code	**US530–3PRM** (10.10.4)
Ref.	**US530–4PRM** (8.8.4)

D·line

CERTIFIED BY ISTITUTO GIORDANO CERTIFIÉ PAR

Fascia mount system

Glass panels mounted on aluminium fascia supporting channel, suitable for balconies, terraces and staircases.

Extremely elegant and unobtrusive due to the mounting profiles and rosettes which support the whole structure

Specified glass to be used is 88.4 & 1010.4, in thickness of 17.52 mm & 21.52 mm respectively. Maximum height at 1200 mm.

Highlights

- Total frame-less effect
- Suitable for the interior as well as exterior
- Mounted on external side of wall
- Optional use of handrail
- No drilling or damage of insulation

Pose sur nez de dalle

Plus facile que jamais, avec ce système de pose en nez de dalle. Le profile structuraux s' accroche sur le mur et le verre est monté avec des adaptateurs de verre. L' habillage de l' ensemble donne ce garde corps son élégance et. Fluidité de lignes. Verre preconisé à 88.4 et 1010.4. Hauteur maximale à 1200 mm.

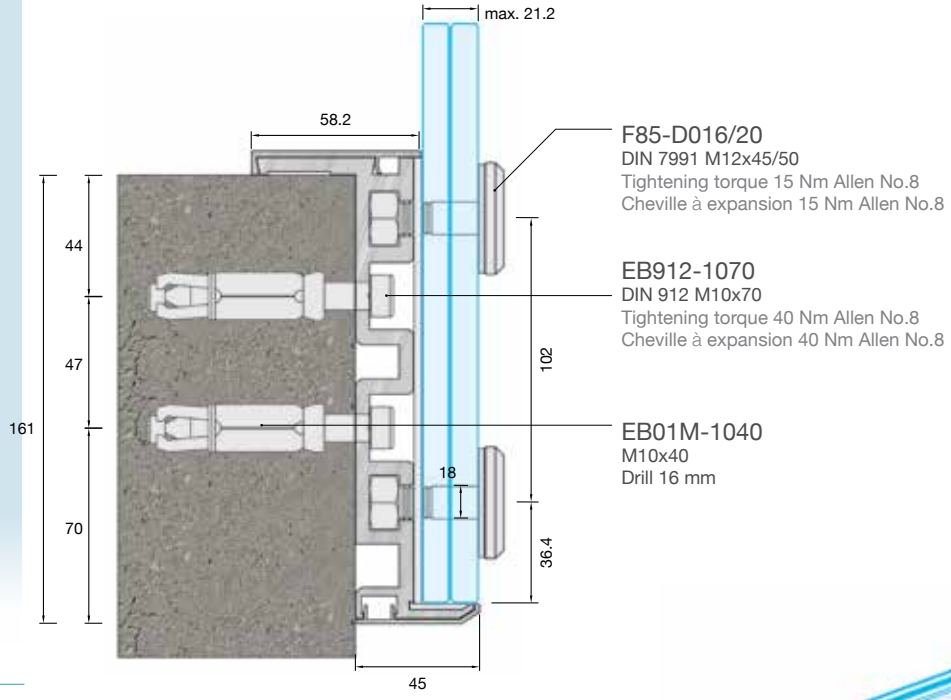
Les points forts

- Effet tout verre
- Utilisable a l' intérieur et extérieur
- Ergonomie d' espace
- Option de main courante
- Protection d' isolation thérmique

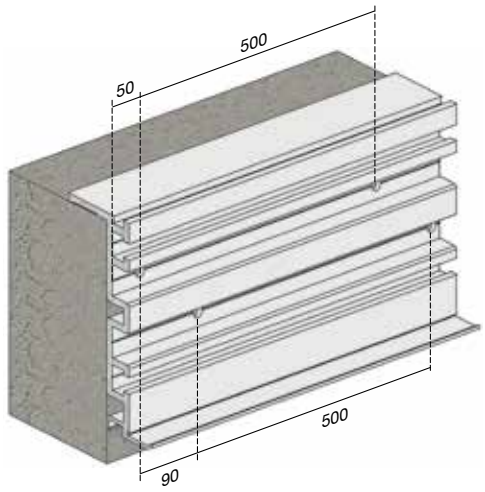
Total frameless effect down to the last detail!

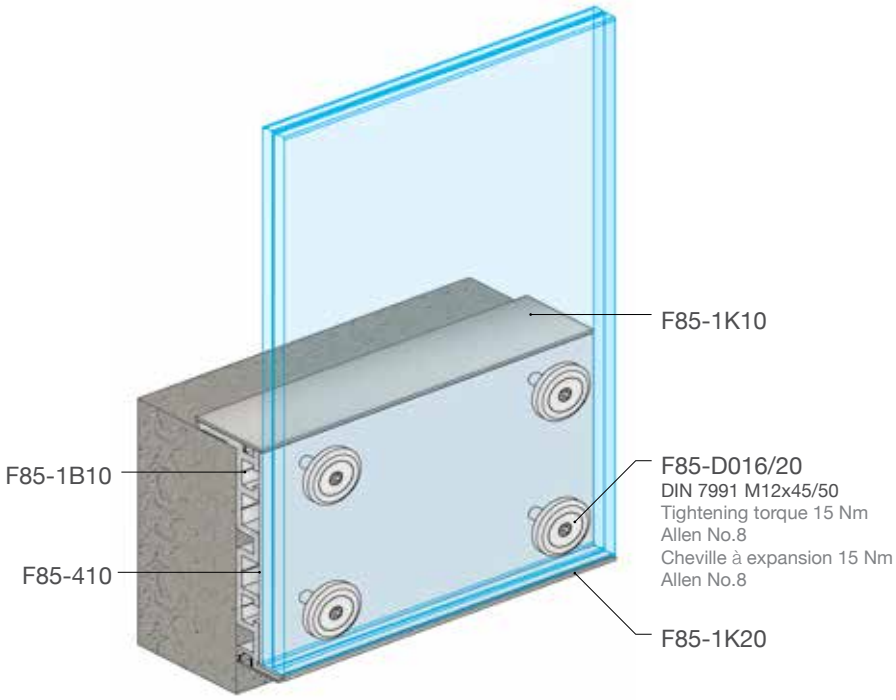
ZARA

D•line
Fascia mount system



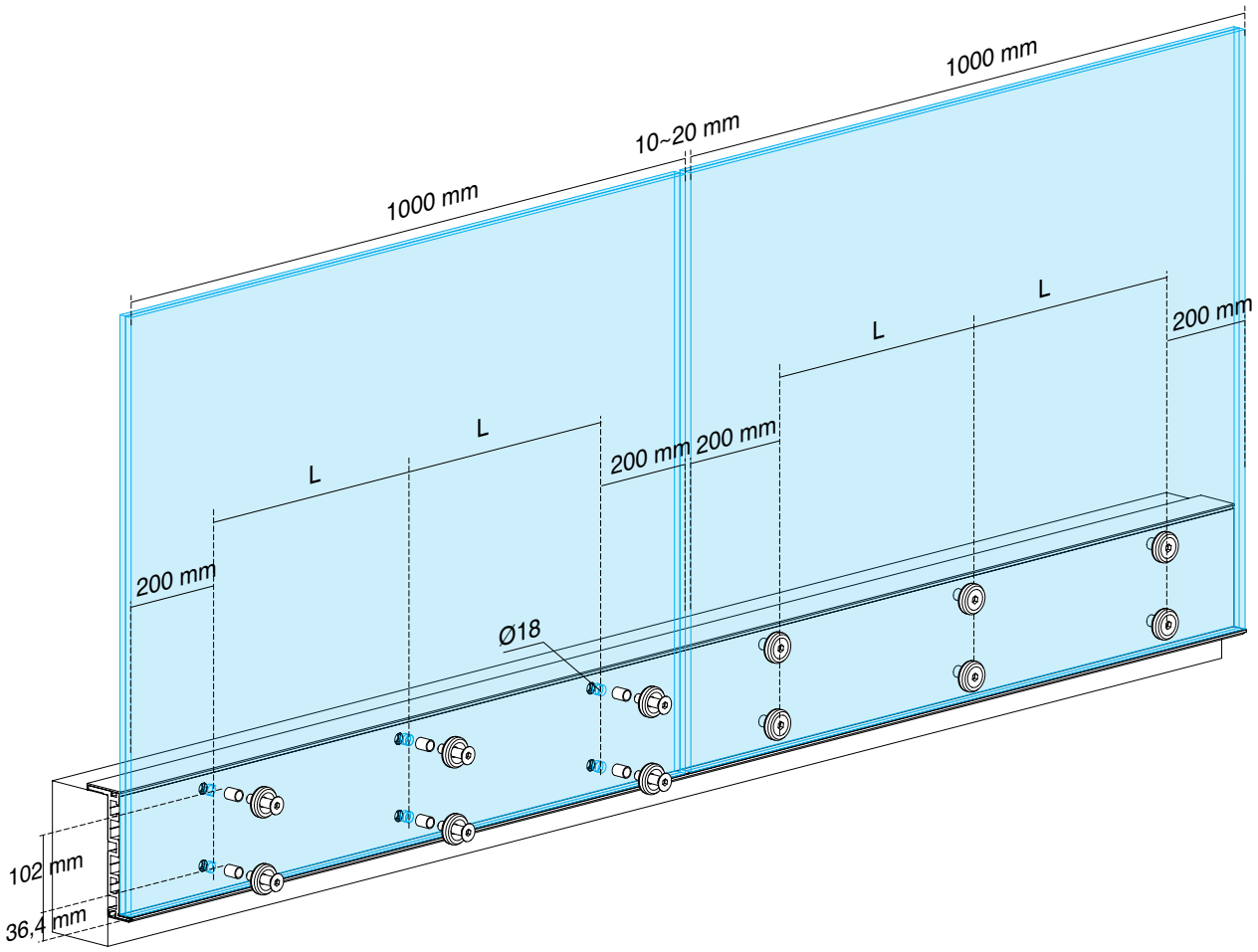
Glass section D Specifications du verre
8.8.4 (17.52)
10.10.4 (21.52)





Balustrade Type Type de balustrade	Tempered Glass Panel Specifications de verre	Height of balustrade Hauteur de balustrade	Static Loading Category Resistance a la charge statique (Horizontal Loads)	Dynamic Loading Category Resistance a la charge dynamique (Impact Test)
Crystalline-D	8.8.4	1100 mm Glass	Private & commercial use	Private & commercial use Usage résidentiel & commercial

Glass bracket installation / Entraxe de rosettes



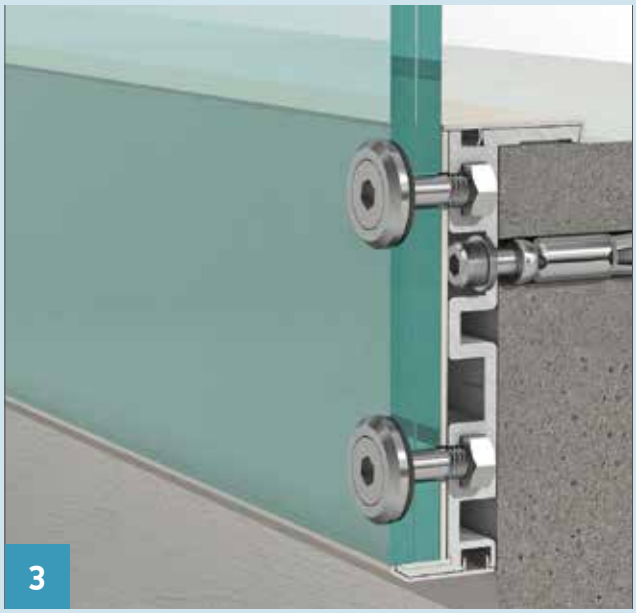
Recommended number of bases / m
Nombre des embases recomendé

8.8.4 (17.52)			
Glass height Hauteur	Handrail Main courrante	No. of bases / m No. des embases / m	L
600 mm	-	2	600 mm
	F50-200	2	600 mm
1000 mm	-	3	300 mm
	F50-200	2	600 mm
1200 mm	-	4	200 mm
	F50-200	3	300 mm

10.10.4 (21.52)			
Glass height	Handrail Main courrante	No. of bases / m No. des embases / m	L
600 mm	-	2	600 mm
	F50-200	2	600 mm
1000 mm	-	3	300 mm
	F50-200	2	600 mm
1100 mm	-	4	200 mm
	F50-200	3	300 mm

D•line
Fascia mount system

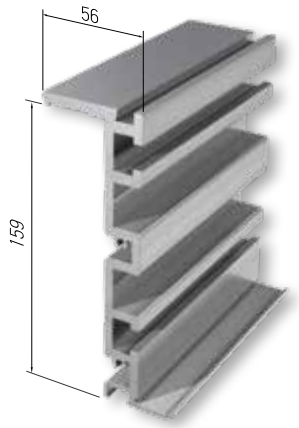
Installation step by step / Mode de montage



D•line
Pose sur nez de dalle

Supporting bases / Profil de fixation

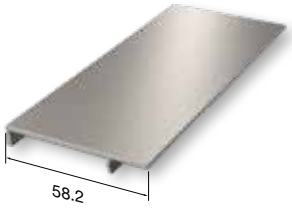
The supporting bases include fixing bolts/anchors. / Profil de sol fourni avec les boulons et ancrage.



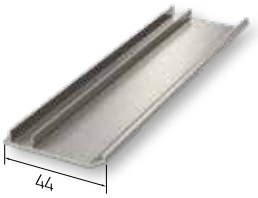
Wall base / Murale d' embase	
Code	**F85-1B10**
Weight/Poids	4740 gr/m
Length/Longueur	6 m

Available in 6 meter pre-cut and pierced, all fixing bolts/anchors are included
Disponible en bars de 6 m de longeur, avec tous les vis

Profiles & accessories / Profiles & accessoires

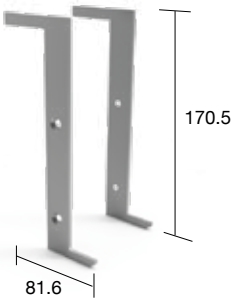


Top Cover/Profile de finition superieure	
Code	**F85-1K10**
Weight/Poids	366 gr/m
Length/Longueur	6 m



Bottom Cover / Profile de finition	
Code	**F85-1K20**
Weight/Poids	220 gr/m
Length/Longueur	6 m

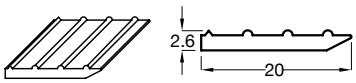
Glass Support rosete Rosace de support de verre	
Code	**F85-D016** (8.8.4) **F85-D020** (10.10.4)
Pack./Condit.	20 pcs



End cap / Embout	
Code	**F85-447**
Weight/Poids	70 gr/pair

Gaskets / Joints

PVC sheet 1 mm/Plaque en PVC 1 mm	
Code	**F85-410**
Color/Couleur	White/Blanc Black/Noir
Length/Longueur	2 m



Base gasket / Joint de base	
Code	**F85-437**
Length/Longueur	200 m

External support with glass brackets

Installing this system on your staircase or balcony, a floating and totally frame-less effect is gained.

The glass brackets in stainless steel of 40 and 50 diameter, are fixed directly on the external wall. Additional brackets available for use of handrail.

Highlights

- Perfect solution for staircases.
- Stunning look.
- Easy installation with 88.4 or 1010.4 securit glass.
- Installation during latest stage of project.
- Excellent quality of material.

Pose sur nez de dalle avec des adaptateurs a verre

Pour avoir de transparence sans limites!

Ce garde corps tout verre, sans structure porteuse, s' inscrive dans une tendance architecturale forte. Les adaptateurs a verre rond a 40 & 50 en inox brossé, offrent la structure la robustesse et l' élegance a la fois.

Les points forts

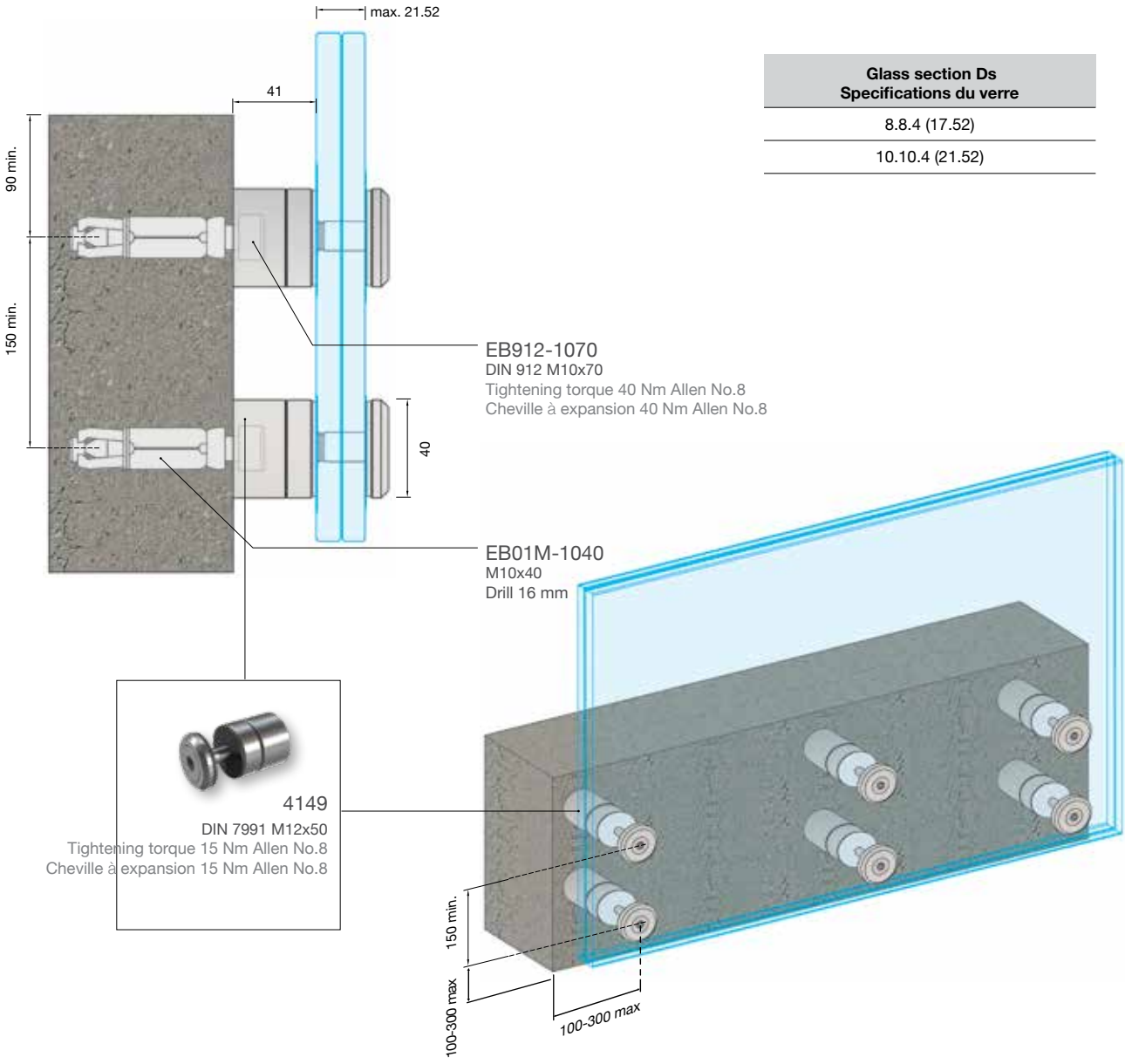
- Effet tout verre.
- Esthétique luxueuse.
- Facile à monter de verre à 88.4 ou 1010.4 securit.
- Pose durant la derniére phase du projet.
- Finition particulièrement soigneuse.

Que ce soit des escaliers à l' interieur ou l' exterieur, ils devient une passage a l' ambiance de bien-être.

Ds•line

External support with glass brackets

Glass bracket installation / Entraxe de rosettes



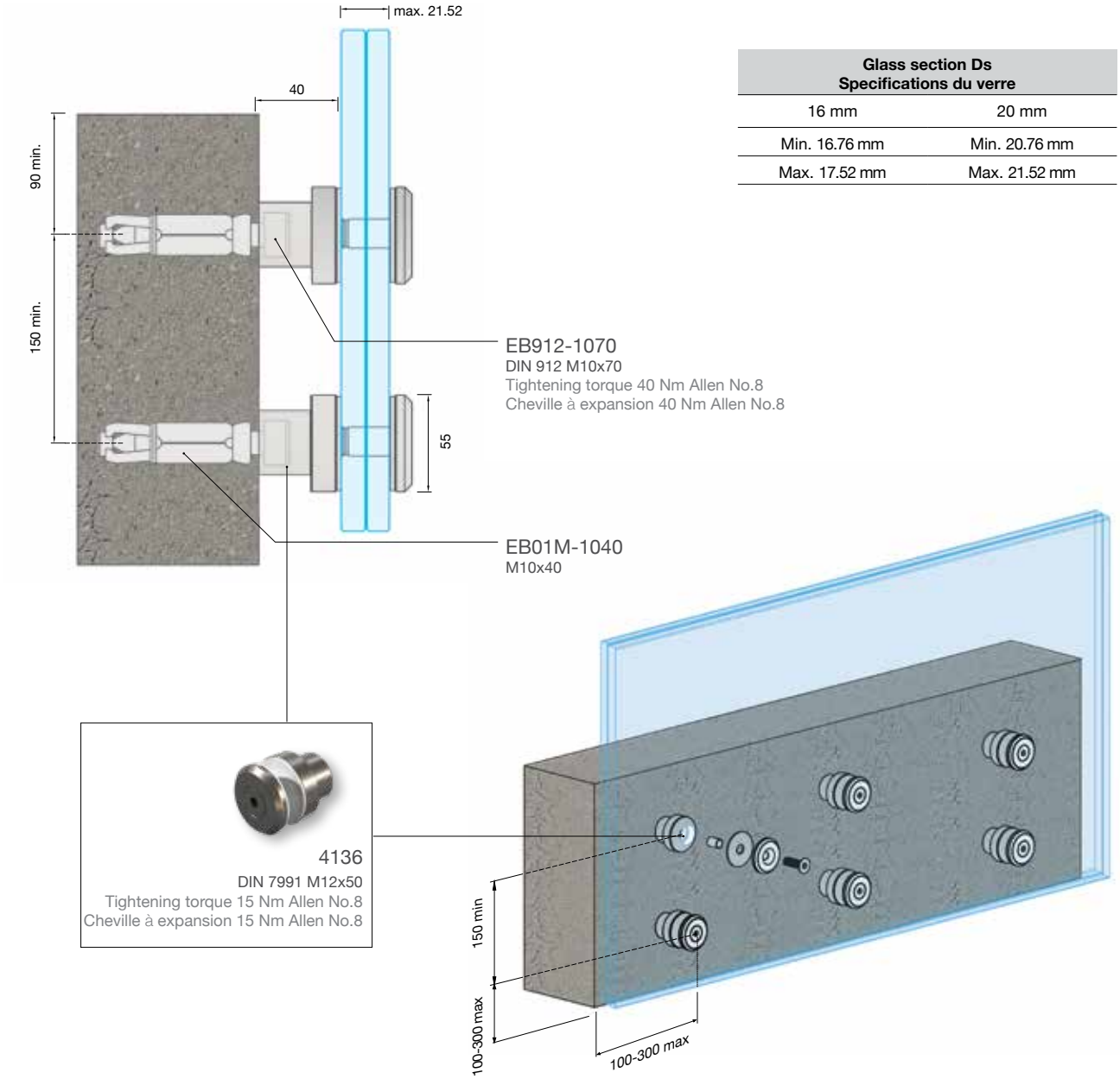
Glass section Ds Specifications du verre
8.8.4 (17.52)
10.10.4 (21.52)

Balustrade Type Type de balustrade	Tempered Glass Panel Specifications de verre	Height of balustrade Hauteur de balustrade	Static Loading Category Resistance a la charge statique (Horizontal Loads)	Dynamic Loading Category Resistance a la charge dynamique (Impact Test)
Crystalline-Ds	8.8.4	1200 mm Glass/Verre	Private & commercial use Usage résidentiel & commercial	Private & commercial use Usage résidentiel & commercial

Ds•line

Pose sur nez de dalle avec des adaptateurs a verre

Glass bracket installation / Entraxe de rosettes



Glass section Ds Specifications du verre	
16 mm	20 mm
Min. 16.76 mm	Min. 20.76 mm
Max. 17.52 mm	Max. 21.52 mm

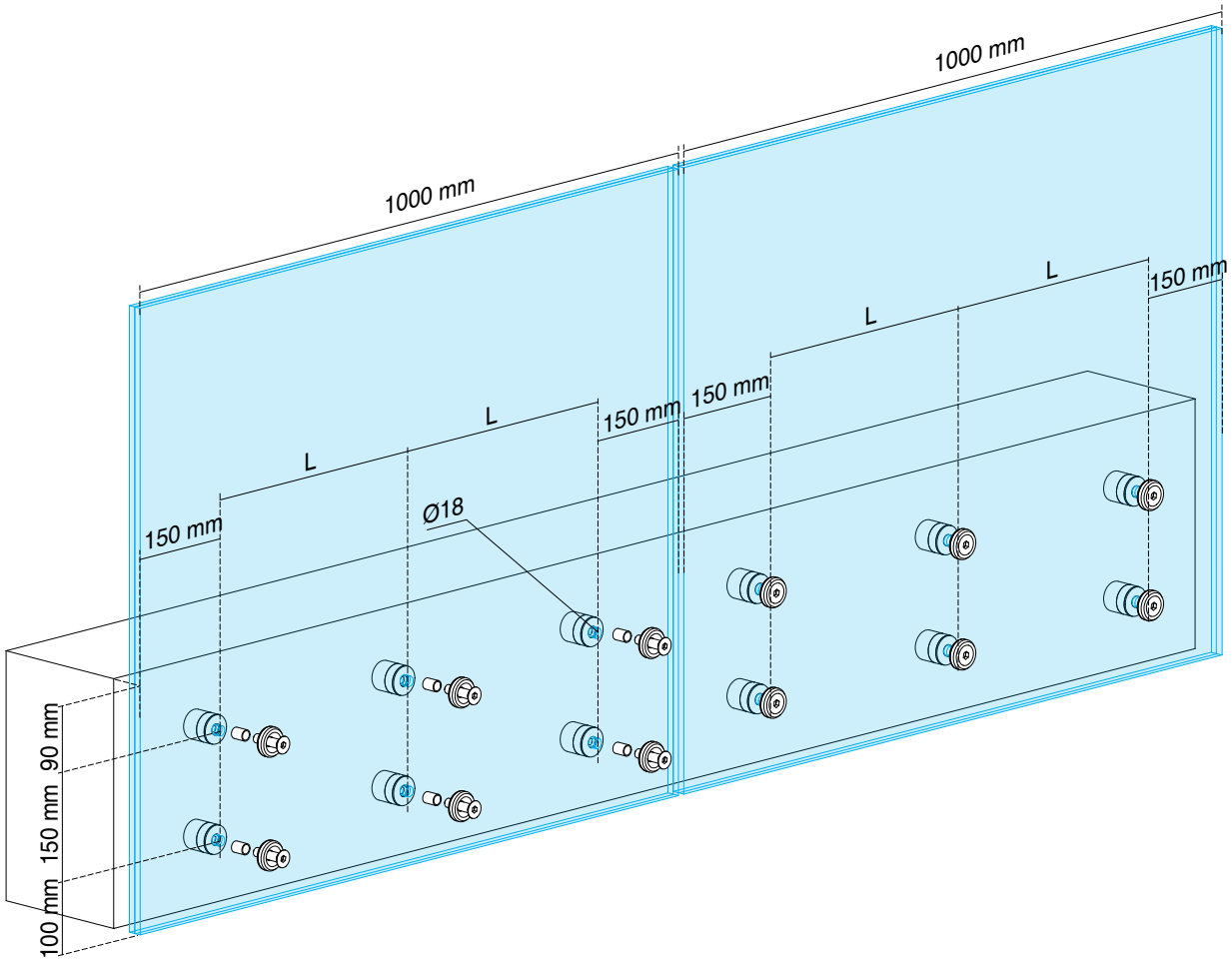
ATTENTION:
Mounting with handrail (with a 4148 or F85-451) improves static performance

ATTENTION:
L' utilisation de main courante offre de meilleure performance static

Ds•line

External support with glass brackets

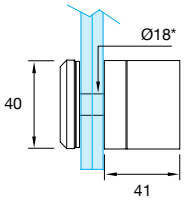
Glass bracket installation / Entraxe de rosettes



Recommended number of bases / m
Nombre des embases recomendé

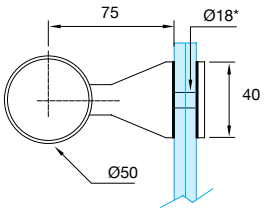
8.8.4 (17.52)				10.10.4 (21.52)			
Glass height Hauteur du verre	Handrail Main courrante	No. of bases / m No. des embases / m	L	Glass height Hauteur du verre	Handrail Main courrante	No. of bases/m No. des embases/m	L
600 mm	-	3	350 mm	600 mm	-	3	350 mm
	F50-200	2	700 mm		F50-200	2	700 mm
1000 mm	-	3	350 mm	1000 mm	-	3	350 mm
	F50-200	3	350 mm		F50-200	3	350 mm
1200 mm	-	4	233 mm	1100 mm	-	4	233 mm
	F50-200	3	350 mm		F50-200	3	350 mm

Accessories / Accessoires



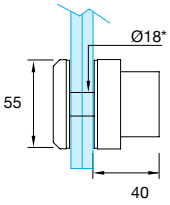
*Glass hole
Trou verre

Glass support Fixation murale de verre	
Code	**4149-200*(Inox304)** (8.8.4) **4149-201*(Inox316)** (10.10.4)
Pack./Condit.	12 pcs (box) 4 pcs (blister)



*Glass hole
Trou verre

Handrail support F50-200 Fixation articulée sur verre	
Code	**4148-200 (Inox 304)** (8.8.4) **4148-201 (Inox 316)** (10.10.4)
Pack./Condit.	12 pcs (box) 4 pcs (blister)



*Glass hole
Trou verre

Glass support Fixation Murale Verre Ø55	
Code	**4136-200* (Inox316)** (8.8.4) (10.10.4)
Pack./Condit.	12 pcs (box) 4 pcs (blister)

Dc·line

External support with fascia aluminium profile

In this version the mounting profiles are totally covered by aluminium profiles, giving a unique and seamless look.

Can be mounted with 88.4 and 1010.4 glass in thickness of 17.52 mm & 21.52 mm respectively. Maximum height specified at 1200 mm.

Highlights

- Floating effect
- Possibility of mounting the glass without any drilling
- External fascia mounting
- No drilling or damage to insulation
- Maximizes balcony or terrace space

Système en applique

Ce type de Crystalline offre une solution pratique et esthétique grâce a la pose sur nez de dalle et son habillage avec les caches frontales.

Un design fluide qui s' integre partout grace à sa conception unique, pour un rendu encore plus transparent.

L' absence de garde au sol lui confère une ésthetique trés épurée.

Les points forts

- Effet tout verre
- Pas de perçage
- Espace detente
- Habillage de nez de Dalle
- Protection d' isolation

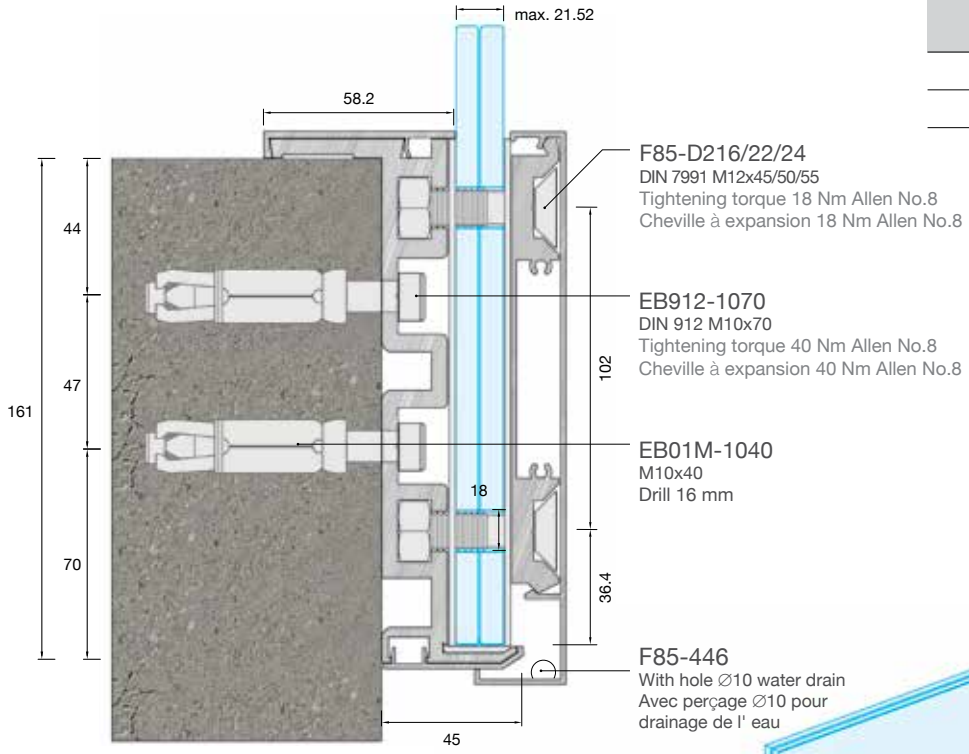
An even more transparent look allows you more space!

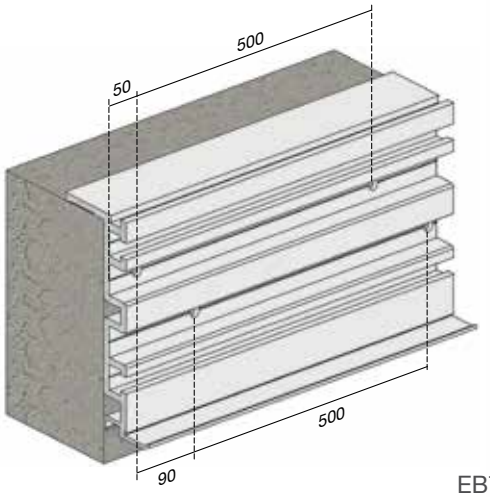
Dc•line

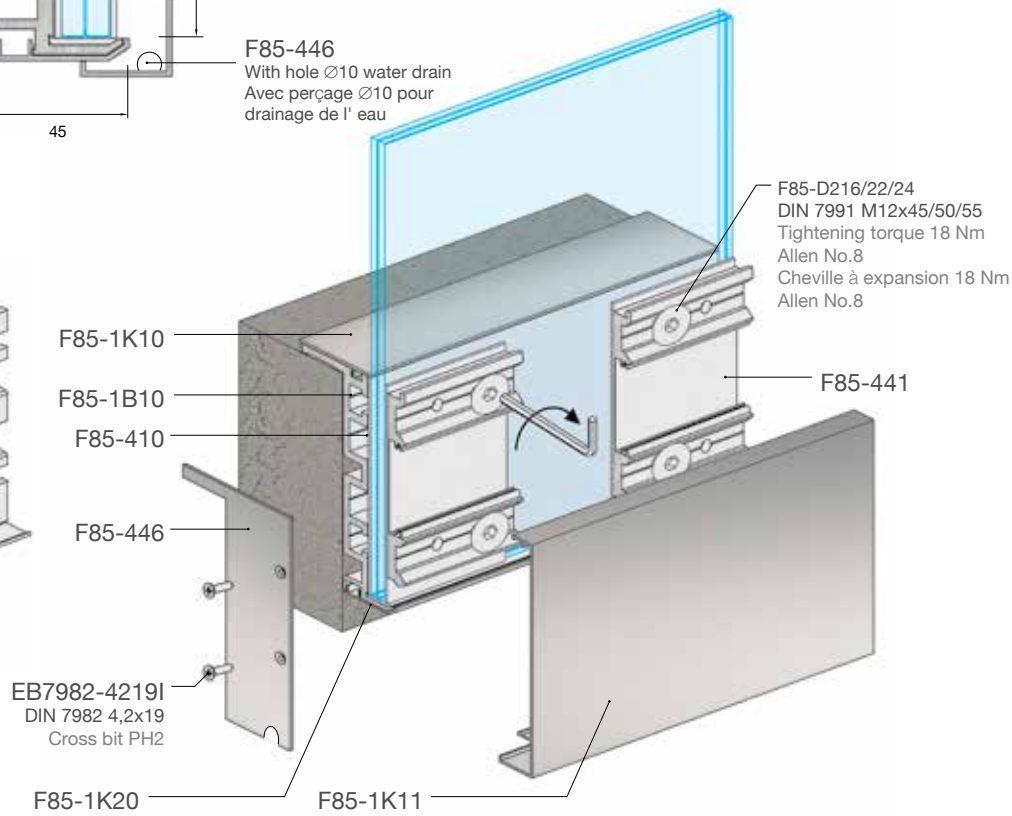
External support with fascia aluminium profile

Shoe base installation / Installation des embases

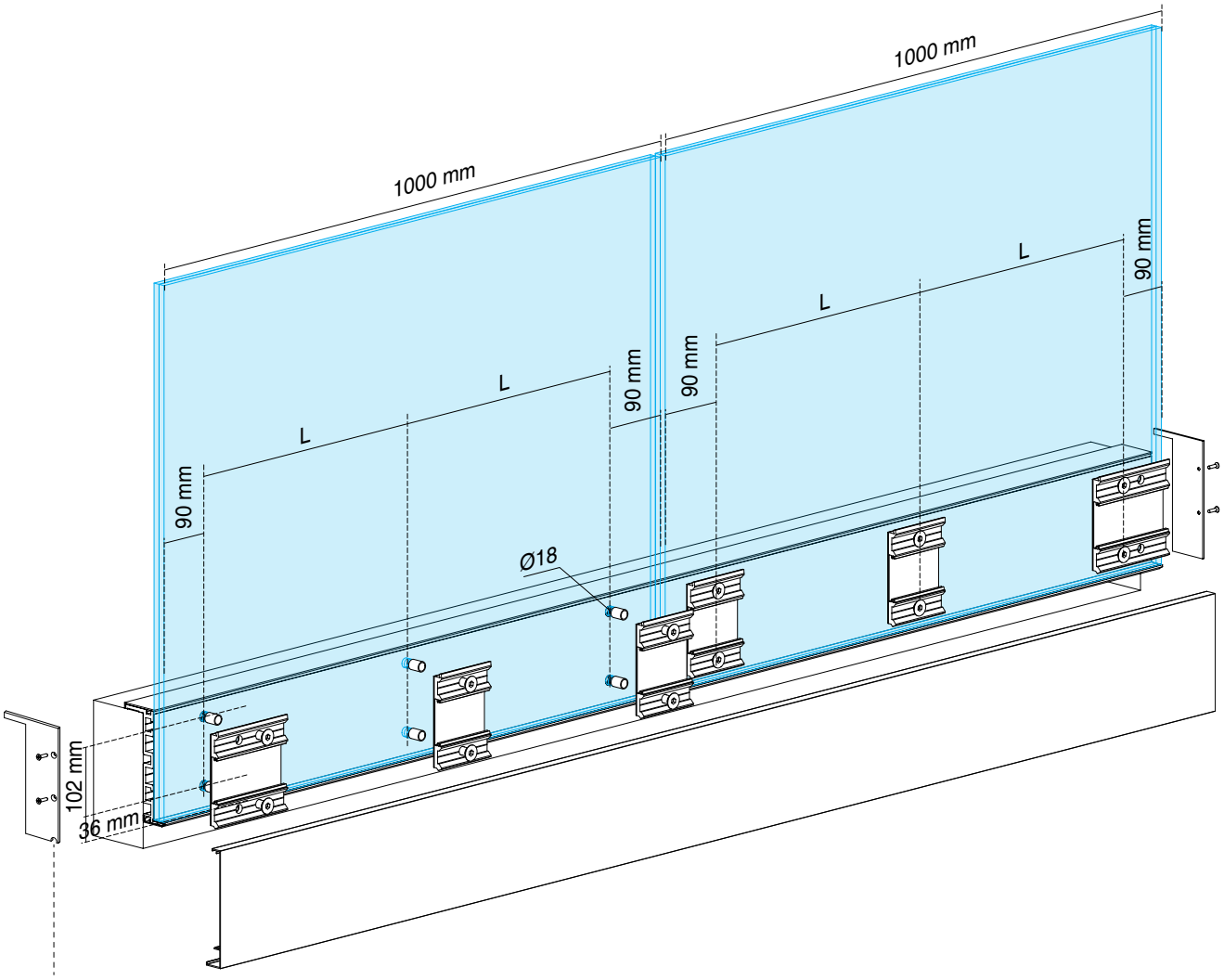
Glass section Dc Specifications du verre
8.8.2 (16.76)
10.10.2 (20.76)







Installation of lateral supporting profile / Installation du profil lateral



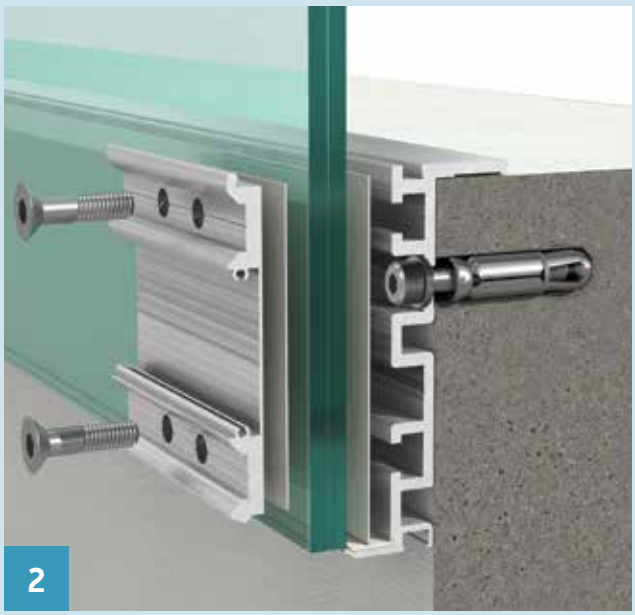
Ø10 HOLE
WATER DRAIN CUTTING
DRAINAGE DE L' EAU

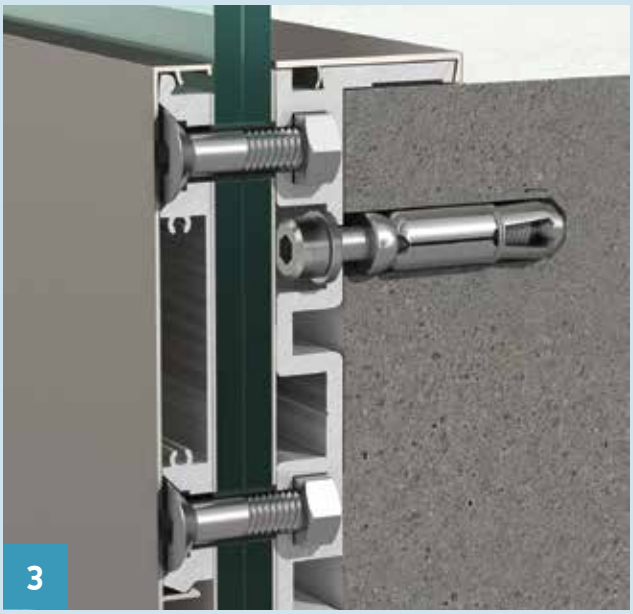
\Recommended number of accessories / m	8.8.4 (17.52)				10.10.4 (21.52)				12.12.4 (25.52)			
	Glass height Hauteur du verre	Handrail Main courrante	No. Access/m	L	Glass height Hauteur du verre	Handrail Main courrante	No. Access/m	L	Glass height Hauteur du verre	Handrail Main courrante	No. Access/m	L
	600 mm	-	2	820 mm	600 mm	-	2	820 mm	600 mm	-	2	820 mm
		F50-200	2	820 mm		F50-200	2	820 mm		F50-200	2	820 mm
	1000 mm	-	3	410 mm	1000 mm	-	3	410 mm	1000 mm	-	3	410 mm
		F50-200	2	820 mm		F50-200	2	820 mm		F50-200	2	820 mm
	1200 mm	-	4	273 mm	1100 mm	-	4	273 mm	1100 mm	-	4	273 mm
		F50-200	3	410 mm		F50-200	3	410 mm		F50-200	3	410 mm

Dc•line

External support with fascia aluminium profile

Installation step by step / Mode de montage

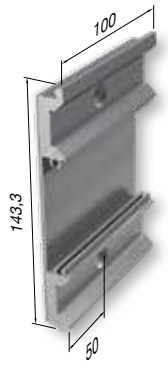




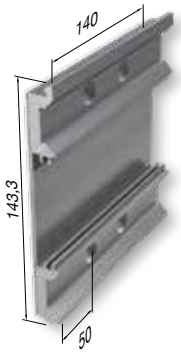
Dc•line
Système en applique

Supporting bases / Embases de support

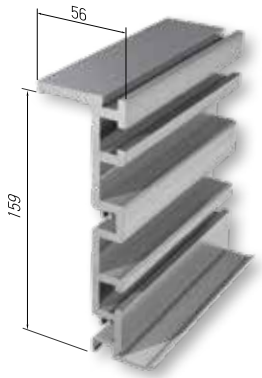
The supporting bases include fixing bolts/anchors. / Profil de sol fourni avec les boulons et ancrage.



Glass supporting accessory Platine de fixation	
Code	**F85-440**
Pack./Condit.	10 pcs



Glass supporting accessory (end) Platine de fixation (final)	
Code	**F85-441**
Pack./Condit.	10 pcs



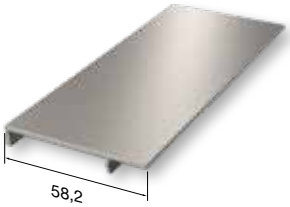
Wall base / Murale d' embase	
Code	**F85-1B10**
Weight/Poids	4740 gr/m
Length/Longueur	6 m
Material/Materiel	AL 6063

Available in 6 meter pre-cut and pierced, all fixing bolts/anchors are included
Disponible au longeur de 6 m pre-percé, boulons et ancrage inclus

Profiles & accessories / Profiles & accessoires

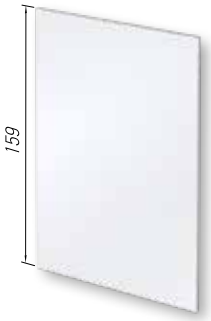
Front base cover / Cache frontal	
Code	**F85-1K11**
Weight/Poids	1026 gr/m
Length/Longueur	6 m

End cap / Embout		
Code	**F85-446/16**	(8.8.4)
	F85-446/20	(10.10.4)
	F85-446/24	(12.12.4)
Pack./Condit.		1 ζευγ./pair



Top Cover / Profil de finition superieure	
Code	**F85-1K10**
Weight/Poids	366 gr/m
Length/Longueur	6 m

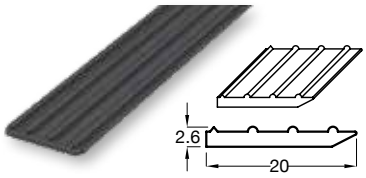
Bottom Cover / Profil de finition	
Code	**F85-1K20**
Weight/Poids	220 gr/m
Length/Longueur	6 m



PVC sheet 1 mm / Plaque en PVC 1 mm	
Code	**F85-410**
Color/Couleur	White/Blanc
Length/Longueur	2 m

Support accessories fixing screws Vis de fix. de verre		
Code	**F85-D216**	(8.8.4)
	F85-D220	(10.10.4)
	F85-D224	(12.12.4)
Pack./Condit.		20 pcs

Gaskets / Joints



Base gasket / Joint de base	
Code	**F85-437**
Length/Longueur	200 m

Dc·line NO DRILL

Evolutionary concept without drilling on the glass panels!

The newest entry in the frame-less glass systems, allowing the mounting of the glass on aluminium profile guide and brackets. Hard to imagine the beauty of the square and flowing lines!

Highlights

- Minimal and seamless design
- Limitless view
- Easy installation
- No drilling required
- Value for money.
- Flexibility, can be combined with Ds for staircases

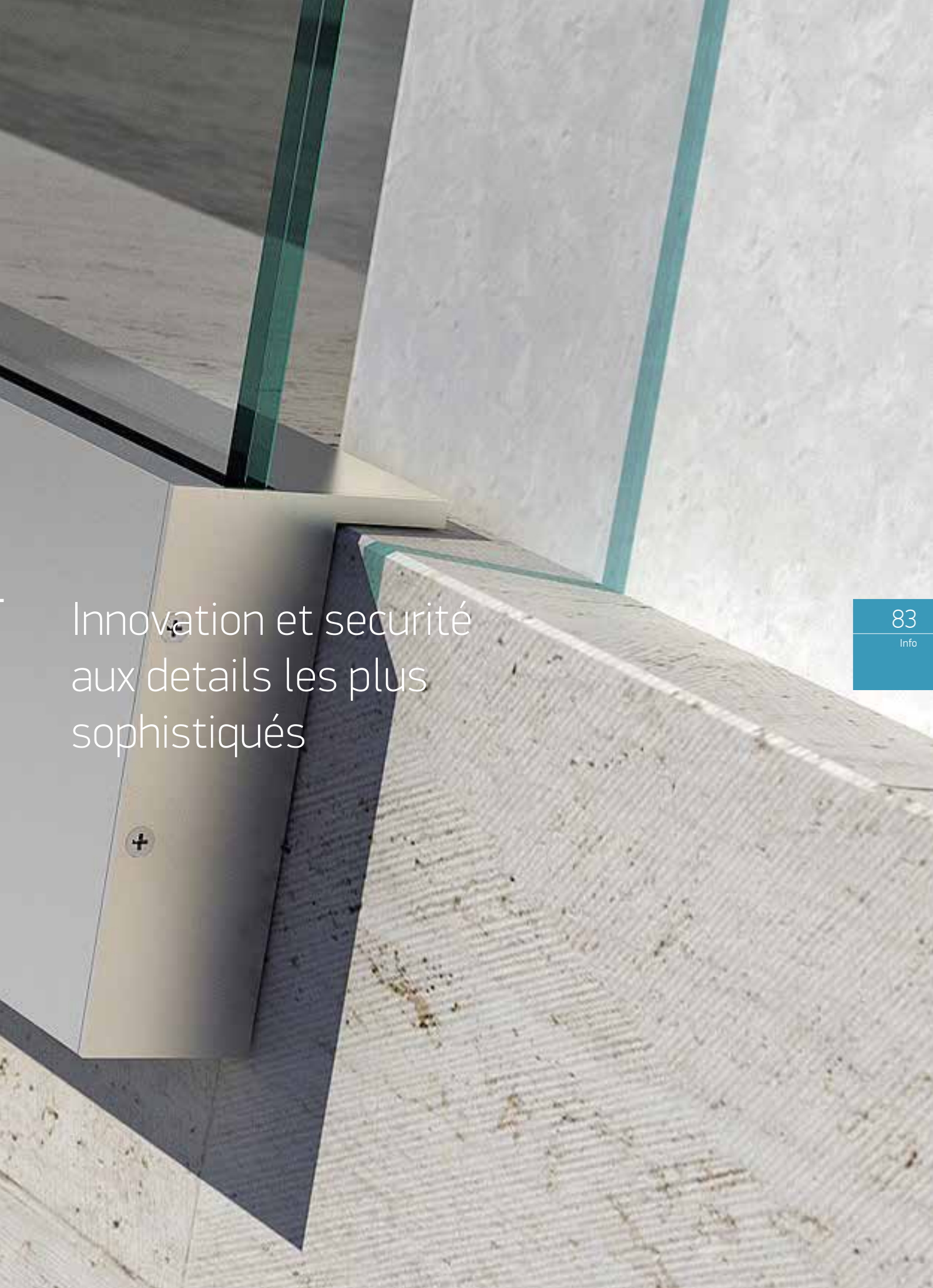
Conception revolutionaire sans perçage du verre!

Ce type de garde corps extérieur très design, se caractérise par le montage astucieux. Son atout majeur, pas de percage de verre, pas de cache-tête.

La main courante en aluminium anodisé brossé, ici optionnelle vient couronne l' ensemble de cette réalisation.

Les points forts

- Pas de perçage
- Vue illimité
- Compatible avec Dc/Ds
- Facilité de montage
- Prix globale trés competitif

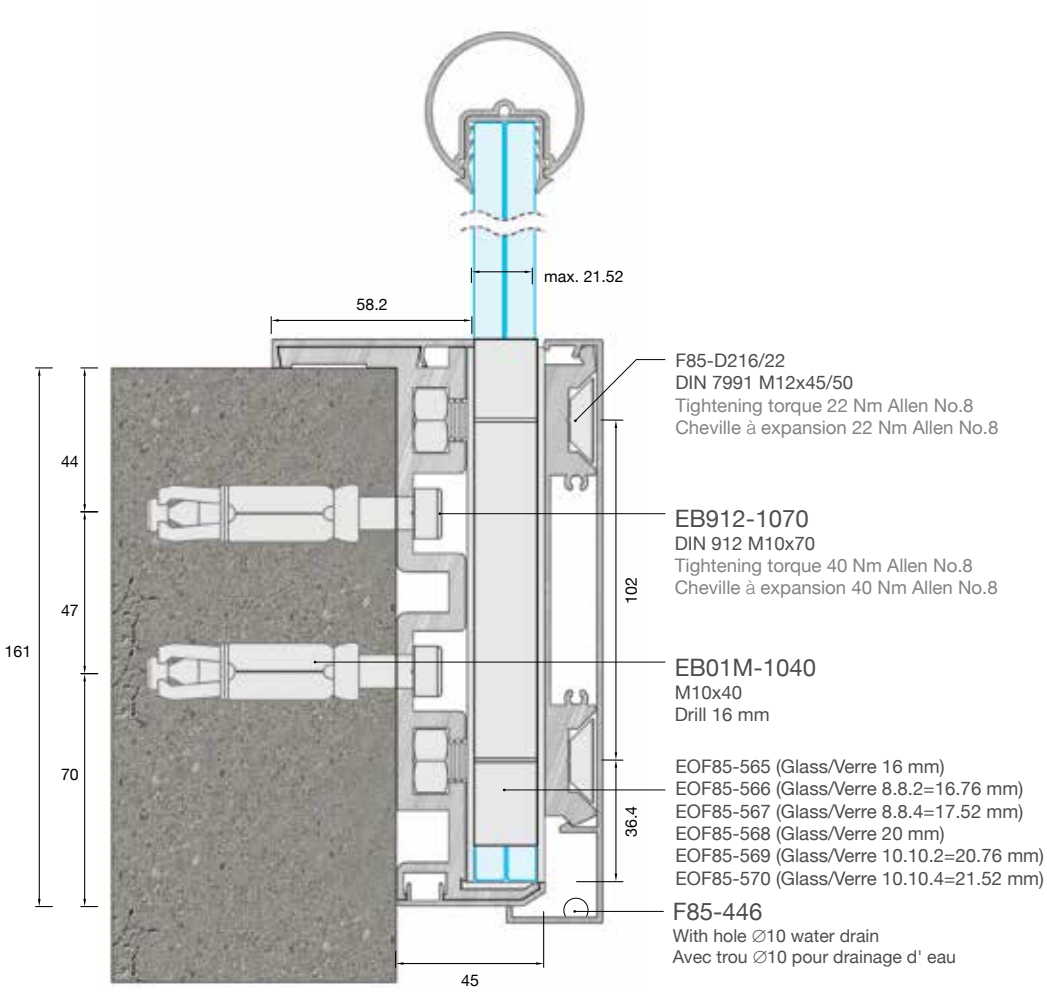


Innovation et securité aux details les plus sophistiqués

Dc•line NO DRILL

Evolutionary concept of external fascia mounting, without any drilling on the glass panels

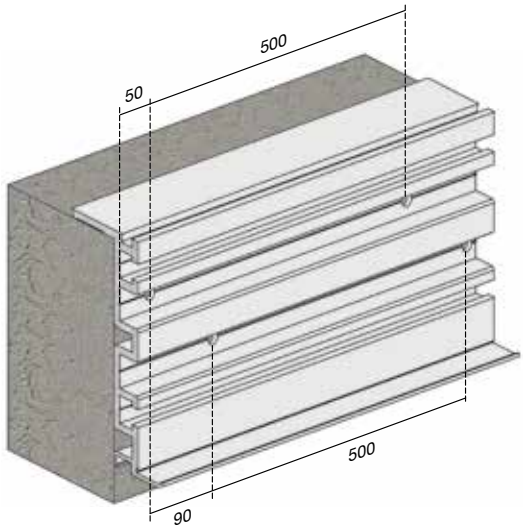
Shoe base installation / Installation des embases

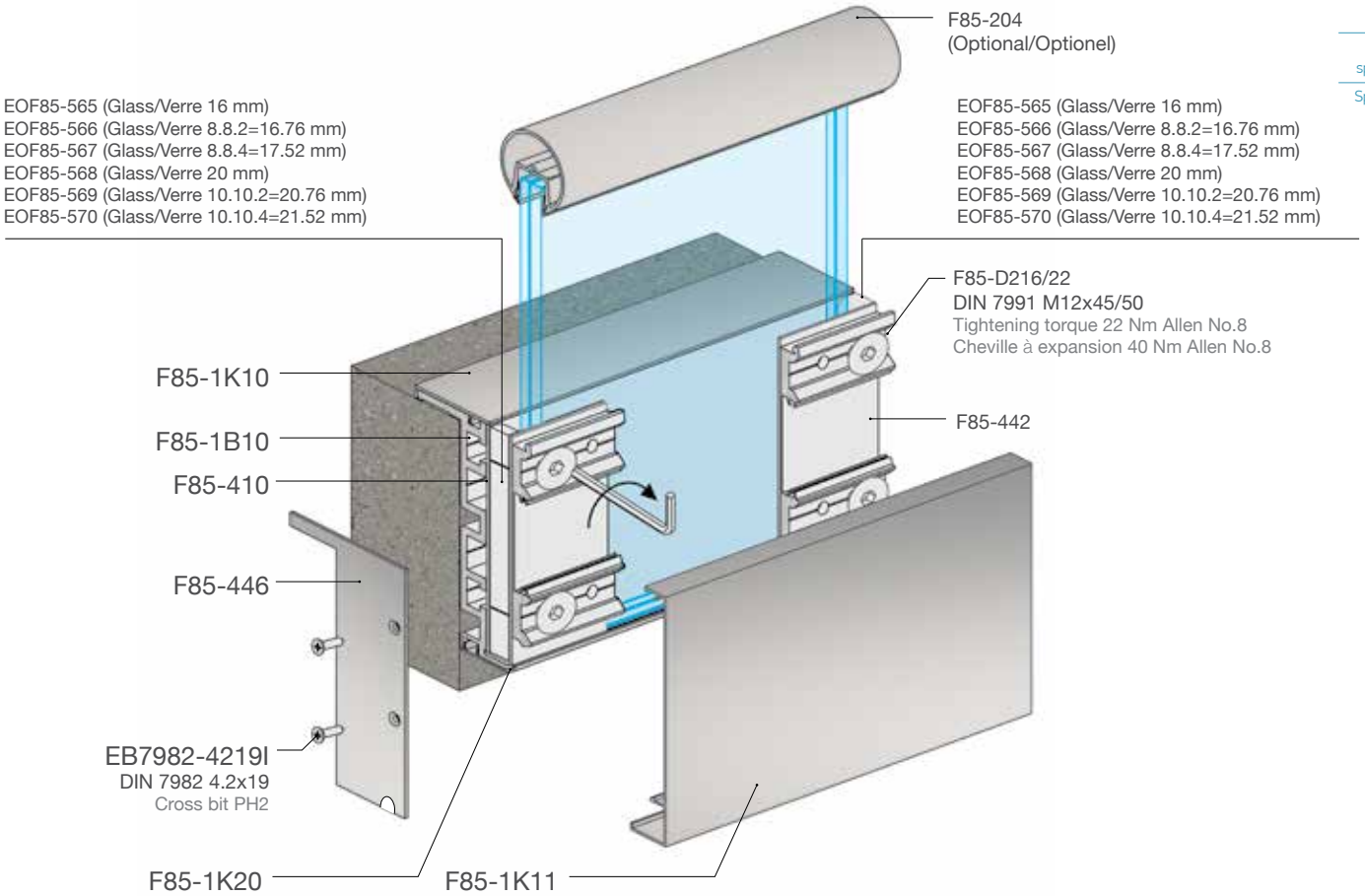


Glass section Dc No Drill Specifications du verre
8.8.4 (17.52)
10.10.4 (21.52)

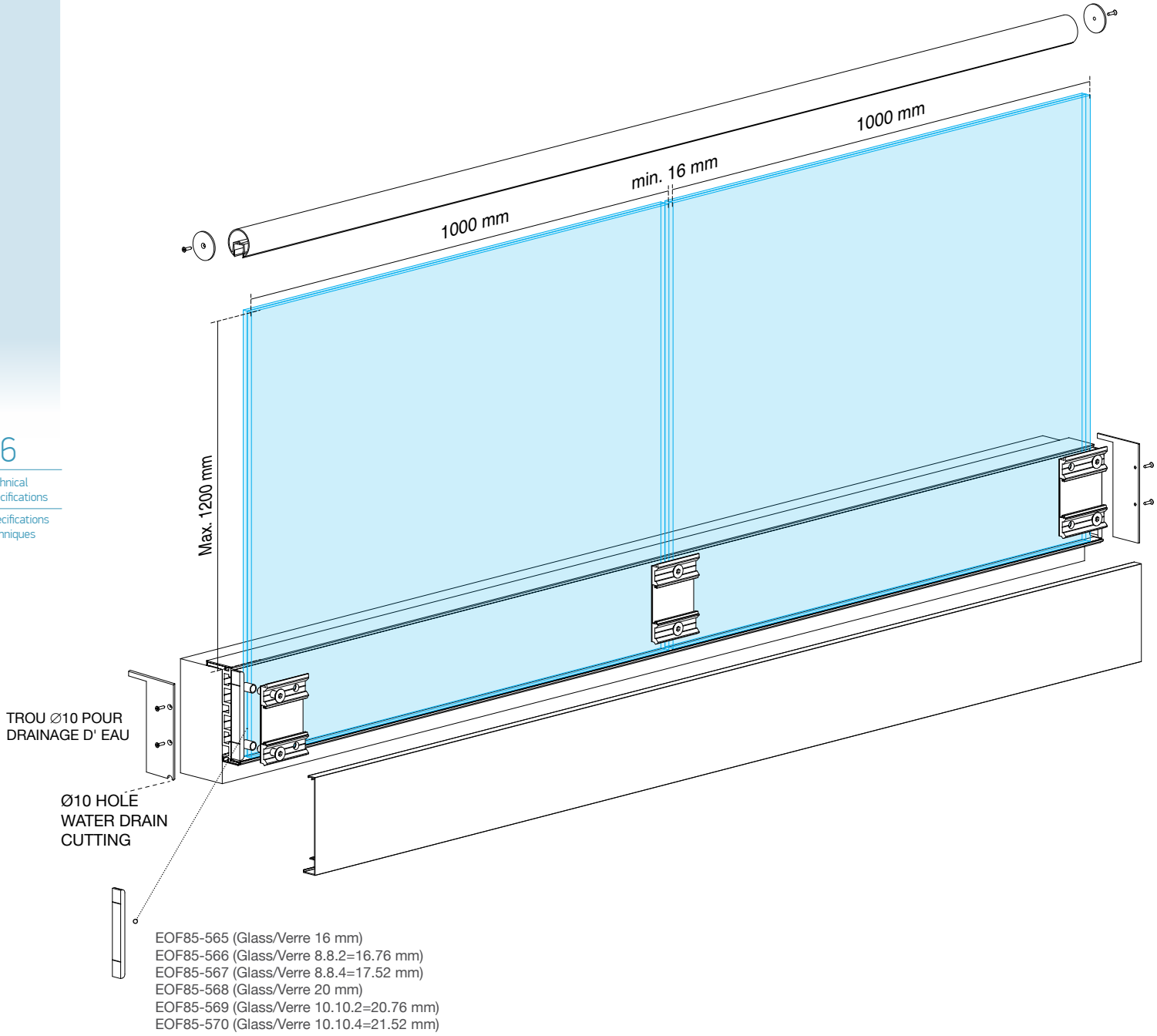
Balustrade Type Type de balustrade	Tempered Glass Panel Specifications de verre	Height of balustrade Hauteur de balustrade	Static Loading Category Resistance a la charge statique (Horizontal Loads)	Dynamic Loading Category Resistance a la charge dynamique (Impact Test)
Crystalline-Dc	8.8.2 (DG41) float laminate	1360 mm Glass/Verre	Residential use Usage résidentiel	
Crystalline-Dc	10.10.2 (DG41) float laminate	1360 mm Glass/Verre	Residential use Usage résidentiel	

Installation of mounting profile / Ancrage de profil de support





Shoe base installation / Installation des embases

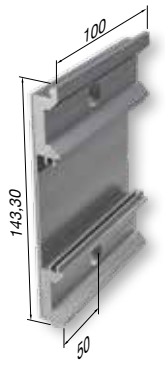


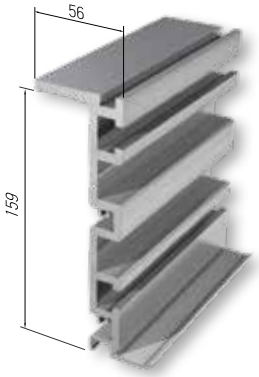
Dc•line NO DRILL

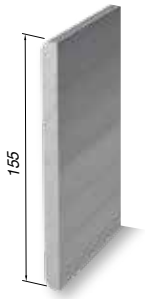
Conception revolutionaire sans percage du verre!

Base profiles / Profiles de base de support

The supporting bases include fixing bolts/anchors. / Profil de sol fourni avec les boulons et ancrage.







Glass supporting accessory Platine de fixation	
Code	**F85-440**
Pack./Condit.	10 pcs

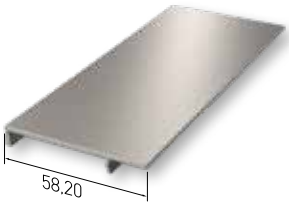
Glass supporting accessory (end) Platine de fixation	
Code	**F85-442**
Pack./Condit.	10 pcs

Wall base / Murale d' embase	
Code	**F85-1B10**
Weight/Poids	4740 gr/m
Length/Longueur	6 m

Available in 6 meter pre-cut and pierced, all fixing bolts/anchors are included
Disponible en bars de 6 m de longeur avec tous le vis

Glass Spacer Profile/Ecarteur de verre	
Code	**EOF85-565** (17 mm)
	EOF85-566 (17.8 mm)
	EOF85-567 (18.5 mm)
	EOF85-568 (21 mm)
	EOF85-569 (21.8 mm)
	EOF85-570 (22.5 mm)

Accessories & gaskets / Accessoires & joints

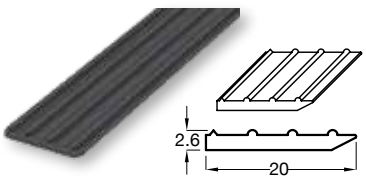


End cap / Embout	
Code	**F85-446/16** (8.8.4)
	F85-446/20 (10.10.4)
Pack./Condit.	1 pair

Front base cover / Cache frontale	
Code	**F85-1K11**
Weight/Poids	1026 gr/m
Length/Longueur	6 m

Top Cover/Profile de finition superieure	
Code	**F85-1K10**
Weight/Poids	366 gr/m
Length/Longueur	6 m

Bottom cover / Profile de finition	
Code	**F85-1K20**
Weight/Poids	220 gr/m
Length/Longueur	6 m



Support accessories fixing screws Vis de fix. de verre	
Code	**F85-D216** (8.8.4)
	F85-D220 (10.10.4)
Pack./Condit.	20 pcs

PVC sheet 1 mm/Plaque en PVC 1 mm	
Code	**F85-410**
Color/Couleur	White/Blanc
Length/Longueur	2 m

Base gasket / Joint	
Code	**F85-437**
Length/Longueur	200 m

Heavy duty on floor system

Glass balustrades are unmatched for their ability to bring safety, visual appeal and practicality to high traffic external spaces. The excellent engineering design of this system with the certified mechanical properties make it a signature product.

Whether it is a block of appartments, a shopping center, a hotel or a sports stadium, E line is the perfect solution!

The range is completed by structural handrail, available in round or square shape, in response to the provisions of the latest provisional specifications.

Highlights

- Excellent mechanical properties.
- Certified with glass panels at 1200 mm without handrail.
- Designed for high traffic areas.
- Wide range of glass thicknesses.
- Assembly and alignment from internal side of balcony.
- Suitable for crowded public spaces such as museums, hospitals, office buildings, sports stadiums and shopping centers.

Système de haute specifications

Que ce soit pour une habitation privée, une collectivité, un centre commercial ou tribune de stade, nous avons la solution ultime.

Ce n'est pas par hasard que Type E a était choisi pour un de stade le plus renommé en Europe!

Les points forts

Système livré prêt à l'emploi.

- Extrêment resistant
- Longévité
- Certifié sans main courante.
- Flexibilité à l' adoption de verre
- Choix de coloris: RAL, Sable, anodisé brossé
- Sécurité maximale
- Conçue pour des éspaces de grand trafic

E.line

GHE
VDK
VDK
VDK
PLAY
PLAY
VDK
EASTMAN
ixona
ixona
Coca-Cola
De Clerck
Verstichel
MAES
CALLANT
DURIEUX - HOMEPROTEC
Cool Traffic - KURT Trucking
AULA Slagerij
CENTRUM GENT
Napoleon Games

GHELAMCO
GHELAMCO

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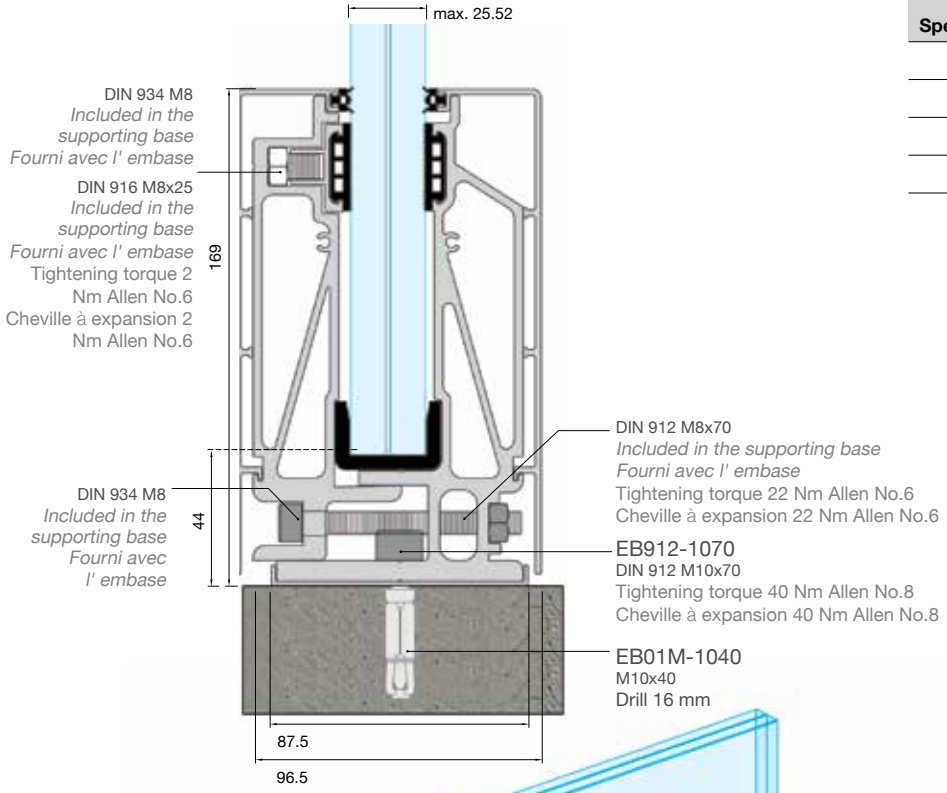
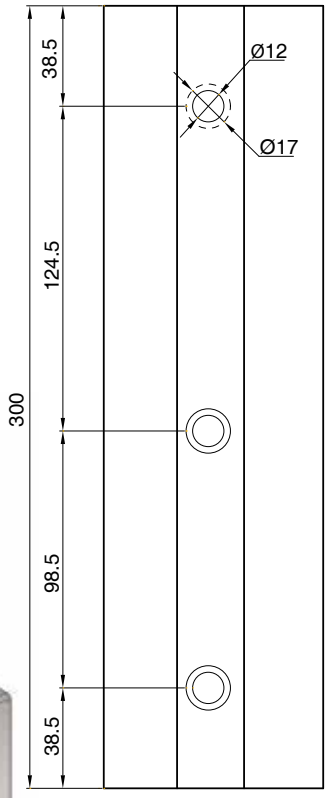
E•line
Heavy duty on floor system

Shoe base installation / Installation des embases

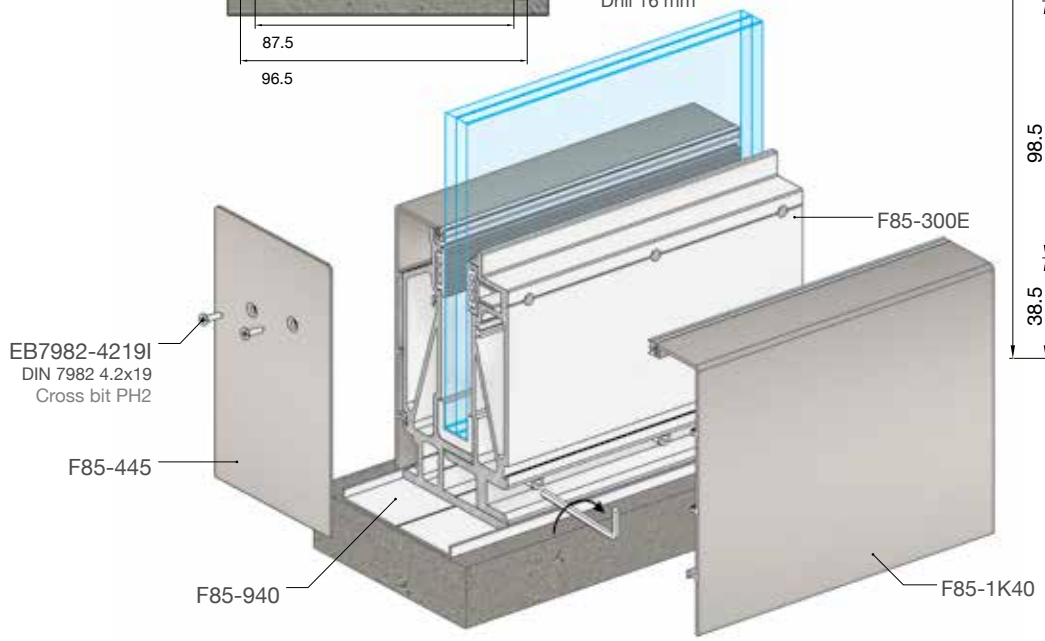


Glass section E Specifications du verre
8.8.4 (17.52)
10.10.2 (20.76)
10.10.4 (21.52)
12.12.4 (25.52)



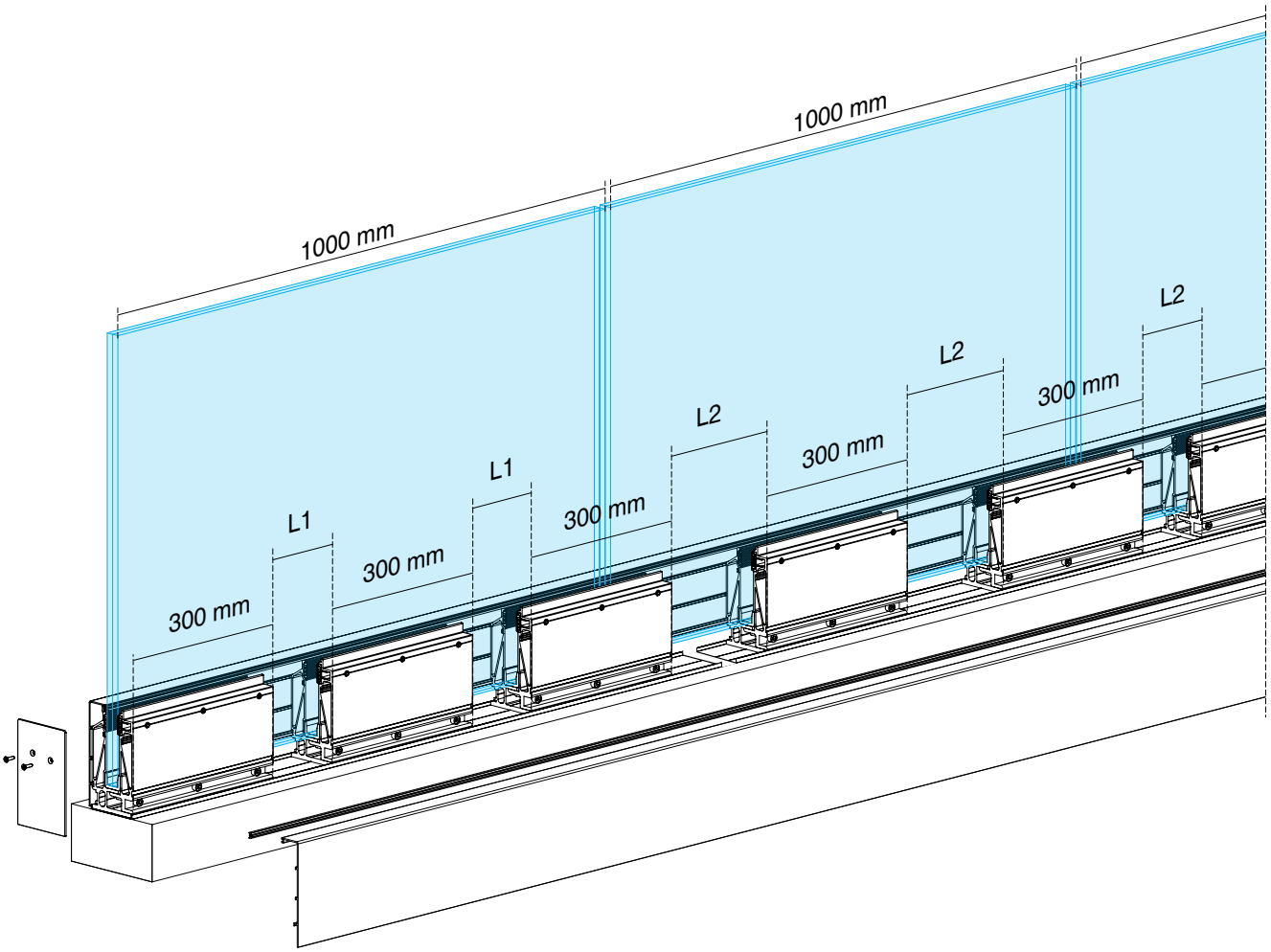
Fixing point
Entraxe de vis

F85-300E/16
F85-300E/20
F85-300E/24



Balustrade Type Type de balustrade	Tempered Glass Panel Specifications de verre	Height of balustrade Hauteur de balustrade	Static Loading Category Resistance a la charge statique (Horizontal Loads)	Dynamic Loading Category Resistance a la charge dynamique (Impact Test)
Crystalline-E	12.12.4 (DG41)	1200 mm	Public areas, stadiums, shopping centers – 3KN Éspaces publiques, stades et centres commerciaux	
Crystalline-E	10.10.4 float laminate	1200 mm	Private & commercial use, with wind load 540 Pa up to 800 Pa Usage résidentiel & commercial, resistence au vent jusqu' à 800 Pa	Private & commercial use Usage résidentiel & commercial
Crystalline-E	10.10.2 (DG41) float laminate	1200 mm	Private & commercial use, with wind load up to 1080 Pa Usage résidentiel & commercial, resistence au vent jusqu' à 1080 Pa	Public use Usage Publique
Crystalline-E	12.12.4 (DG41) mixed float laminate	1200 mm	Private & commercial use, with wind load 540 Pa up to 800 Pa Usage résidentiel & commercial, resistence au vent jusqu' de 540Pa à 800 Pa	Private & commercial use Usage résidentiel & commercial
Crystalline-E	12.12.4 (DG41) float laminate	1200 mm	Private & commercial use, with wind load up to 1080 Pa Usage résidentiel & commercial, resistence au vent jusqu' à 1080 Pa	Private & commercial use. Public use Usage Résidentiel, Bureaux et Publique
Crystalline-E	10.10.4	1200 mm		Private & commercial use and Public use Usage Résidentiel, Bureaux et Publique
Crystalline-E	8.8.4 (Du Pont Sentry)	1100mm	Private & commercial use Usage résidentiel & commercial	Private & commercial use, Dynamic Missile Impact Test Weight 4.5 Kg Usage Résidentiel, Bureaux, Publique Charge dynamique selon ASTM 1993

Installation of supporting profile / Installation du profil de sol



Recommended number of bases / m
Nombre des embases recomendé

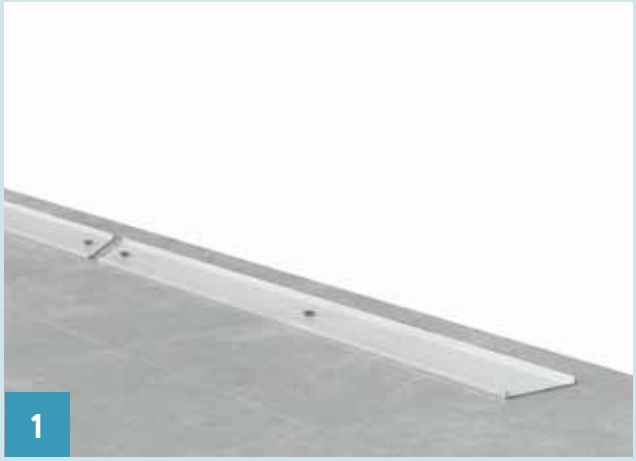
8.8.4 (17.52)			
Height Hauteur	Handrail Main courrante	L1	L2
600 mm	-	125 mm	200 mm
	F85-203	550 mm	700 mm
	F85-204	550 mm	700 mm
1000 mm	-	125 mm	200 mm
	F85-203	125 mm	200 mm
	F85-204	125 mm	200 mm
1200 mm	-	125 mm	200 mm
	F85-203	125 mm	200 mm
	F85-204	125 mm	200 mm

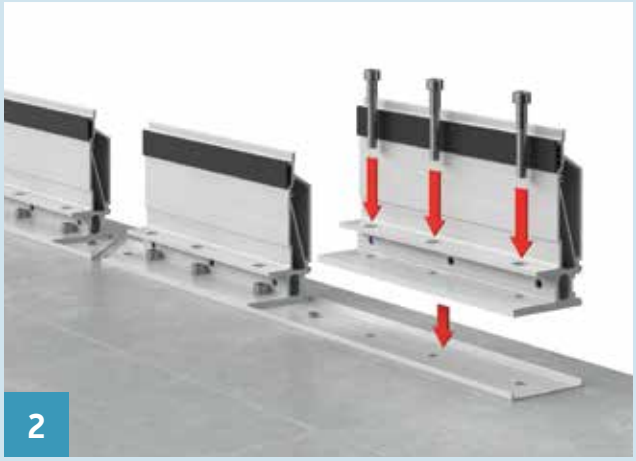
10.10.4 (21.52)			
Height Hauteur	Handrail Main courrante	L1	L2
600 mm	-	125 mm	200 mm
	F85-203	550 mm	700 mm
	F85-204	550 mm	700 mm
1000 mm	-	125 mm	200 mm
	F85-203	125 mm	200 mm
	F85-204	125 mm	200 mm
1100 mm	-	125 mm	200 mm
	F85-203	125 mm	200 mm
	F85-204	125 mm	200 mm

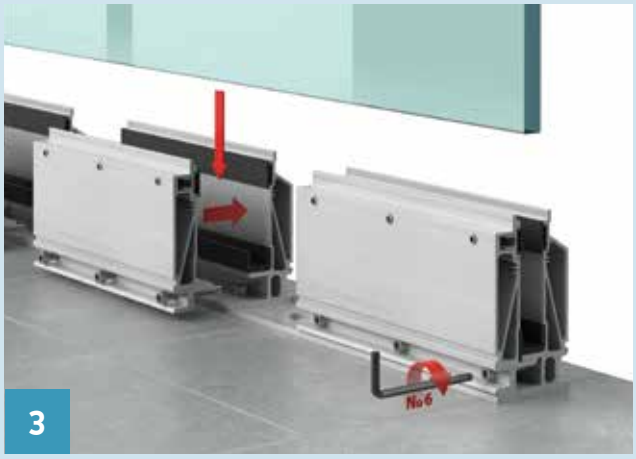
12.12.4 (25.52)			
Height Hauteur	Handrail Main courrante	L1	L2
600 mm	-	125 mm	200 mm
	F50-203	550 mm	700 mm
1000 mm	-	125 mm	200 mm
	F50-203	125 mm	200 mm
1200 mm	-	125 mm	200 mm
	F50-203	125 mm	200 mm

E•line
Heavy duty on floor system

Installation step by step / Mode de montage



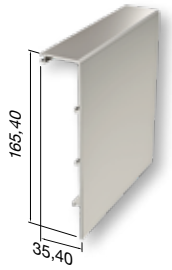


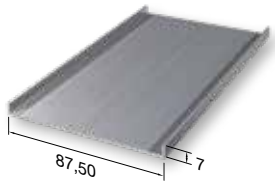


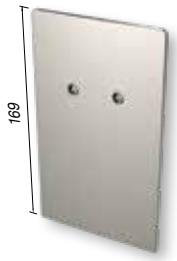
E•line
18.1 / 22.1 / 26.1

Glass supporting bases & accessoires / Bases de support & accessoires

The supporting bases include fixing bolts/anchors. / Profil de sol fourni avec les boulons et ancrage.







Glass base / Embase de support		
Code	**F85-300E/16**	(8.8.4)
	F85-300E/20	(10.10.4)
	F85-300E/24	(12.12.4)
Pack./Condit.		6 pcs

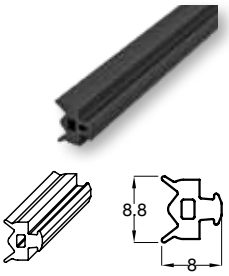
Base cover / Cache frontal	
Code	**F85-1K40**
Weight/Poids	1185 gr/m
Length/Longueur	6 m

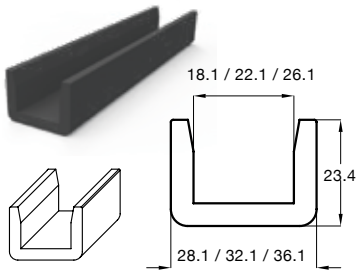
Base guide / Profile rail d'embase	
Code	**F85-940**
Weight/Poids	373 gr/m
Length/Longueur	6 m

Available in Ral 9006
Disponible en Ral 9006

End cap / Embout		
Code	**F85-445/16**	(8.8.4)
	F85-445/20	(10.10.4)
	F85-445/24	(12.12.4)
Pack./Condit.		1 pair

Gaskets / Joints

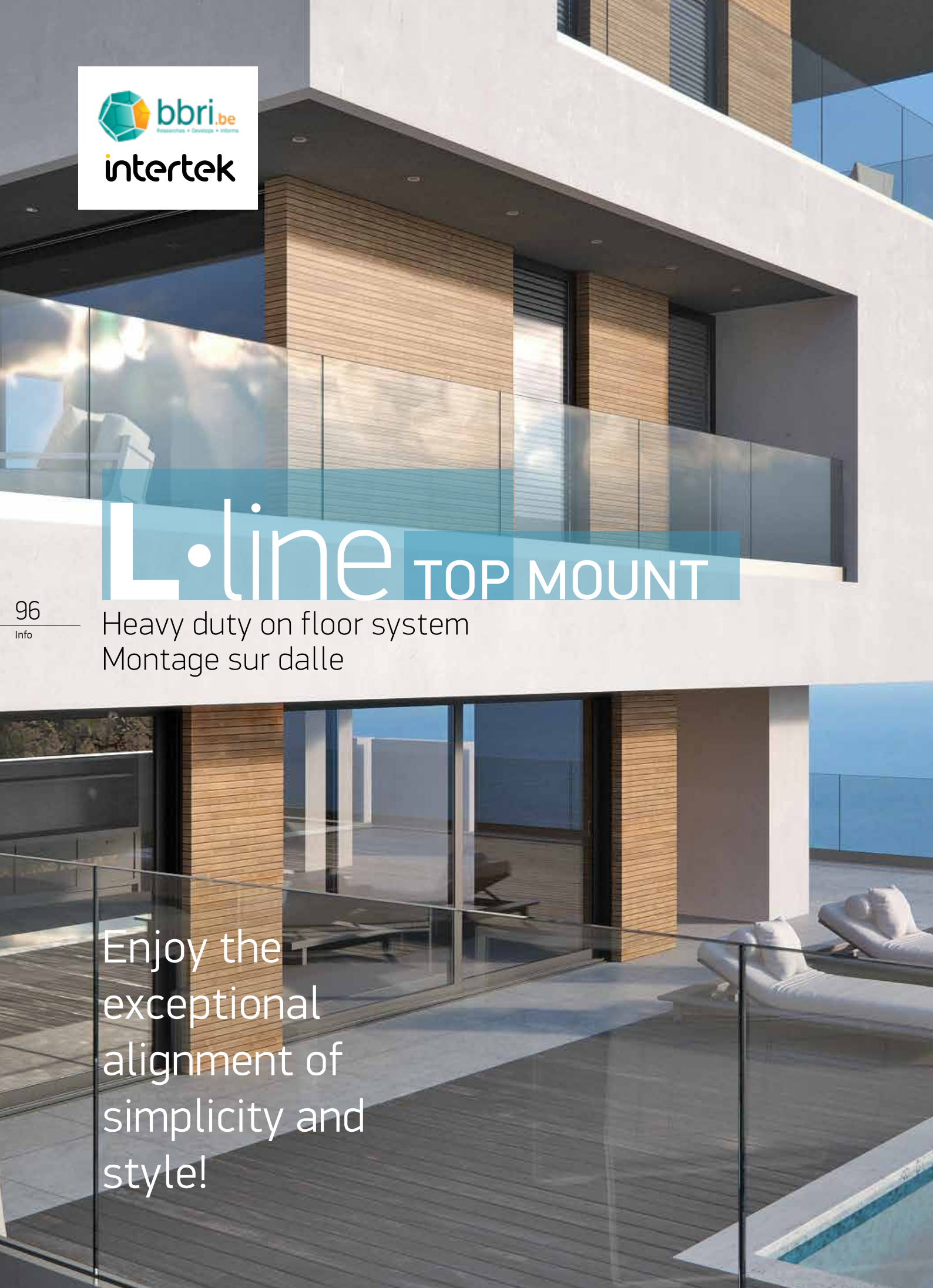




Glass Gasket / Joint de verre	
Code	**EA410-409M**
Length/Longueur	200 m

Glass support / Joint de support		
Code	**F85-427**	(8.8.4)
	F85-428	(10.10.4)
	F85-429	(12.12.4)

Included in the glass support base F85-300E, also available seperately
Fourni avec les embases ainsi qu' au detail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intertek
L•line TOP MOUNT
96
Info
Heavy duty on floor system
Montage sur dalle
Enjoy the exceptional alignment of simplicity and style!

New Crystal line edition, L line TOP MOUNT, is a robust system that combines the benefits of safety and transparency with easy installation and functionality.

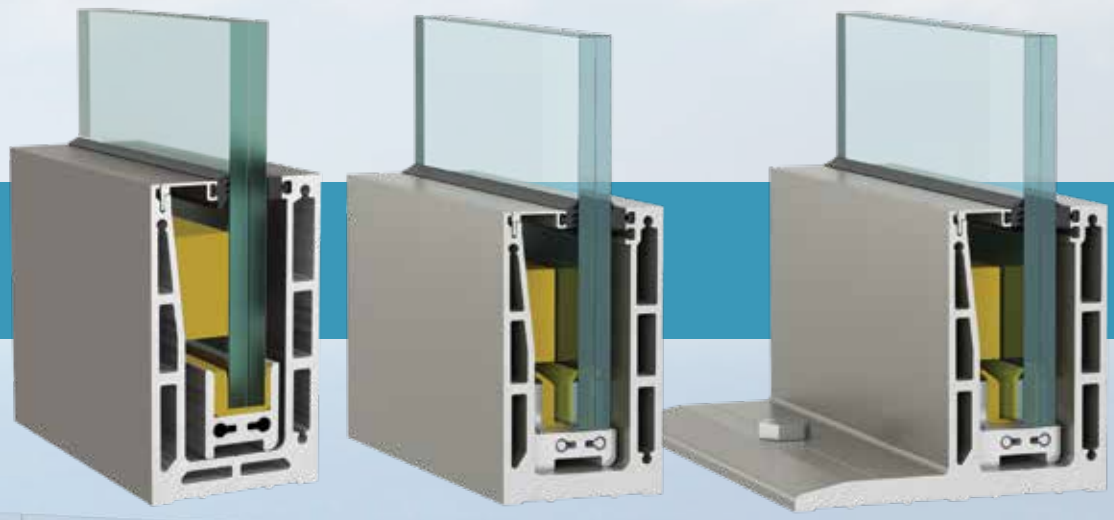
It is designed to cope with line loads more than 3 KN/m satisfying the requirements of regulations in homes, offices, stadiums, shopping centers, and public areas with high traffic.

The retention of the glass panel is achieved by using special internal trolleys having the potential to shift and align the glass panels with tilting ability ±1° (i.e., ±15 mm on the upper surface of the glass) while the special gasket provides balance when setting up the glass panels.

La nouvelle gamme Crystal line, avec son embase L-line Top Mount, se compose de profils en aluminium robustes qui combinent les avantages de sécurité et d'élégance avec l'aisance d'installation.

Notre profil est conçu pour absorber de grandes charges allant plus de 3 KN/m, approprié pour une usage résidentiel, bureaux, lieux publiques, centres commerciaux et stades sportifs.

L'alignement s'effectue par le biais d'un système innovant. Nos chariots offrent la possibilité d'aligner le vitrage, d'une manière mécanique, ±1° ce qui correspond à ±15 mm de part et autre.



Highlights

- Offers a choice of 3 different profile bases solutions
- Resists line loads more than 3 KN/m
- Single base at 3 m without additional external lid
- Easy glass installation.
- Exceptional alignment of the glass panels in every direction (to & from by up to 15 mm and up-down by up to 10 mm) from inside the balustrade.
- Meets worldwide safety and building regulations
- Suitable for use in high demand public areas

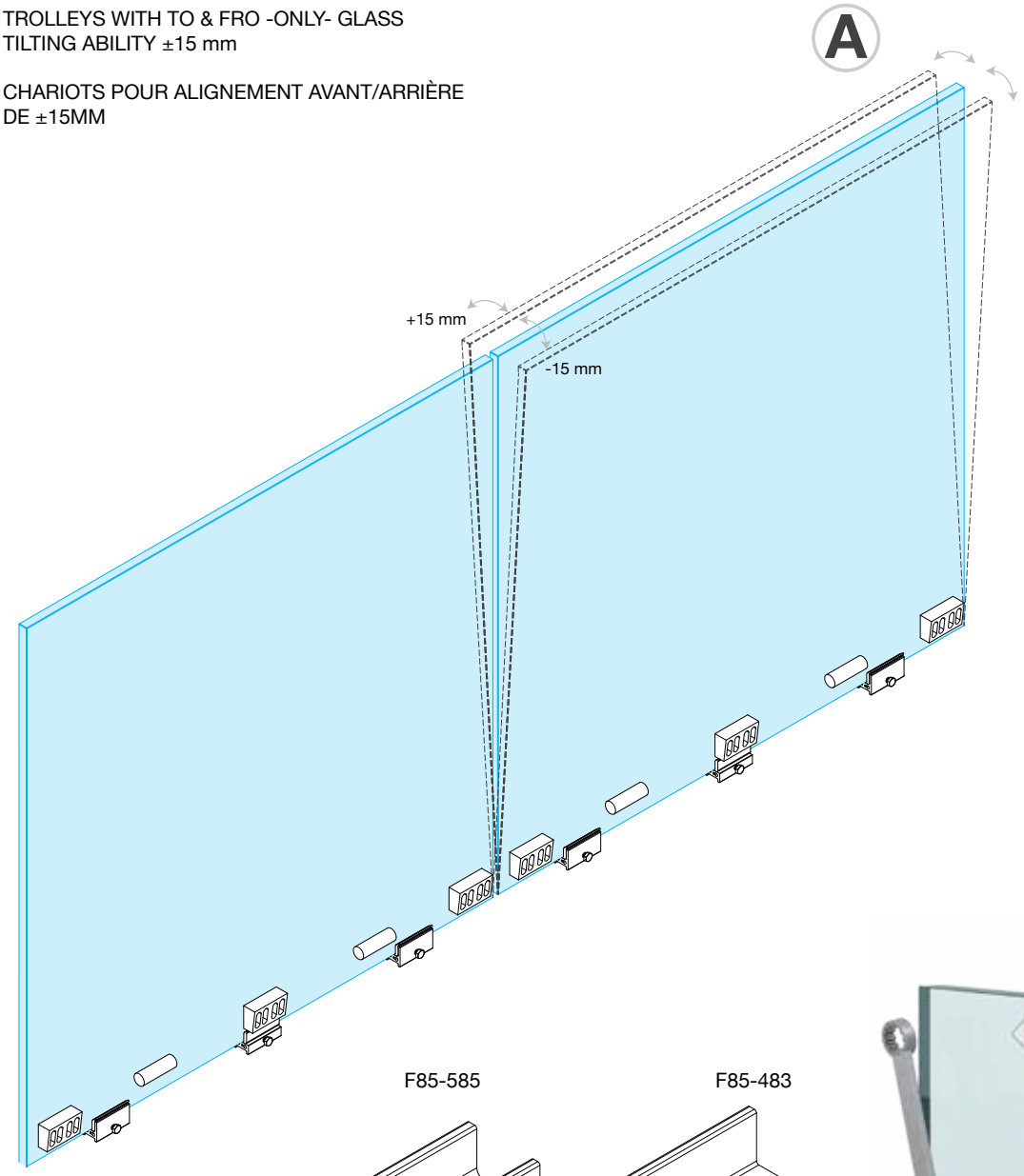
Les points forts

- 3 profils différents disponible en Top Mount
- Résistant aux charges plus de 3 KN/m
- Profils de 3 m, facilement maniable
- Installation aisée du vitrage
- Système d'alignement innovant avec 15 mm de jeu avant/arrière
- Système pour hausser le vitrage de 10mm sans enlever le vitrage
- Conforme aux dernières recommandations de la norme NBN 03-004
- Sans cache

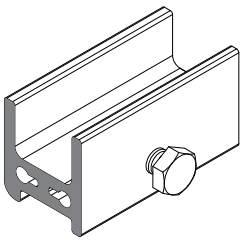
Trolleys for 1-axis tilting ability
Chariots pour alignement d'un axe

A TROLLEYS WITH TO & FRO -ONLY- GLASS TILTING ABILITY ±15 mm

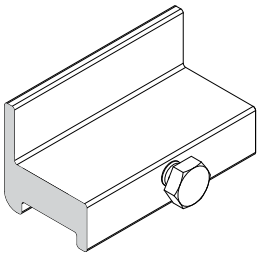
CHARIOTS POUR ALIGNEMENT AVANT/ARRIÈRE DE ±15MM



F85-585



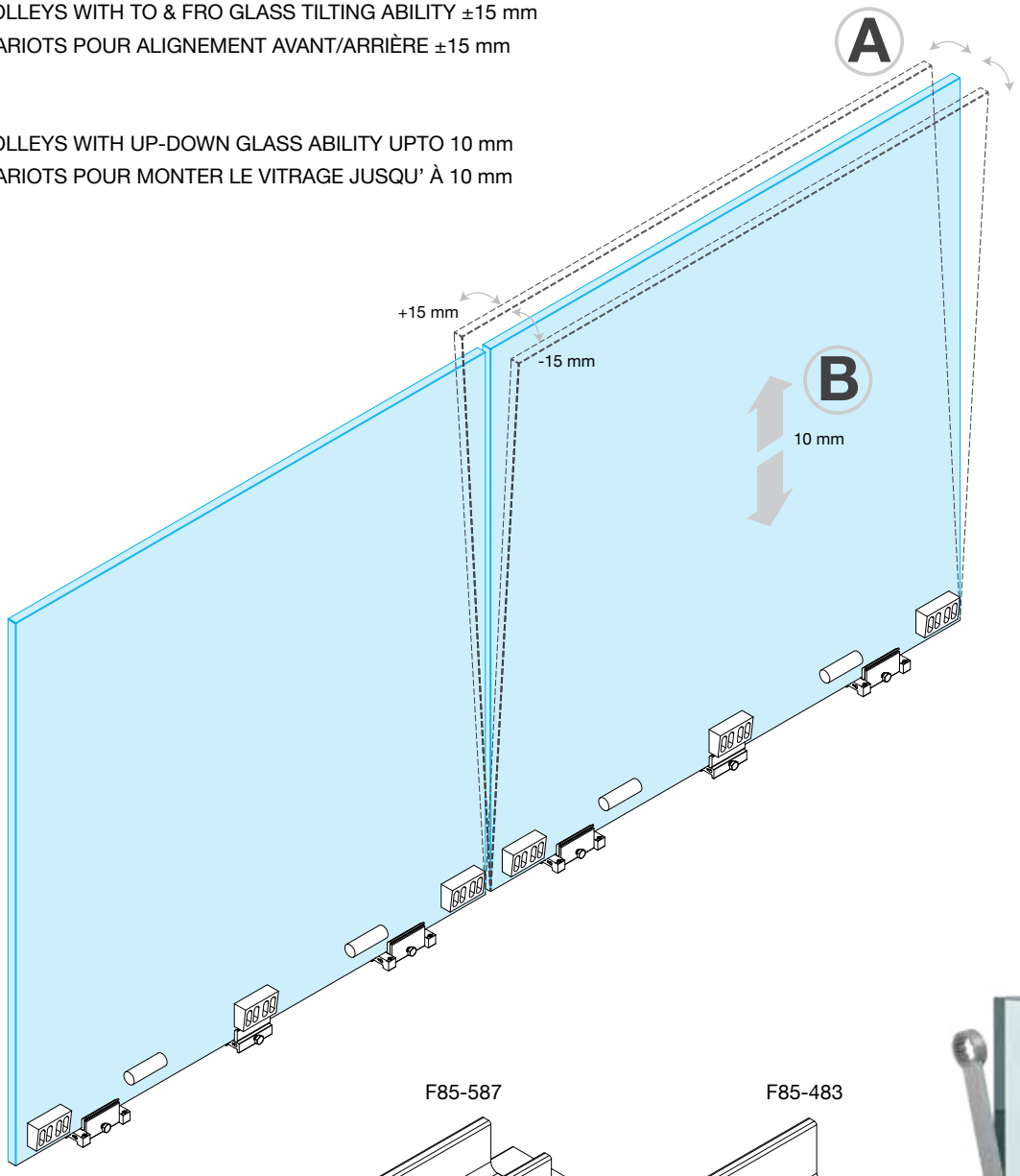
F85-483



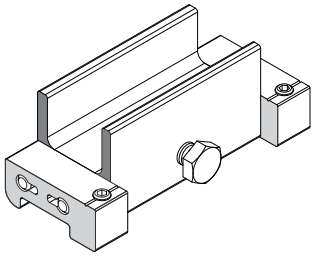
Trolleys for 2-axis tilting ability
Chariots pour alignement de deux axes

A TROLLEYS WITH TO & FRO GLASS TILTING ABILITY ±15 mm
CHARIOTS POUR ALIGNEMENT AVANT/ARRIÈRE ±15 mm

B TROLLEYS WITH UP-DOWN GLASS ABILITY UPTO 10 mm
CHARIOTS POUR MONTER LE VITRAGE JUSQU' À 10 mm



F85-587



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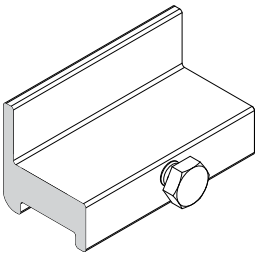
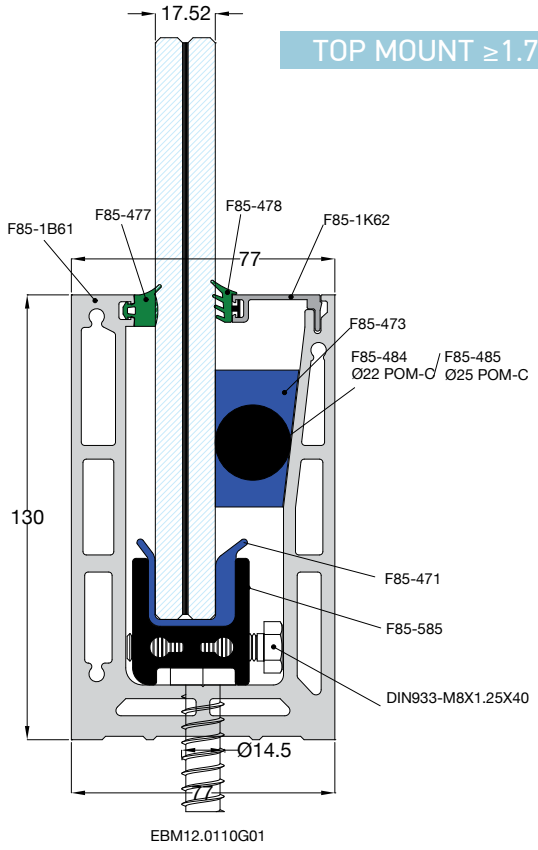


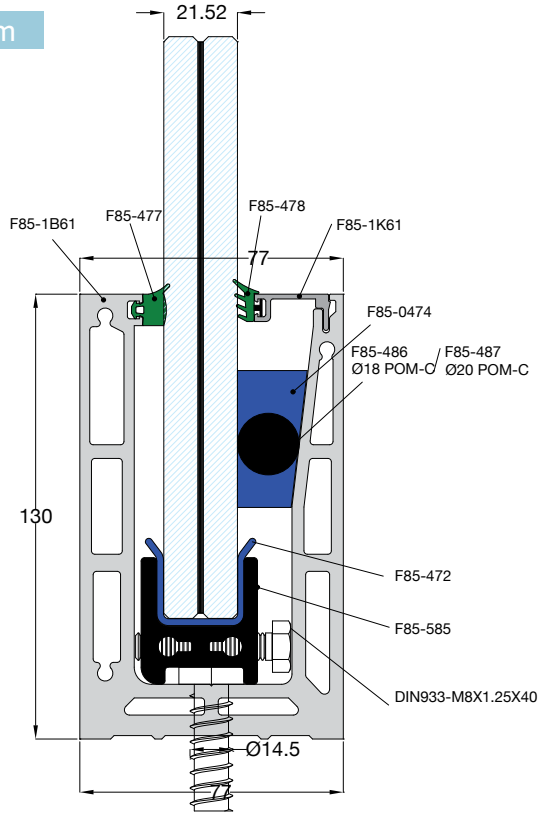
L•line TOP MOUNT

Heavy duty on floor system

TOP MOUNT ≥1.7KN/m

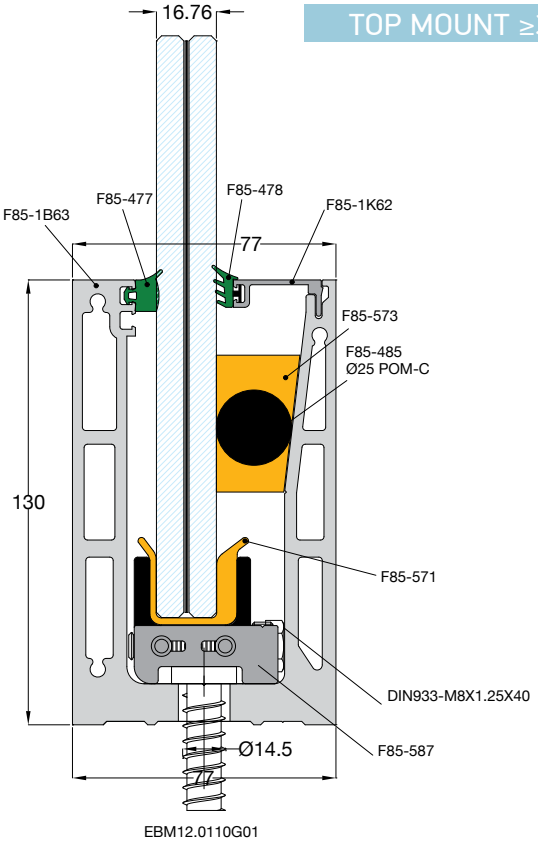


EBM12.0110G01



EBM12.0110G01

TOP MOUNT ≥3KN/m



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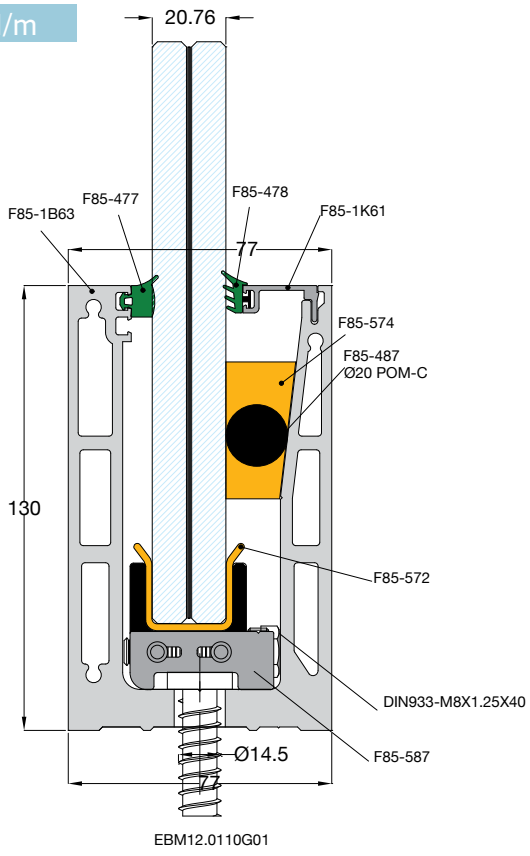
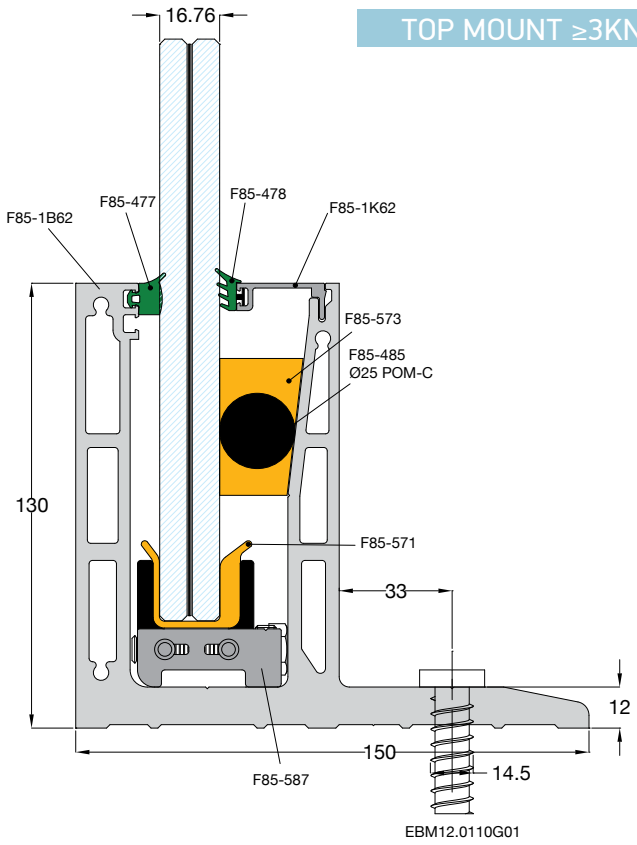
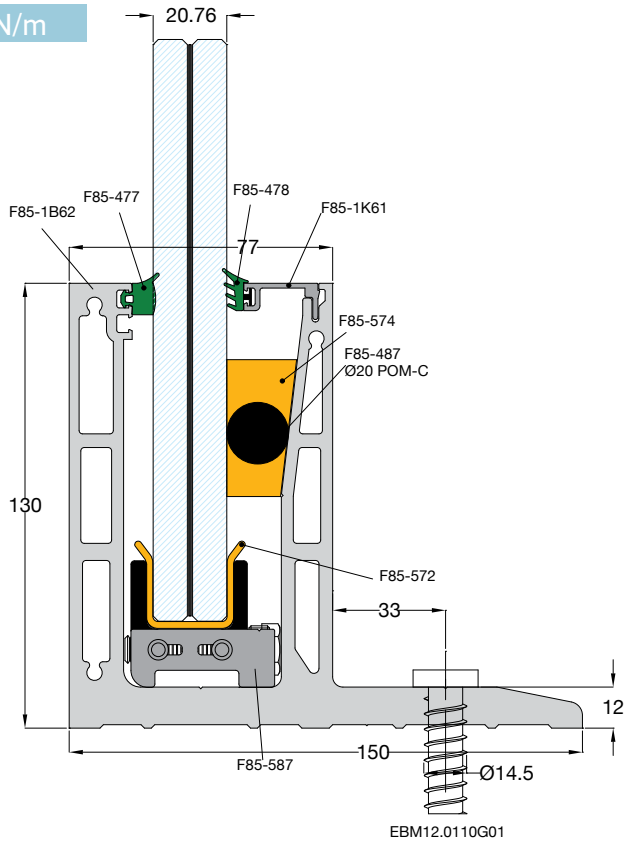


EBM12.0110G01

L•line TOP MOUNT

Montage sur dalle





Type of carrier Type de trolley		Type of use Usage
	F85-587 Side carrier Chariot pour Bord de vitrage (2 Pcs/m)	2-Axis Adjustment of Glass Panel Movable carrier Pour alignement de 2 axes
	F85-585 Side carrier Chariot pour Bord de vitrage (2 Pcs/m)	1-Axis Adjustment of Glass Panel Movable carrier Pour alignement d'un axe
	F85-483 Middle carrier Chariot Intermédiaire (1 Pcs/m)	Simple support of Glass Panel Stationary carrier Pour simple soutient du virage

Types of plastic shaft glass seals Recepteur pour verre		Types of glass panels Type de verre
	F85-571 ABS PLASTIC	8-DG41-8=16.76 mm
	F85-471 ABS PLASTIC	8-4PVB-8=17.52 mm
	F85-572 ABS PLASTIC	10-DG41-10=20.76 mm
	F85-472 ABS PLASTIC	10-4PVB-10=21.52 mm

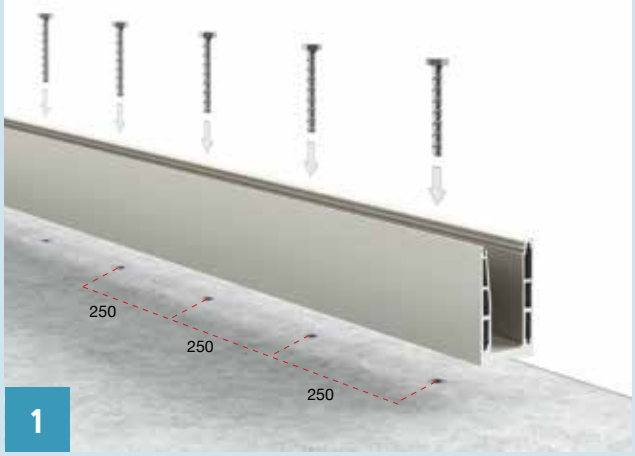
Applicable for all types of carries

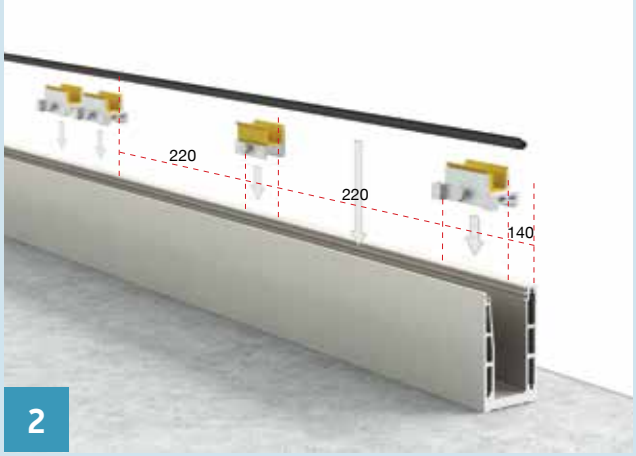
Type	Tempered Laminate Glass Panel Verre trempe	Hauteur du garde-corps Height of Balustrade	Static Loading category (horizontal & vertical loads) Categorie de charges dynamiques (charges horizontal & verticales)	Charge dynamique (test d' impact) Dynamic Loading category (impact test)
F85-1B62	10.10.4 (DG41)	1200 mm	Public use/Stadiums/Malls - 3KN/m up to 5KN/m Éspaces publiques/Centres commerciales/Stades - de 3KN/m à 5KN/m	
F85-1B63	10.10.4 (DG41)	1200 mm	Public use/Stadiums/Malls - 3KN/m up to 5KN/m Éspaces publiques/Centres commerciales/Stades - de 3KN/m à 5KN/m	

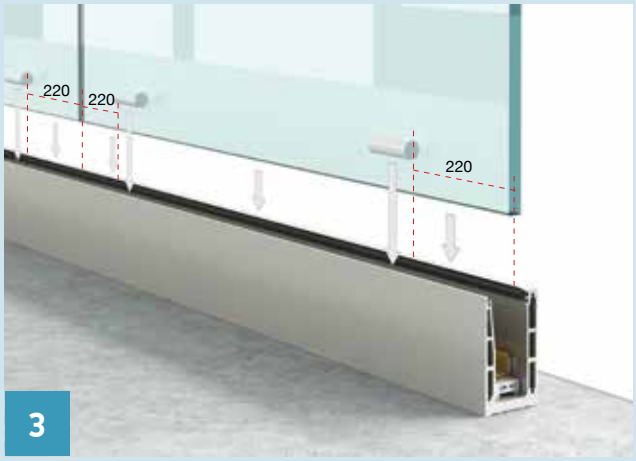
L•line TOP MOUNT

Heavy duty on floor system

Installation step by step / Mode de montage



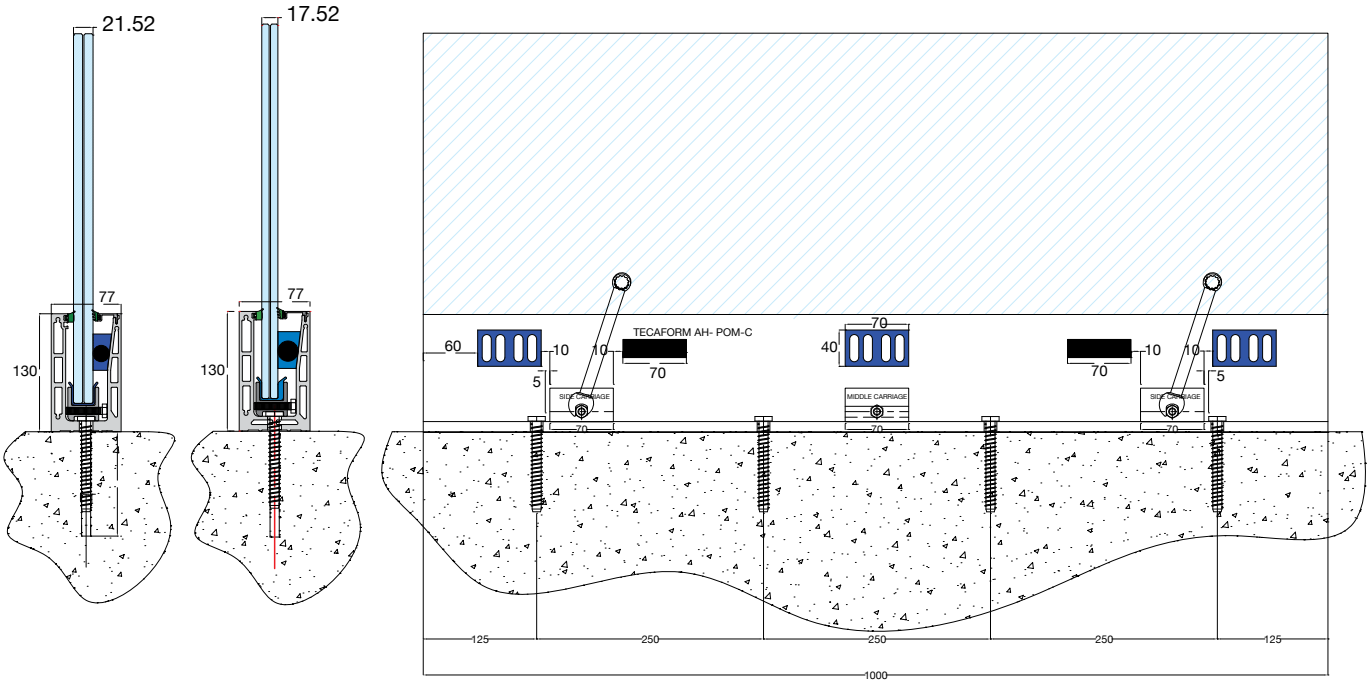


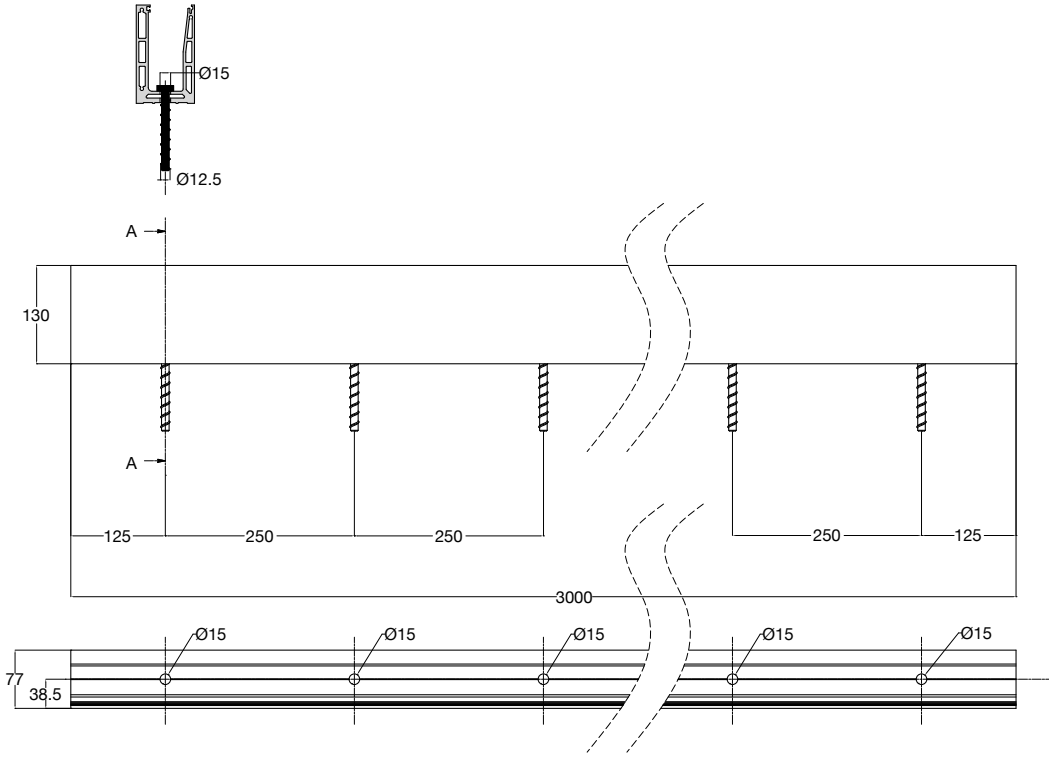


! Adhesive tape Lohman DuploColl 373 thickness: 0.33 mm, width: 15 mm
A coller avec un adhésif pour aluminium type Lohman DupioColl 373

L•line TOP MOUNT

Montage sur dalle

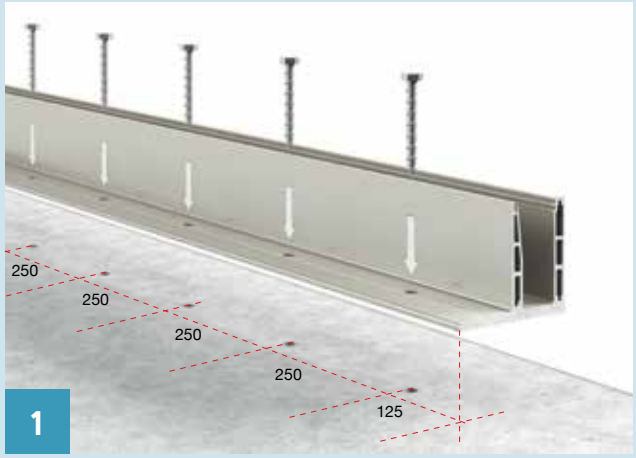


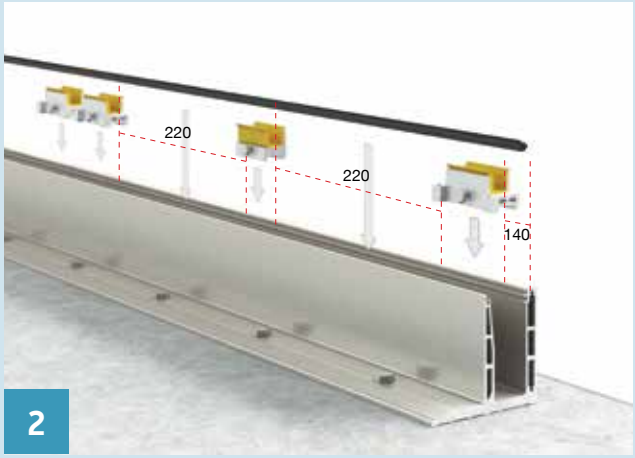


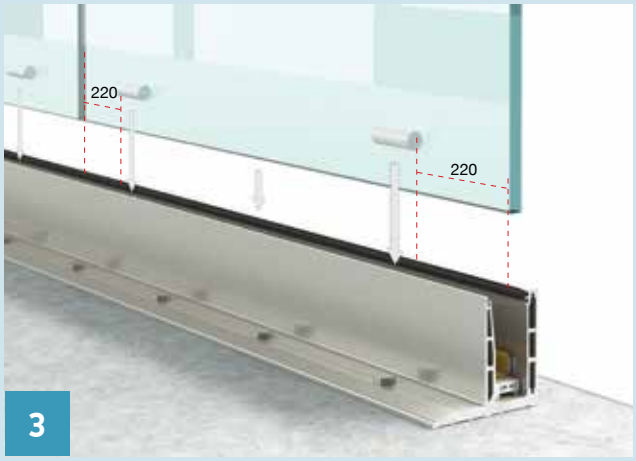
L•line TOP MOUNT with FIN

Heavy duty on floor system

Installation step by step / Mode de montage



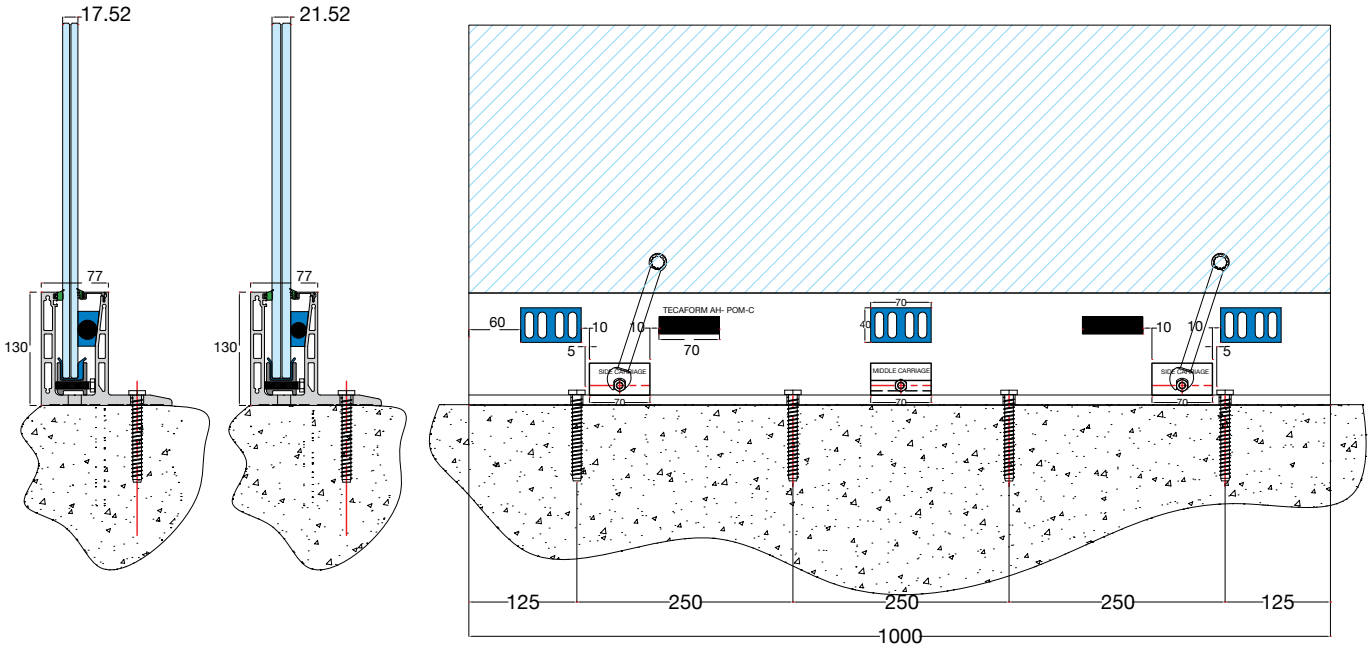


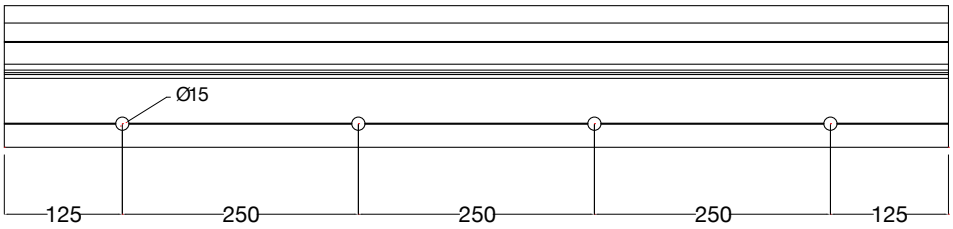


! Adhesive tape Lohman DuploColl 373 thickness: 0.33 mm, width: 15 mm
A coller avec un adhésif pour aluminium type Lohman DupioColl 373

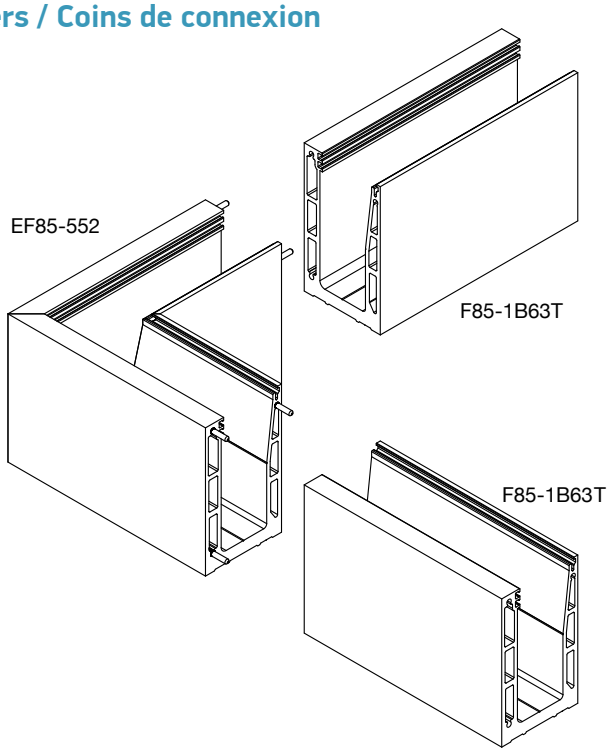
L•line TOP MOUNT with FIN

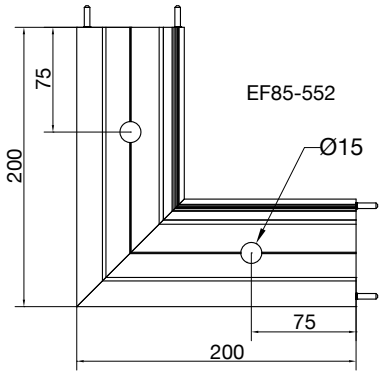
Montage sur dalle

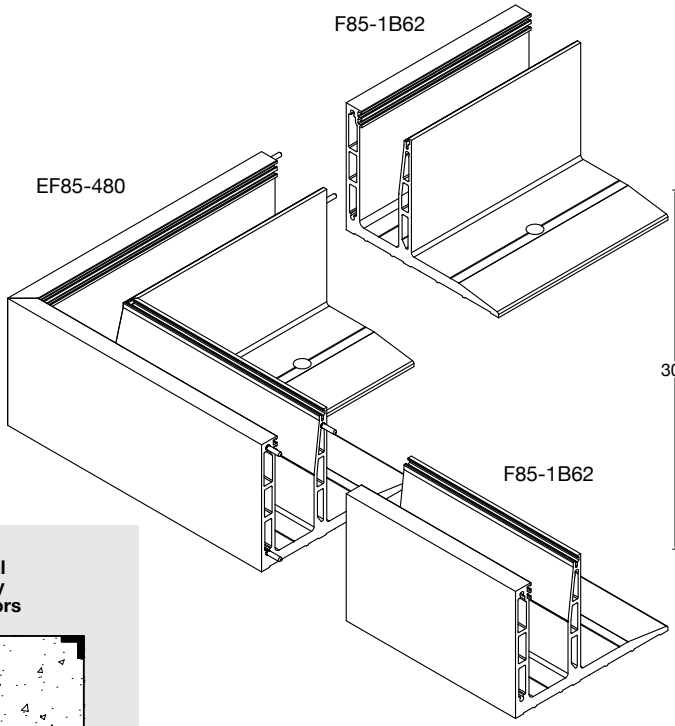


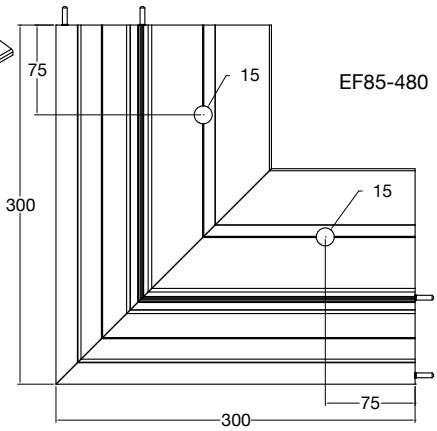


Connection corners / Coins de connexion

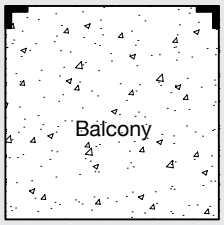






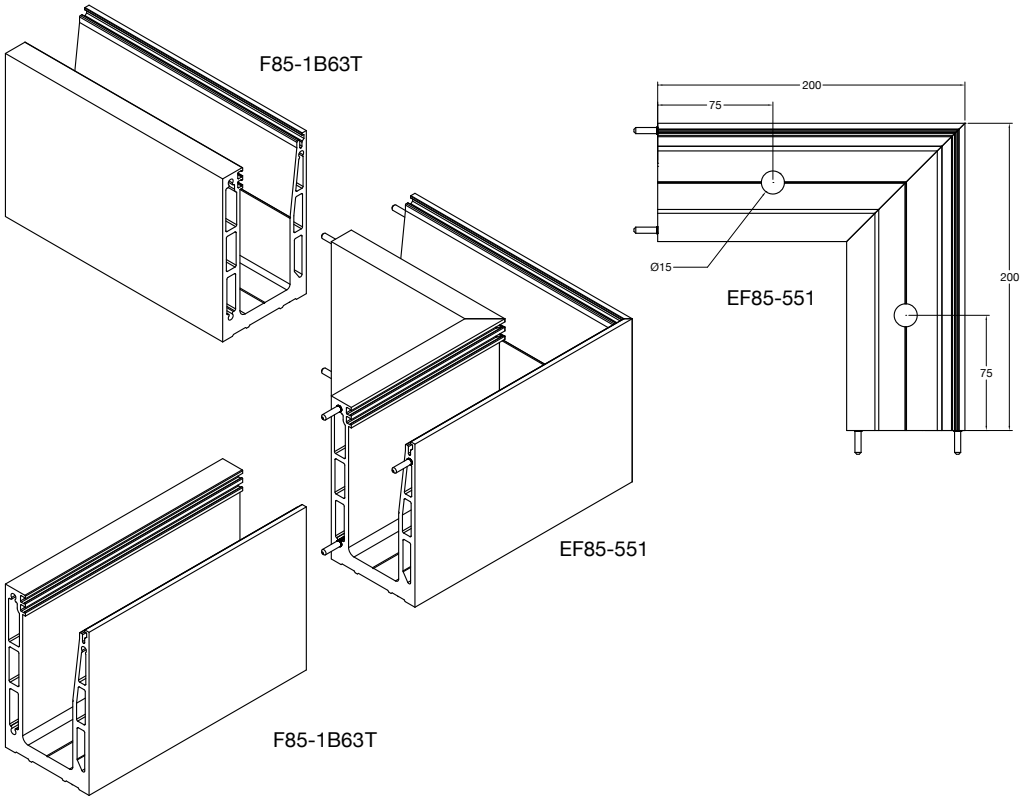


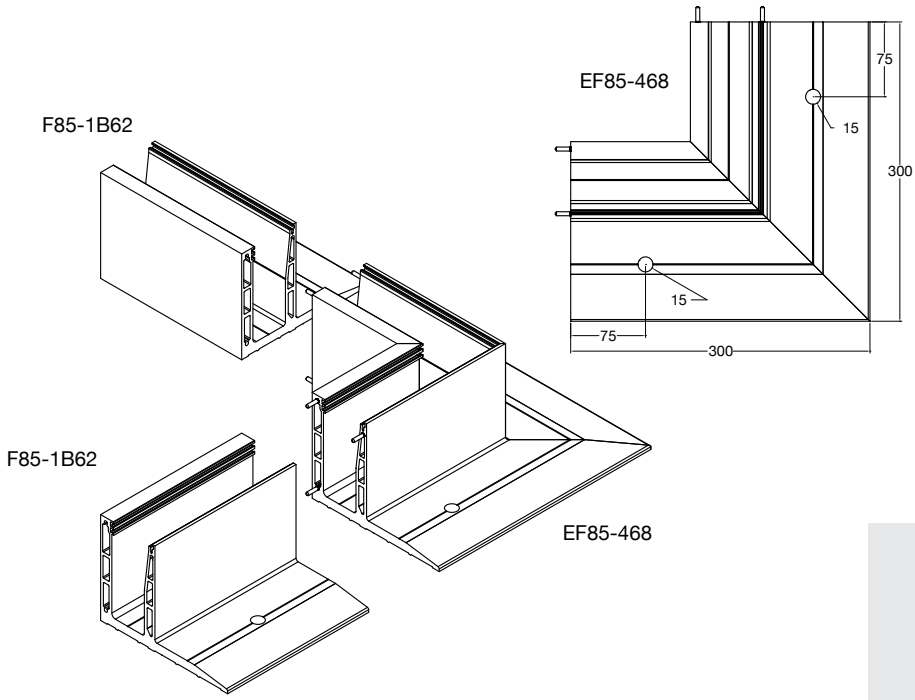
External Balcony Connectors

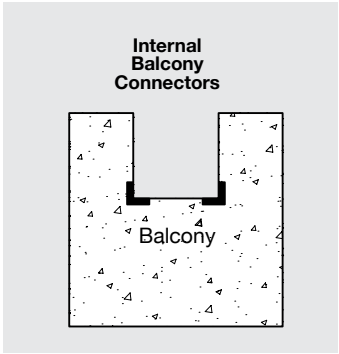


L•line TOP MOUNT

Montage sur dalle







L•line TOP MOUNT

Heavy duty on floor system

Profiles & accessories / Profiles & accessoires

The supporting bases and corner components are precut and pierced, and include fixing bolts/anchors.
Les profils et coins sont pré-coupés et pourvus de trous de forage.

TOP MOUNT ≥1.7 KN/m

Base U-Profile / Embase	
Code	**F85-1B61T*** (10.10.4) (8.8.4)
Weight/Poids	7500 gr/m
Length/Longueur	3 m

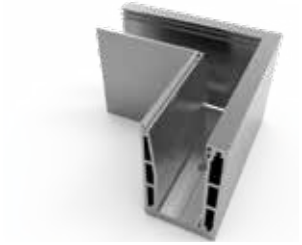
Internal corner / Coude interieure	
Code	**F85-467***
Length/Longueur	20x20 cm

External corner / Coude exterieure	
Code	**F85-479***
Length/Longueur	20x20 cm

TOP MOUNT ≥3 KN/m

Base U-Profile / Embase	
Code	**F85-1B63T*** (10.10.4) (8.8.4)
Weight/Poids	7627 gr/m
Length/Longueur	3 m

Internal corner / Coude interieure	
Code	**F85-551***
Length/Longueur	20x20 cm



External corner / Coude exterieure	
Code	**F85-552***
Length/Longueur	20x20 cm

TOP MOUNT with FIN ≥3 KN/m

Base U-Profile / Embase	
Code	**F85-1B62T*** (10.10.4) (8.8.4)
Weight/Poids	9666 gr/m
Length/Longueur	3 m

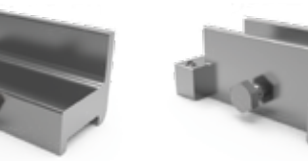
Internal corner / Coude interieure	
Code	**F85-468***
Length/Longueur	30x30 cm

External corner / Coude exterieure	
Code	**F85-480***
Length/Longueur	30x30 cm

End cap / Embout	
Code	**F85-489****
Length/Longueur	130x150 mm

End cap / Embout	
Code	**F85-488****
Length/Longueur	77x130 mm

Adjustable carriage Chariot interieure mouvable	
Code	**F85-585**
Weight/Poids	117 gr
Length/Longueur	70 mm



Intermediate fixed carriage Chariot interieure fix	
Code	**F85-483**
Weight/Poids	97 gr
Length/Longueur	70 mm

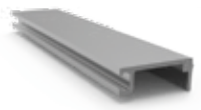
Intermediate mouvable carriage Chariot Interieure Mouvable	
Code	**F85-587**
Weight/Poids	200 gr
Length/Longueur	100 mm

* Include the fixing bolts/anchors
Boulons et ancrage sont inclus

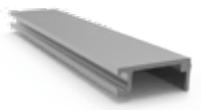
** Includes the adhesive tape Lohman DuploColl 373
Ruban adhesive Lohman DuploColl 373 inclus

L•line TOP MOUNT

Montage sur dalle



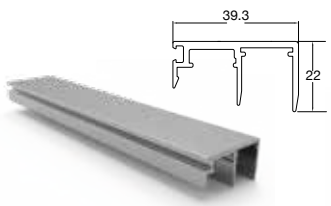
Base inside cover Cache frontal interieure	
Code	**F85-1K61** (10.10.4) (10.10.2)
Weight/Poids	178 gr/m
Length/Longueur	6 m



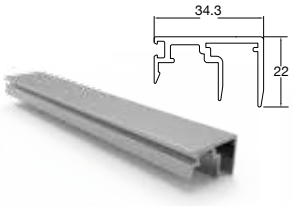
Base inside cover Cache frontal interieure	
Code	**F85-1K62** (8.8.4) (8.8.2)
Weight/Poids	194 gr/m
Length/Longueur	6 m

Base inside cover Cache frontal interieure	
Code	**F85-1K66** (8.8.2) (8.8.4)
Weight/Poids	447 gr/m
Length/Longueur	6 m

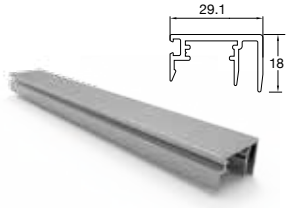
Base inside cover Cache frontal interieure	
Code	**F85-1K67** (10.10.2) (10.10.4)
Weight/Poids	425 gr/m
Length/Longueur	6 m



Base external cover for 15 mm panel Cache frontal exterieure	
Code	**F85-1K63**
Weight/Poids	475 gr/m
Length/Longueur	6 m

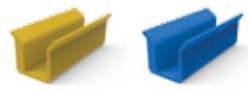


Base external cover for 10 mm panel Cache Frontal Exterieure	
Code	**F85-1K64**
Weight/Poids	460 gr/m
Length/Longueur	6 m

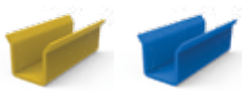


Base external cover for 5 mm panel Cache Frontal Exterieure	
Code	**F85-1K65**
Weight/Poids	349 gr/m
Length/Longueur	6 m

PIN / BROCHE	
Code	**F85-481**



Glass support / Support de verre	
Code	**F85-471** • (8.8.4)
	F85-571 • (8.8.2)
Length/Longueur	70 mm



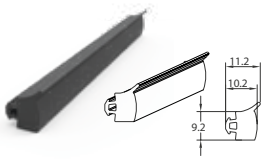
Glass support / Support de verre	
Code	**F85-472** • (10.10.4)
	F85-572 • (10.10.2)
Length/Longueur	70 mm

Intermediate wedge Cale Plast. L70 mm Ø22	
Code	**F85-484 Ø22** (8.8.4)
	F85-485 Ø25 (8.8.2)
	F85-486 Ø18 (10.10.4)
	F85-487 Ø20 (10.10.2)
Length/Longueur	70 mm

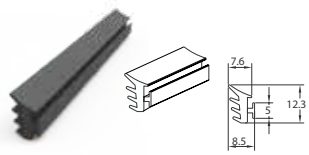
Basic wedge / Cale plastique	
Code	**F85-473** • (8.8.4)
	F85-573 • (8.8.2)
	F85-474 • (10.10.4)
	F85-574 • (10.10.2)
Length/Longueur	70 mm

Curved wrench No13/Cle courbe No13	
Code	**F85-561**

Concrete Screw Ø12-110 Ancrage pour béton Ø12-110	
Code	**EBM12-110**



Counter - Balance gasket Joint du verre (embase)	
Code	**F85-477**
Length/Longueur	100 m
Hardness/Dureté	100 shore



Main gasket/Joint du verre (cache frontal)	
Code	**F85-478**
Length/Longueur	100 m

Alignement
avec simplicité
et style!

L•line SIDE MOUNT

Heavy duty fascia mount system
Montage en applique

In perfect
alignment
with simplicity
and style!

New Crystal line edition, L line SIDE MOUNT, offers all the advantages of TOP MOUNT while providing more transparency satisfying every architectural and professional desire.

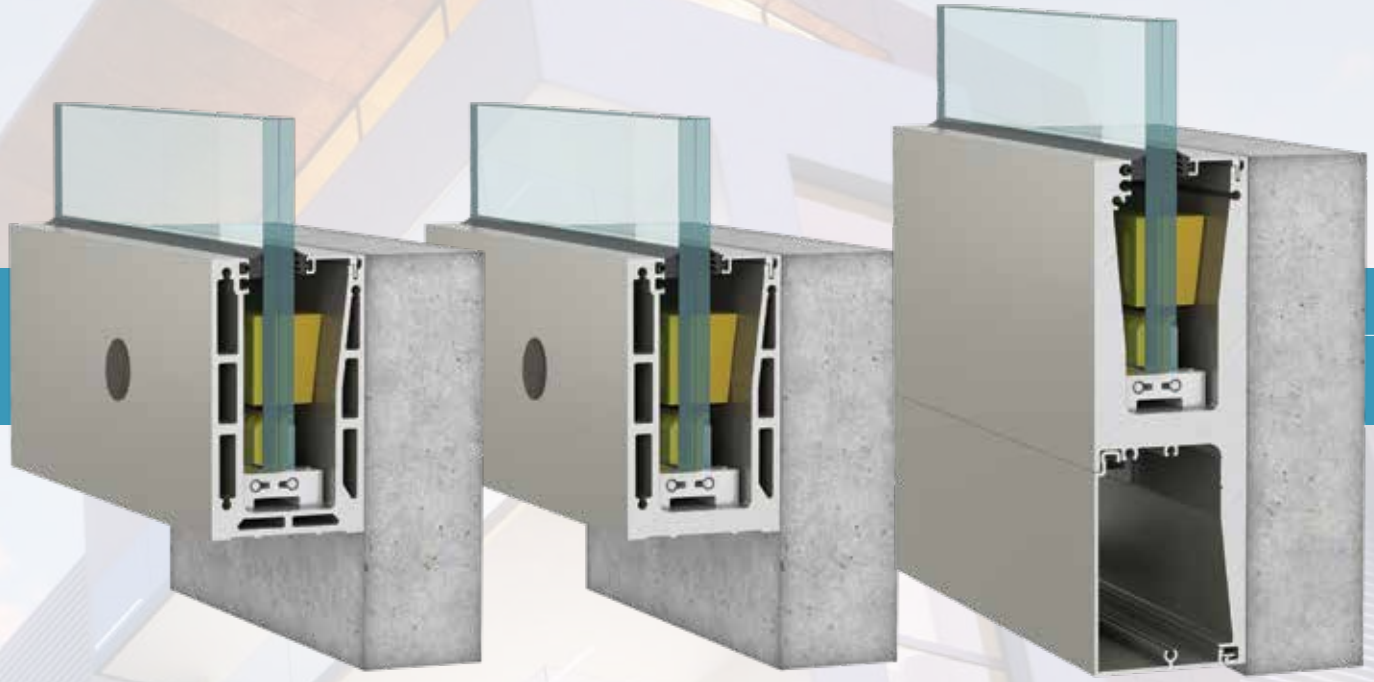
It is designed to cope with line loads more than 3 KN/m while the reference point is the unique possibility of perfect aligning the glass panel in each direction (to & fro by up to 15 mm and up-down by up to 10 mm) and from inside the balustrade.

The whole design exudes a sophisticated style that captures attention.

Les nouveaux profilés Crystal line L-line Side Mount proposent les mêmes avantages que le Top Mount avec en plus une finition encore plus épurée qui répond aux nécessités professionnelles et architecturales.

Nos profils sont conçus pour absorber de grandes charges allant jusqu'à 3 KN/m, approprié pour une usage résidentiel, bureaux, lieux publiques, centres commerciaux et stades sportifs.

L'alignement s'effectue par le biais d'un système innovant. Nos chariots offrent la possibilité d'aligner le vitrage, d'une manière mécanique, d' 1° ce qui correspond à ±15 mm de part et autre.



Highlights

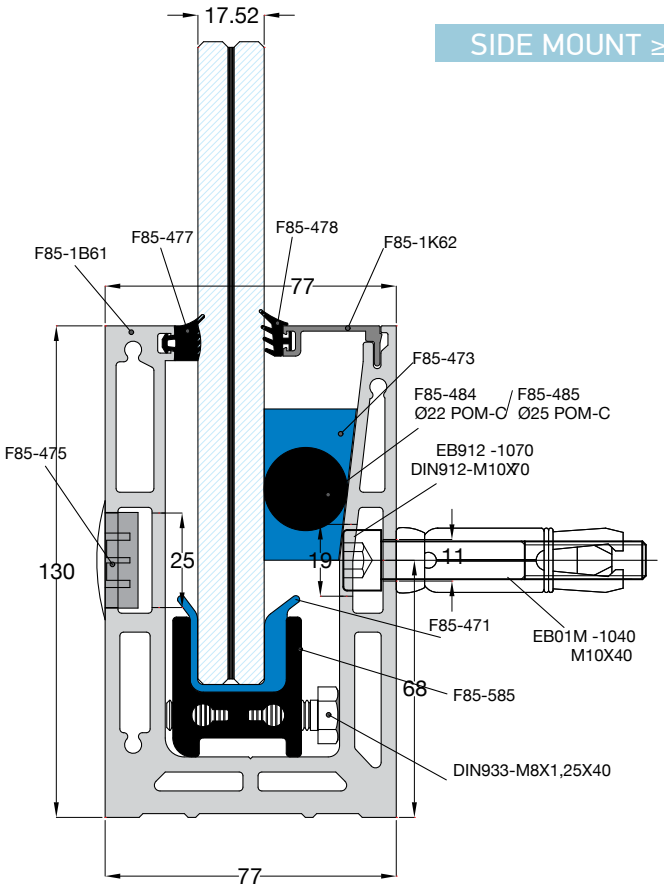
- Offers a choice of 3 different profile bases solutions
- Resists line loads more than 3 KN/m
- Single base at 3 m without additional external lid
- Easy glass installation.
- Exceptional alignment of the glass panels in every direction (to & from by up to 15 mm and up-down by up to 10 mm) from inside the balustrade.
- Meets worldwide safety and building regulations
- Suitable for use in high demand public areas

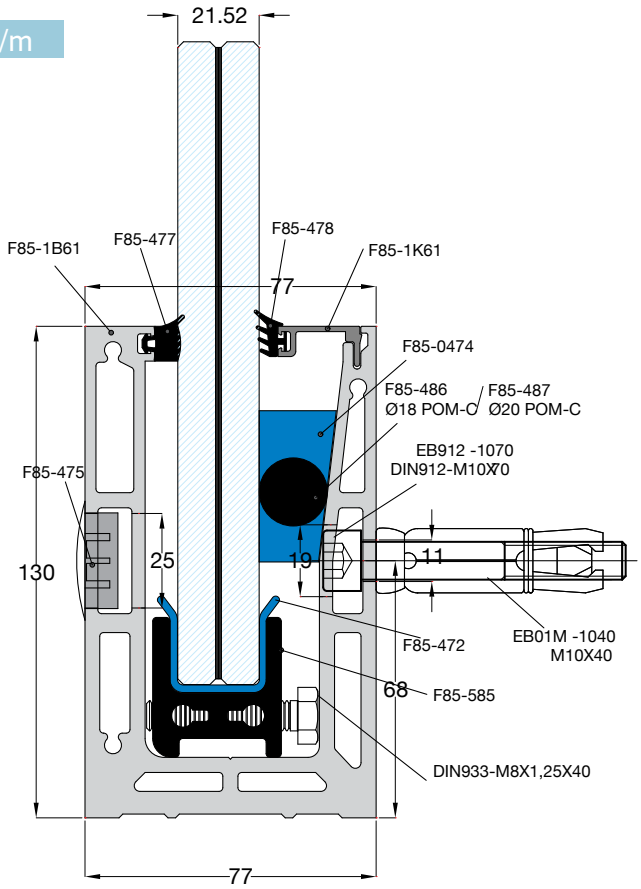
Les points forts

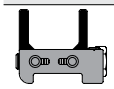
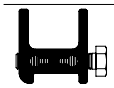
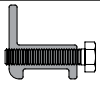
- 3 profils différents disponible en Side Mount
- Résistant aux charges plus de 3 KN/m
- Profils de 3m, facilement maniable
- Installation aisée du vitrage
- Système d'alignement innovant avec 15 mm de jeu avant/arrière
- Système pour hausser le vitrage de 10 mm sans enlever le vitrage
- Conforme aux dernières recommandations de la norme NBN 03-004

L•line SIDE MOUNT

Heavy duty fascia mount system





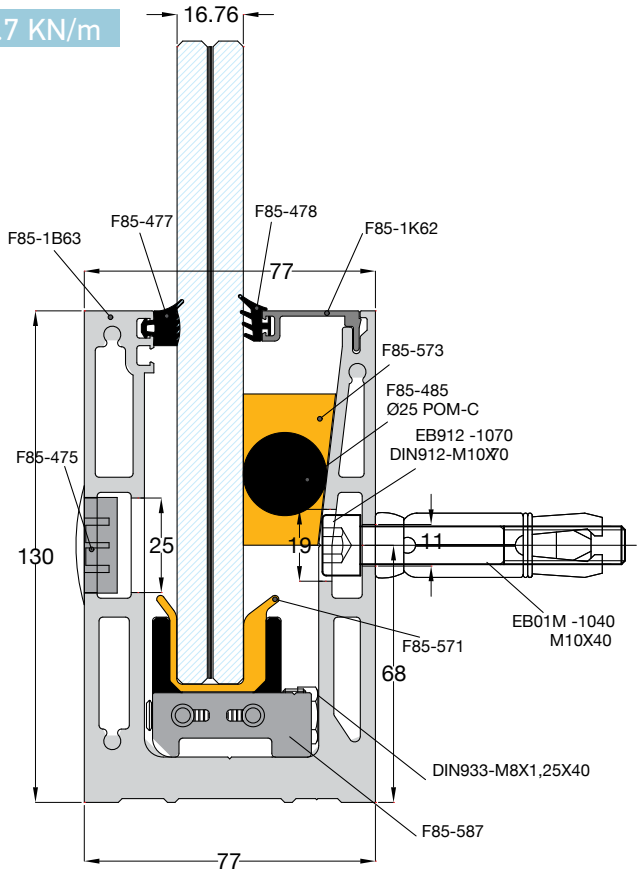
Type of carrier Type de trolley		Type of use Usage
	F85-587 Side carrier Chariot pour Bord de vitrage (2 Pcs/m)	2-Axis Adjustment of Glass Panel Movable carrier Pour alignement de 2 axes
	F85-585 Side carrier Chariot pour Bord de vitrage (2 Pcs/m)	1-Axis Adjustment of Glass Panel Movable carrier Pour alignement d'un axe
	F85-483 Middle carrier Chariot Intermédiaire (1 Pcs/m)	Simple support of Glass Panel Stationary carrier Pour simple soutient du virage

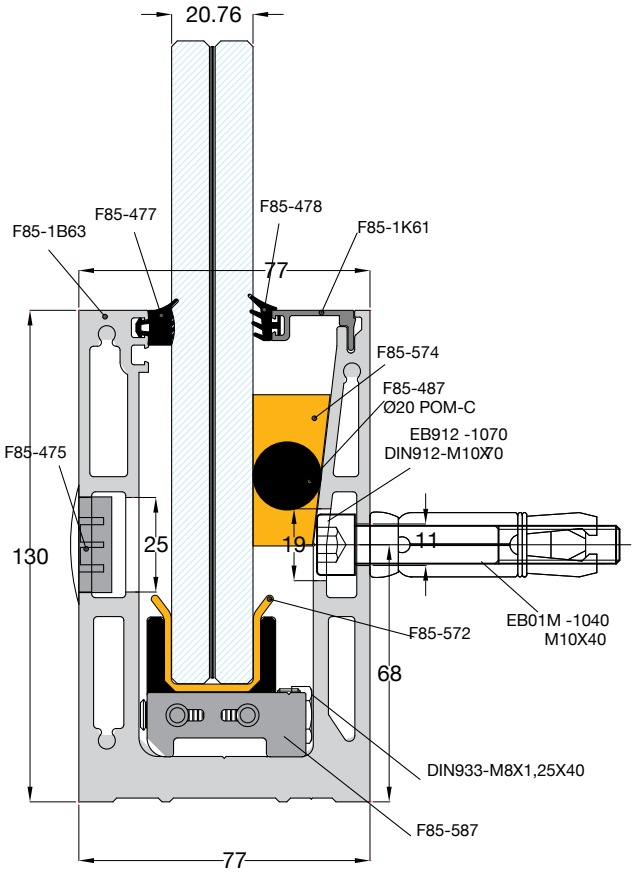
Types of plastic shaft glass seals Recepteur pour verre		Types of glass panels Type de verre
	F85-571 ABS PLASTIC	8-DG41-8=16.76 mm
	F85-471 ABS PLASTIC	8-4PVB-8=17.52 mm
	F85-572 ABS PLASTIC	10-DG41-10=20.76 mm
	F85-472 ABS PLASTIC	10-4PVB-10=21.52 mm

Applicable for all types of carries

Type	Tempered Laminate Glass Panel Verre trempe	Hauteur du garde-corps Height of Balustrade	Static Loading category (horizontal & vertical loads) Categorie de charges dynamiques (charges horizontal & verticales)	Charge dynamique (test d' impact) Dynamic Loading category (impact test)
F85-1B64	10.10.4 (DG41)	1440 mm	Public use / Stadiums / Malls - 3KN/m up to 5KN/m Éspaces publiques/Centres commerciales/Stades - de 3KN/m à 5KN/m	

SIDE MOUNT ≥1.7 KN/m

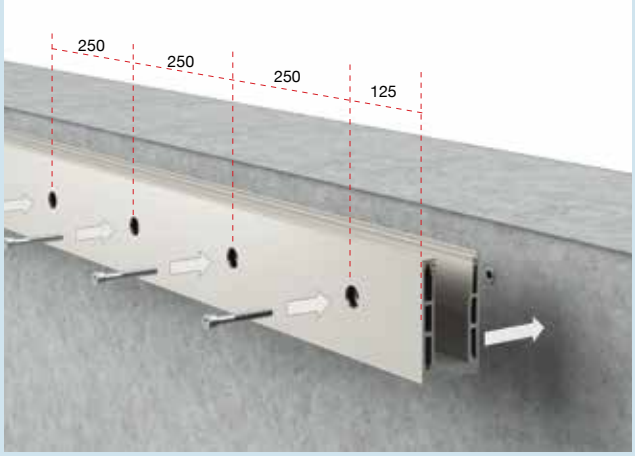


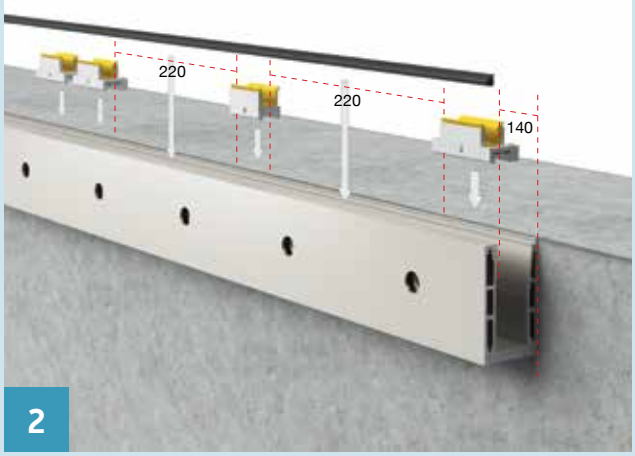


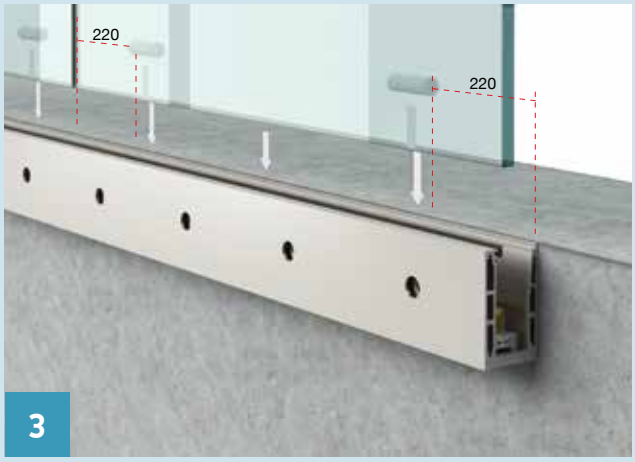
L•line SIDE MOUNT

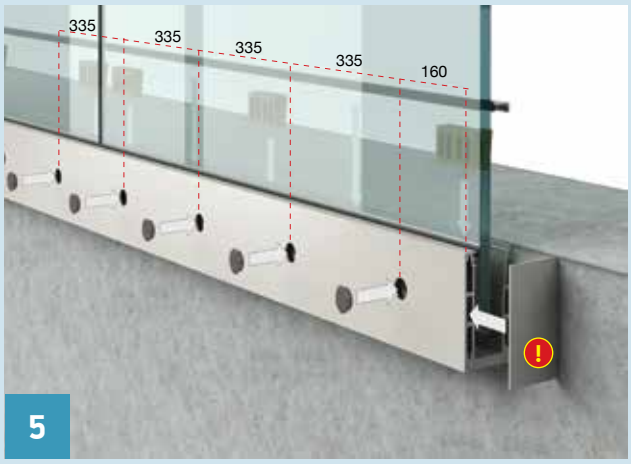
Heavy duty fascia mount system

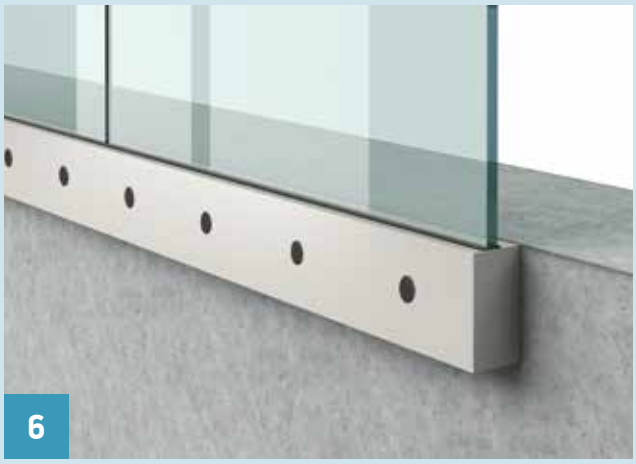
Installation step by step / Mode de montage







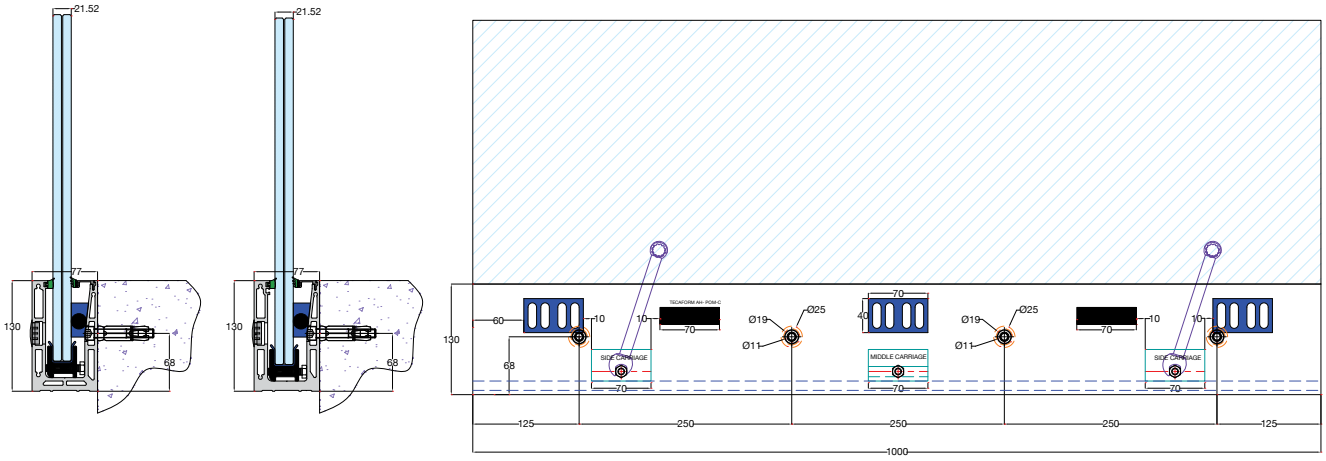


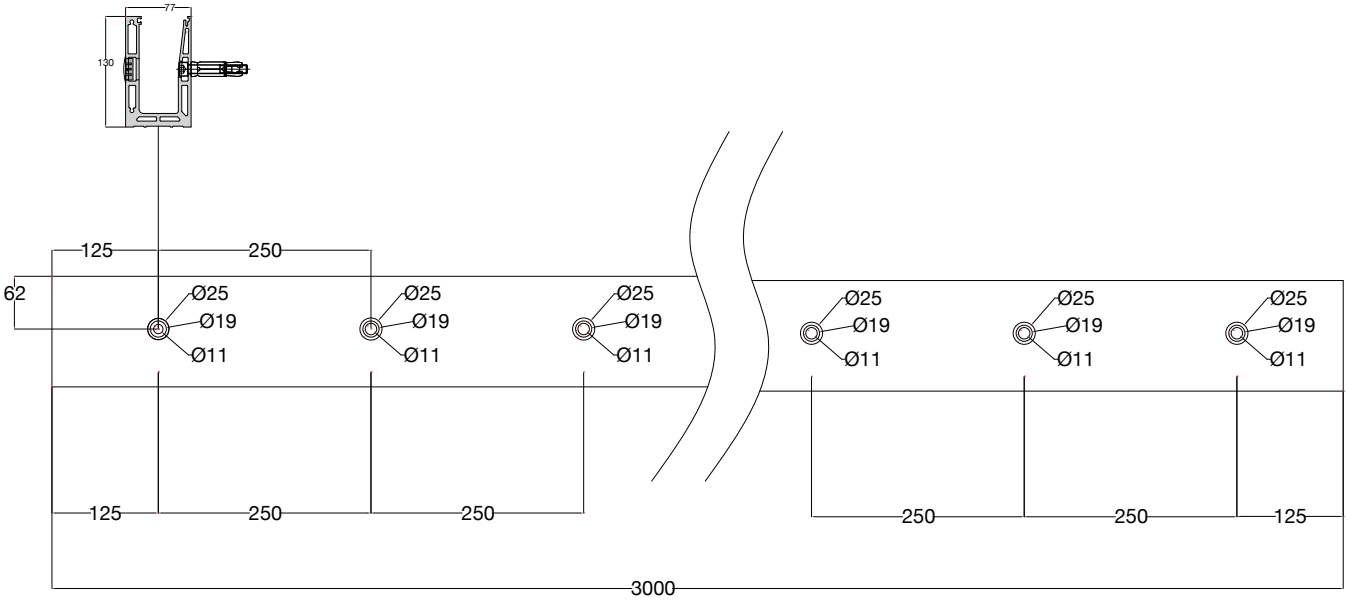


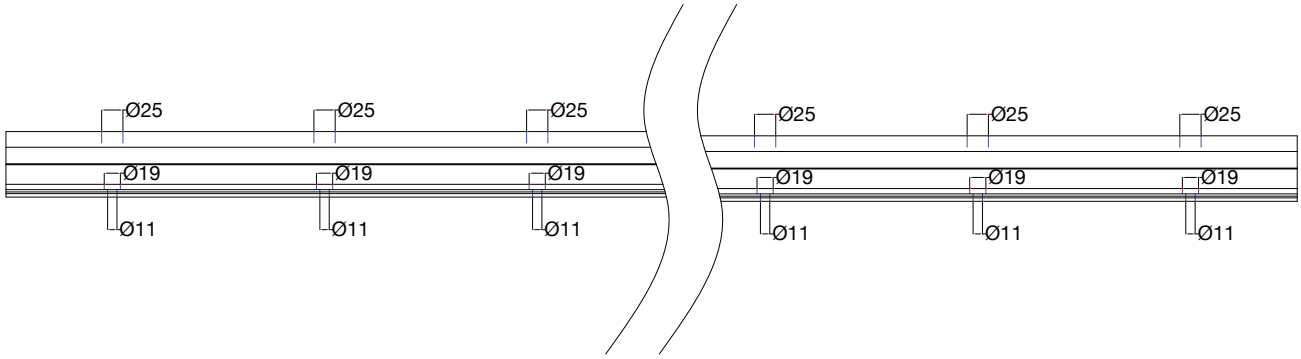
Adhesive tape Lohman DuploColl 373 thickness: 0.33 mm, width: 15 mm
A coller avec un adhésif pour aluminium type Lohman DupioColl 373

L•line SIDE MOUNT

Montage en applique



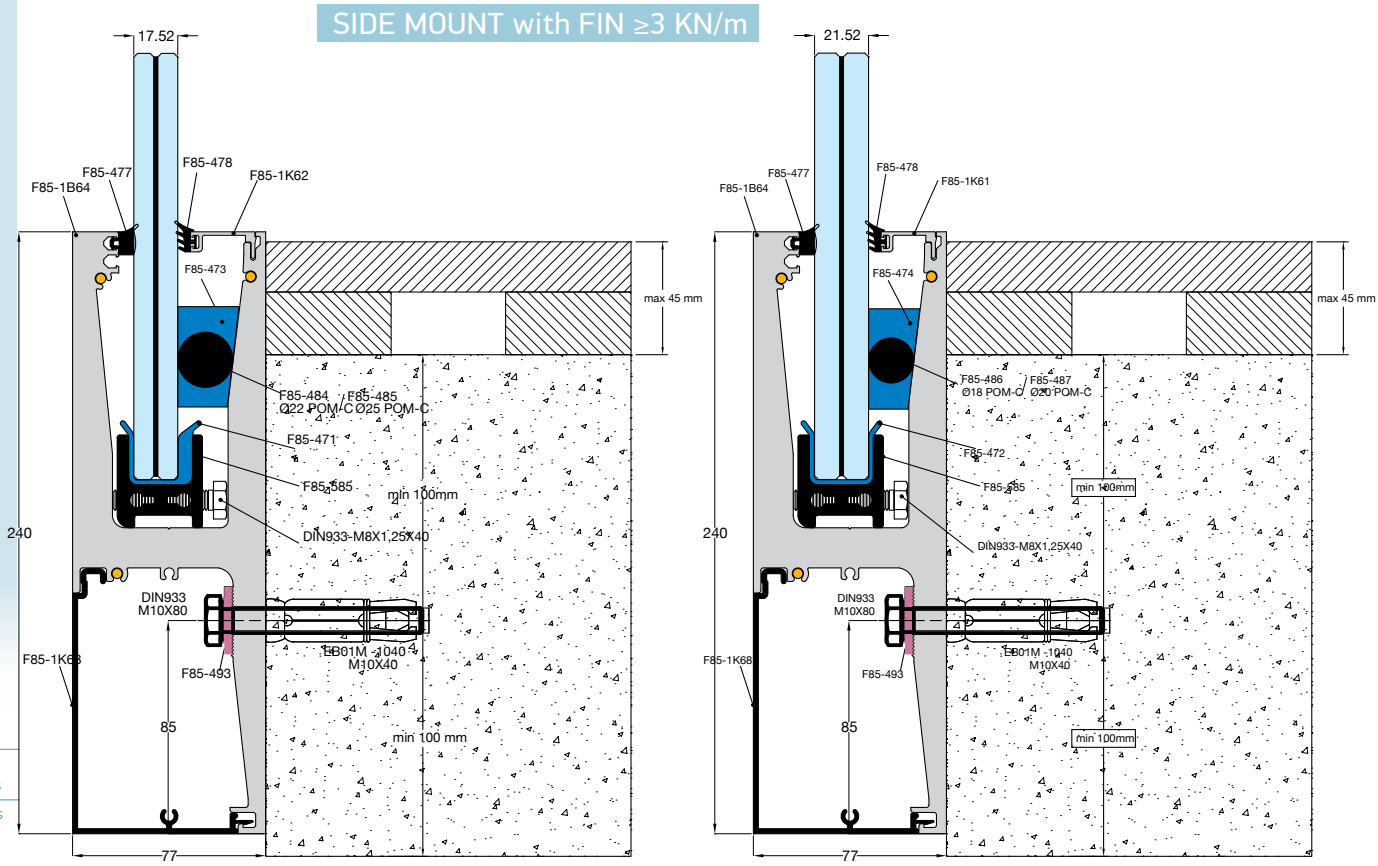


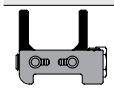
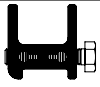
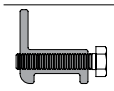


L•line

Heavy duty fascia mount system

SIDE MOUNT with FIN ≥3 KN/m



Type of carrier Type de trolley		Type of use Usage
	F85-587 Side carrier Chariot pour Bord de vitrage (2 Pcs/m)	2-Axis Adjustment of Glass Panel Movable carrier Pour alignement de 2 axes
	F85-585 Side carrier Chariot pour Bord de vitrage (2 Pcs/m)	1-Axis Adjustment of Glass Panel Movable carrier Pour alignement d'un axe
	F85-483 Middle carrier Chariot Intermédiaire (1 Pcs/m)	Simple support of Glass Panel Stationary carrier Pour simple soutient du virage

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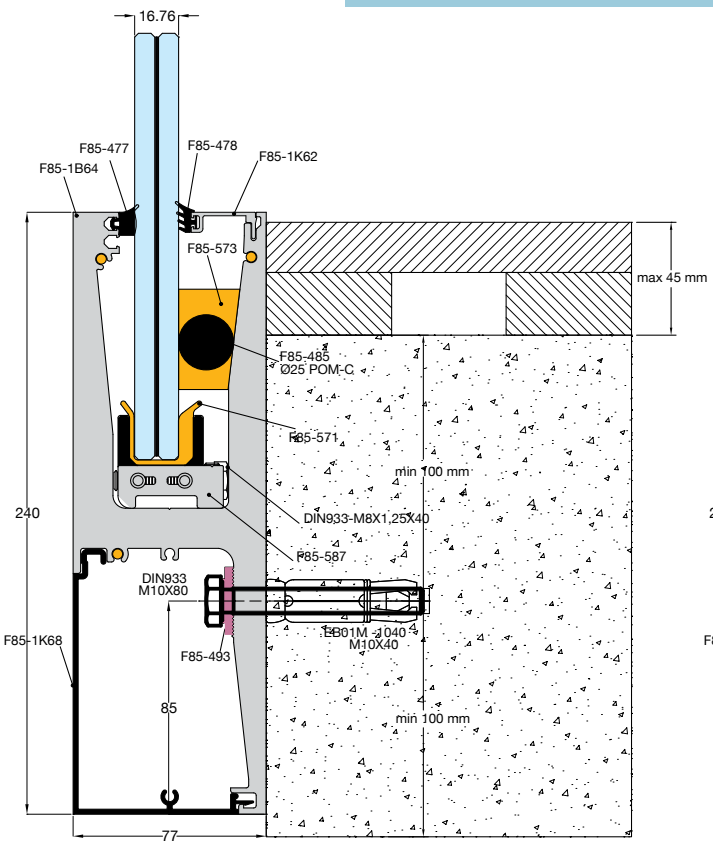
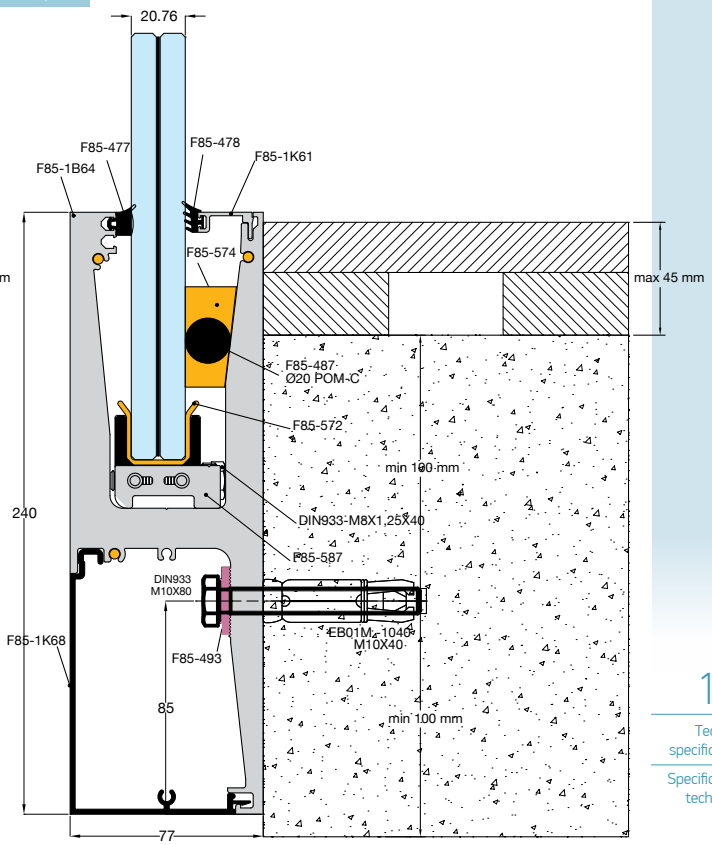
Applicable for all types of carries

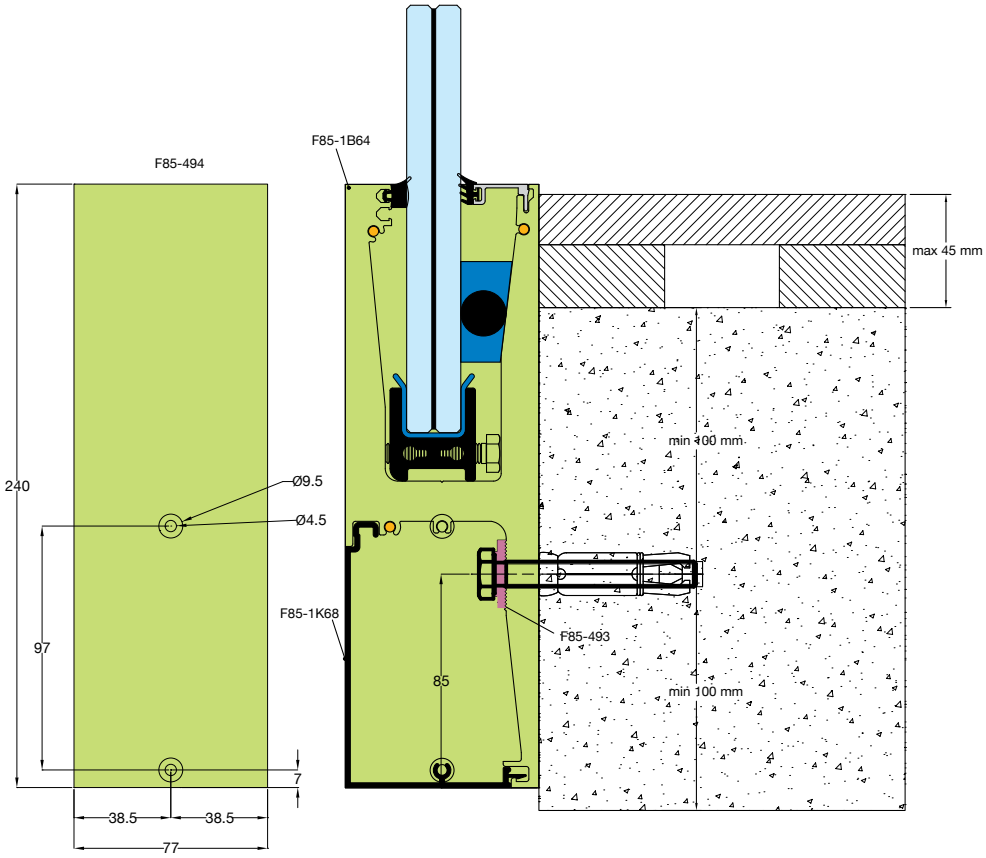
L•line

Montage en applique

SIDE MOUNT with FIN ≥3 KN/m



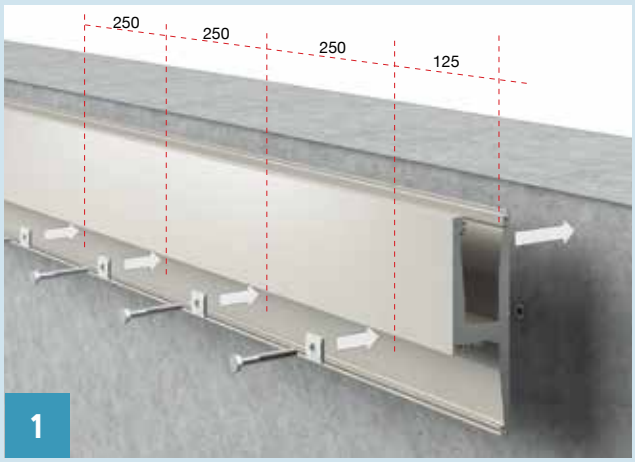


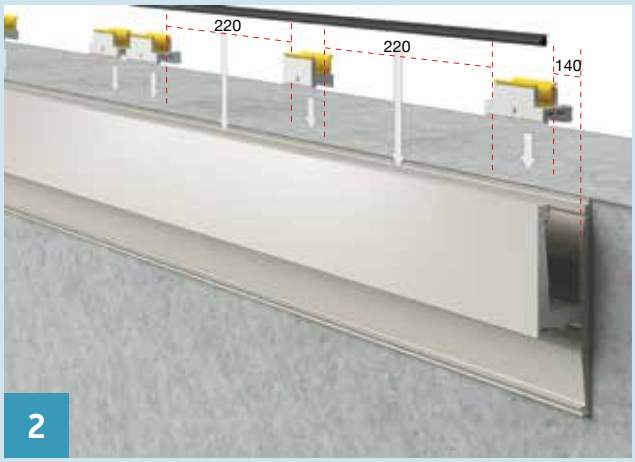


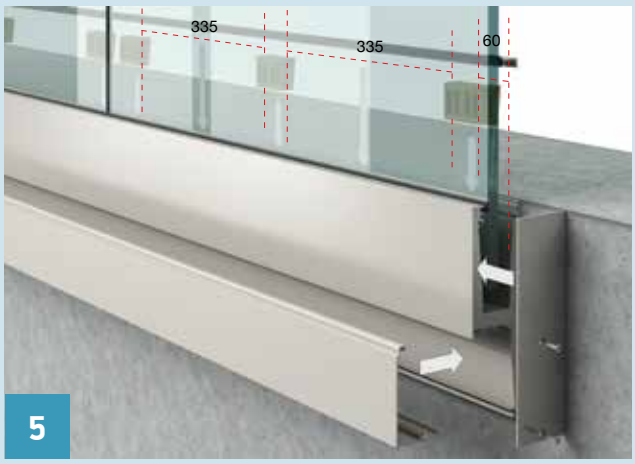
L•line SIDE MOUNT with FIN

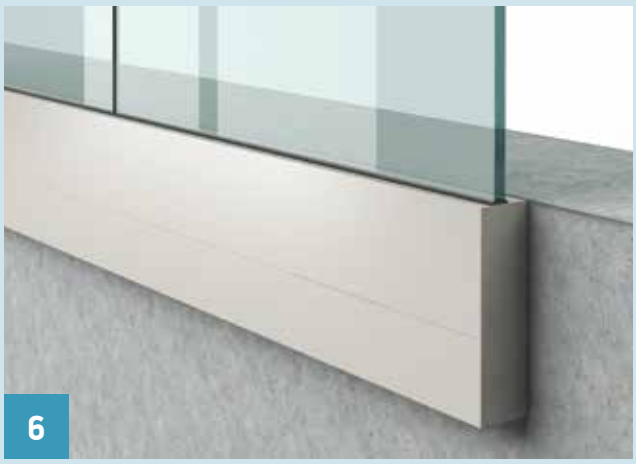
Heavy duty fascia mount system

Installation step by step / Mode de montage

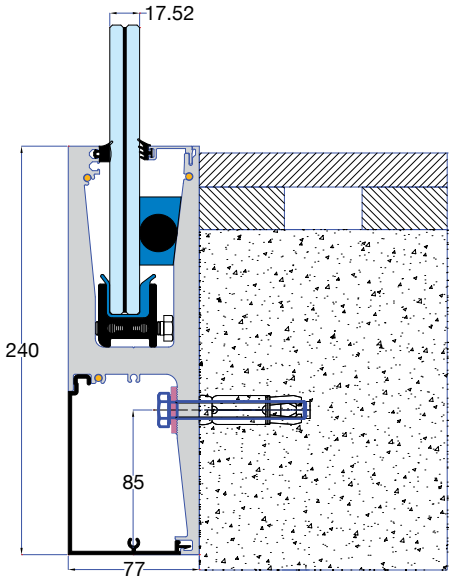


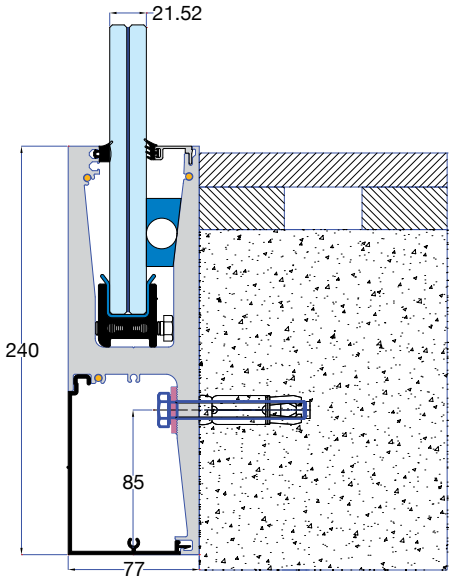


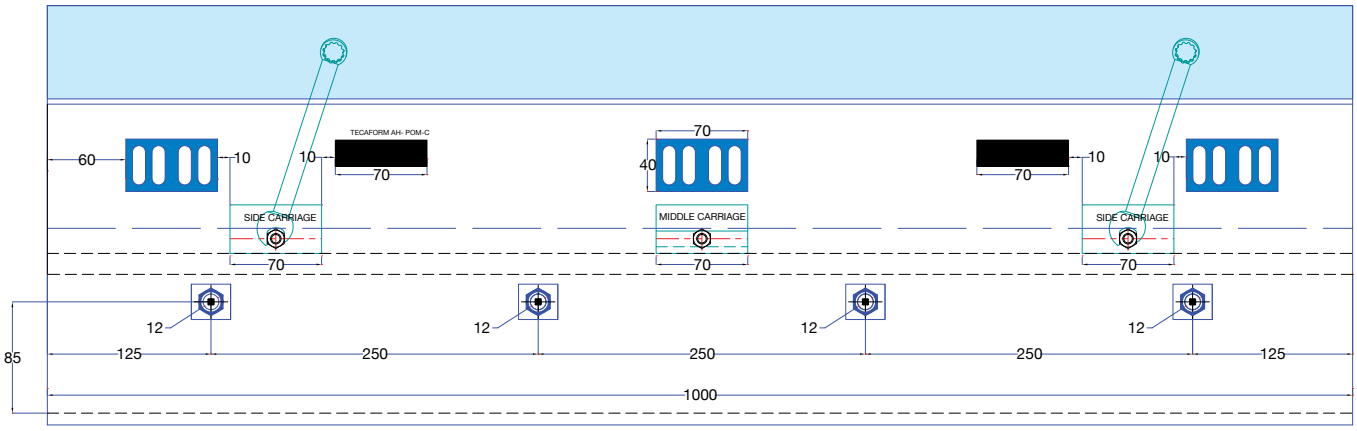




Supporting bases / Embases de support

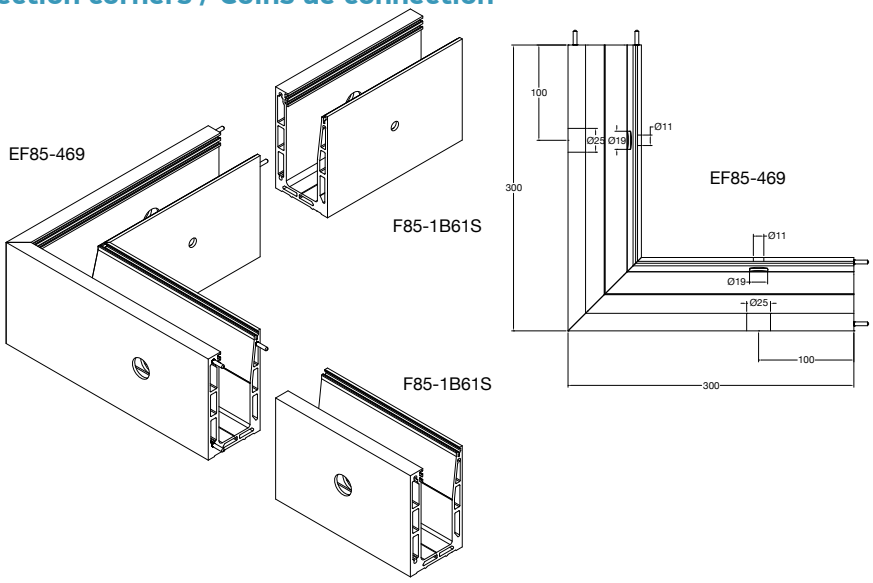


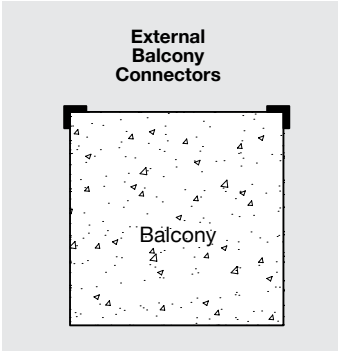


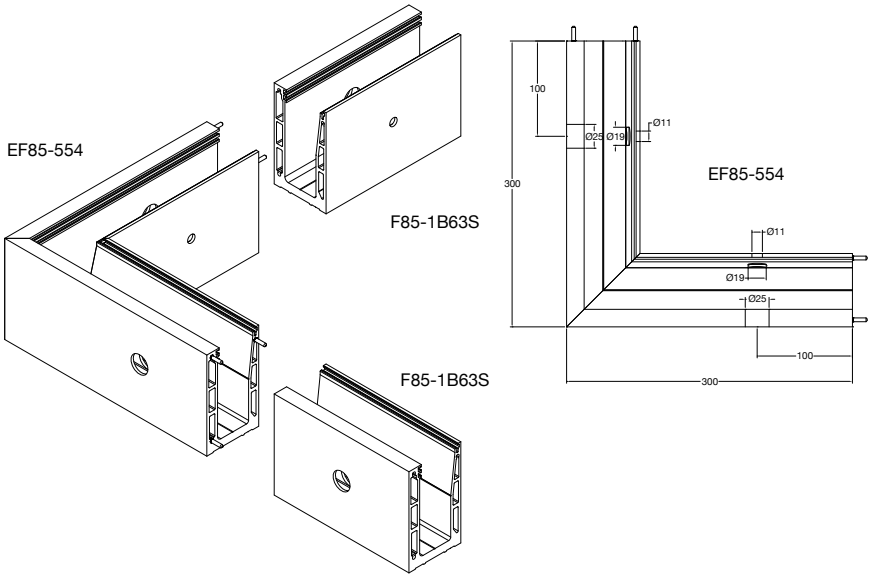


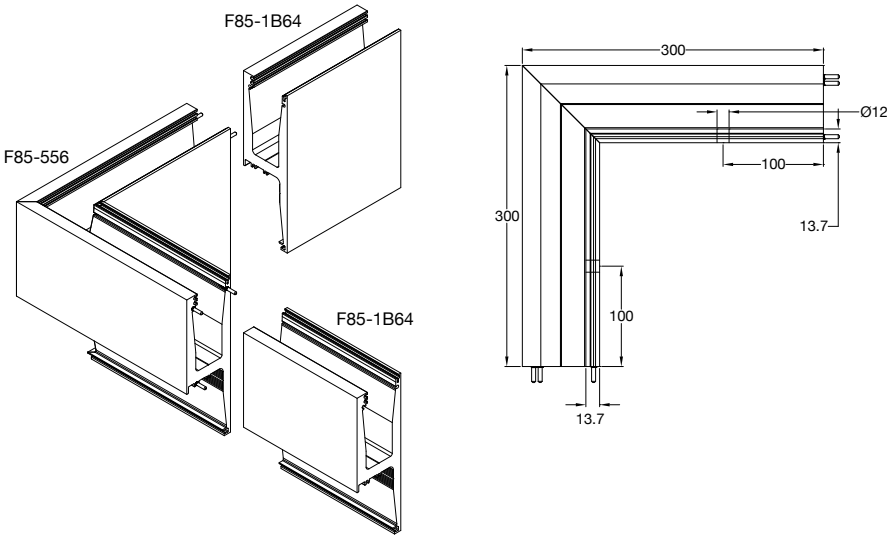
L•line
Heavy duty fascia mount system

Connection corners / Coins de connection

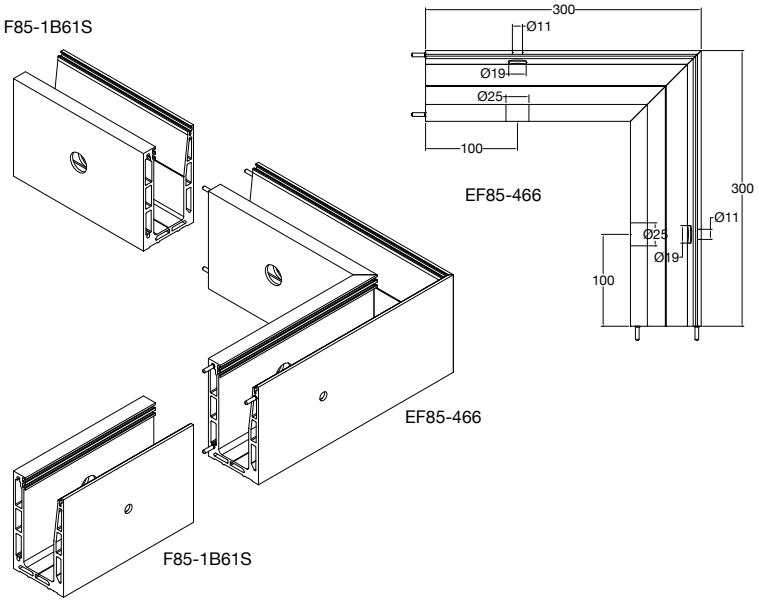


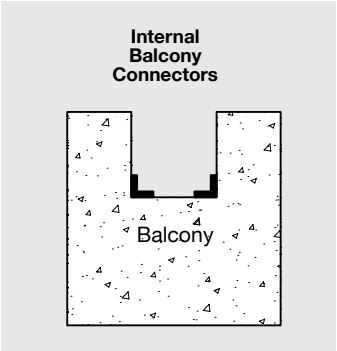


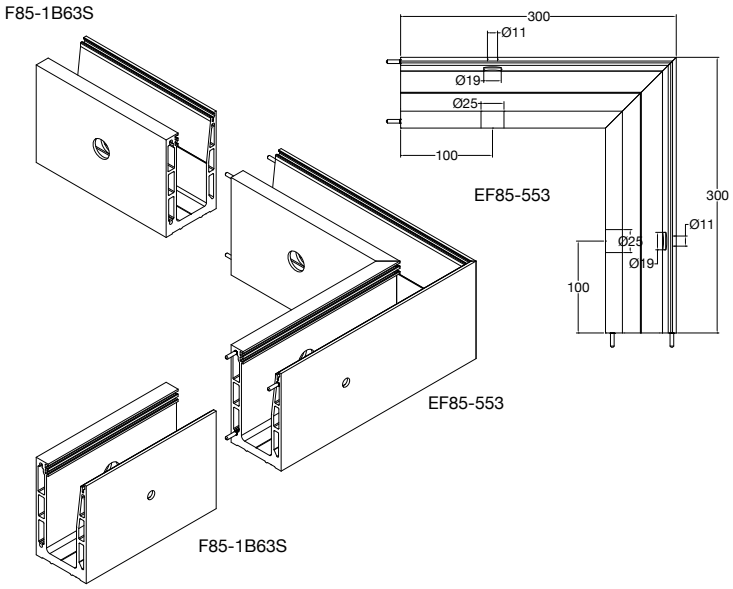


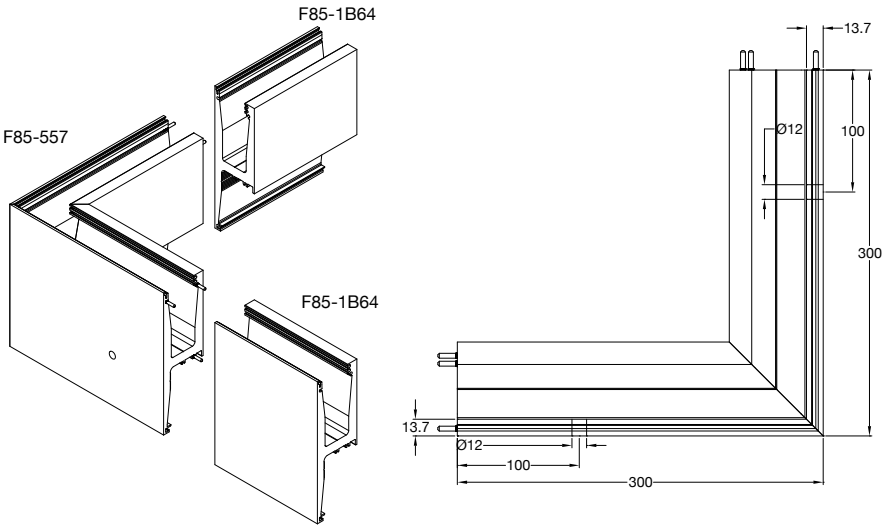


L•line
Montage en applique









L•line SIDE MOUNT

Heavy duty fascia mount system

Profiles & accessories / Profiles & accessoires

The supporting bases and corner components are precut and pierced, and include fixing bolts/anchors.
Les profils et coins sont pré-coupés et pourvus de trous de forage.

SIDE MOUNT ≥1 KN/m

Base U-Profile / Embase	
Code	**F85-1B61S*** (10.10.4) (8.8.4)
Weight/Poids	7500 gr/m
Length/Longueur	3 m

Internal corner / Coude interieure	
Code	**F85-466***
Length/Longueur	30x30 cm

External corner / Coude exterieure	
Code	**F85-469***
Length/Longueur	30x30 cm

SIDE MOUNT ≥1.7 KN/m

Base U-Profile / Embase	
Code	**F85-1B63S*** (10.10.4) (8.8.4)
Weight/Poids	7627 gr/m
Length/Longueur	3 m

Internal corner / Coude Interieure	
Code	**F85-553***
Length/Longueur	30x30 cm

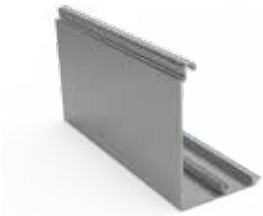
External corner / Coude exterieure	
Code	**F85-554***
Length/Longueur	30x30 cm

SIDE MOUNT with FIN ≥3 KN/m

Base U-Profile / Embase	
Code	**F85-1B64*** (10.10.4) (8.8.4)
Weight/Poids	14953 gr/m
Length/Longueur	3 m

Internal corner / Coude interieure	
Code	**F85-557***
Length/Longueur	30x30 cm

External corner / Coude exterieure	
Code	**F85-556***
Length/Longueur	30x30 cm

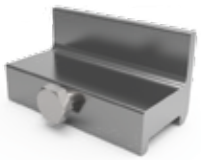


Base cover / Cache frontal	
Code	**F85-1K68**
Weight/Poids	1116 gr/m
Length/Longueur	3 m

End cap / Embout	
Code	**F85-488****
Length/Longueur	77x130 mm

End cap / Embout	
Code	**F85-494***
Length/Longueur	77x240 mm

Adjustable carriage Chariot interieure mouvable	
Code	**F85-585**
Weight/Poids	117 gr
Length/Longueur	70 mm



Intermediate fixed carriage Chariot Interieure Fix	
Code	**F85-483**
Weight/Poids	97 gr
Length/Longueur	70 mm

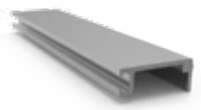
Intermediate mouvable carriage Chariot interieure mouvable	
Code	**F85-587**
Weight/Poids	200 gr
Length/Longueur	100 mm

* Include the fixing bolts/anchors
Boulons et ancrage sont inclus

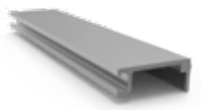
** Includes the adhesive tape Lohman DuploColl 373
Ruban adhesive Lohman DuploColl 373 inclus

L•line SIDE MOUNT

Montage en applique



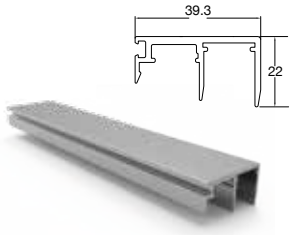
Base inside cover Cache frontal interieure	
Code	**F85-1K61** (10.10.4) (10.10.2)
Weight/Poids	178 gr/m
Length/Longueur	6 m



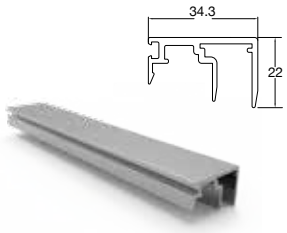
Base inside cover Cache frontal interieure	
Code	**F85-1K62** (8.8.4) (8.8.2)
Weight/Poids	194 gr/m
Length/Longueur	6 m

Base inside cover Cache frontal interieure	
Code	**F85-1K66** (8.8.2) (8.8.4)
Weight/Poids	447 gr/m
Length/Longueur	6 m

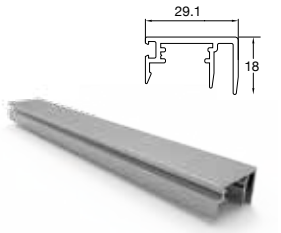
Base inside cover Cache frontal interieure	
Code	**F85-1K67** (10.10.2) (10.10.4)
Weight/Poids	425 gr/m
Length/Longueur	6 m



Base external cover for 15 mm panel Cache frontal exterieure	
Code	**F85-1K63**
Weight/Poids	475 gr/m
Length/Longueur	6 m



Base external cover for 10 mm panel Cache Frontal Exterieure	
Code	**F85-1K64**
Weight/Poids	460 gr/m
Length/Longueur	6 m



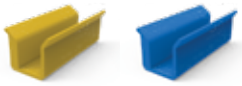
Base external cover for 5 mm panel Cache Frontal Exterieure	
Code	**F85-1K65**
Weight/Poids	349 gr/m
Length/Longueur	6 m

PIN / BROCHE	
Code	**F85-481**

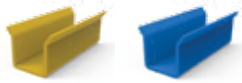
Outside slot cap / Embout exterieure Ø26	
Code	**F85-475**

Intermediate wedge Cale plastique	
Code	**F85-484 Ø22** (8.8.4)
	F85-485 Ø25 (8.8.2m)
	F85-486 Ø18 (10.10.4)
	F85-487 Ø20 (10.10.2)
Length Longueur	70 mm

Basic wedge / Cale plastique	
Code	**F85-473** • (8.8.4)
	F85-573 • (8.8.2)
	F85-474 • (10.10.4)
	F85-574 • (10.10.2)
Length/Longueur	70 mm



Glass support / Support de verre	
Code	**F85-471** • (8.8.4)
	F85-571 • (8.8.2)
Length/Longueur	70 mm

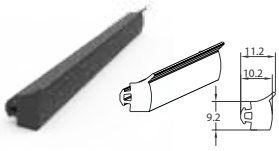


Glass support / Support de verre	
Code	**F85-472** • (10.10.4)
	F85-572 • (10.10.2)
Length/Longueur	70 mm

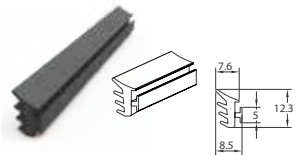
Screw Anchor M10x80 Ancrage M10 X 80	
Code	**EB01M-1080G01**

Distancer / Cale de vis	
Code	**F85-493**

Included in codes F85-1B64/556/557, also available seperately



Counter - Balance gasket Joint du verre (embase)	
Code	**F85-477**
Length/Longueur	100 m
Hardness/Dureté	100 shore



Main gasket/Joint du verre (cache frontal)	
Code	**F85-478**
Length/Longueur	100 m

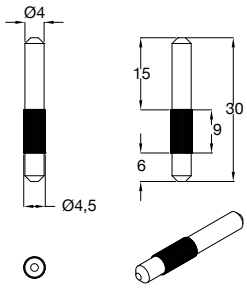
Screw Anchor / Ancrage M10x70	
Code	**EB01M-1070G01**

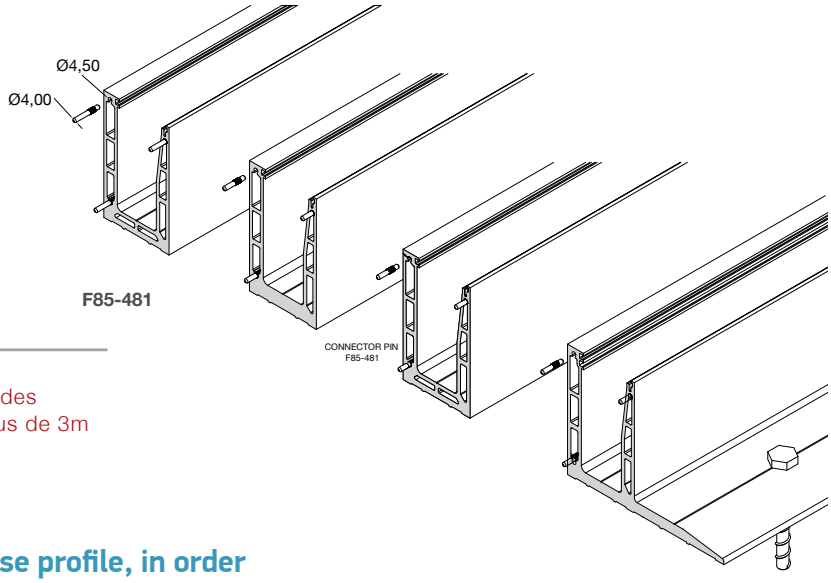
Curved wrench No13/Cle courbe No13	
Code	**F85-561**

Supporting base assembly / Montage des embases

Horizontal alignment pin

Accessoire de connexion





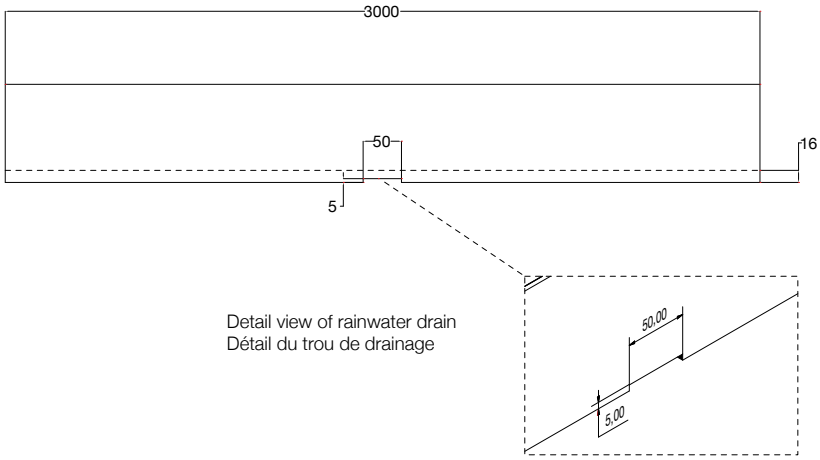
ATTENTION
For structures bigger than 3 m in Length, we have to use horizontal alignment pin

ATTENTION
Pour connecter des longueurs de plus de 3m

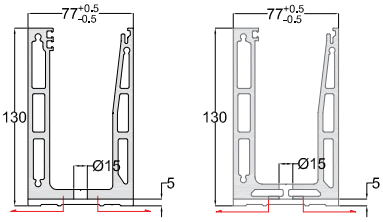
Rain water drain material cut-off for Base profile, in order to ease rain water off our structure.

Chaque profil est prévu d'un trou de drainage.

Base profile, in order to ease rain water off our structure



Detail view of rainwater drain
Détail du trou de drainage

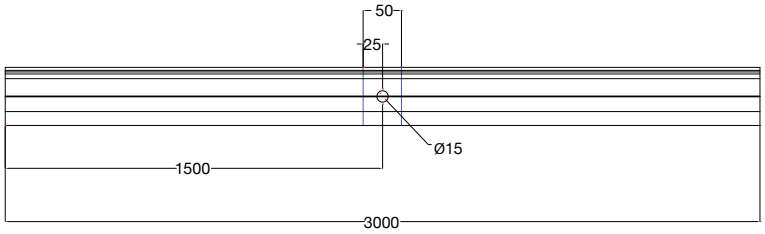


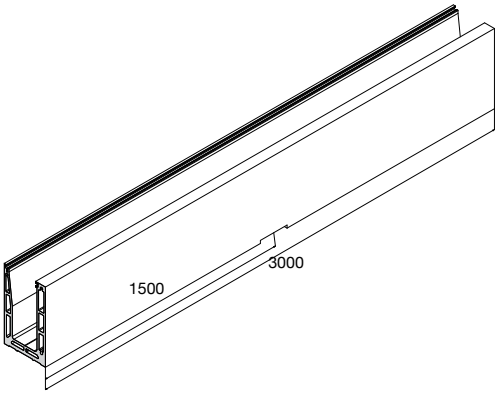
F85-1B63

RAIN WATER
EXIT GUTTER
SIDEWAYS
50x5mm

F85-1B61

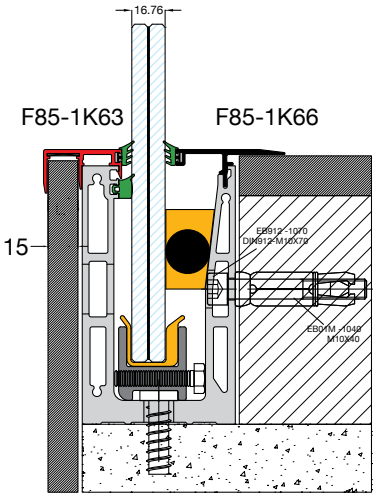
RAIN WATER
EXIT GUTTER
SIDEWAYS
50x5mm

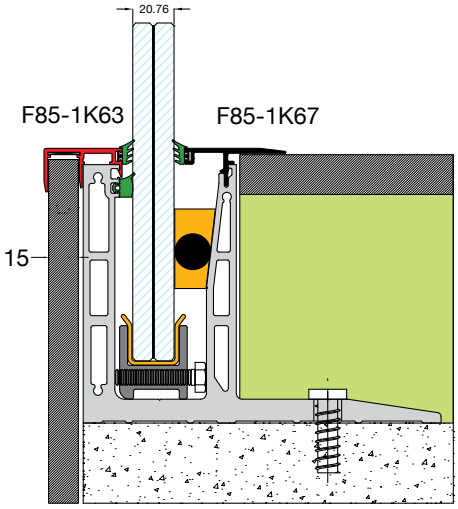


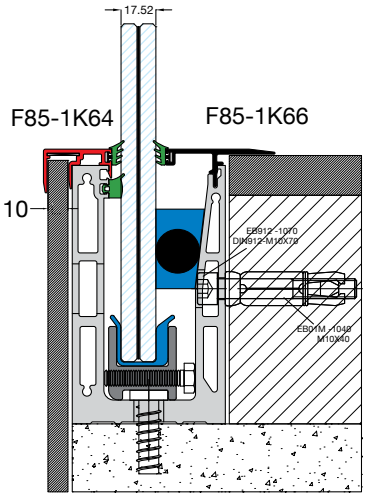


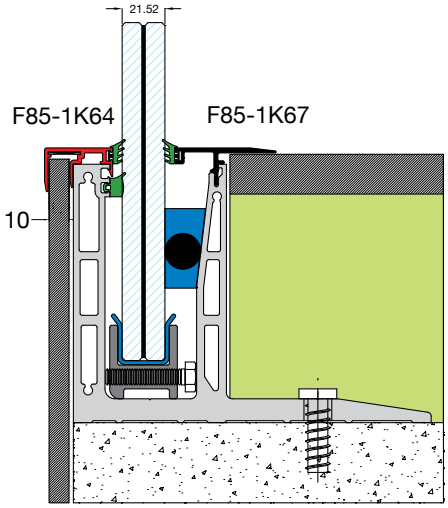
L•line

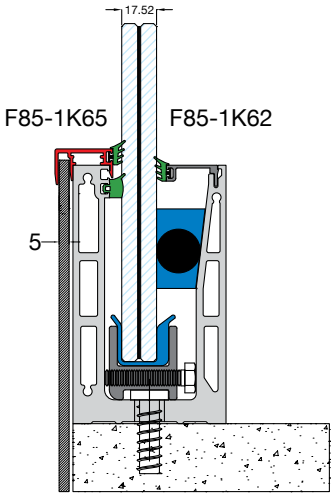
L-LINE EXTRA CONSTUCTION CAPABILITIES (USE OF CONCRETE PANELS ETC.)
PROFILS DE FINITION POUR PLACER DES PANNEAU MDF, GYPROC OU TÔLE EN ALU.

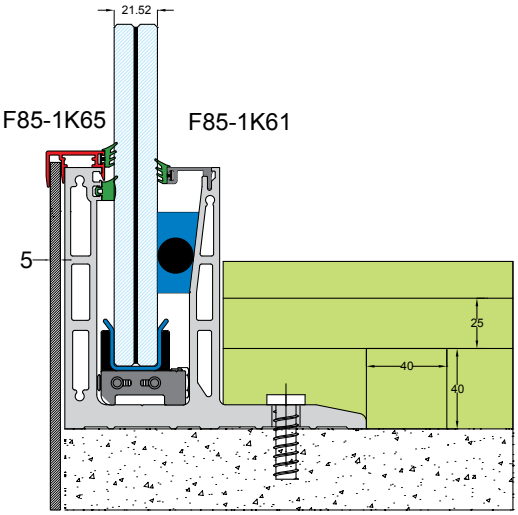


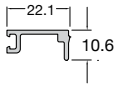




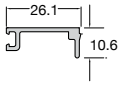




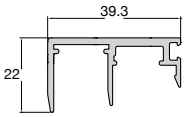




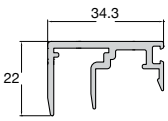
F85-1K61



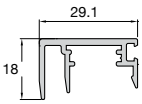
F85-1K62



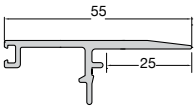
F85-1K63



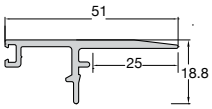
F85-1K64



F85-1K65

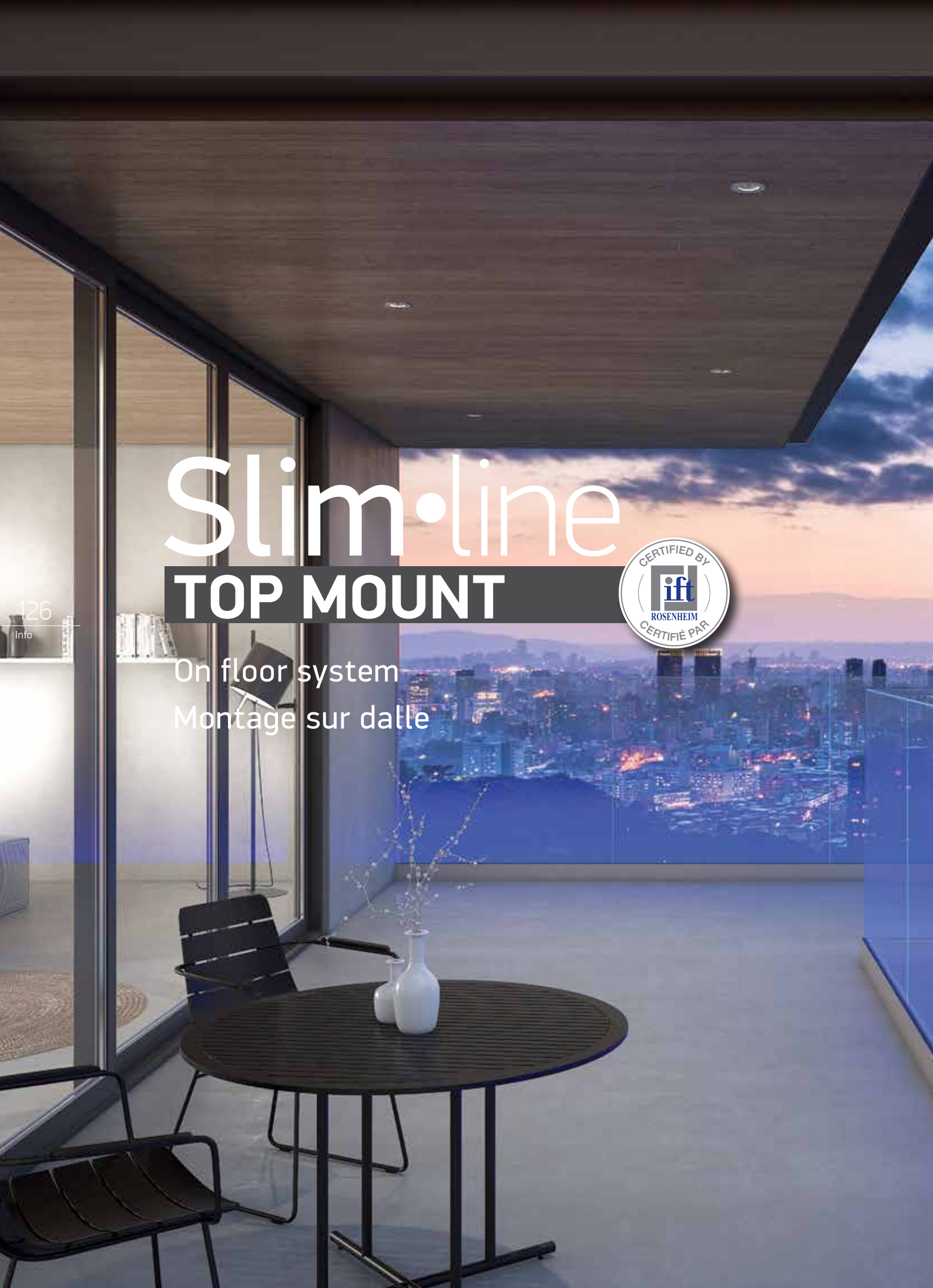


F85-1K66



F85-1K67

The above applications apply only to the base profiles F85-1B62, F85-1B63, F85-1B64
Les profilés ci-dessus sont applicable sur les embases F85-1B62, F85-1B63 & F85-1B64


Slim•line
TOP MOUNT
CERTIFIED BY
ift
ROSENHEIM
CERTIFIÉ PAR
On floor system
Montage sur dalle

Crystal Line edition, Slim Line TOP MOUNT, is so slim, elegant and durable, with the best quality - to price relation, a glass railing could never be more attractive. Thanks to the excellent engineering, you save time and frustration with this premium performance, your projects become a statement. Designed for light to medium use (≤ 1 KN/m) is suited both for indoor and outdoor applications. Ideal for private residences, offices, shops and more.

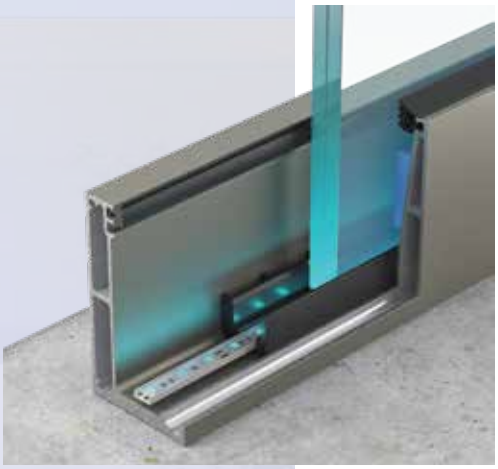
Features and benefits

- Top mount solution, on-floor installation.
- One-piece 3 m and 6 m base shoe with pre-drilled profile.
- Specially hardened rubber seals support and protect the glass panel.
- Use of “wedge type” gasket to cover the inner gap.
- Compatible with tempered laminated glass and membrane types 5.5.4PVB, 6.6.4PVB, 8.8.4PVB and 10.10.4PVB
- Integrated drainage system.
- Max. construction height up to 1.20 m.
- Cap rails and handrails available in various sizes and shapes.
- Wide selection of shades.
- Elegant slim design.
- High performance and durability.
- Cost-effective solution.
- Quick and easy installation.

L'édition Crystal Line, Slim Line TOP MOUNT, est si mince, élégante et durable, avec le meilleur rapport qualité - prix, qu’une balustrade en verre ne pourrait jamais être plus attrayante. Grâce à une excellente ingénierie, sauvant du temps et de la frustration avec cette performance premium, vos projets deviennent une déclaration. Conçu pour une utilisation légère à moyenne (≤ 1 KN / m), il convient aux appositions intérieures et extérieures. Idéal pour les résidences privées, bureaux, magasins et autres.

Caractéristiques et avantages

- Solution pose sur dalle, installation top Mount.
- Embase monobloc de 3 m et 6 m avec profil pré-percé.
- Des joints en caoutchouc spécialement durcis soutiennent et protègent le panneau de verre.
- Utilisation d’un joint de type “cale” pour couvrir l’espace intérieur.
- Compatible avec le verre feuilleté trempé et les types de membranes 5.5.4PVB, 6.6.4PVB, 8.8.4PVB et 10.10.4PVB.
- Système de drainage intégré.
- Max. hauteur de construction jusqu'à 1,20 m.
- Rails et mains courantes disponibles dans différentes tailles et formes.
- Large choix de nuances.
- Design mince et élégant.
- Haute performance et durabilité.
- Solution rentable.
- Installation rapide et facile.



The optional LED Light

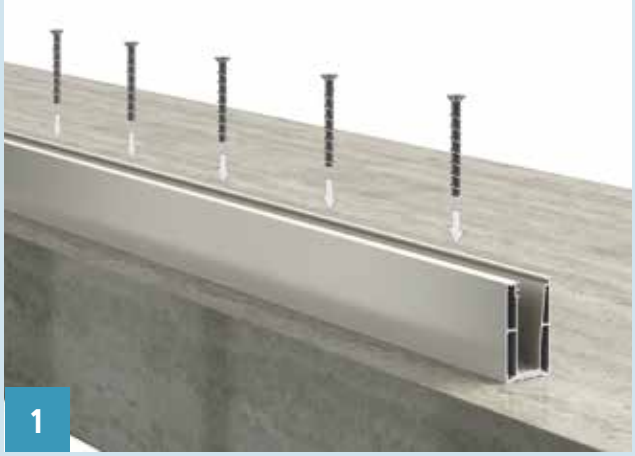
The optional use of the hidden LED light system creates a trendsetting scenery which reinterprets the meaning of luxury to exciting effect.

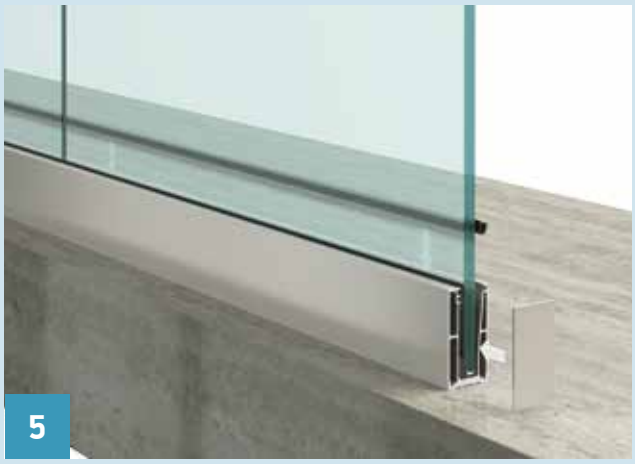
La lumière LED optionnelle

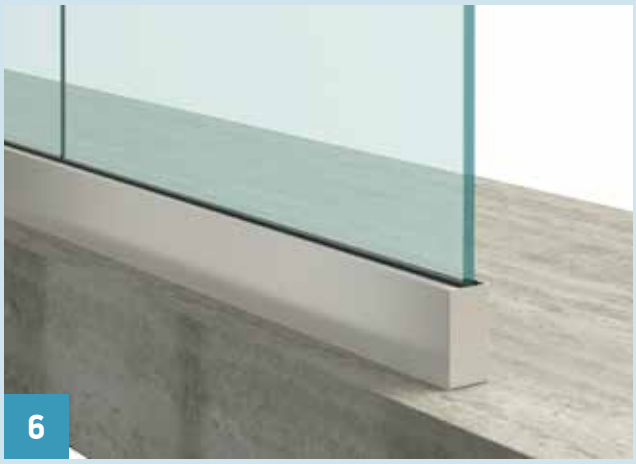
L'utilisation facultative du système de lumière à LED dissimulé crée un paysage avant-gardiste qui réinterprète la signification du luxe avec un effet excitant.

Slim•line
On floor system

Installation step by step / Mode de montage



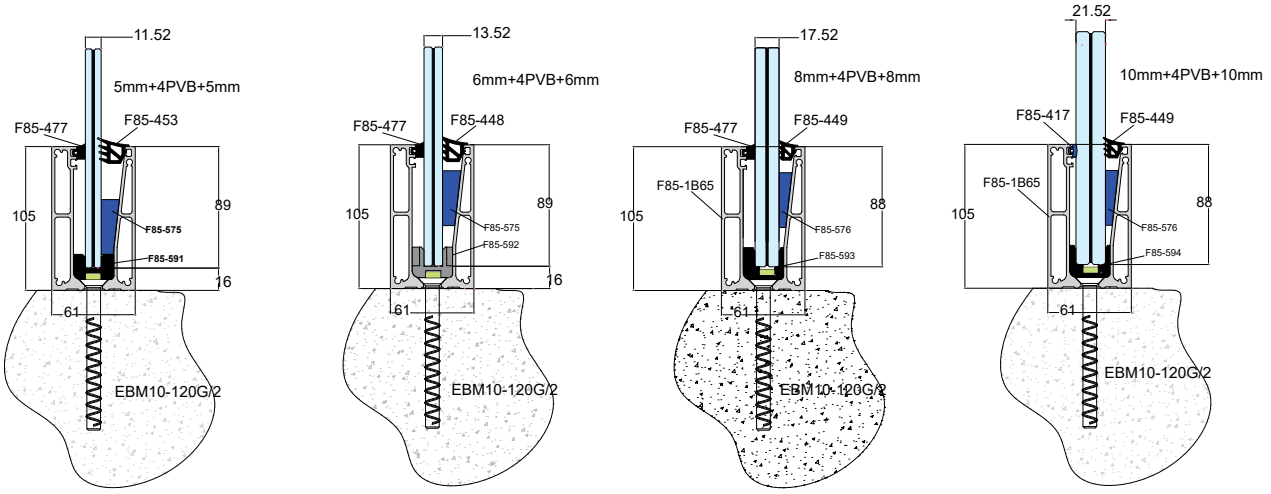


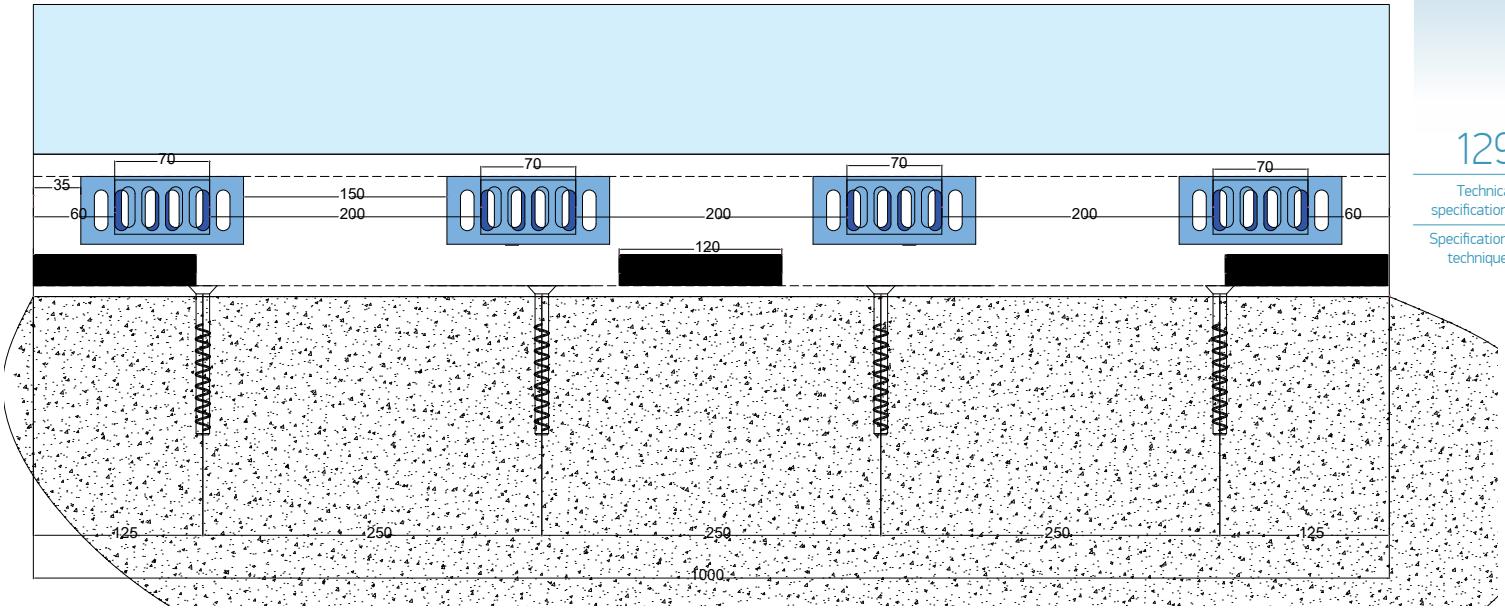


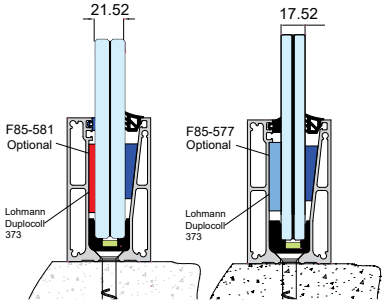
Slim•line TOP MOUNT

Montage sur dalle

Sections





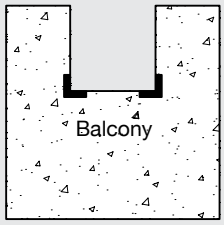


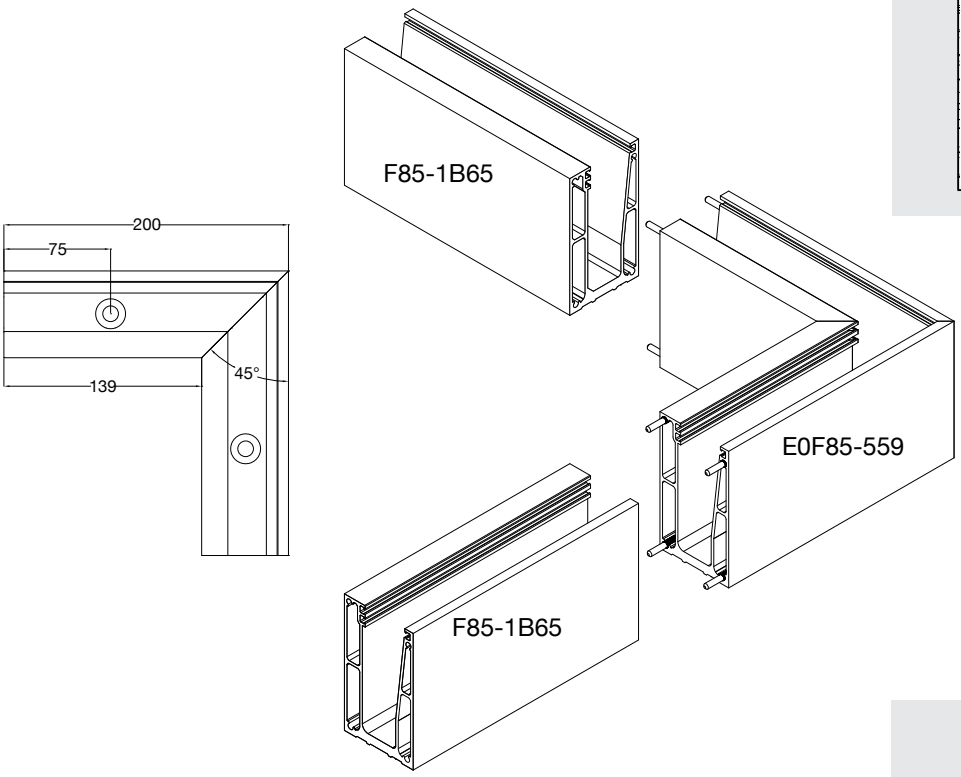
Optional use of counter-balance wedges for increased load resistance.
Counter-balance wedges F85-577 and F85-581 are compatible with every type of the system's glazing, especially for types 8.8.4 and 10.10.4 where increased load resistance is required.

Utilisation facultative de cales de contrepoids pour une résistance accrue à la charge.
Les cales de contrepoids F85-577 et F85-581 sont compatibles avec tous les types de vitrages, en particulier pour les types 8.8.4 et 10.10.4 où une résistance accrue à la charge est requise.

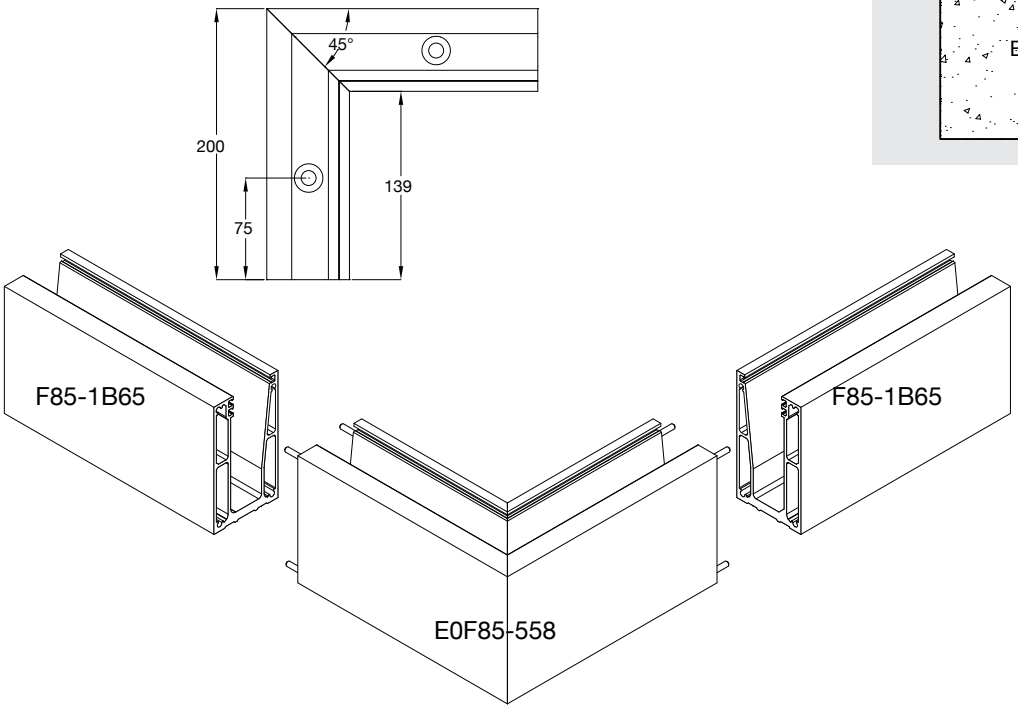
Connection corners / Coins de connexion

Internal Balcony Connectors





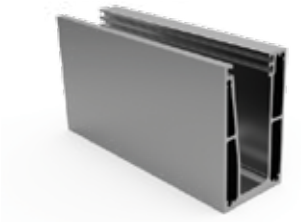
External Balcony Connectors



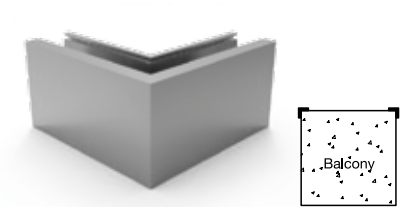
Slim•line
Montage sur dalle

Profiles & accessories / Profiles & accessoires

The supporting bases include tightening screws and fixing bolts/anchors.
Boulons et ancrages sont tous inclus avec les embases.



BASE PROFILE SLIM LINE EMBASE PROFIL SLIM LINE	
Code	**F85-1B65T1 (6m)** **F85-1B65T2 (3m)**
Weight/Poids	3.837 gr/m



EXTERNAL CORNER SLIM LINE COUDE EXTERIEURE	
Code	**F85-558**
Length/Longueur	20x20 cm

INTERNAL CORNER SLIM LINE COUDE INTERIEURE	
Code	**F85-559**
Material	Alum.
Length/Longueur	20x20 cm

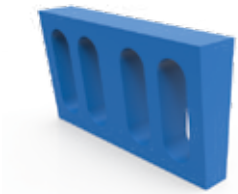
COUNTER-BALANCE GASKET JOINT DE VERRE (EMBASE)	
Code	**F85-417** (10.10.4)
Material	PVC

GASKET FOR BASE JOINT POUR VERRE	
Code	**F85-448** (6.6.4) **F85-449** (8.8.4, 10.10.4)
Material	EPDM

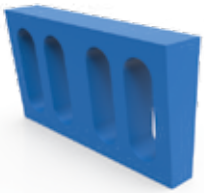
GASKET FOR BASE JOINT POUR VERRE	
Code	**F85-453** (5.5.4)
Material	EPDM

COUNTER-BALANCE GASKET JOINT DE VERRE (EMBASE)	
Code	**F85-477** (5.5.4, 6.6.4, 8.8.4)
Material	PVC
Length/Longueur	100 m
Hardness/Dureté	100 shore

END CAP FOR TYPE SLIM LINE EMBOUT DE EMBASE TYPE SLIM LINE	
Code	**F85-495**



BASIC WEDGE CALE PLASTIQUE L70mm	
Code	**F85-575** (5.5.4, 6.6.4) **F85-576** (8.8.4, 10.10.4)



COUNTER-BALANCE WEDGE PVC JOINT DE VERRE PVC	
Code	**F85-577** (5.5.4, 6.6.4, 8.8.4)

COUNTER-BALANCE WEDGE PVC JOINT DE VERRE PVC	
Code	**F85-581** (10.10.4)

PLASTIC GLASS SUPPORT SUPPORT DE VERRE PLASTIQUE	
Code	**F85-591** (5.5.4) **F85-592** (6.6.4) **F85-593** (8.8.4)
Material	PVC

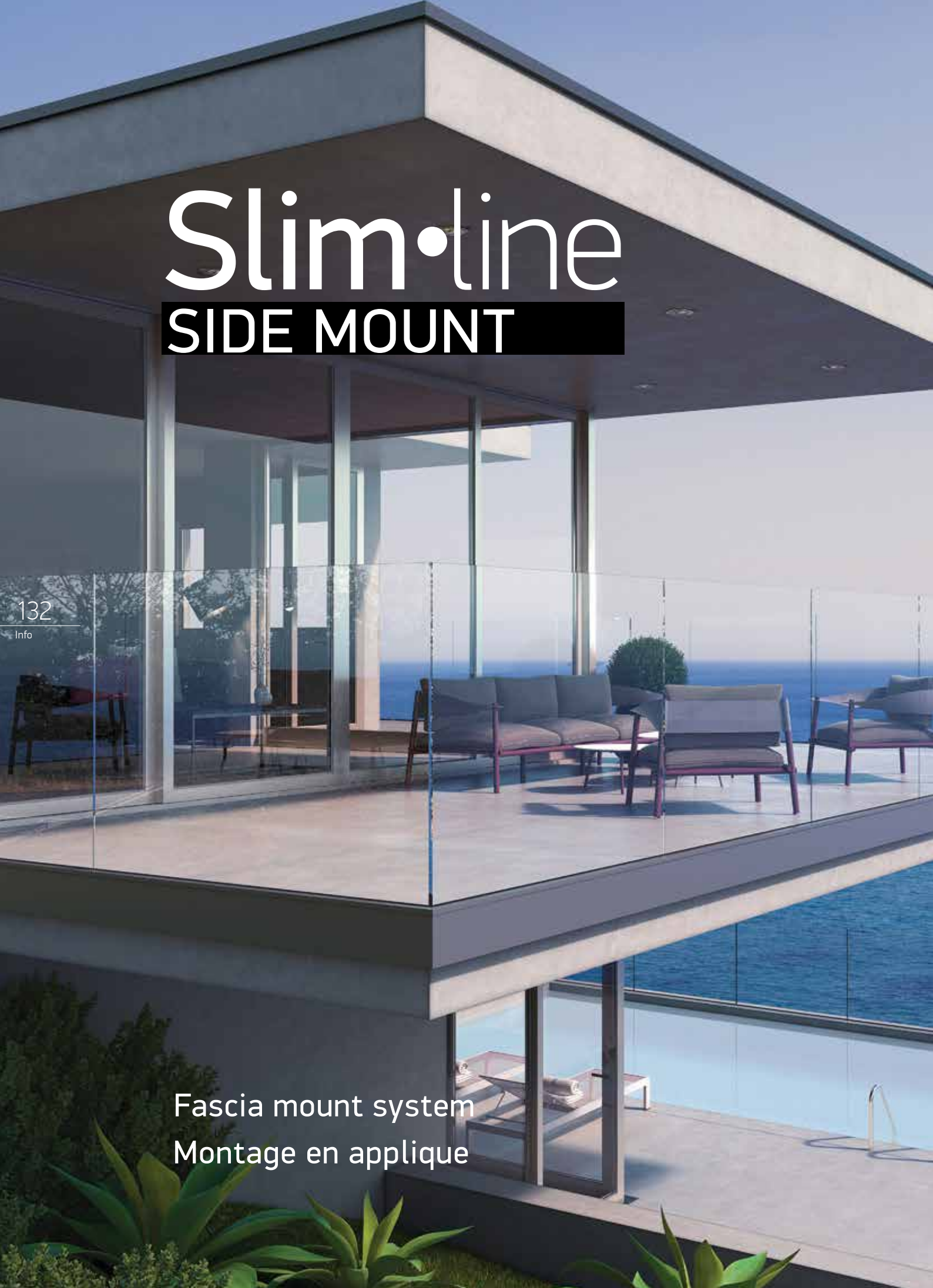
PLASTIC GLASS SUPPORT SUPPORT DE VERRE PLASTIQUE	
Code	**F85-594** (10.10.4)
Material	PVC

SCREW DIN 7991 M10x70 Inox VIS DIN 7991 M10x70 Inox	
Code	**D7991-0023I**

EXPANSION PLUG COQUE D' EXPANSION	
Code	**EB01M-1040**

PIN / BROCHE	
Code	**F85-481**
Material	Inox 304

ALLEN TORX CONCRETE SCREW 10X120 ANCRAGE POUR BÉTON 10X120	
Code	**EBM-10120G/2**



Slim•line
SIDE MOUNT

Fascia mount system
Montage en applique

Slim Line SIDE MOUNT is the ultimate answer to the demand for contemporary and stylish glass railings. It combines safety and transparency at the top level with high quality hardware, affordable for projects of all types. Ideal for balconies and stairwells where you want to make use of the full space.

Features and benefits

- Side mount solution, fascia mount installation.
- One-piece 3 m and 6 m base shoe with pre-drilled profile.
- Specially hardened rubber seals support and protect the glass panel.
- Use of “wedge type” gasket to cover the inner gap.
- Compatible with tempered laminated glass and membrane types 5.5.4PVB, 6.6.4PVB, 8.8.4PVB and 10.10.4PVB
- Max. construction height up to 1.20 m.
- Cap rails and handrails available in various sizes and shapes.
- Wide selection of shades.
- Elegant slim design.
- High performance and durability.
- Cost-effective solution.
- Quick and easy installation.

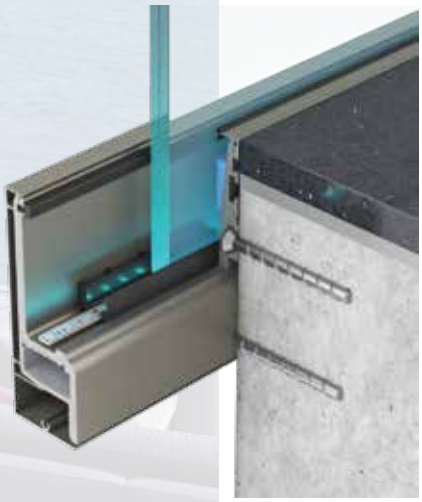
Slim Line SIDE MOUNT est la réponse ultime à la demande de balustrades en verre contemporaines et élégantes. Il combine sécurité et transparence au plus haut niveau avec du matériel de haute qualité, abordable pour des projets de tous types. Idéal pour les balcons et les cages d'escalier où vous souhaitez utiliser tout l'espace.

Caractéristiques et avantages

- Solution de montage sur nez de dalle, installation à montage latéral.
- Embase monobloc de 3 m et 6 m avec profil pré-percé.
- Des joints en caoutchouc spécialement durcis soutiennent et protègent le panneau de verre.
- Utilisation d’un joint de type “cale” pour couvrir l’espace intérieur.
- Compatible avec le verre feuilleté trempé et les types de membranes 5.5.4PVB, 6.6.4PVB, 8.8.4PVB et 10.10.4PVB.
- Hauteur maximum de construction jusqu'à 1,20 m.
- Rails et mains courantes disponibles dans différentes tailles et formes.
- Large choix de nuances.
- Design mince et élégant.
- Haute performance et durabilité.
- Solution rentable.
- Installation rapide et facile.

The optional extras

There are two options for making the new Slim line Side mount glass railing more iconic. The optional use of the hidden LED light system for the creation of a visual highlight and the top cover profile for a seamless connection to any given structure.

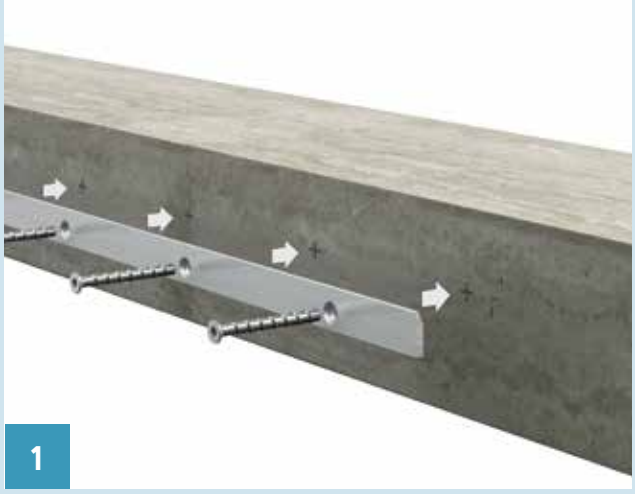


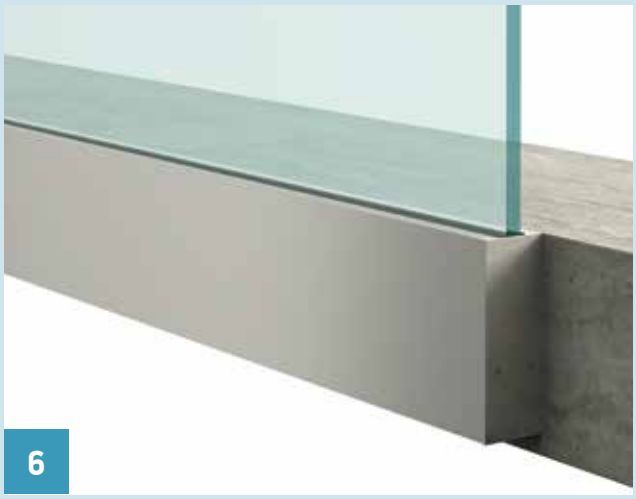
Les extras optionnels

Il existe deux options pour rendre le Slim Line à montage en applique plus emblématique. L'utilisation facultative du système d'éclairage à LED caché pour la création d'une mise en évidence visuelle et du profilé de capot supérieur pour une connexion transparente à une structure donnée.

Slim•line
Fascia mount system

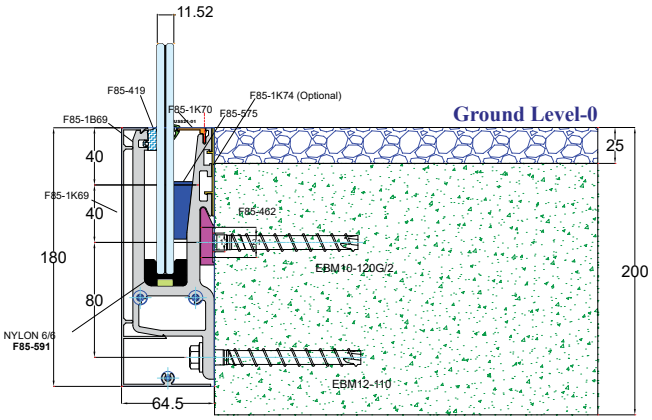
Installation step by step / Mode de montage

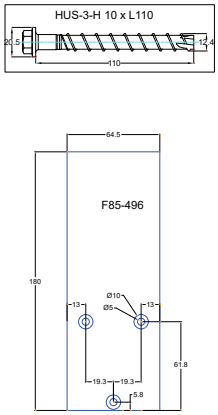


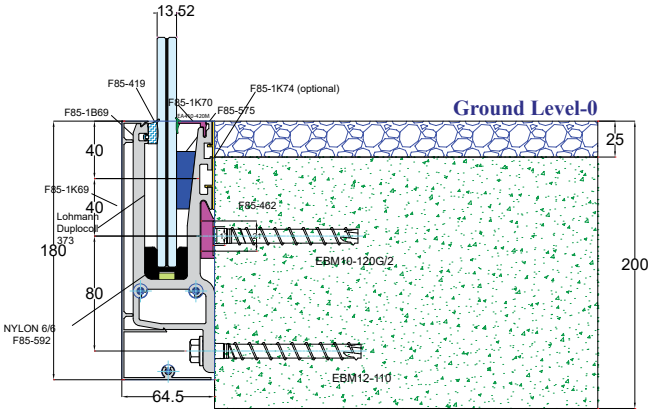


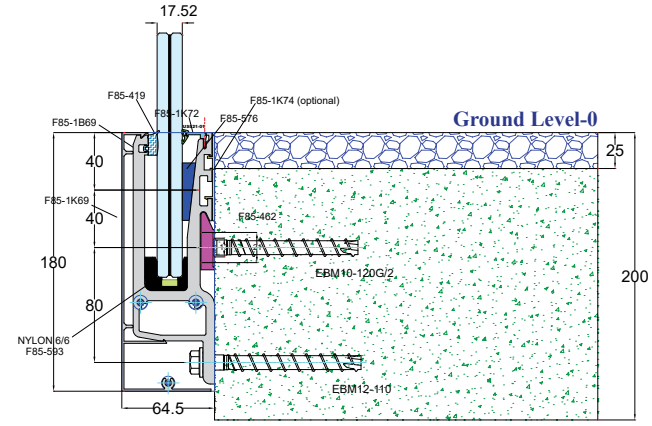
Slim•line SIDE MOUNT

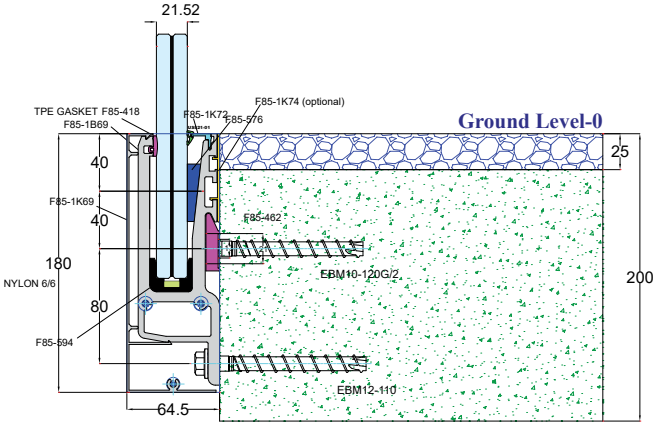
Montage en applique

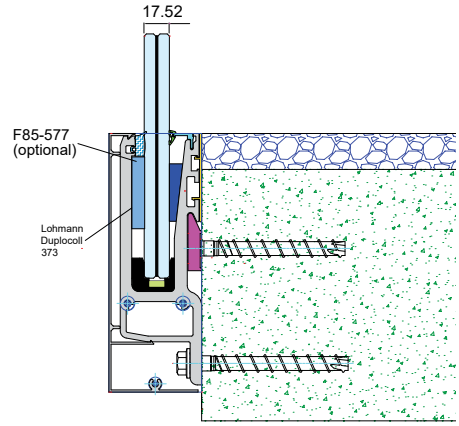


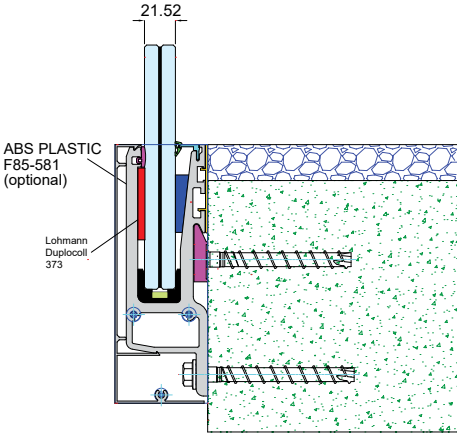












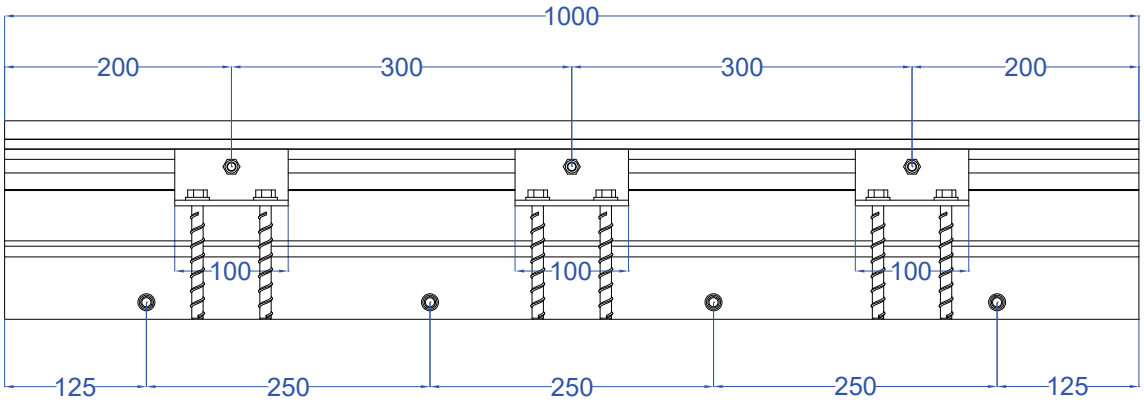
Optional use of counter-balance wedges for increased load resistance.

Counter-balance wedges F85-577 and F85-581 are compatible with every type of the system's glazing, especially for types 8.8.4 and 10.10.4 where increased load resistance is required.

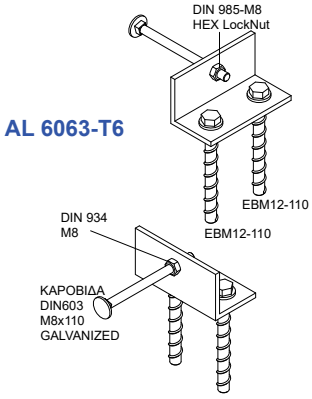
Utilisation facultative de cales de contrepoids pour une résistance accrue à la charge.

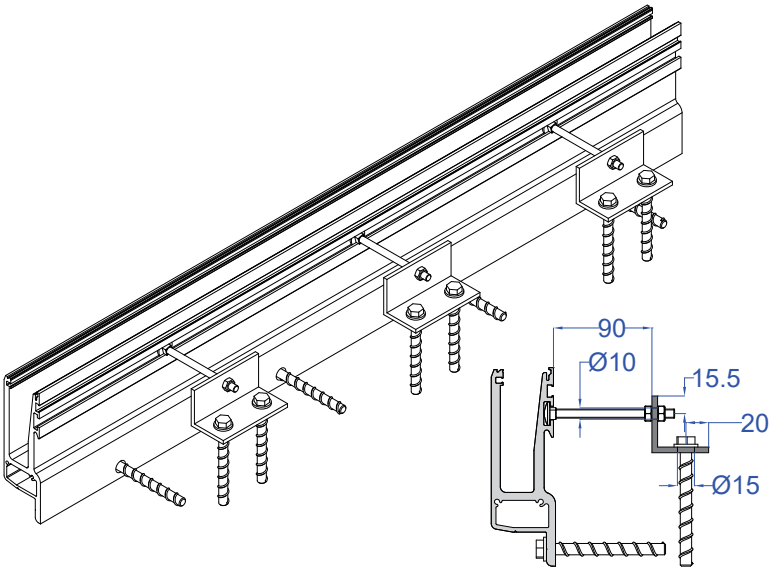
Les cales de contrepoids F85-577 et F85-581 sont compatibles avec tous les types de vitrages, en particulier pour les types 8.8.4 et 10.10.4 où une résistance accrue à la charge est requise.

Shoe base installation / Installation des embases

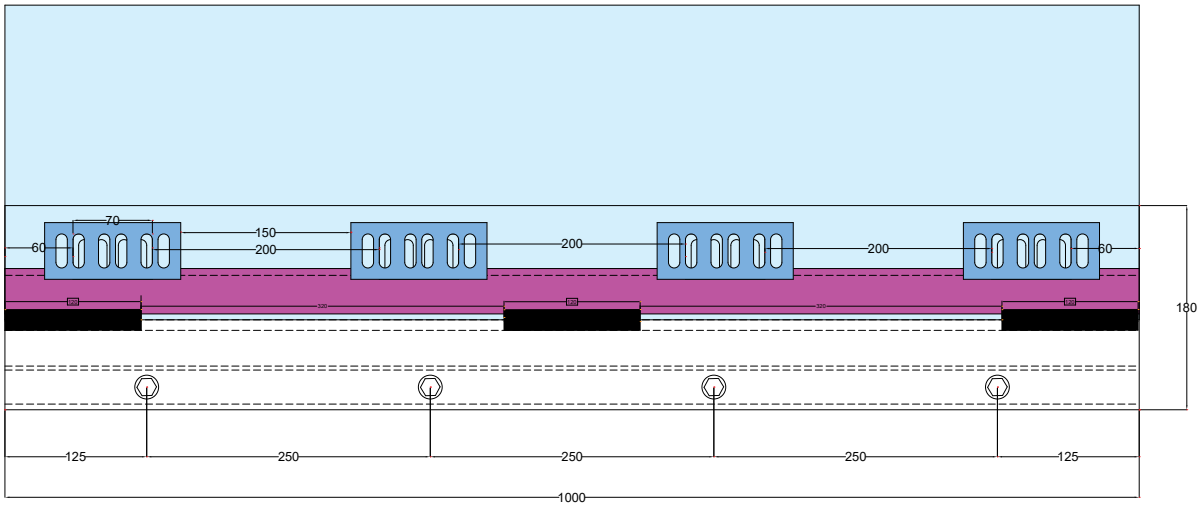


(MINIMUM 3-Parts)



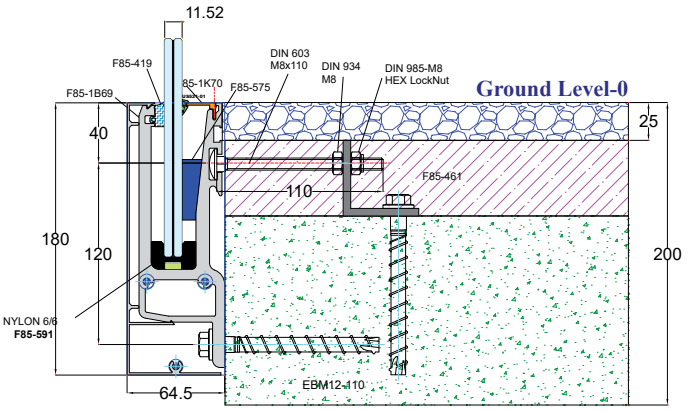


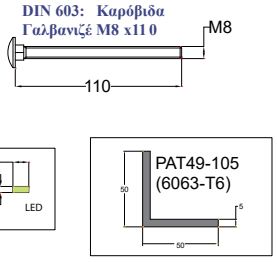
Max. Balustrade Height from Ground Level-0 -> 1200mm

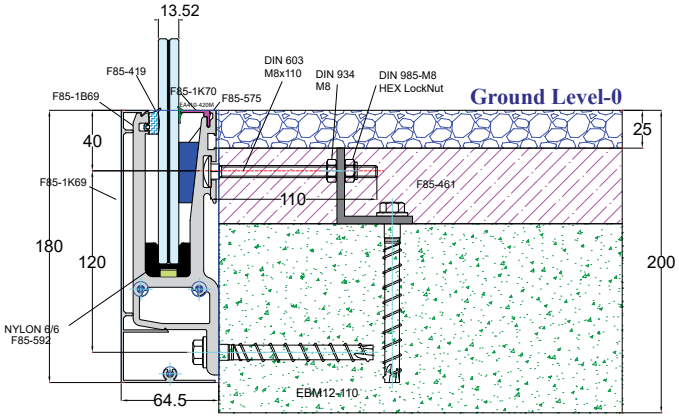


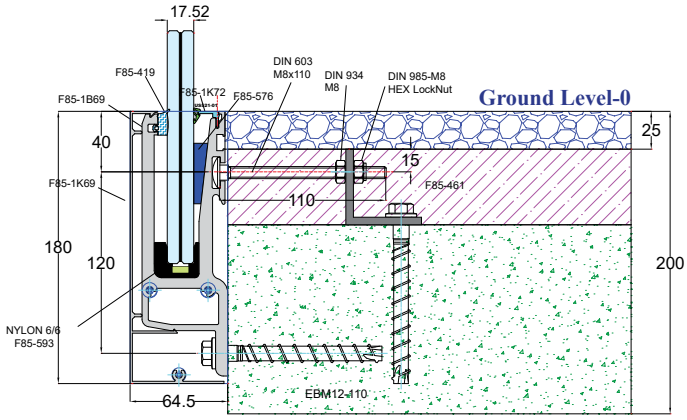
Slim•line

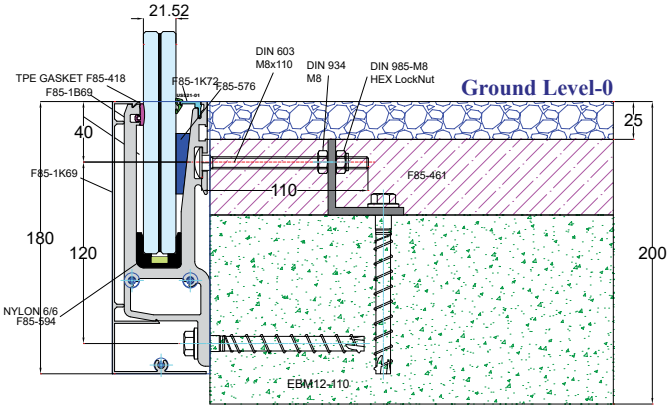
Montage en applique

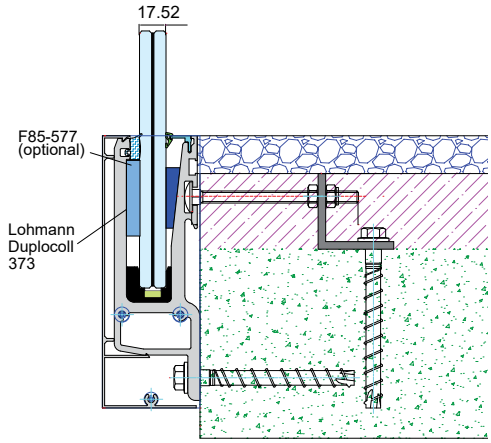


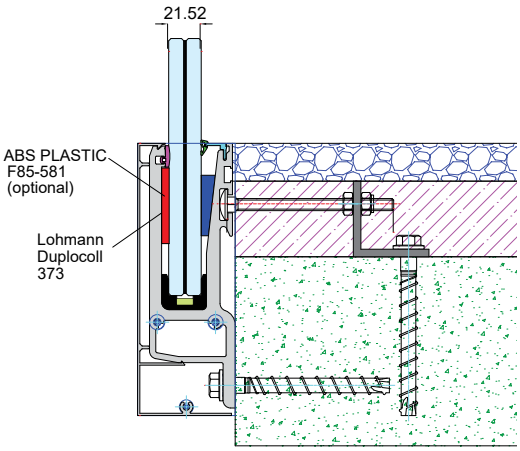












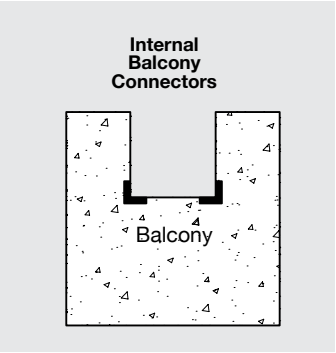
Optional use of counter-balance wedges for increased load resistance.

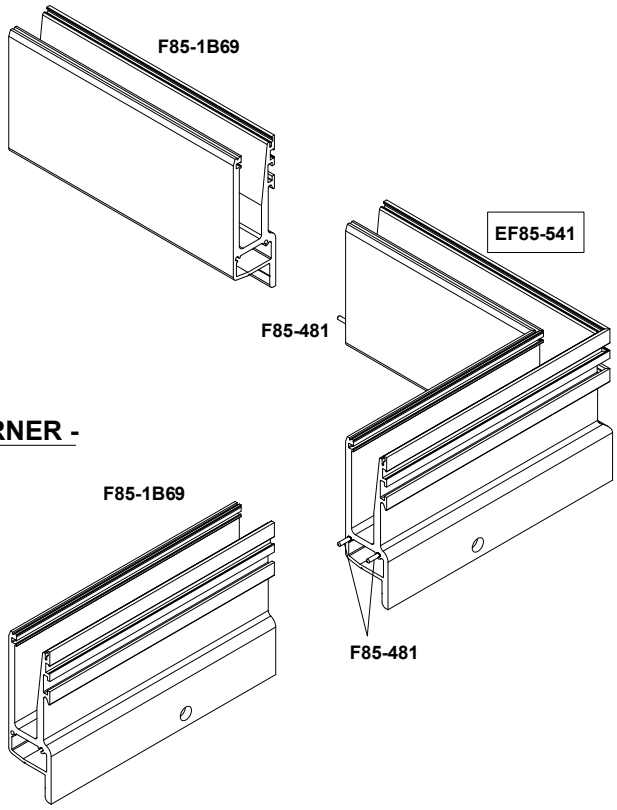
Counter-balance wedges F85-577 and F85-581 are compatible with every type of the system's glazing, especially for types 8.8.4 and 10.10.4 where increased load resistance is required.

Utilisation facultative de cales de contrepoids pour une résistance accrue à la charge.

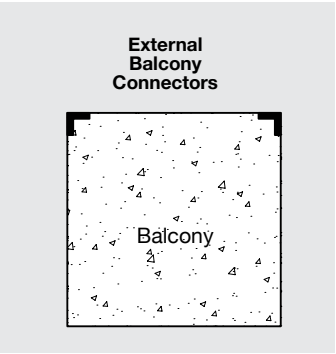
Les cales de contrepoids F85-577 et F85-581 sont compatibles avec tous les types de vitrages, en particulier pour les types 8.8.4 et 10.10.4 où une résistance accrue à la charge .est requise.

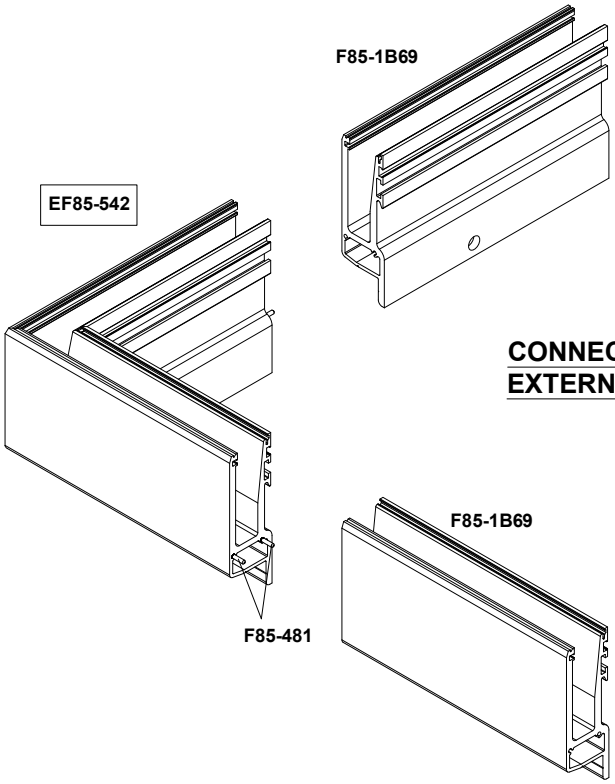
Shoe base installation / Installation des embases





CONNECTOR CORNER - INTERNAL



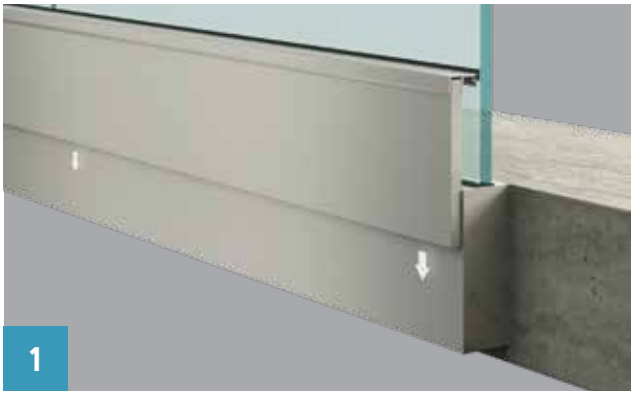


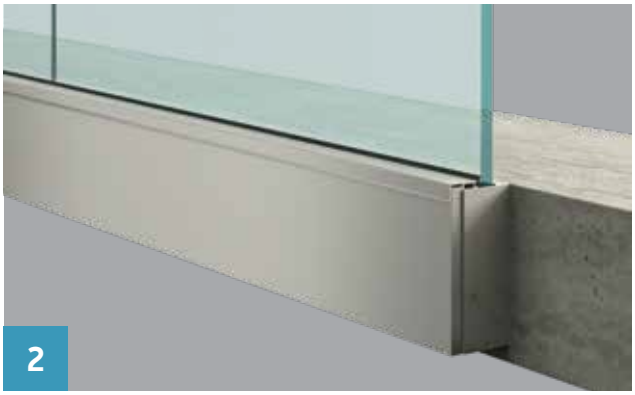
CONNECTOR CORNER - EXTERNAL

Slim•line
Montage en applique

Optional use of top cover profile / Profil de finition supérieur

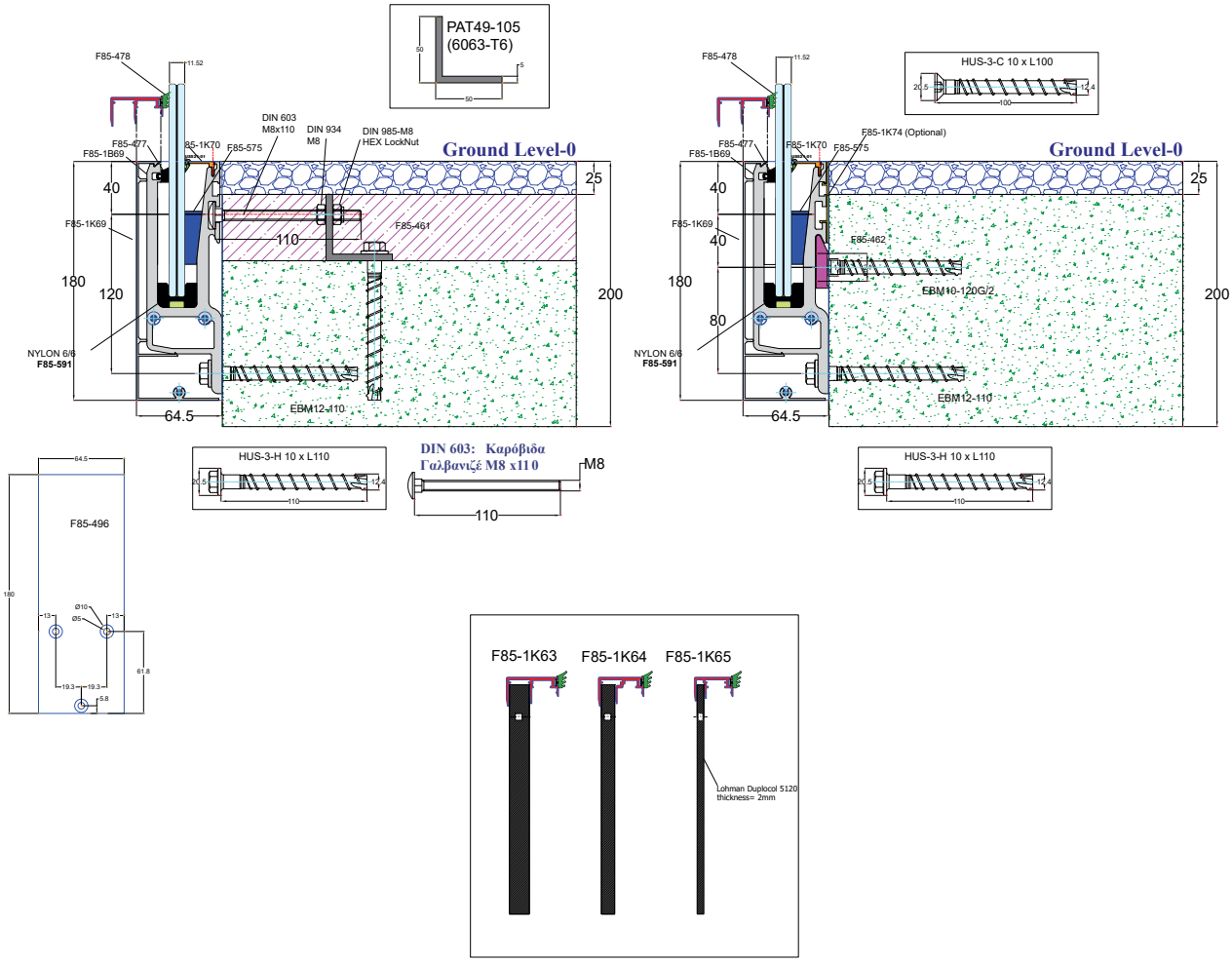
The use of this optional profile create a seamless connection to any given structure.
L'usage de ce profil optionnel cree une connection continue a toute structure donnee.





Placing the top cover profile / Placement du profil de finition supérieur

Sections



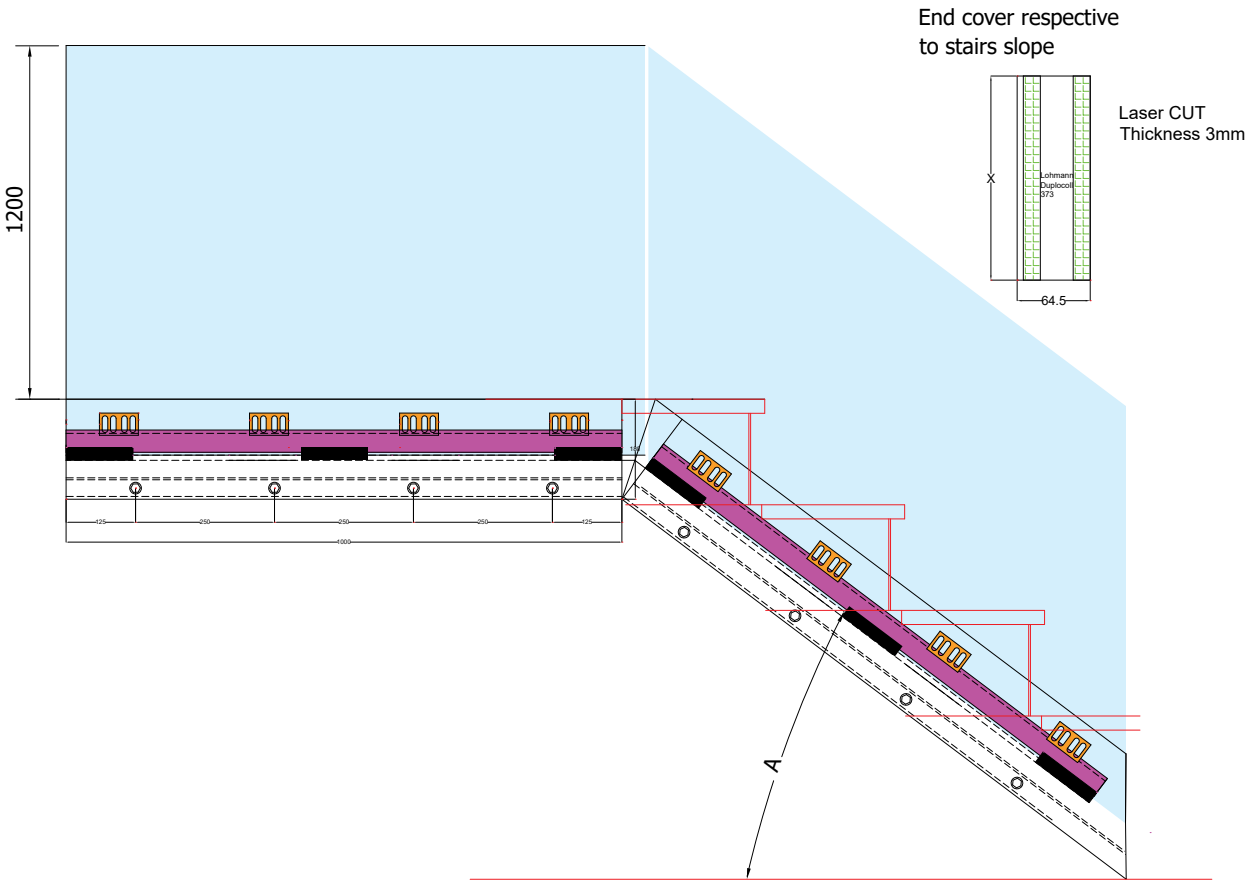
Slim•line
SIDE MOUNT

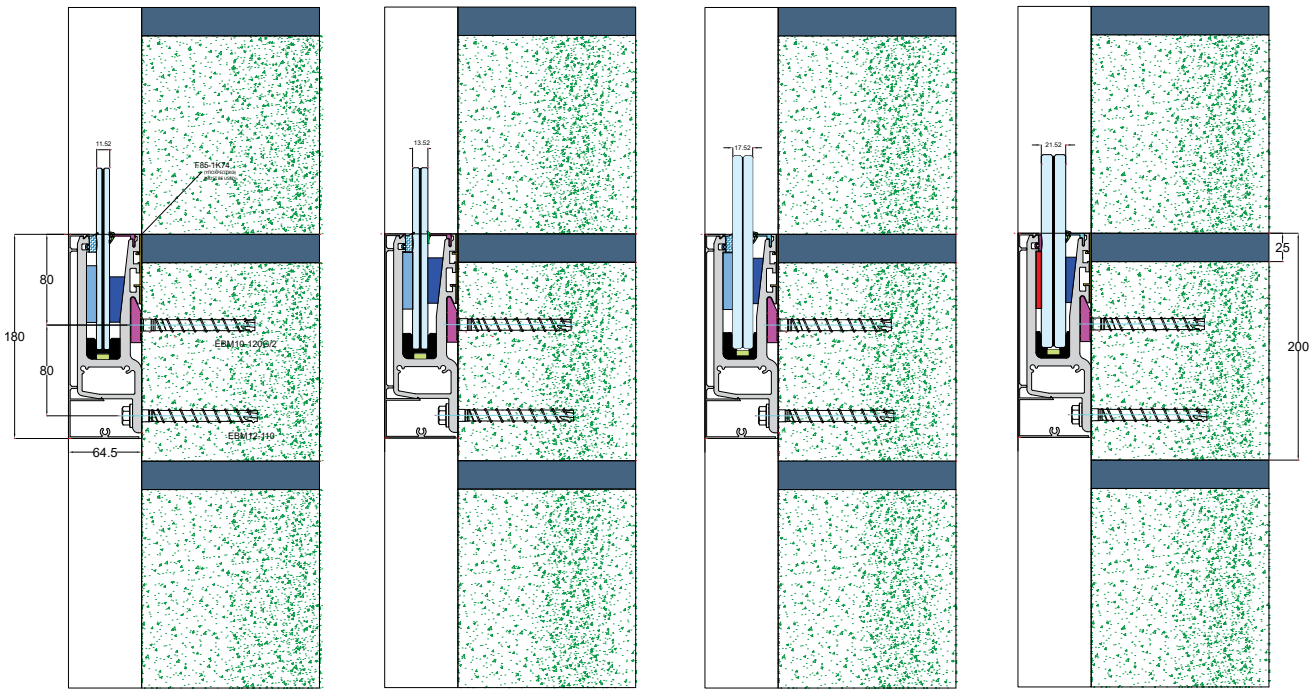
Stairs application
Application d'escaliers

An effective but also stylish solution for staircases.
The Side mount edition is an impressive option for staircases, capable of easily adapting to a wide variety of challenging structures.

Une solution efficace mais aussi élégante pour les escaliers.
L'édition à montage en applique est une option impressionnante pour les escaliers, capable de s'adapter facilement à une grande variété de structures difficiles.

Installation of supporting profile / Installation du profil de sol





Shoe base installation / Installation des embases

BASE PROFILE EMBASE PROFIL	
Code	**F85-1B69**
Weight/Poids	7734 gr/m

BASE COVER PROFILE PROFIL CACHE FRONTAL	
Code	**F85-1K69**
Weight/Poids	1375 gr/m

INTERNAL CORNER COUDE INTERIEURE	
Code	**F85-541**
Length/Longueur	30x30 cm

EXTERNAL CORNER COUDE EXTERIEURE	
Code	**F85-542**
Length/Longueur	30x30 cm

END COVER PROFILE PROFIL CACHE FRONTAL	
Code	**F85-1K70** 5.5.4, 6.6.4
Weight/Poids	134 gr/m
Length/Longueur	6 m

END COVER PROFILE PROFIL CACHE FRONTAL	
Code	**F85-1K72** 8.8.4, 10.10.4
Weight/Poids	110 gr/m
Length/Longueur	6 m

STAIRS COVER PROFILE PROFIL CACHE FRONTAL	
Code	**F85-1K74**
Weight/Poids	280 gr/m
Length/Longueur	6 m

COUNTER-BALANCE GASKET JOINT DE VERRE (EMBASE)	
Code	**F85-417** (10.10.4)
Material	PVC

COUNTER-BALANCE GASKET JOINT DE VERRE (EMBASE)	
Code	**F85-418** (10.10.4)
Material	PVC

COMPONENT FOR BASE COMPOSANT POUR EMBASE	
Code	**F85-461**

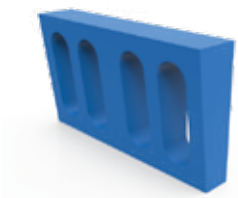
HANGER COMPONENT COMPOSANT DE SUSPENSION	
Code	**F85-462**
Length/Longueur	1 m

COUNTER-BALANCE GASKET JOINT DE VERRE (EMBASE)	
Code	**F85-477*** (5.5.4, 6.6.4, 8.8.4) **F85-419** (5.5.4, 6.6.4, 8.8.4)
Material	PVC
Length/Longueur	100 m
Hardness/Dureté	100 shore

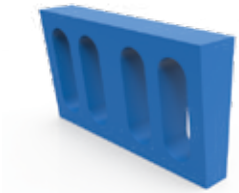
For profiles F85-1K63, 1K64, 1K65
Pour les profils F85-1K63, 1K64, 1K65

PIN / BROCHE	
Code	**F85-481**
Material	Inox 304

END CAP EMBOUT DE EMBASE	
Code	**F85-496**



BASIC WEDGE FOR GLASS CALE PLASTIQUE L70mm	
Code	**F85-575** (5.5.4, 6.6.4) **F85-576** (8.8.4, 10.10.4)



COUNTER-BALANCE WEDGE PVC JOINT DE VERRE PVC	
Code	**F85-577** (5.5.4, 6.6.4, 8.8.4)

COUNTER-BALANCE WEDGE PVC JOINT DE VERRE PVC	
Code	**F85-581** (10.10.4)

PLASTIC GLASS SUPPORT SUPPORT DE VERRE PLASTIQUE	
Code	**F85-591** (5.5.4) **F85-592** (6.6.4) **F85-593** (8.8.4)
Material	PVC

PLASTIC GLASS SUPPORT SUPPORT DE VERRE PLASTIQUE	
Code	**F85-594** (10.10.4)
Material	PVC

ALLEN TORX CONCRETE SCREW 10X120 ANCRAGE POUR BÉTON 10X120	
Code	**EBM-10120G/2**

GLAZING GASKET 1mm JOINT DE VITRAGE 1mm	
Code	**EA410-420M**
Material	EPDM
Length/Longueur	350 m

CONCRETE SCREW Ø12-110 ANCRAGE POUR BÉTON Ø12-110	
Code	**EBM12-110**

GLAZING GASKET JOINT DE VITRAGE	
Code	**US521-01** (5.5.4, 8.8.4, 10.10.4)

Slim•line
IN-FLOOR

In-floor wedge system
Système encastré

Slim Line In-floor edition is a stylish, modern balustrade for both indoor and outdoor use. You see only glass, without any interruptions to detract from the look. A system that greatly reduces installation costs.

Features and benefits

- In-floor solution, in-floor mount installation.
- One-piece 3 m and 6 m base shoe.
- Specially hardened rubber seals support and protect the glass panel.
- Use of “wedge type” gasket to cover the inner gap.
- Compatible with tempered laminated glass and membrane types 5.5.4PVB, 6.6.4PVB, 8.8.4PVB and 10.10.4PVB.
- Max. construction height up to 1.20 m.
- Cap rails and handrails available in various sizes and shapes.
- Wide selection of shades.
- Elegant slim design.
- High performance and durability.
- Cost-effective solution.
- Quick and easy installation.

L’édition Slim Line In-Floor est une balustrade moderne et élégante pour une utilisation à l’intérieur et l’extérieur. Vous ne voyez que du verre, sans aucune interruption au look. Un système qui réduit considérablement les coûts d'installation.

Caractéristiques et avantages

- Solution intégrée, installation intégrée.
- Embase monobloc de 3 m et 6 m.
- Des joints en caoutchouc spécialement durcis soutiennent et protègent le panneau de verre.
- Utilisation d’un joint de type “cale” pour couvrir l’espace intérieur.
- Compatible avec le verre feuilleté trempé et les types de membranes 5.5.4PVB, 6.6.4PVB, 8.8.4PVB et 10.10.4PVB
  - Hauteur maximum de construction jusqu' à 1.20 m.
  - Rails et mains courantes disponibles dans différentes tailles et formes.
  - Large choix de nuances.
  - Design mince et élégant.
  - Haute performance et durabilité.
  - Solution rentable.
  - Installation rapide et facile.

The optional LED Light

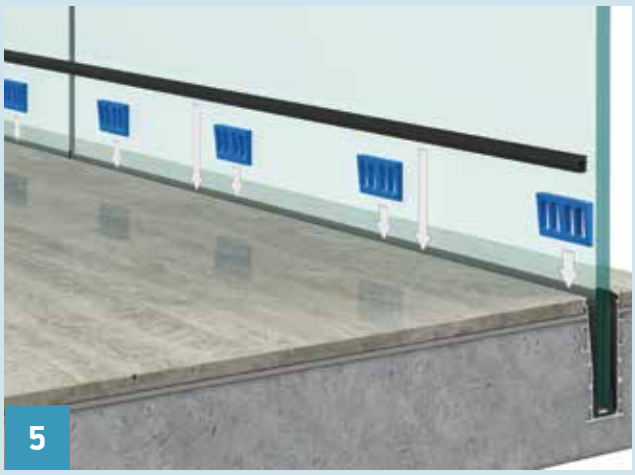
The optional LED Light System ensures a particularly bright and welcoming ambience.

La lumière LED optionnelle

Le système d'éclairage à LED en option assure une ambiance particulièrement lumineuse et accueillante.

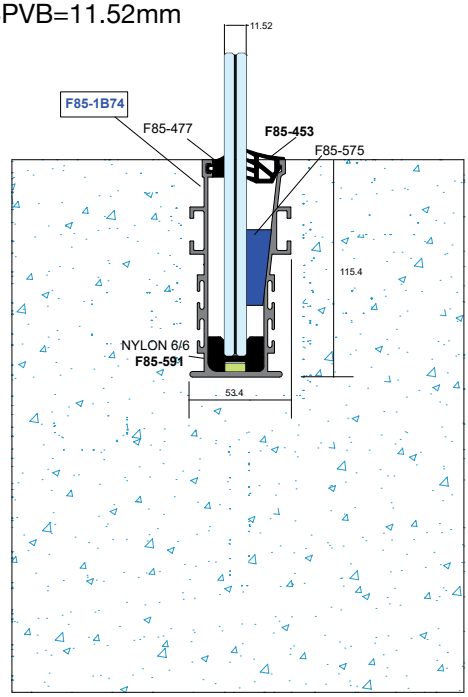
Slim•line
In-floor wedge system

Installation step by step / Mode de montage

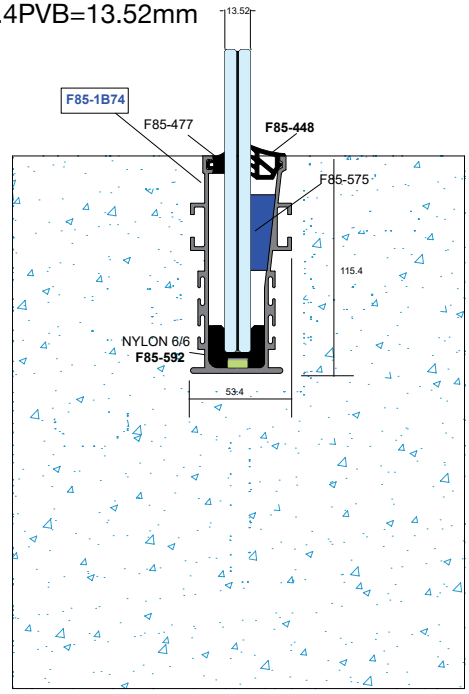


Sections

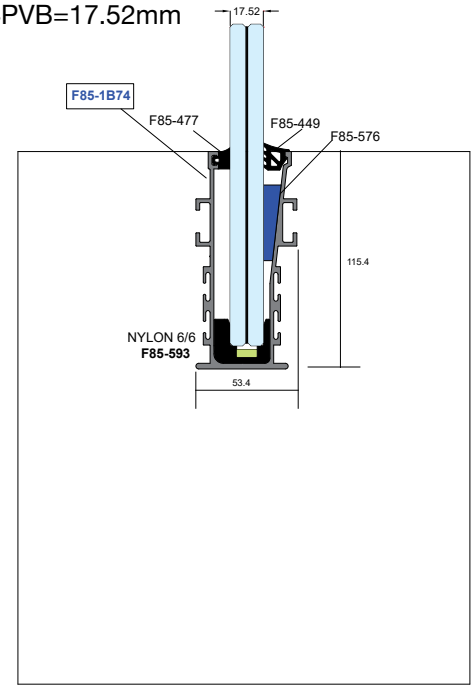
55.4PVB=11.52mm



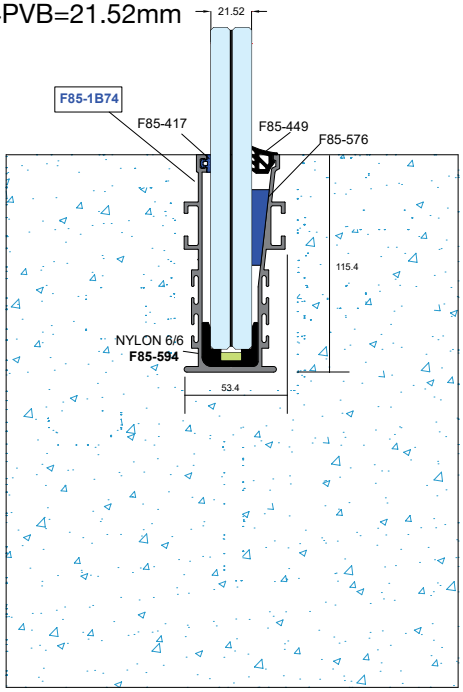
66.4PVB=13.52mm



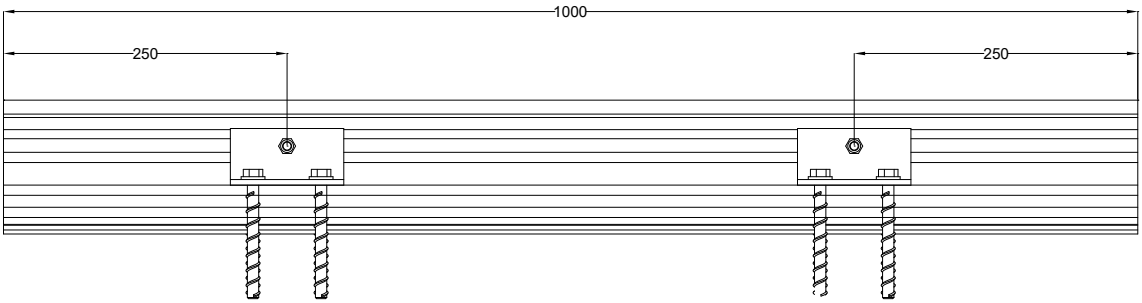
88.4PVB=17.52mm



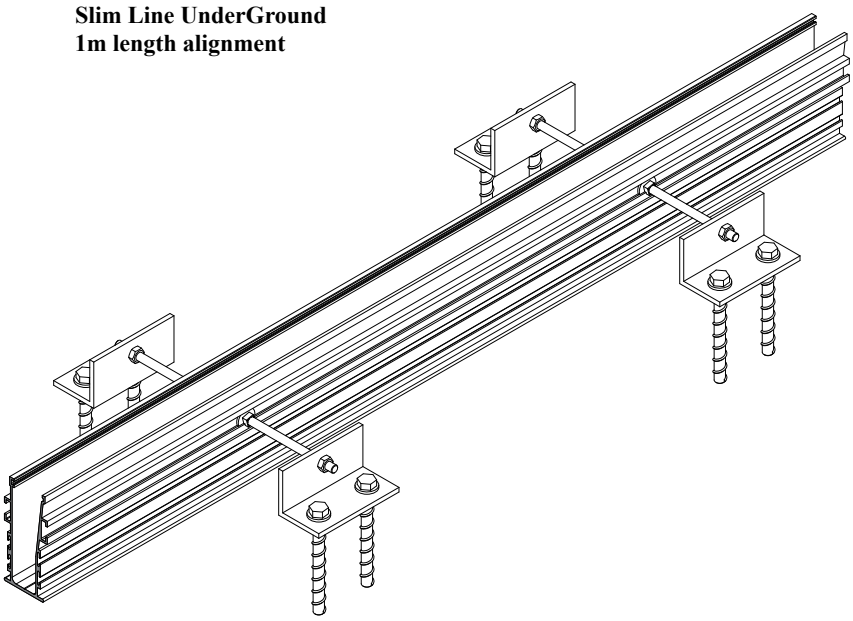
1010.4PVB=21.52mm

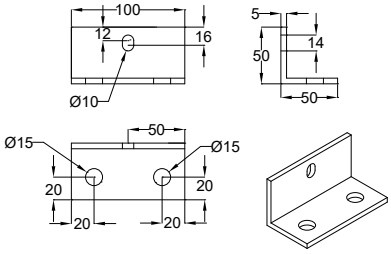


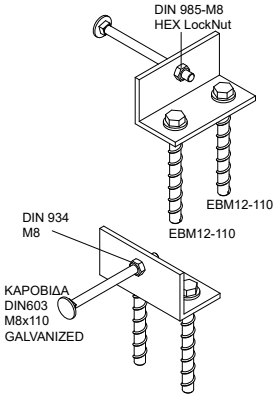
Shoe base installation / Installation des embases



Slim Line UnderGround
1m length alignment





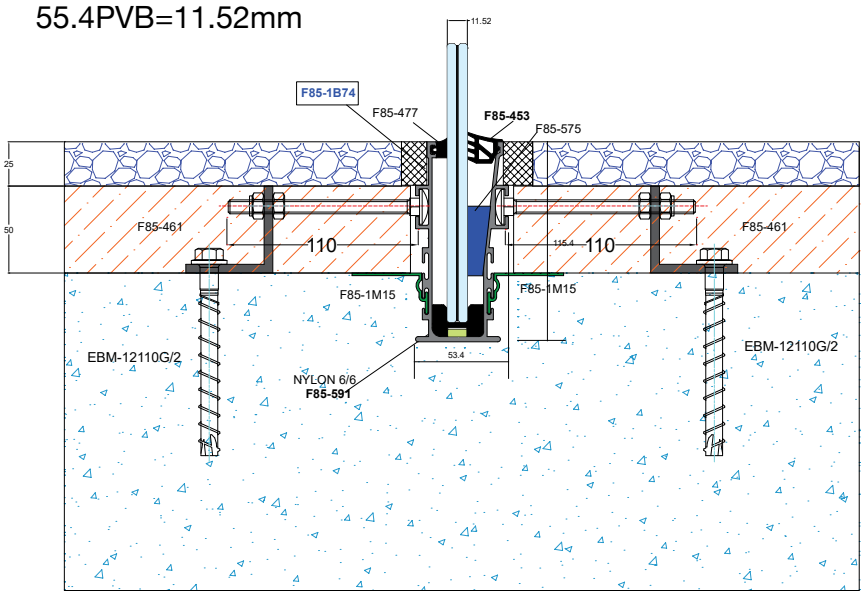


Manufactured as SET
with screws.
L-shape profile as Alloy:

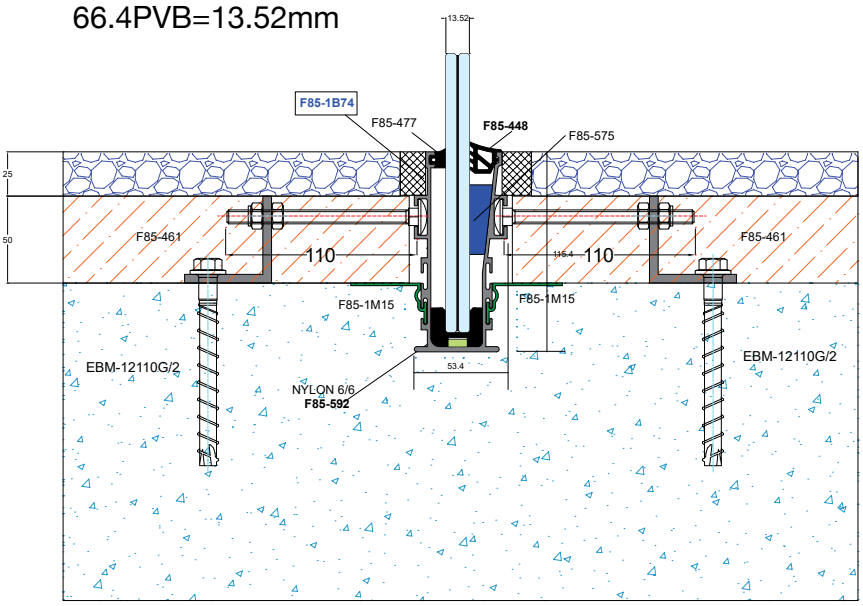
--AL 6063-T6--

Sections

55.4PVB=11.52mm

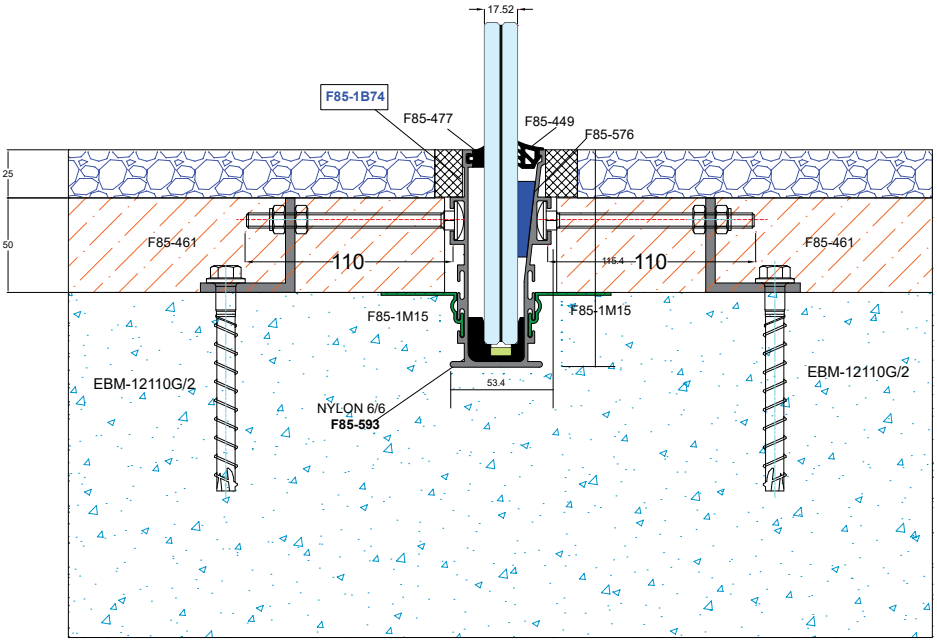


66.4PVB=13.52mm

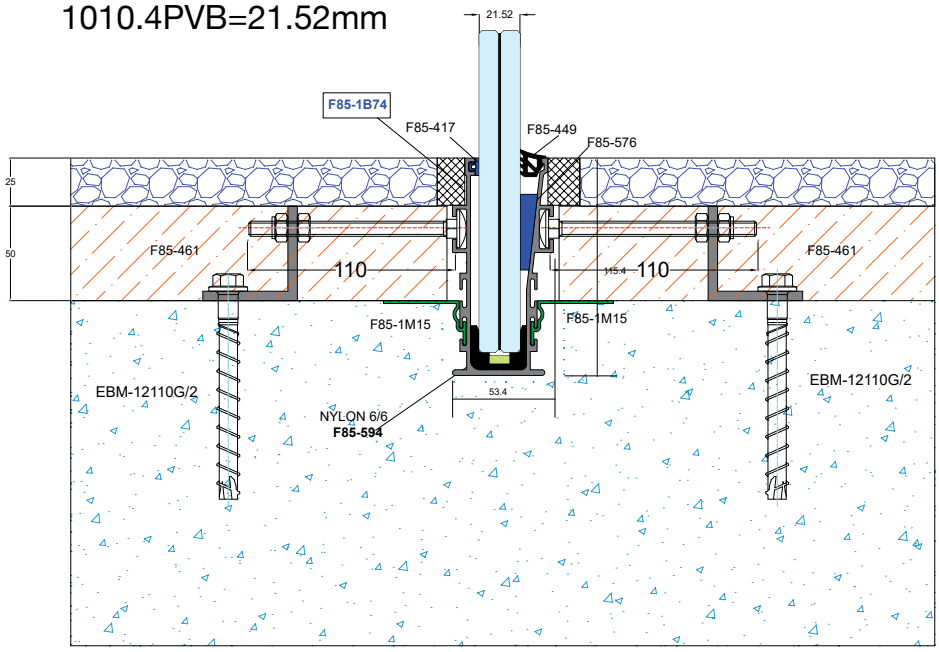


Shoe base installation / Installation des embases

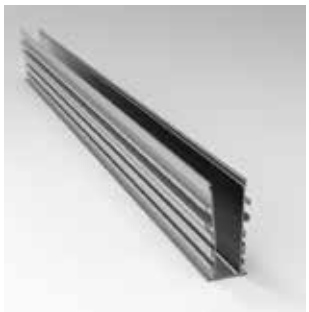
88.4PVB=17.52mm



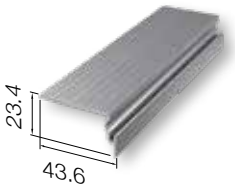
1010.4PVB=21.52mm



Installation of supporting profile / Installation du profil de sol



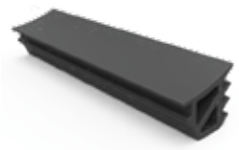
BASE PROFILE SLIM LINE EMBASE PROFIL SLIM LINE	
Code	**F85-1B74**
Weight/Poids	2532 gr/m



ADDITIONAL PROFILE FOR IN-FLOOR GUIDE PROFIL SUPPLEMENTAIRE DU GUIDAGE ENCASTRE	
Code	**F85-1M15**
Weight/Poids	281 gr/m
Length/Longueur	6 m

COUNTER-BALANCE GASKET JOINT DE VERRE (EMBASE)	
Code	**F85-417** (10.10.4)
Material	PVC

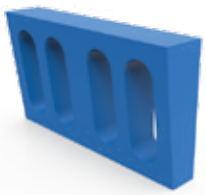
GASKET FOR BASE FOR GLASS JOINT POUR VERRE	
Code	**F85-453** (5.5.4)
Material	EPDM



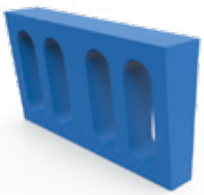
GASKET FOR BASE FOR GLASS JOINT POUR VERRE	
Code	**F85-448** (6.6.4)
	F85-449 (8.8.4, 10.10.4)
Material	EPDM

COMPONENT FOR BASE COMPOSANT POUR EMBASE	
Code	**F85-461**

GASKET FOR BASE FOR GLASS JOINT POUR VERRE 6+6 4PVB	
Code	**F85-477** (5.5.4, 6.6.4, 8.8.4)
Material	PVC
Length/Longueur	100 m
Hardness/Dureté	100 shore



BASIC WEDGE FOR GLASS CALE PLASTIQUE L70mm	
Code	**F85-575** (5.5.4, 6.6.4)
	F85-576 (8.8.4, 10.10.4)



COUNTER-BALANCE WEDGE PVC JOINT DE VERRE PVC	
Code	**F85-577** (5.5.4, 6.6.4, 8.8.4)

COUNTER-BALANCE WEDGE PVC JOINT DE VERRE PVC	
Code	**F85-581** (10.10.4)

PLASTIC GLASS SUPPORT SUPPORT DE VERRE PLASTIQUE	
Code	**F85-591** (5.5.4)
	F85-592 (6.6.4)
	F85-593 (8.8.4)
Material	PVC

PLASTIC GLASS SUPPORT SUP- PORT DE VERRE PLASTIQUE	
Code	**F85-594** (10.10.4)
Material	PVC

Top handrails & brackets

All Crystalline systems can be optionally mounted with a top handrail.

Available in three different sizes and shapes, two round one of 50 mm diameter and an oval in 76 mm width. The handrails are designed to be mounted and secured on the glass panel using rubber gaskets.

In cases where the handrail is desired or specified to be side mounted on the glass panel, special brackets are applied on the drilled glass panel.

Available in all RAL shades, wood imitation and brushed anodized same as all Crystalline profiles.

Mains courantes & supports

Nos profilés Crystal Line sont optionnellement disponible avec des mains courantes. Nos trois modèles, 2 de forme ronde de diamètre 50 mm et un ovale de dimension 76 mm sont conçus de telle façon qu'ils sont applicables sur le vitrage en utilisant un joint.

Si la main courante doit-être fixée en applique dans le vitrage nous avons des supports prévus à cet égard. Toutes nos mains courantes sont disponibles en couleur RAL ou en look Inox.

Top handrails & brackets

Round handrail Ø50 / Courante Ø50	
Code	**F85-202**

Slug gasket / Joint	
Code	**EA410-420M** (5.5.2)

Oval shaped handrail / Courante ovale	
Code	**F85-203**

"U" shaped gasket / Joint	
Code	**F85-406** (8.8.4) **F85-407** (10.10.4)

Round handrail Ø50 / Courante Ø50	
Code	**F85-204**

"U" shaped gasket / Joint	
Code	**F85-406** (8.8.4) **F85-407** (10.10.4)

Handrail / Courante	
Code	**F85-313** (6.6.4) **F85-317** (8.8.4) **F85-321** (10.10.4)

Handrail support/Mains courante raccord F50-200	
Code	**4148**

Handrail support F50-200 Fixation articulée sur verre F50-200	
Code	**F85-451**

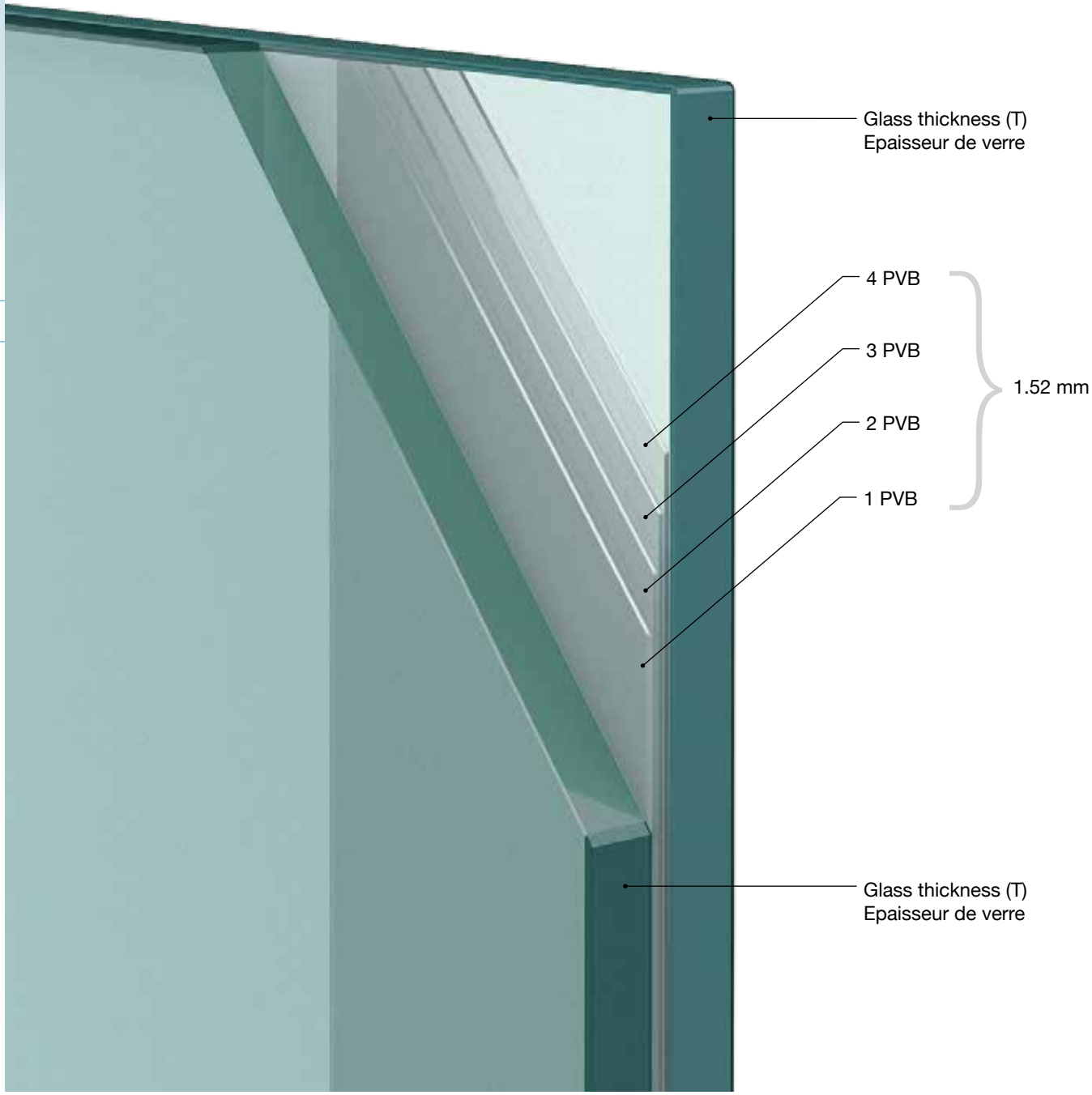
Mains courantes & supports

Silicon gun / Pistolet de silicon	
Code	**UA400.01DUU**

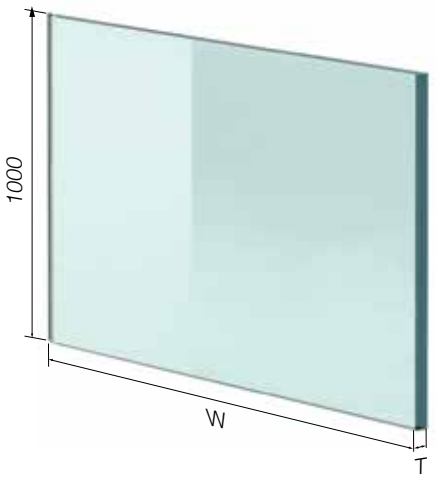
Neutral silicon / Silicone neutral	
Code	**UA210.02BLX**

Glass

Glass detail / Detail du verre



Verre



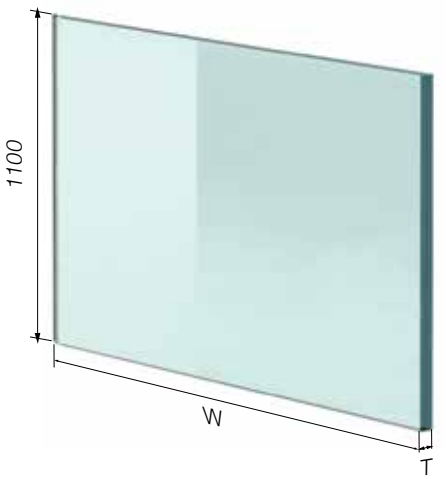
Glass dimensions 1000 mm / Dimensions de verre 1000 mm

Height / La taille: 1000 mm		8.8.4 (17.52)
Code	W	Weight/Poids Kg
F85-GL16U10	600	24
F85-GL16U11	800	32
F85-GL16U07	900	36
F85-GL16U08	1000	40
F85-GL16U12	1100	44
F85-GL16U09	1200	48
F85-GL16U13	1300	52

** Immediately available from stock!*
Immédiatement disponible en stock!

Height / La taille: 1000 mm		5.5.2 (10.76)
Code	W	Weight/Poids Kg
F85-GL10U03	500	12.5
F85-GL10U04	600	15
F85-GL10U05	800	20
F85-GL10U01	900	22.5
F85-GL10U02	1000	25
F85-GL10U06	1100	27.5
F85-GL10U07	1200	30

** Immediately available from stock!*
Immédiatement disponible en stock!



Glass dimensions 1100 mm / Dimensions de verre 1100 mm
Dimensions may vary due to perimetric grinding.

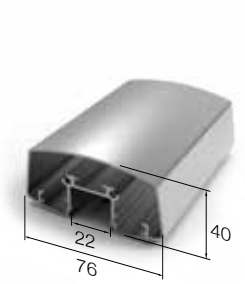
Height / La taille: 1000 mm		8.8.4 (17.52)
Code	W	Weight/Poids Kg
F85-GL16U14	600	26.4
F85-GL16U15	800	35.2
F85-GL16U16	900	39.6
F85-GL16U12	1000	44
F85-GL16U17	1100	48.4
F85-GL16U18	1200	52.8

** Immediately available from stock!*
Immédiatement disponible en stock!

Accessories
Glass supporting system

Handrail profile / Main courantes

Round handrail/Main courant ronde	
Code	**F50-200**
Weight/Poids	814 gr/m
Length/Longueur	6 m



Oval shaped handrail Courante ovale 76x40	
Code	**F85-200**
Weight/Poids	1104 gr/m
Length/Longueur	6 m

Round handrail Ø50/ Courante Ø50	
Code	**F85-202**
Weight/Poids	721 gr/m
Length/Longueur	6 m

Oval shaped handrail Courante ovale	
Code	**F85-203**
Weight/Poids	1096 gr/m
Length/Longueur	6 m

Handrail 30x80 Main courant 30x80	
Code	**F50-201**
Weight/Poids	1350 gr/m
Length/Longueur	6 m

Round handrail Ø50 / Courante Ø50	
Code	**F85-204**
Weight/Poids	973 gr/m
Length/Longueur	6 m

Handrail 6.6.2 / 6.6.4 Courante pour verre 6.6.2 / 6.6.4	
Code	**F85-313**
Weight/Poids	99 gr/m
Length/Longueur	6 m

Handrail 8.8.4 Courante pour verre 8.8.4	
Code	**F85-317**
Weight/Poids	198 gr/m
Length/Longueur	6 m

Handrail caps / Embouts

Handrail 10.10.4 Courante pour verre 10.10.4	
Code	**F85-321**
Weight/Poids	219 gr/m
Length/Longueur	6 m

Handrail end cap F85-203 Embout de main courante F85-203	
Code	**F85-403**

Handrail end cap F85-202/204 Embout de main courante F85-202/204	
Code	**F85-404**

Handrail cap F50-200 Embout pour F50-200	
Code	**4434**

Handrail cap F50-201 Embout pour F50-201	
Code	**4447**

Handrail cap F50-200 flat Ø50 Embout pour F50-200 Ø50	
Code	**4453**

Accessoires et viserie

Handrail connection accessories, seam covers / Coudes

Handrail connector F85-202/204 Straight
Coude de F85-202/204 Droit

Code	**4251**

Handrail connector F85-202/204 Angled
Coude de F85-202/204 en Angle

Code	**4253**

Handrail seam cover F85-203
Cache du mur de main courante F85-203

Code	**F85-402**

Handrail seam cover Ø50 with cover
Depart du mur Ø50

Code	**4509Z**

Wall support for handrail F85-202
Fixation murale de main courante F85-202

Code	**F85-452**

Wall support for handrail F50-200
Fixation murale F50-200

Code	**4134**

Wall support for handrail F50-200
Fixation murale F50-200

Code	**4140**

Wall support for handrail F50-200
Fixation murale F50-200

Code	**4141**

Wall support for handrail F50-200
Fixation murale F50-200

Code	**4165**

Handrail support F50-200
Fixation articulée sur verre F50-200

Code	**F85-451**

Handrail support F50-200
Fixation articulée sur verre F50-200

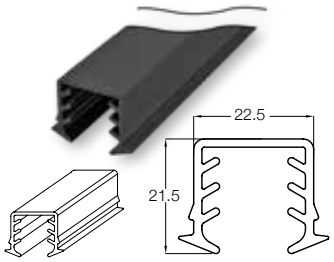
Code	**4148-200** (Inox 304) **4148-201** (Inox 316)

Handrail support F50-201
Fixation articulé sur verre F50-201

Code	**F85-454**

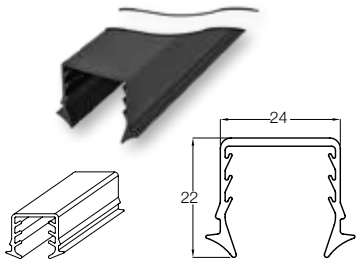
Accessories
Glass supporting system

Handrail gaskets / Joints de main courrante



"U" shaped gasket / Joint	
Code	**F85-406** (8.8.4)

for glass / pour verre 8 mm+4PVB+8 mm

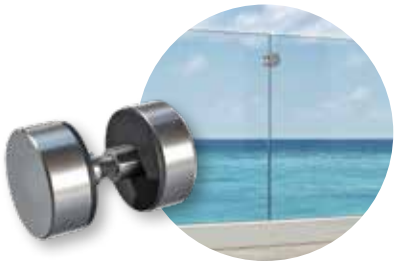


"U" shaped gasket / Joint	
Code	**F85-407** (10.10.4)

for glass / pour verre 10 mm+4PVB+10 mm

Slug gasket / Joint	
Code	**EA410-420M**

Miscellaneous / Divers



Glass alignment rosete Rosace Ø30 d'Align. verre inox 316	
Code	**F85-D130** (8.8.4) (10.10.4)

Type A cover extractor Extrecteur pour cach frontale	
Code	**F85-E011**

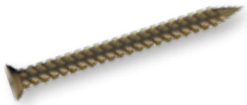
Screw DIN 7991 M10x70 Inox Vis DIN 7991 M10x70 Inox	
Code	**D7991-0023I**

Fixing screws / Viserie

Inox allen screw M10x70 Cheville en 316	
Code	**EB912-1070**

Inox HEX screw M10x80	
Code	**EB933-1080**

Expansion plug/Coque d' expansion	
Code	**EB01M-1040**

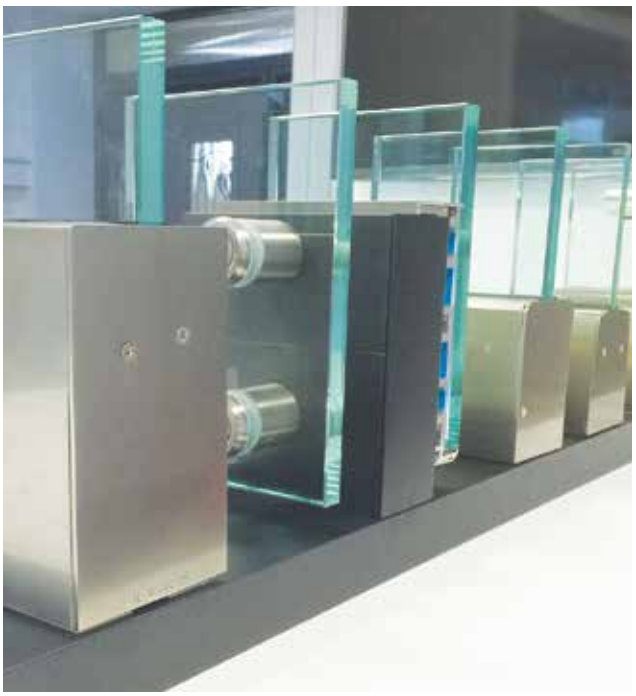


Concrete Torx/Vis de beton 7.5x112	
Code	**EBM-75112G**

Concrete Screw/Vis de beton Ø12-110	
Code	**EBM12-110**

ALLEN TORX CONCRETE SCREW 10X120 ANCRAGE POUR BÉTON 10X120	
Code	**EBM-10120G/2**

Crystalline Promo display



Sample stand Crystal-Line
Stand D'Échantillons Crystal-Line

Code	**F85-401**

Creativity in progress

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ALUMINIUM BUILDING SYSTEMS

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