CATALOGUE BALUSTRADES

DEFENDER profiles

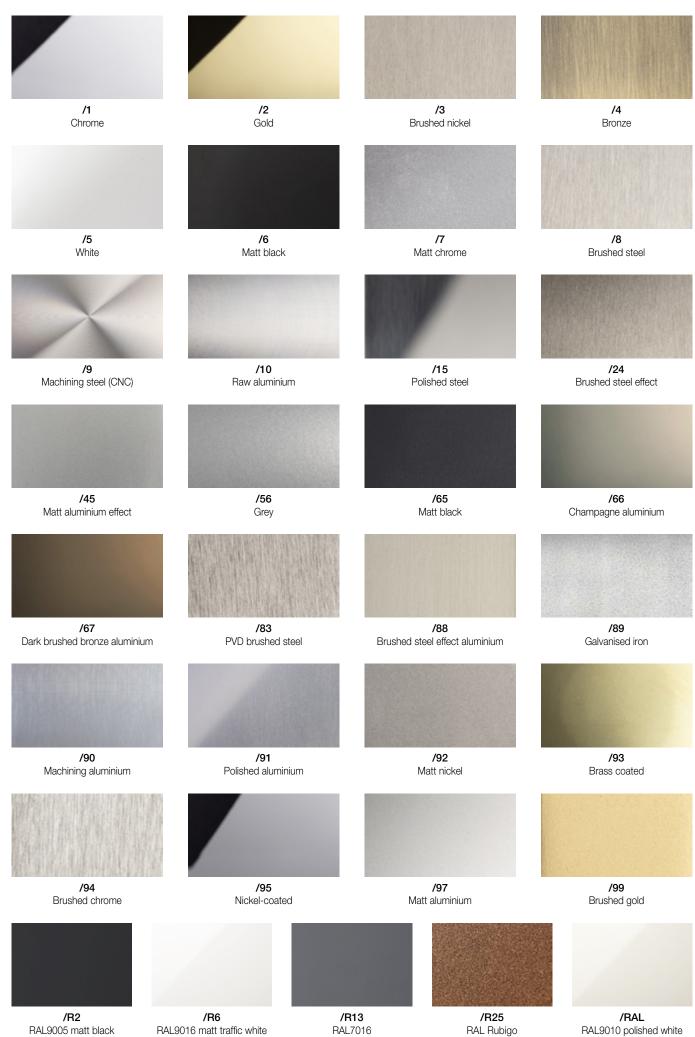
Point fixings

Columns

Handrail



FINISHES



matt anthracite grey

CATALOGUE BALUSTRADES



SINCE 1989 INNOVATION SERVING DESIGN FOR MORE THAN 30 YEARS

Since 1989 we are committed to satisfying the needs of glassworks, installers, and designers, offering advanced solutions that guarantee the utmost comfort. Our mission is to provide high-tech, long-lasting, reliable, high-quality products designed to exceed the expectations of every customer.



INNOVATION ANDRESEARCH

OUR TECHNOLOGICAL APPROACH

Thanks to our laboratory and a team of specialised engineers, we are able to design and develop custom solutions for glassworks, installers, and interior designers. Our highly qualified personnel provide constant customer support through technical consultation and training courses.

Active collaboration with universities and national and international research institutes such as TÜV, the Politecnico di Milano, CSTB (France), and LSL (Germany) guarantee access to specialized skill and equipment when verifying systems such as balustrades, canopies, doors, and glass partitions. This enables the highest quickness and efficiency in developing new products and supporting customers with ad hoc laboratory tests.





Certificates and testing reports apply to selected products depending on the type and intended use.



THE WAREHOUSE AND WORKSHOP

EFFICIENCY, WIDE PRODUCT RANGE, AND IMMEDIATE AVAILABILITY

The unique features that makes the Logli brand stand out on the market include facility, personnel, product, and especially the service. With more than 7000 items in stock, we guarantee immediate availability not only of the simplest accessories, but also the most complex systems. Through important investments in four automated vertical warehouses and advanced logistics management, we guarantee order shipments in Italy within 24 hours and quick and prompt delivery.

THE EXPERIENCE AND RESEARCH **OF A WORLD LEADER**

The 16th of March 2018 marks a crucial moment in our history: joining the prestigious Saint-Gobain Group, a multinational company with a history of over 355 years in design of solutions for sustainable construction. This important step is a clear recognition of the excellence achieved by the company in the field of technological glass solutions.

Future innovation may rely on synergy with other brands in the Group, giving rise to increasingly advanced technological solutions.

The culture of Saint-Gobain, which we have made our own, is based on a set of values expressed in the Behaviour and Conduct Principles: respect for people, law, environment, health, and workplace safety are some of the premises that guide the Group's action and its constant aspiration to become a leader in sustainable construction.







It designs, produces, and distributes materials for safety and comfort that are in all living spaces: Buildings, transport, infrastructure, and many industrial applications.



100 One of the TOP 100 innovative companies in the world

68,00

employees

€450 million R&D investments last

year

€51.2 billion total turnover 2022

With 355 years behind it, the Group offers next-generation materials and integrated solutions to make 'living spaces' more comfortable and sustainable, contributing to the well-being of people and protecting the planet while situating itself as a global point of reference in the efficient use of natural resources with respect for the environment.

In Italy, Saint-Gobain is present in the fields of construction materials, transport and industry.





SUSTAINABILITY FOR SAINT-GOBAIN: A GROUP STRATEGY

In 2020, the Saint-Gobain Group declared its corporate purpose: 'Making the world a better home'. Its ambition is to improve the life of everyone, making the planet a more equitable and sustainable place to live, which is also open and inclusive. Together with and for our customers, we design materials and solutions that guarantee wellbeing, living comfort, and safety, while taking care to protect the planet.

Our corporate purpose is a call to action, a strategy aimed at the future that encourages innovation while respecting the union between humanity and nature.

Saint-Gobain **aims to be recognized as a world leader in sustainable building**, improving the daily life of all those using its products. This commitment not only regards our operations and processes, but also marketing solutions that actively contribute to reaching the decarbonisation objectives of the sector. Being a leader means promoting a systemic transformation, embracing values, commitments, and actions that guide the change, becoming a point of reference for all stakeholders.

The geographical organization of the Group can offer custom solutions for the specific needs of local markets in terms of construction methods or styles, building systems, and different climate characteristics, both in renovation of existing buildings and in new construction.



BETTER FOR THE PEOPLE, BETTER FOR THE PLANET

Like Saint-Gobain, we embrace our social and environmental responsibility as an opportunity to create value together with our stakeholders. In fact, by creating mutual trusting relationships, we believe we can increase awareness about issues of sustainability and create virtuous cycles for the long-term business path.



BETTER FOR THE PEOPLE

For employees, collaborators, suppliers, and partners, this means expanding the 'company culture' through solid governance, attention for health and safety, constant training, and the creation of an inclusive working environment.

For local communities, we are dedicated to supporting solidarity initiatives through the Saint-Gobain Foundation and we support young talent by promoting the Architecture Student Contest, an annual competition dedicated to students of architecture and construction engineering around the world.



BETTER FOR THE PLANET

More than other sector, construction can influence the future of the planet, so **buildings and sustainability represent an unavoidable combination**.

Our production impacts the environment in terms of emissions, energy consumption, water use, and natural resources. The value of the Group consists of **products and sustainable and efficient production methods, designed to minimise environmental impacts** in manufacturing processes and engineered to **maximise performance** during the entire life cycle of the buildings, contributing significantly to the objectives of decarbonisation and circularity in the industry. Saint-Gobain Italia is ISO 14001:2015 and ISO 9001:2015 certified.

OUR COMMITMENT TO THE ENVIRONMENT

Contributions that our materials may bring to different sustainability certifications.



Reducing energy consumption and pollulant emission is one of the

main objectives of Saint-Gobain, which develops, produces, and distributes innovative solutions to create more energy-efficient buildings.

The development of a **passive envelope**, which contributes to energy retention, is the most economically sustainable solution for making buildings more efficient.



Many of our products contain

recycled materials. We are constantly dedicated to increasing recycled content, contributing to reducing the consumption of raw materials and environmental impacts tied to their life cycle.



The Saint-Gobain Group has developed different projects that aim to **enhance waste**, decrease energy consumption, and use less raw material.



The Life Cycle Assessment (LCA) is very important. This study assess the material and energy flows associated with the different stages in the life of a product (extraction of raw materials, production, use, final disposal). The goal of the assessment is to analyse the impacts associated with the different phases in the life of the product in order to optimise production processes with respect to environmental sustainability. Closely connected to the Life Cycle Assessment is EPD® (Environmental Product Declaration) Certification. The purpose of this is to convey environmental information deriving from the LCA in a format and based on predefined common rules, the PCR (Product Category Rules). Many products manufactured by the Saint-Gobain Group carry this certification. The extensive presence of Saint-Gobain in Italy, with production units and logistics centres around the country, limits road transport and thus pollution, favouring the spread of local materials.



In promoting a responsible and conscious environmental attitude, Saint-Gobain has decided to become a member of the GBC Italia association.

STANDARDS OF ENVIRONMENTAL SUSTAINABILITY



The **LEED V4.1** standard, which supports the existing LEED v4 standard, is based on a system of prerequisites and credits for design, construction, and management of buildings and sustainable areas.



The **BREEAM** (Building Research Establishment Environmental Assessment Method) system is based on verifying design, construction, and use of the building.



The purpose of the **WELL** protocol is to integrate aspects connected to personal health and well-being in building project design and construction.



With the enactment of the new Contract Code in Italy, **CAM** were updated with Italian Ministerial Decree 23 June 2022 on the assignment of design services and work on new constructions, restorations, and maintenance of public buildings.





2024 COLLECTION

6 VOLUMES 1750 PAGES

The first series consisting of 6 volumes that covers the entire range of glass solutions designed by Logli. The collection is designed to provide a complete, detailed overview of all the articles offered by Logli. Each volume deals extensively with a specific product series, offering technical information combined with practical applications.

It is the ideal compendium for those looking for high-quality glass solutions.

All volumes are available for download by scanning the QR code.



All **Logli solutions** in a **single** place.

Volume 1 BALUSTRADES

> Volume 2 OUTDOORS

Volume 3

Volume 4 SHOWERS

Volume 5 ARRANGEMENT

Volume 6 ACCESSORIES FOR GLASSWORKS





BALUSTRADES

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P1

BALUSTRADES WITH DEFENDER PROFILE



DEFENDER 810 Page 44



DEFENDER XP - PICO Page 84



DEFENDER 1212 Page 100

BALUSTRADES WITH POINT FIXINGS



POINT FIXINGS Page 173



DOUBLE BRACKETS FOR BALUSTRADES Page 191

BALUSTRADES WITH COLUMNS



COLUMNS FOR POINT FIXINGS Page 201



COLUMNS FOR CLAMPS Page 207

ACCESSORIES FOR BALUSTRADES



HANDRAIL Page 215



FINISHING PROFILE Page 230



LED Page 233

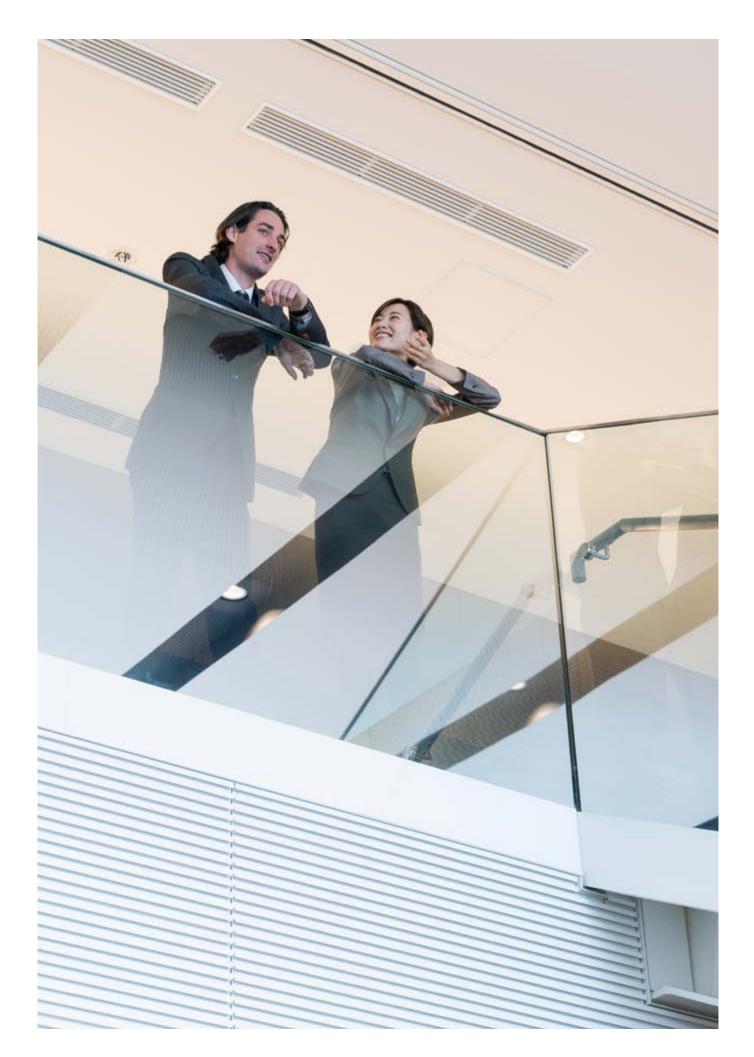
Glass balustrades

Your window on the world

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Make room for the beauty and safety of Logli balustrade systems

VERSATILITY OF THE RANGE FOR EVERY TYPE OF INSTALLATION: Our range of balustrades stands out for the different types available, allowing you to choose the model best suited to your project.

DESIGN THAT COMBINES BEAUTY AND FUNCTIONALITY: Minimalist systems available in many different finishes which can be customised for all requirements.

BAND BALUSTRADE



BALUSTRADES WITH POINT FIXINGS

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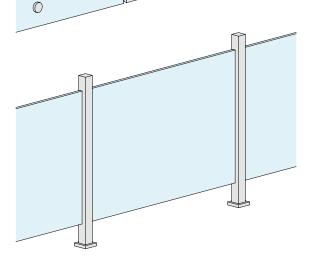
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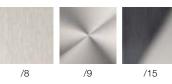
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BALUSTRADE WITH COLUMNS



RAL and special finishes on demand.

The lead time of on-demand painted finishes have to be evaluated case by case and are also subject to a required minimum quantity.

QUICK NOT ONLY TO INSTALL:

We also try to meet the most urgent requirements with an extensive stock of ready-to-deliver supplies and fast shipping.



SAFETY IS HIGH PRIORITY, SYSTEMS WHICH CAN MEET ANY CHALLENGE.

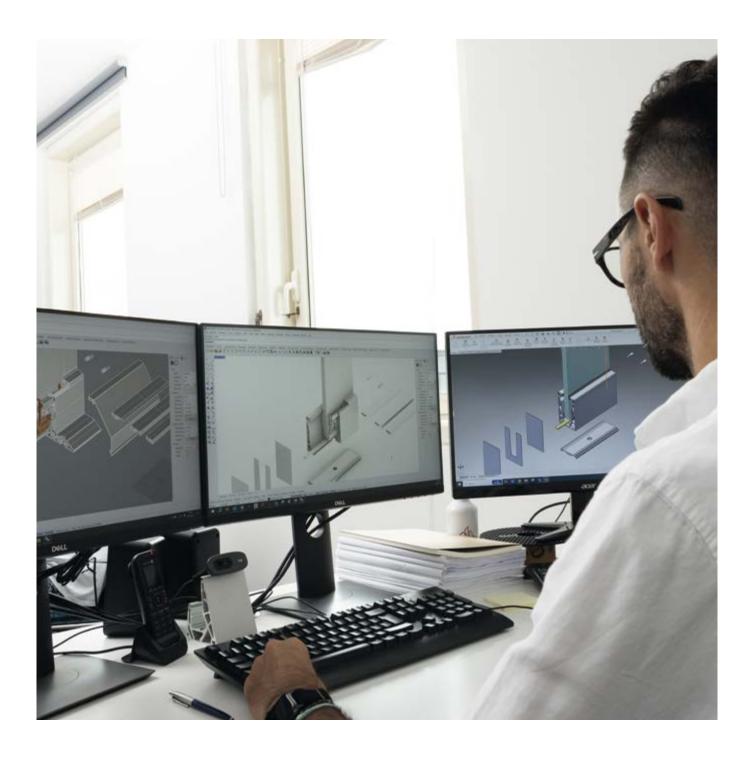




Test reports and calculations always compliant with the latest regulations. Certificates and testing report apply to selected products depending on the type and intended use.



ALWAYS BY YOUR SIDE FROM DESIGN TO INSTALLATION



When you choose a Logli balustrade system, you are never alone. Our philosophy centres on assistance in every phase of the process. THE POWER OF TRADITION, THE POWER OF INNOVATION Logli balustrade systems are constantly updated to improve performance and always guarantee innovative products.

Connect with the environment

A glass balustrade from the Logli range allows you to fully enjoy the scenery around you.



KEY TECHNICAL REQUIREMENTS FOR A GLASS BALUSTRADE.

MINIMUM HEIGHT H

In the majority of cases, the minimum safety height is 100 cm. However, it is not unusual for local or specific regulations to impose higher limits, with a minimum height of between 110 and 120 cm.

STAIRCASES

The minimum safety height H is measured from the tread edge and starts at a minimum of 90 cm.





RIGIDITY

Safety in 'exceptional' circumstances is critical, but it is equally important for the balustrade to be perceived as safe in normal, everyday use.

It is easy to understand how users might see a flexible, unstable system as being "unsafe", making them considerably less at ease and reducing their use of the space.

DEFENDER systems have always been at the forefront when it comes to joining rigidity and strength to obtain the utmost in well-being and safety. This is why, all other factors being equal, we always recommend the use of rigid interlayers in the lamination process for glass to be fitted to our systems.

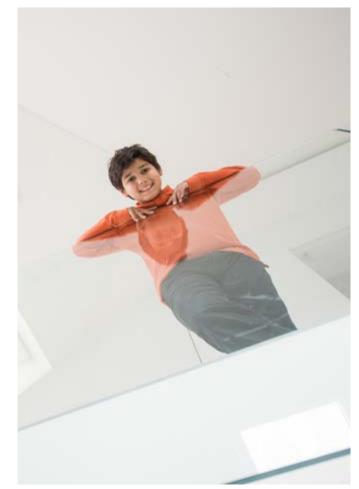
RESISTANCE

The mechanical resistance of a balustrade is expressed as the load per loading unit. This load may vary in relation to the regulations and the intended use. In general, if there is a potential for crowding, the system must guarantee a higher resistance.

In addition to the load, it may also be necessary to perform tests about impacts from heavy or hard objects. If not properly considered, such actions may cause local damage to the panes of glass or the systems, including the overall safety.

Another aspect which must not be underestimated is the pressure of the wind.

For tall balustrades or ones which are very exposed to gusts, the force of the wind may become the key element for the sizing of the installation.





SCALABILITY

The protection height must be measured from the first walkable area.

It is important to check whether there are risks relating to the surface close to the balustrade, often defined as being between 5 to 30 cm wide, or where there are steps or fixed raised surfaces.

These types of elements will be assessed considering that they could be used to make it easier to get over the barrier. If so, its height should be increased.



IMPASSABLE

To ensure safety both above and below the balustrade, the component parts of the barrier must ensure that no objects can fall from them. As a minimum, the balustrade must be able to prevent the passage of a sphere with 10 cm diameter at every point.



See the tables to identify the most suitable system for the given installation depending on the technical regulations. The key data are simple and concise, however designers and installers should still refer to the full text of the standards and the technical documentation for the systems, available to download at our website or through the Logli Massimo Saint-Gobain Technical Customer Care Service.

The following laws, standards and technical documentation were used for summarising the results of our tests:

EUROPEAN standards (valid for all EU countries)

CPR 305 - Construction Products Regulation

EN 12150 - Thermally toughened soda lime silicate safety glass

EN 12543 - Laminated glass and laminated safety glass

EN 12600 - Pendulum test, impact test method and classification for flat glass

EN 13200 - Spectator viewing areas

EN 14179 - Heat-soaked thermally-toughened soda lime silicate safety glass

EN 16612 - Determination of the lateral load resistance of glass panes by calculation

 EN 16613 - Determination of the mechanical properties of the interlayer

ITALY

NTC 2018 - Technical Construction Standards

(Ministerial Decree of 17 January 2018)

UNI 7697 - Safety criteria in glazing applications

UNI 10809 - Railings, balustrades or prefabricated parapets,

dimensions, performance and tests UNI 11678 - Test methods for buffer elements made of glass with a fall prevention function

FRANCE

NF P 06-001 - Operating loads for buildings

NF P 01-012 - Sizing of balustrades

NF P 01-013 - Resistance tests for balustrades

CSTB specifications 3034 - Testing procedure for glass balustrades anchored at the base

GERMANY

DIN 1990 and DIN 1990/NA - Basis of structural design and nationally determined parameters

DIN 1991-1 - Actions on structures

DIN 18008 - Glass construction and design standards in building $\ensuremath{\textbf{BELGIUM}}$

NBN B 03-004 - Balustrades for buildings

SWITZERLAND

SIA 261 - Actions on structures

SIA 358 - Railings and balustrades

SIGAB 004 - Requirements for glass components of balustrades

NETHERLANDS

NEN 2608 - Glass in buildings, requirements and determination method

BRL 4107 - Guidelines for assessing balustrades **UNITED KINGDOM**

BS 6180 - Indoor and outdoor barriers

Approved Document K - Protection against falls, collisions and impacts

SE-AE base document - structural safety



Defender: band balustrades

Make room for the glass

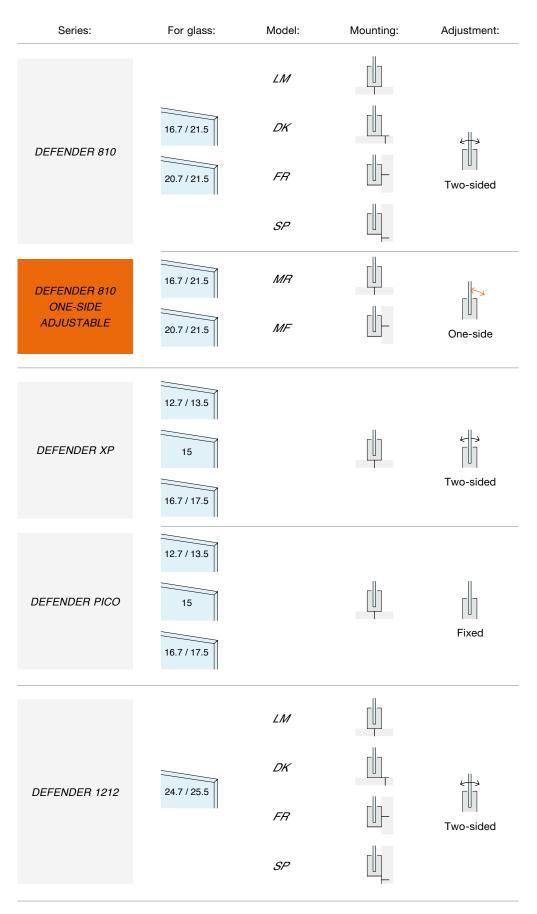
A complete range of profiles for balustrades that combines higher dedicated performance with the elegance of a lower profile that makes room for the glass.

The DEFENDER series was created in 2014 thanks to the launch of the first profiles for glass balustades. Over the year, our R&D department has improved the performance of LOGLI systems to achieve a complete range for each request, ensuring high quality features.

DEFENDER is synonymous with safety, beauty and quality.



Overview of the Defender range

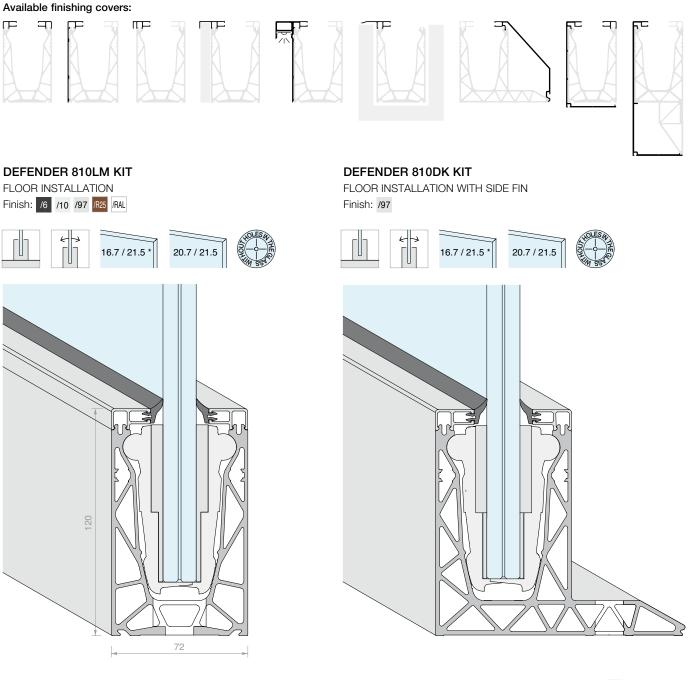


DEFENDER 810

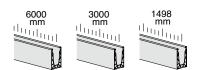
The panorama at your fingertips

The DF810 range, with all its installation possibilities, adapts to all your needs: minimalist profiles that will amaze you thanks to their high performance.

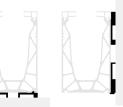
All aluminium profiles are protected with 20-micron anodisation or HPQ paint for increased durability, even in aggressive environments. Load-bearing profiles are supplied pre-drilled every 200 mm, ready for installation. On request, we offer the possibility to create profiles with additional holes or custom cuts for each project. Pre-assembled fasteners made of high-performance composite plastic block the glass easily and quickly, guaranteeing the highest safety and superior durability. In addition, the new modular concept of blocking systems means panes of different thicknesses can be installed without changing the system. The inclination of the glass can be adjusted and the position blocked by acting on both sides of the system.

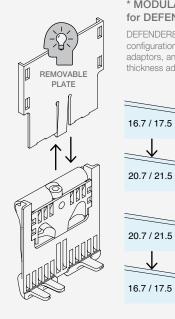


All Defender kits are available in stock in three sizes:



Optional water drainage profile:





* MODULAR CLAMPS for DEFENDER810

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration

The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.



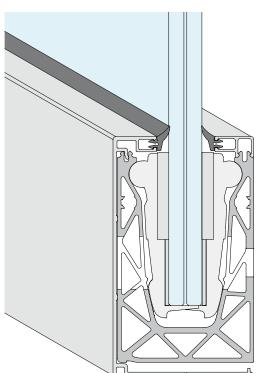
DF1721



DEFENDER 810FR KIT

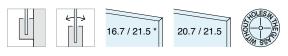
SLAB INSTALLATION Finish: /6 /10 /97 /R25 /RAL

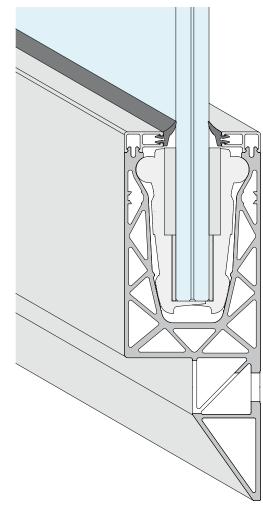




DEFENDER 810SP KIT

SLAB INSTALLATION WITH LOWER FIN Finish: /97





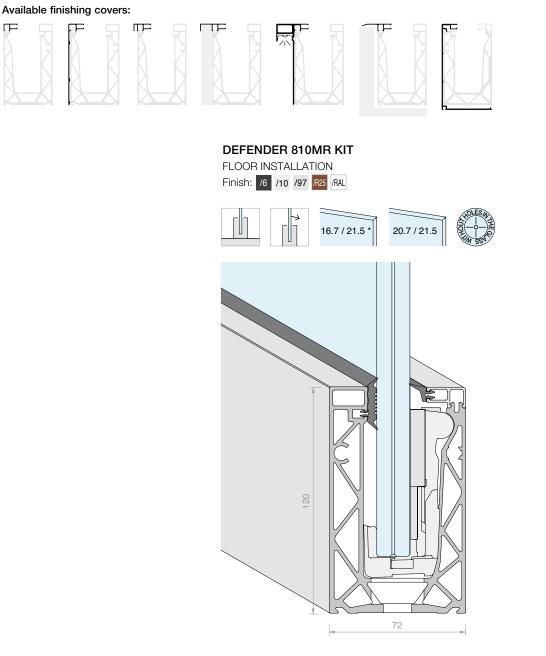
* Profiles are supplied without coating. Protection must be ensured using the appropriate techniques depending on the intended use.

DEFENDER 810 SINGLE-SIDED ADJUSTABLE

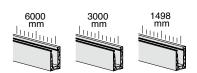
Adjustement at your fingertips

The DEFENDER range is expanded with the innovative single-sided adjustment and fixing system: a new ally at your side that will be indispensable in the most complex installations, particularly where it is difficult to access both sides of the system. Not only does the new profile remain minimal like the rest of the range, it also increases the performance of the glass using continuous support gaskets on the outer side.

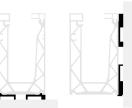
All aluminium profiles are protected with 20-micron anodisation or high-performance quality paint for increased durability, even in aggressive environments. Load-bearing profiles are supplied pre-drilled every 200 mm, ready for installation. On request, we offer the possibility to create profiles with additional holes or custom cuts for each project. The innovative insertion and adjustment system consists of pre-assembled fasteners made of high-performance composite plastic, including a moving ferrule to activate the adjustment device of the glass by acting only on the interior side. In addition, the new modular concept of blocking systems means panes of different thicknesses can be installed without changing the system.



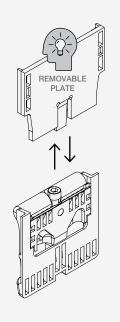
All Defender kits are available in stock in three sizes:



Optional water drainage profile:



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*MODULAR CLAMPS for DEFENDER810MR

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810MR clamps are designed to permit two configurations: 8+8 panes of glass using an adjustable adaptor, and 10+10 panes of glass without the thickness adaptors.

Clamp kit provided with adjustment tool DFUT01

DF1721MR

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121MR

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration

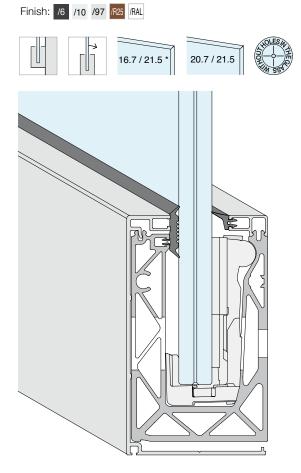
The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes glass.





DEFENDER 810MF KIT

SLAB INSTALLATION



* Profiles are supplied without coating. Protection must be ensured using the appropriate techniques depending on the intended use.

DEFENDER XP and PICO

The smallest, the most resistant

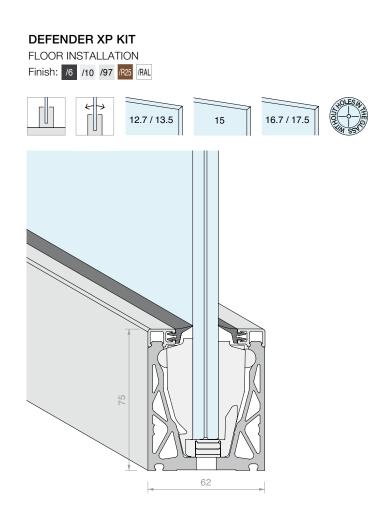
The PICO range offers all the safety of the DEFENDER line in smaller dimensions. Suitable for application on walls or in any solution where the existing height of the balustrades is not enough.

All aluminium profiles are protected with 20-micron anodisation or high-performance quality paint for increased durability, even in aggressive environments. Load-bearing profiles are supplied pre-drilled every 200 mm, ready for installation. On request, we offer the possibility to create profiles with additional holes or custom cuts for any project.

Fasteners made of high-performance composite plastic for superior durability and safety: ready for use, for even faster installation. XP series, with two-sided glass adjustment. PICO series, with single-sided installation with no adjustment.

Available finishing covers:





All Defender kits are available in stock in three sizes:

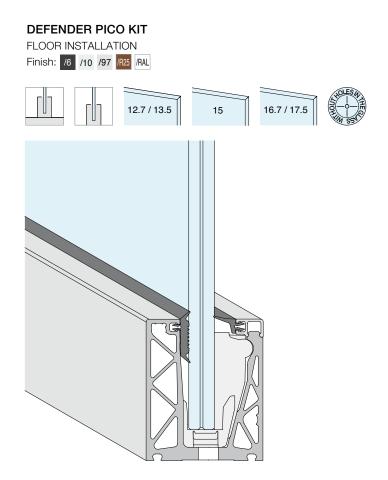




DEFENDER XP DOUBLE-SIDED ADJUSTABLE CLAMPS Material: POM, Grivory, Stainless steel



DEFENDER PICO SINGLE-SIDED CLAMPS Material: POM, Aluminium (DFP17) or Grivory, Stainless steel



* Profiles are supplied without coating. Protection must be ensured using the appropriate techniques depending on the intended use.

DEFENDER 1212

The strength for the most extreme solutions

Thick, rigid, resistant panes of glass, these systems support very high operating loads. The exceptional characteristics make these profiles particularly suitable for use in stadiums, crowded places, or as high wind screens in areas exposed to strong gusts of wind.

All aluminium profiles are protected with 20-micron anodisation or high-performance quality paint for increased durability, even in aggressive environments. Load-bearing profiles are supplied pre-drilled every 200 mm, ready for installation. On request, we offer the possibility to create profiles with additional holes or custom cuts for any project.

Pre-assembled fasteners made of high-performance composite plastic block the glass easily and quickly, guaranteeing the highest safety and superior durability. The inclination of the glass can be adjusted and the position blocked by acting on both sides.

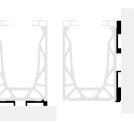
Available finishing covers: F **DEFENDER 1212LM KIT DEFENDER 1212DK KIT** FLOOR INSTALLATION FLOOR INSTALLATION WITH SIDE FIN Finish: /97 Finish: /97 24.7 / 25.5 24.7 / 25.5 Ē 20

All Defender kits are available in stock in three sizes:

80



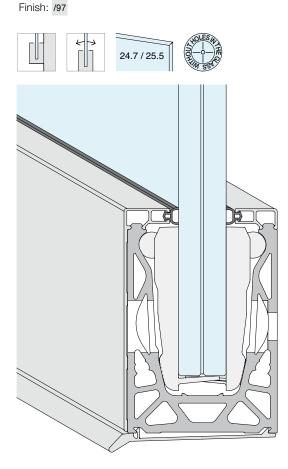
Optional water drainage profile:





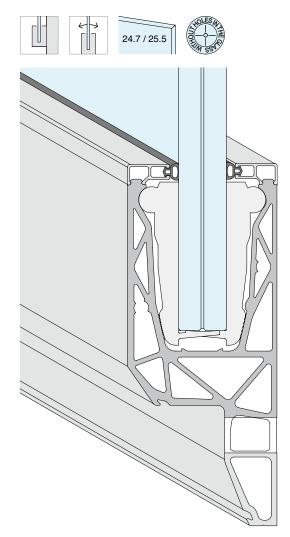
DEFENDER 1212 DOUBLE-SIDED ADJUSTABLE CLAMPS Material: POM, Aluminium, Stainless steel, TPE

DEFENDER 1212FR KIT SLAB INSTALLATION



DEFENDER 1212SP KIT

SLAB INSTALLATION WITH LOWER FIN Finish: /97



* Profiles are supplied without coating. Protection must be ensured using the appropriate techniques depending on the intended use.

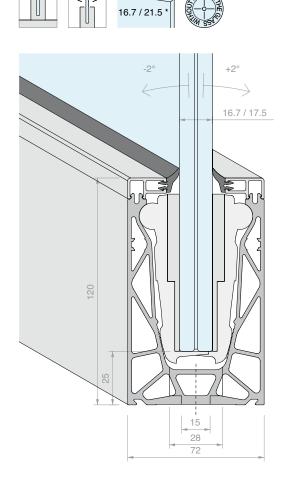


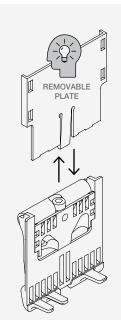




DEFENDER 810LM KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 8+8 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL





* MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.





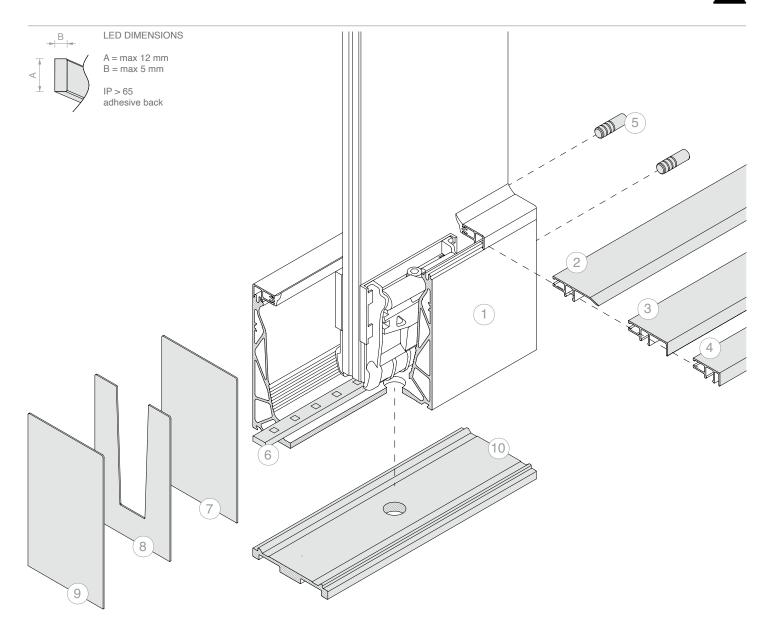


Kit comprising:

Art.	Descrip	tion	Qty.	
DFP88G01.03	Lip pro	file gasket	2 Pcs 🖌	
DF100.30	Upper	snap-on finishing profile	2 Pcs	2-21g
DF1721	810 cla	amps for glass 8+8	12 Pcs	Land Land
DF810LM.30	Floor p	rofile	1 Pc	
Art.		Length	Qty	
DF810LM17KI	Т.30	3000 mm	1 Pc	



Art. DFP88G01.03	Description Lip profile g	asket	Qty. 1 Pc	
DF100.15	Upper snap-	Upper snap-on finishing profile		
DF1721	810 clamps	810 clamps for glass 8+8		
DF810LM.15	Floor profile		1 Pc	
Art.		Length	Qty	
DF810LM17KI	T.15	1498 mm	1 Pc	



1 **DF810LM17KIT**

No. Art.



HOLE SPACING

100*	200		200	100*
Ó		Ô		0

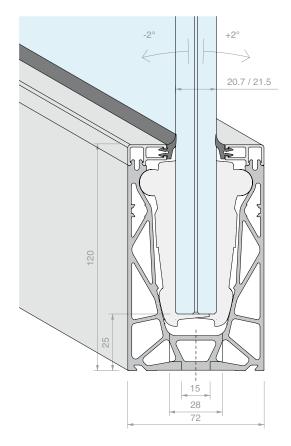
Opti	onal:	
No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DF12072AL	Closed end cap
8	DF2TPAL	End cap with V-shaped opening
9	DF12772AL	Closed end cap with profile DFA72
10	DFA72	Water drainage profile



DEFENDER 810LM KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 10+10 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL





Art.	Descrip	tion	Qty.	
DFP88G01.03	Lip pro	ofile gasket	4 Pcs 🖗	
DF100.60	Upper	snap-on finishing profile	2 Pcs	a la
DF2121	810 cl	amps for glass 10+10	24 Pcs	
DF810LM.60	Floor p	profile	1 Pc	
Art.		Length	Qty	
DF810LM21KI	T.60	6000 mm	1 Pc	

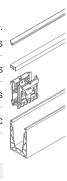
3000 mm

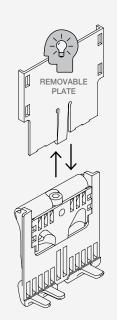
6000 mm

Kit comprising:

Kit comprising:

Art.	Description	Qty.	
DFP88G01.03	Lip profile gasket	2 Pcs	
DF100.30	Upper snap-on finishing profile	2 Pcs	
DF2121	810 clamps for glass 10+10	12 Pcs	
DF810LM.30	Floor profile	1 Pc	
Art.	Length	Qty	
DF810LM21KI	T.30 3000 mm	1 Pc	





MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

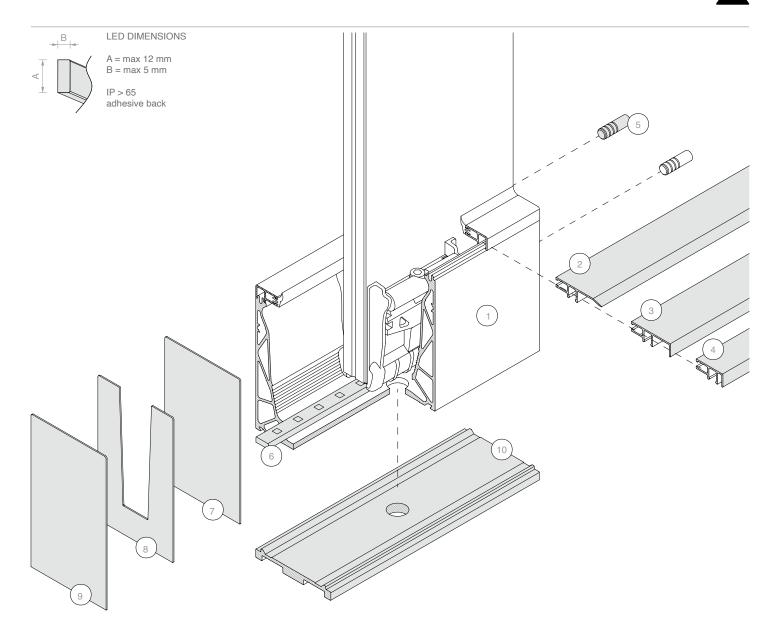
DF2121

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.



Art. DFP88G01.03	Description Lip profile gasket		Qty. 1 Pc
DF100.15	Upper snap-on fini	2 Pcs	
DF2121	810 clamps for gl	6 Pcs	
DF810LM.15	Floor profile		1 Pc
Art.	Length	1	Qty
DF810LM21KI	Г.15 1498	mm	1 Pc



No. Art. 1 **DF**

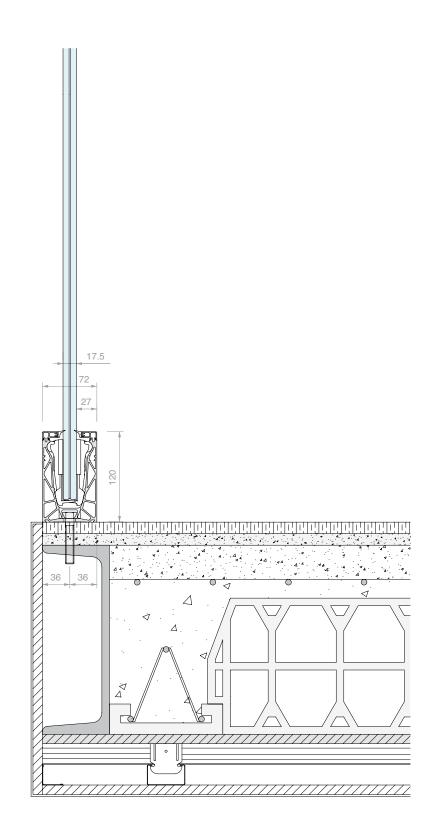
DF810LM21KIT



HOLE SPACING

100*	200		200	100*
Ó		Ô		

Opti	ional:	
	Art.	Description
2	DF101	Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DF12072AL	Closed end cap
8	DF2TPAL	End cap with V-shaped opening
9	DF12772AL	Closed end cap with profile DFA72
10	DFA72	Water drainage profile

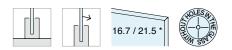


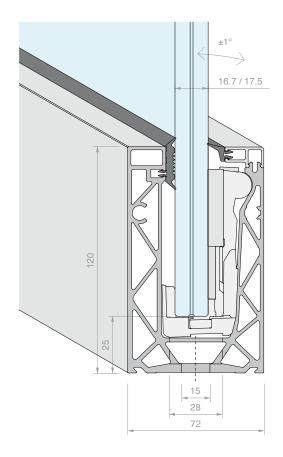


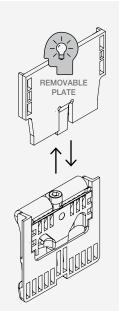


DEFENDER 810MR KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 8+8 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL







*MODULAR CLAMPS for DEFENDER810MR

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810MR clamps are designed to permit two configurations: 8+8 panes of glass using an adjustable adaptor, and 10+10 panes of glass without the thickness adaptors.

Clamp kit provided with adjustment tool DFUT01

DF1721MR

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121MR

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.

BALUSTRADES



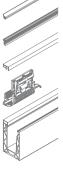
Kit comprising:

r at comprising.		
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	2 Pcs
DFPG03.03	Flat profile gasket	2 Pcs
DF100.60	Upper snap-on finishing profile	1 Pc
DF1721MR	810 clamps for glass 8+8	24 Pcs
DF810MR.60	Single-sided floor profile	1 Pc
Art.	Length	Qty
DF810MR17KIT	.60 6000 mm	1 Pc



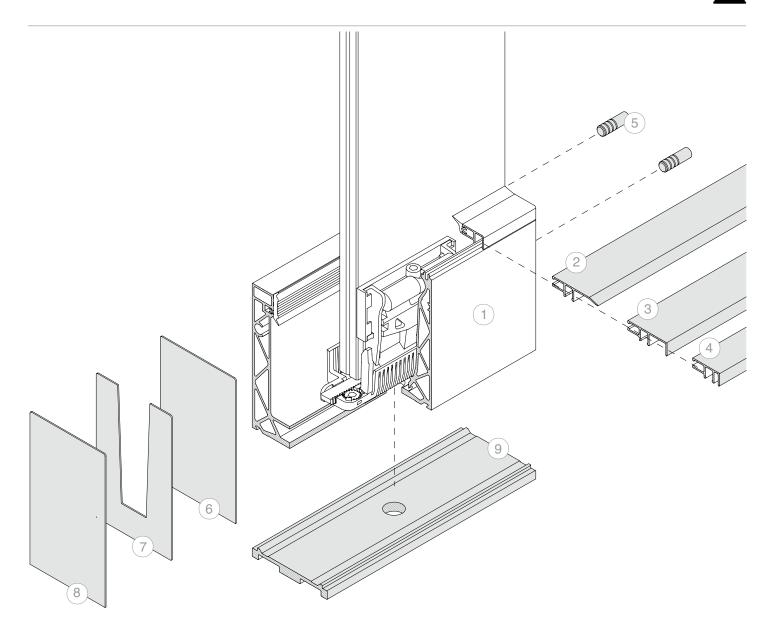
Kit comprising:

Art.	Description	1	Qty.	
DFP88G01.03	Lip profile	gasket	1 Pc	
DFPG03.03	Flat profile	e gasket	1 Pc	
DF100.30	Upper sna	ap-on finishing profile	1 Pc	
DF1721MR	810 clam	ps for glass 8+8	12 Pcs	
DF810MR.30	Single-sid	led floor profile	1 Pc	
Art.		Length	Qty	
DF810MR17KI	Т.30	3000 mm	1 Pc	





Art.	Description	Qty.
DFP88G01	Lip profile gasket	1.5 m
DFPG03	Flat profile gasket	1.5 m
DF100.15	Upper snap-on finishing profile	1 Pc
DF1721MR	810 clamps for glass 8+8	6 Pcs
DF810MR.15	Single-sided floor profile	1 Pc
Art.	Length	Qty
DF810MR17KI	T.15 1498 mm	1 Pc



No. Art. 1 **DF810MR17KIT**

TECH INFO
p. 154

Note: System not compatible with LED strips in the channel

HOLE SPACING

100*	200	200	100*
Ō		0	

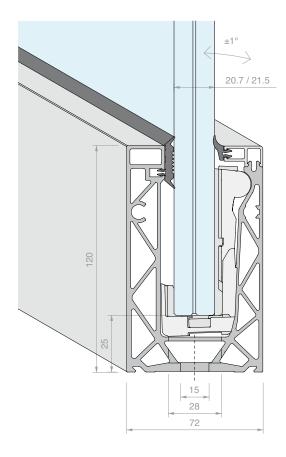
Opti	onal:	
No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	DF12072AL	Closed end cap
7	DF2TPAL	End cap with V-shaped opening
8	DF12772AL	Closed end cap with profile DFA72
9	DFA72	Water drainage profile

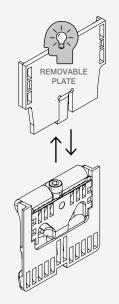


DEFENDER 810MR KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 10+10 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL







MODULAR CLAMPS for DEFENDER810MR

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810MR clamps are designed to permit two configurations: 8+8 panes of glass using an adjustable adaptor, and 10+10 panes of glass without the thickness adaptors.

Clamp kit provided with adjustment tool DFUT01

DF1721MR

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121MR

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.





Kit comprising:

r ar oornprionig.		
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	2 Pcs
DFPG03.03	Flat profile gasket	2 Pcs
DF100.60	Upper snap-on finishing profile	1 Pc
DF2121MR	810 clamps for glass 10+10	24 Pcs
DF810MR.60	Single-sided floor profile	1 Pc
Art.	Length	Qty
DF810MR21KIT	.60 6000 mm	1 Pc

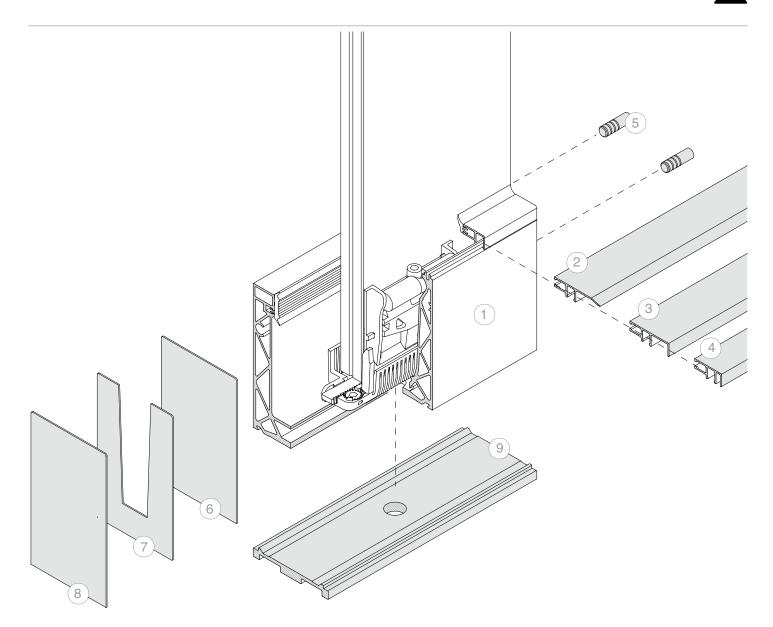


Kit comprising:

Art. DFP88G01.03	Descrip Lip pro	tion file gasket	Qty. 1 Pc
DFPG03.03	Flat profile gasket		1 Pc
DF100.30	Upper	Upper snap-on finishing profile	
DF2121MR	810 cla	810 clamps for glass 10+10	
DF810MR.30	Single-	Single-sided floor profile	
Art.		Length	Qty
DF810MR21KI	Т.30	3000 mm	1 Pc



Art.	Descrip	tion	Qty.	
DFP88G01	Lip pro	ofile gasket	1.5 m	
DFPG03	Flat pr	ofile gasket	1.5 m	
DF100.15	Upper	snap-on finishing profile	1 Pc	
DF2121MR	810 cl	amps for glass 10+10	6 Pcs	
DF810MR.15	Single	-sided floor profile	1 Pc	
Art.		Length	Qty	
DF810MR21K	T.15	1498 mm	1 Pc	



No. Art. 1 **DF810MR21KIT**

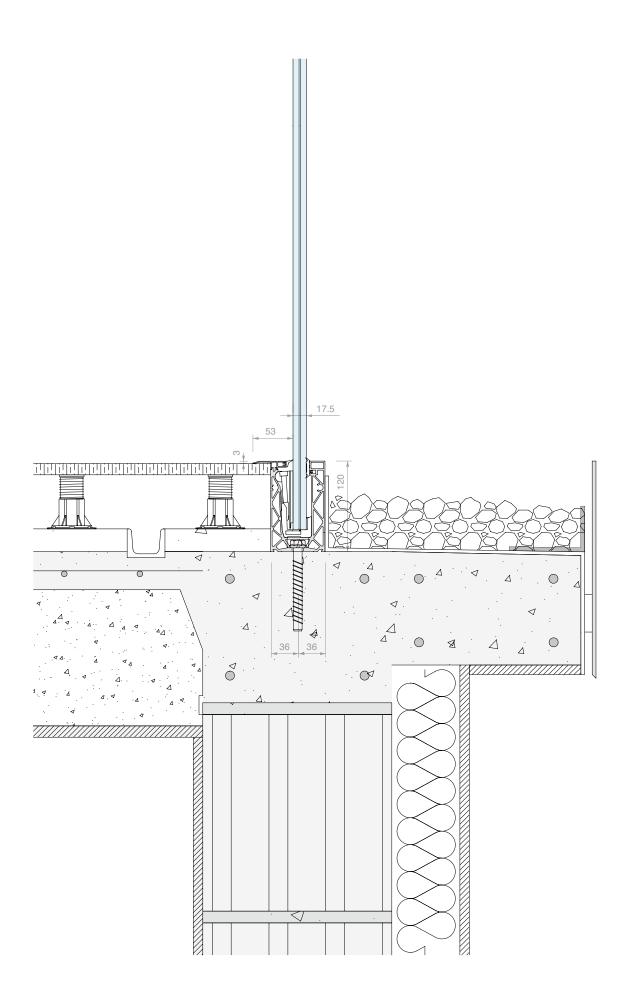
TECH	
INFO	
p. 154	

Note: System not compatible with LED strips in the channel

HOLE SPACING

100*	200	200	100*
Ó		0	

Opti	onal:	
No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	DF12072AL	Closed end cap
7	DF2TPAL	End cap with V-shaped opening
8	DF12772AL	Closed end cap with profile DFA72
9	DFA72	Water drainage profile





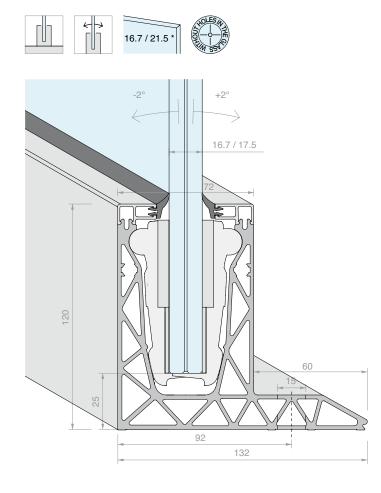






DEFENDER 810DK KIT

FLOOR INSTALLATION WITH SIDE FIN CONFIGURED FOR GLASS 8+8 Material: Aluminium Finish: /97

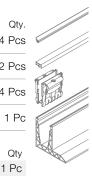




DF810DK.60	Floor profile with side fin	1
DF1721	810 clamps for glass 8+8	24 F
DF100.60	Upper snap-on finishing profile	2 F
DFP88G01.03	Lip profile gasket	4 F
Art.	Description	(
Kit comprising:		

Length

6000 mm



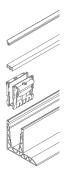


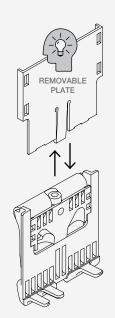
Art.

Kit comprising:

DF810DK17KIT.60

Art. DFP88G01.03	Description Lip profile gasket	Qty. 2 Pcs
DF100.30	Upper snap-on finishing profile	2 Pcs 🕅
DF1721	810 clamps for glass 8+8	12 Pcs
DF810DK.30	Floor profile with side fin	1 Pc
Art.	Length	Qty
DF810DK17KI	T.30 3000 mm	1 Pc





* MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

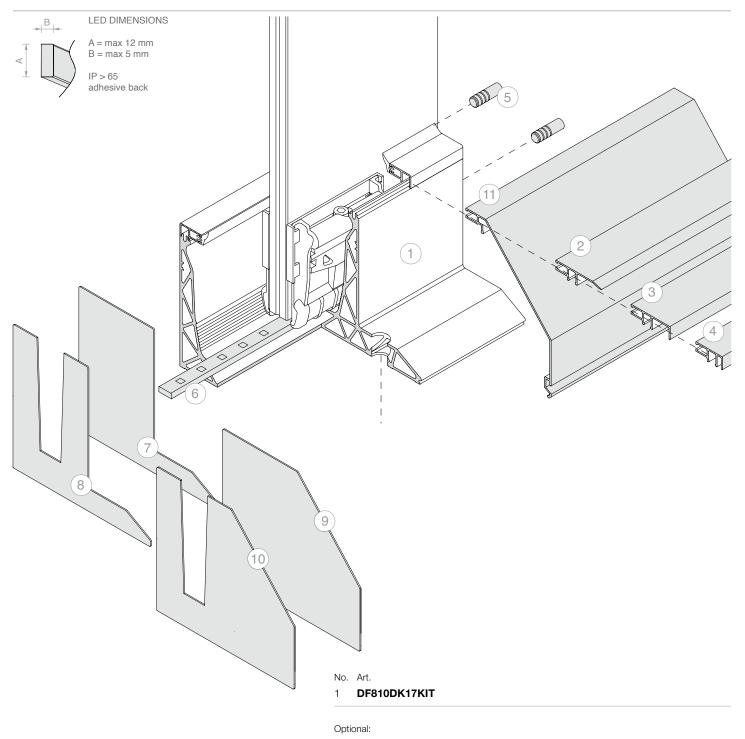
DF2121

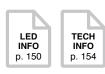
This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.



Art. DFP88G01.03	DescriptionQty.Lip profile gasket1 Pc		
DF100.15	Upper snap-on finishing profile 2 Pcs		
DF1721	810 clamps for glass 8+8 6 Pcs		
DF810DK.15	Floor profile with side fin	1 Pc	
Art. DF810DK17KI	Length T.15 1498 mm	Qty 1 Pc	





HOLE SPACING

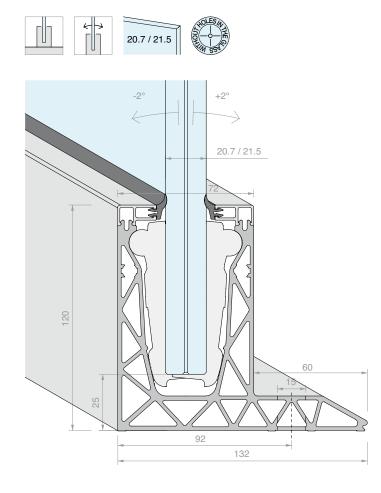
100*	200		200	100*
0		0		0

No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DFDKTP08	Closed end cap
8	DFDKTP10	End cap with V-shaped opening
9	DFDKTP29	Closed end cap con DFDK07
10	DFDKTP31	End cap with V-shaped opening with DFDK07
11	DFDK07	Inclined snap-on finishing profile



DEFENDER 810DK KIT

FLOOR INSTALLATION WITH SIDE FIN CONFIGURED FOR GLASS 10+10 Material: Aluminium Finish: /97



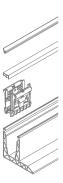


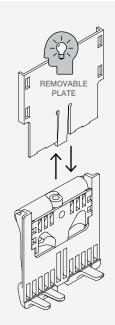
Kit comprising:			/
Art. DFP88G01.03	Description Lip profile gasket	Qty. 4 Pcs	
DF100.60	Upper snap-on finishing profile	2 Pcs	
DF2121	810 clamps for glass 10+10	24 Pcs	
DF810DK.60	Floor profile with side fin	1 Pc	
Art. DF810DK21KIT	Length	Qty 1 Pc	



Kit comprising:

Art.	Description	Qty.	
DFP88G01.03	Lip profile gasket	2 Pcs	
DF100.30	Upper snap-on finishing profile	2 Pcs	
DF2121	810 clamps for glass 10+10	12 Pcs	
DF810DK.30	Floor profile with side fin	1 Pc	
Art.	Length	Qty	
DF810DK21KI	T.30 3000 mm	1 Pc	\checkmark





MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

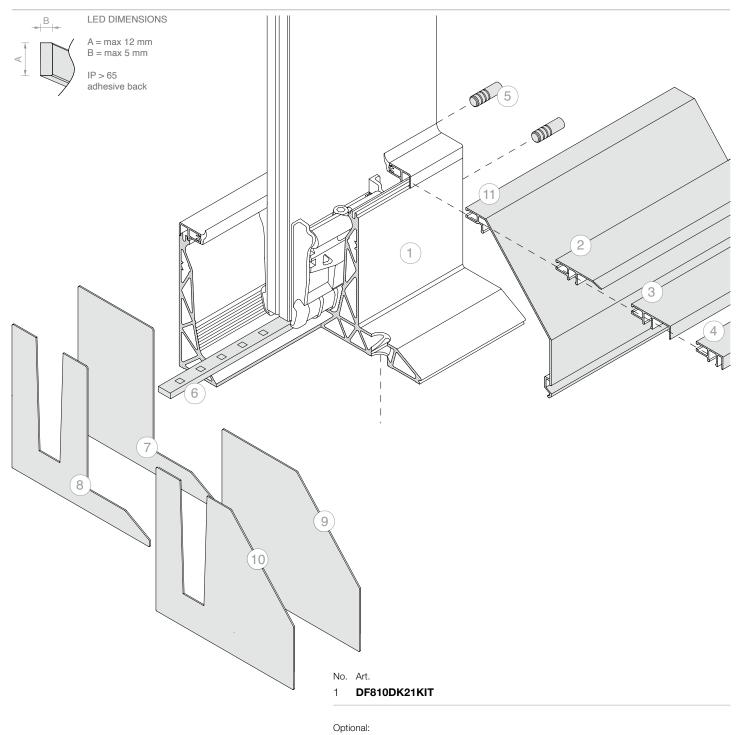
DF2121

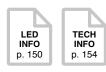
This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.

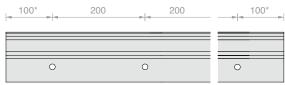


Art. DFP88G01.03	Description Lip profile gasket	Qty. 1 Pc	
DF100.15	Upper snap-on finishing profile	e 2 Pcs	
DF2121	810 clamps for glass 10+10	6 Pcs	
DF810DK.15	Floor profile with side fin	1 Pc	
Art. DF810DK21K	Length T.15 1498 mm	Qty 1 Pc	





HOLE SPACING



No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DFDKTP08	Closed end cap
8	DFDKTP10	End cap with V-shaped opening
9	DFDKTP29	Closed end cap con DFDK07
10	DFDKTP31	End cap with V-shaped opening with DFDK07
11	DFDK07	Inclined snap-on finishing profile

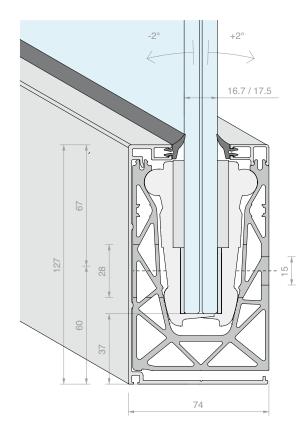


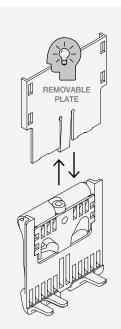




SLAB INSTALLATION CONFIGURED FOR GLASS 8+8 Material: Aluminium Finish: <u>/6</u> /10 /97 R25 RAL







* MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass. BALUSTRADES



Kit comprising:

rat comprising.		
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	4 Pcs
DFS15.60	Finishing profile with drip guard	1 Pc
DF100.60	Upper snap-on finishing profile	1 Pc
DF1721	810 clamps for glass 8+8	24 Pcs
DF810FR.60	Slab profile	1 Pc
Art.	Length	Qty
DF810FR17KIT	.60 6000 mm	1 Pc



Kit comprising:

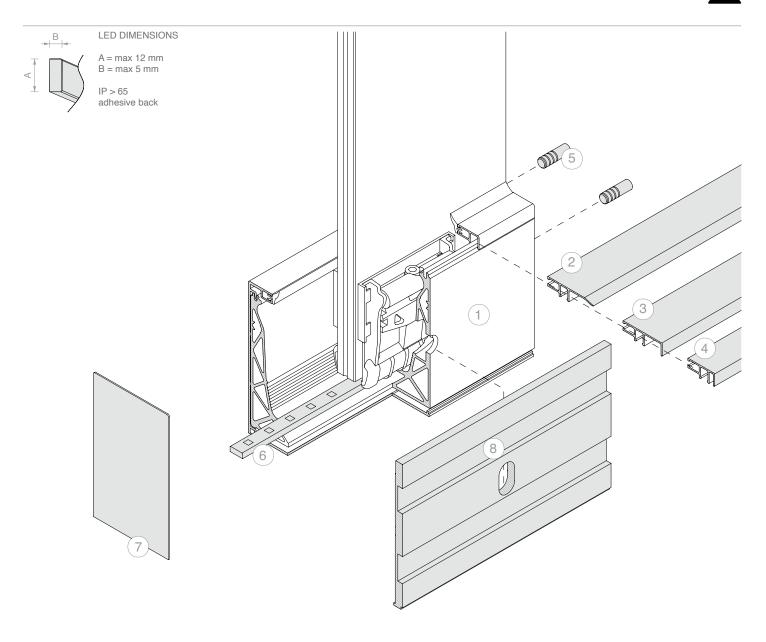
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	2 Pcs
DFS15.30	Finishing profile with drip g	juard 1 Pc
DF100.30	Upper snap-on finishing pr	ofile 1 Pc
DF1721	810 clamps for glass 8+8	3 12 Pcs
DF810FR.30	Slab profile	1 Pc
Art.	Length	Qty
DF810FR17KI	Γ.30 3000 mm	1 Pc

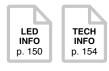


Kit comprising:

Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	1 Pc
DFS15.15	Finishing profile with drip guard	1 Pc
DF100.15	Upper snap-on finishing profile	1 Pc
DF1721	810 clamps for glass 8+8	6 Pcs
DF810FR.15	Slab profile	1 Pc
Art.	Length	Qty
DF810FR17KIT	1498 mm	1 Pc

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HOLE SPACING

100*	200		200	100*
Ø		Ō		0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art. 1 **DF810FR17KIT**

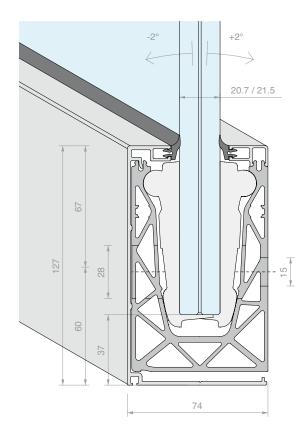
Opti	onal:	
No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DF12774AL	Closed end cap
8	DFSA121	Slab water drainage profile



DEFENDER 810FR KIT

SLAB INSTALLATION CONFIGURED FOR GLASS 10+10 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL







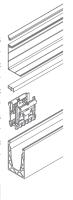
Kit comprising:

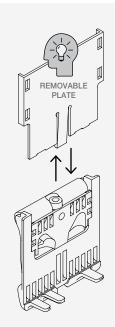
Art. DFP88G01.03	DescriptionQty.Lip profile gasket4 Pcs		
DFS15.60	Finishing profile with drip guard	1 Pc	
DF100.60	Upper snap-on finishing profile	1 Pc	
DF2121	810 clamps for glass 10+10 24 Pcs		
DF810FR.60	Slab profile	1 Pc	
Art.	Length	Qty	
DF810FR21KIT	.60 6000 mm	1 Pc	



Kit comprising:

Art. DFP88G01.03	Description Lip profile gasket	Qty. 2 Pcs
DFS15.30	Finishing profile with drip gu	ard 1 Pc
DF100.30	Upper snap-on finishing pro	file 1 Pc
DF2121	810 clamps for glass 10+1	0 12 Pcs
DF810FR.30	Slab profile	1 Pc
Art.	Length	Qty
DF810FR21KI	.30 3000 mm	1 Pc





MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

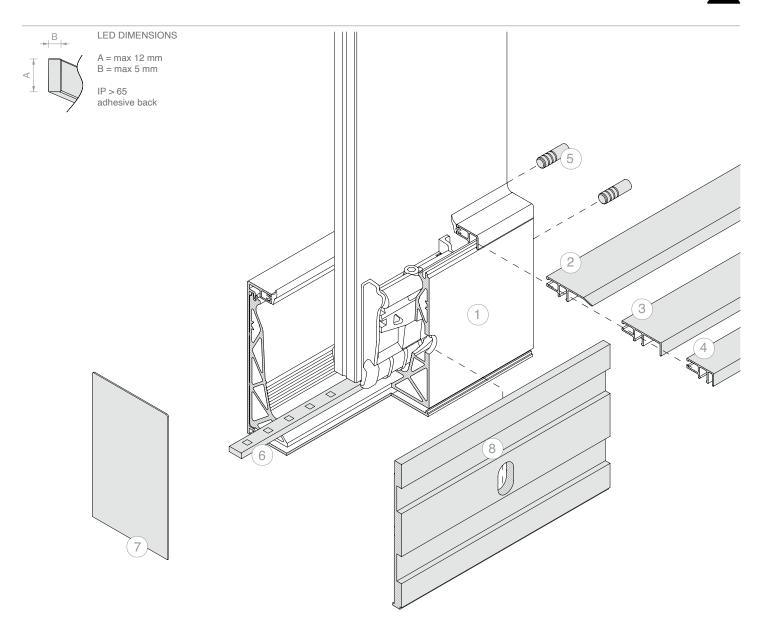
DF2121

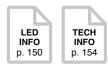
This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.



Art.	Description	Qty.
DFP88G01.03	Lip profile gasket 1 P	
DFS15.15	Finishing profile with drip guard	1 Pc
DF100.15	Upper snap-on finishing profile	1 Pc
DF2121	810 clamps for glass 10+10	6 Pcs
DF810FR.15	Slab profile	1 Pc
Art.	Length	Qty
DF810FR21KI	Г.15 1498 mm	1 Pc





HOLE SPACING

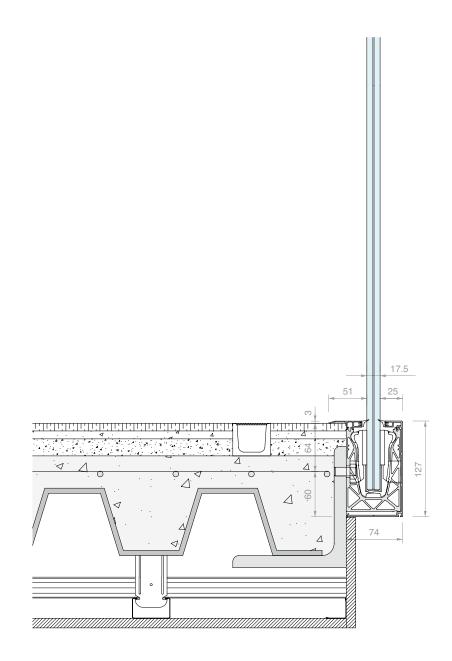
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* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art.

1 DF810FR21KIT

Opti	onal:	
No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DF12774AL	Closed end cap
8	DFSA121	Slab water drainage profile



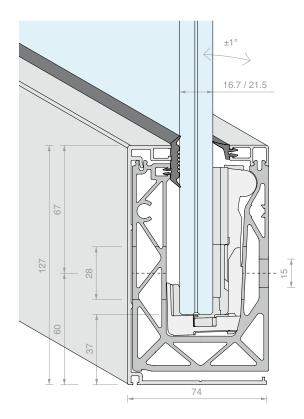


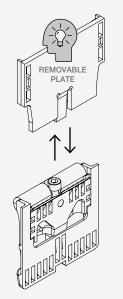


DEFENDER 810MF KIT









*MODULAR CLAMPS for DEFENDER810MR

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810MR clamps are designed to permit two configurations: 8+8 panes of glass using an adjustable adaptor, and 10+10 panes of glass without the thickness adaptors.

Clamp kit provided with adjustment tool DFUT01

DF1721MR

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121MR

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.



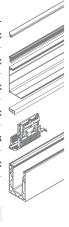
Kit comprising:

1 0		
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	
DFPG03.03	Flat profile gasket	2 Pcs
DFS15.60	Finishing profile with drip guard	I 1 Pc
DF100.60	Upper snap-on finishing profile	1 Pc
DF1721MR	810 clamps for glass 8+8	24 Pcs
DF810MF.60	Single-sided slab profile	1 Pc
Art.	Length	Qty
DF810MF17KI	F.60 6000 mm	1 Pc



Kit comprising:

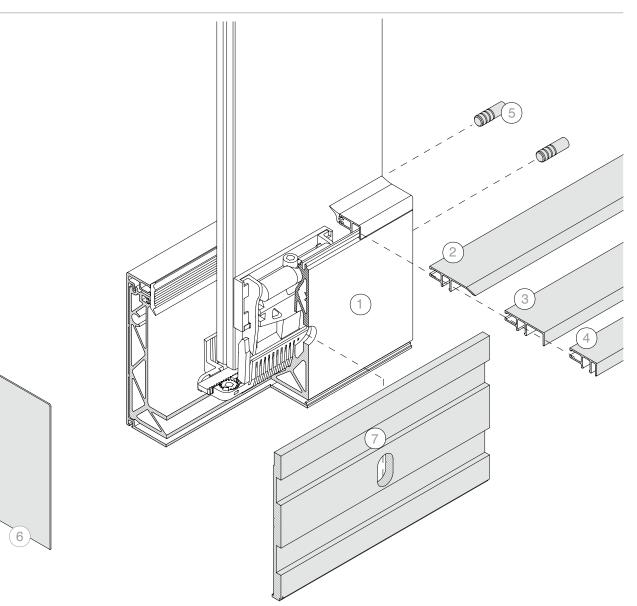
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	1 Pc
DFPG03.03	Flat profile gasket	1 Pc
DFS15.30	Finishing profile with drip guard	1 Pc
DF100.30	Upper snap-on finishing profile	1 Pc
DF1721MR	810 clamps for glass 8+8	12 Pcs
DF810MF.30	Single-sided slab profile	1 Pc
Art.	Length	Qty
DF810MF17KI	T.30 3000 mm	1 Pc





Art.	Description	Qty.
DFP88G01	Lip profile gasket	1.5 m
DFPG03	Flat profile gasket	1.5 m
DFS15.15	Finishing profile with drip guard	1 Pc
DF100.15	Upper snap-on finishing profile	1 Pc
DF1721MR	810 clamps for glass 8+8	6 Pcs
DF810MF.15	Single-sided slab profile	1 Pc
Art.	Length	Qty
DF810MF17KI	T.15 1498 mm	1 Pc







Note: System not compatible with LED strips in the channel

HOLE SPACING



* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art. 1 **DF810MF17KIT**

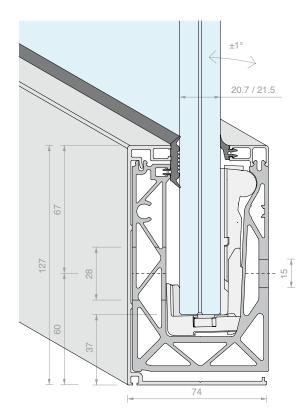
Opt	ional:	
No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	DF12774AL	Closed end cap
7	DFSA121	Slab water drainage profile

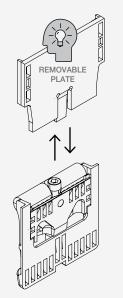


DEFENDER 810MF KIT

SLAB INSTALLATION CONFIGURED FOR GLASS 10+10 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL







MODULAR CLAMPS for DEFENDER810MR

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810MR clamps are designed to permit two configurations: 8+8 panes of glass using an adjustable adaptor, and 10+10 panes of glass without the thickness adaptors.

Clamp kit provided with adjustment tool DFUT01

DF1721MR

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121MR

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.



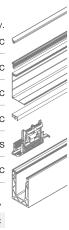
Kit comprising:

1 0		
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	2 Pcs
DFPG03.03	Flat profile gasket	2 Pcs
DFS15.60	Finishing profile with drip guard	1 Pc
DF100.60	Upper snap-on finishing profile	1 Pc
DF2121MR	810 clamps for glass 10+10	24 Pcs
DF810MF.60	Single-sided slab profile	1 Pc
Art.	Length	Qty
DF810MF21KI	6000 mm	1 Pc



Kit comprising:

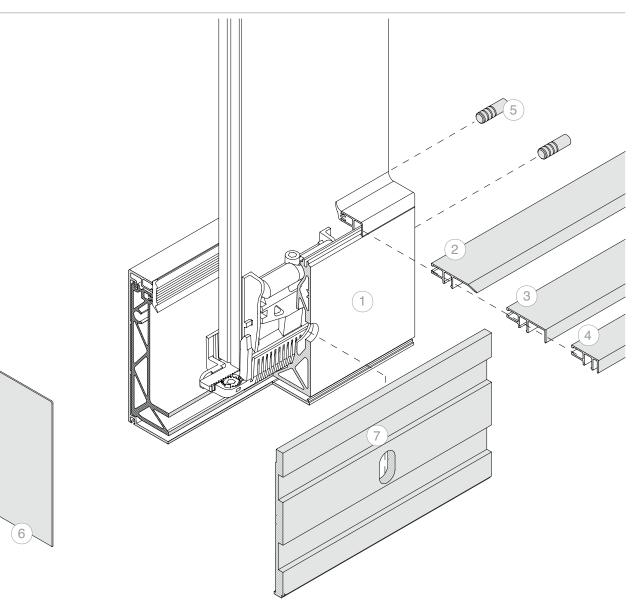
Art. DFP88G01.03	Description	Qty. 1 Pc
DFP603.03	Lip profile gasket Flat profile gasket	1 Pc
DFS15.30	Finishing profile with drip guard	1 Pc
DF100.30	Upper snap-on finishing profile	1 Pc
DF2121MR	810 clamps for glass 10+10	12 Pcs
DF810MF.30	Single-sided slab profile	1 Pc
Art.	Length	Qty 😡
DF810MF21KI	T.30 3000 mm	1 Pc





Art.	Description	Qty.
DFP88G01	Lip profile gasket	1.5 m
DFPG03	Flat profile gasket	1.5 m
DFS15.15	Finishing profile with drip guard	1 Pc
DF100.15	Upper snap-on finishing profile	1 Pc
DF2121MR	810 clamps for glass 10+10	6 Pcs
DF810MF.15	Single-sided slab profile	1 Pc
Art.	Length	Qty
DF810MF21KI	T.15 1498 mm	1 Pc







Note: System not compatible with LED strips in the channel

HOLE SPACING

100*	200		200	100*
O		Ō		Ø

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art. 1 **DF810MF21KIT**

Opti	onal:	
No. 2	Art. DF101	Description Snap-on threshold profile
3	DF216	Profile for front cladding insertion of max. thickness 16 mm
4	DF204	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	DF12774AL	Closed end cap
7	DFSA121	Slab water drainage profile

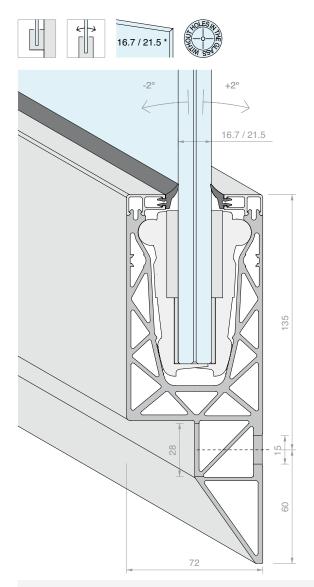






DEFENDER 810SP KIT

SLAB INSTALLATION WITH LOWER FIN CONFIGURED FOR GLASS 8+8 Material: Aluminium Finish: /97



REMOVABLE PLATE

* MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.



Kit comprising:		
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	4 Pcs
DF100.60	Upper snap-on finishing profile	2 Pcs
DF1721	810 clamps for glass 8+8	24 Pcs
DF810SP.60	Slab profile with lower fin	1 Pc
Art.	Length	Qty
DF810SP17KIT	.60 6000 mm	1 Pc
Brotoor man		110

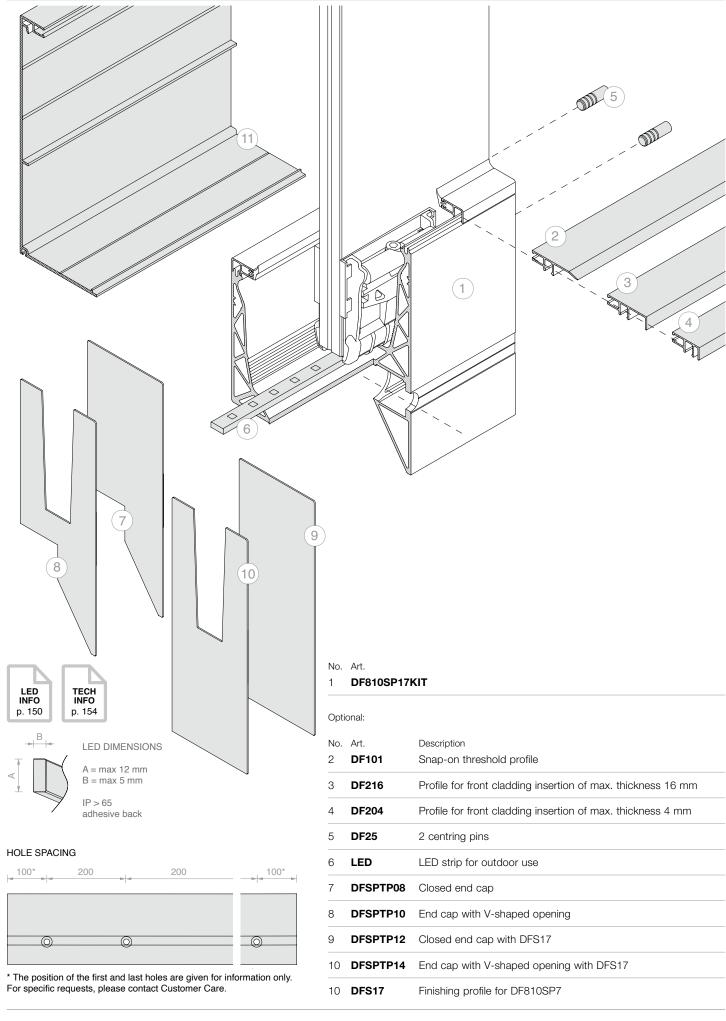


Kit comprising:

Art. DFP88G01.03	Description Lip profile gasket	Qty. 2 Pcs	
DF100.30	Upper snap-on finishing profile	2 Pcs	
DF1721	810 clamps for glass 8+8	12 Pcs	
DF810SP.30	Slab profile with lower fin	1 Pc	
Art.	Length	Qty	M
DF810SP17KIT	.30 3000 mm	1 Pc	A.



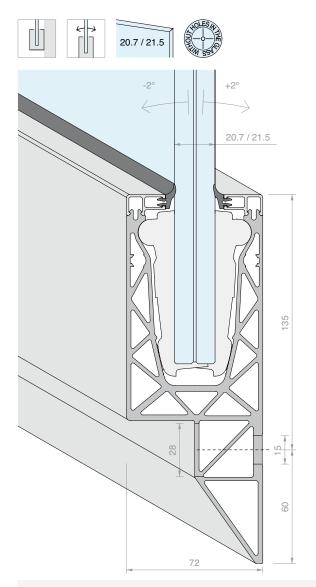
Art. DFP88G01.03	Description Lip profile gasket	Qty. 1 Pc
DF100.15	Upper snap-on finishing profile	2 Pcs
DF1721	810 clamps for glass 8+8	6 Pcs
DF810SP.15	Slab profile with lower fin	1 Pc
Art. DF810SP17KI1	Length	Qty 1 Pc

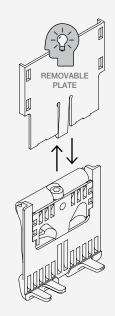




DEFENDER 810SP KIT

SLAB INSTALLATION WITH LOWER FIN CONFIGURED FOR GLASS 10+10 Material: Aluminium Finish: /97





MODULAR CLAMPS for DEFENDER810

16.7 / 17.5

20.7 / 21.5

20.7 / 21.5

16.7 / 17.5

DEFENDER810 clamps are designed to permit two configurations: 8+8 panes of glass using the thickness adaptors, and 10+10 panes of glass without the thickness adaptors.

DF1721

This model of clamp is already configured for 8+8 panes of glass. It uses the thickness adaptors.

Reversible configuration The clamp can be reversed by removing the thickness adaptors. It adapts to 10+10 panes of glass.

DF2121

This model of clamp is already configured for 10+10 panes of glass. It does not use the thickness adaptors.

Reversible configuration The clamp can be reversed. Order the thickness adaptors separately and insert them to adapt to 8+8 panes of glass.

6000 mm	

Kit comprising:			,
Art.	Description	Qty.	
DFP88G01.03	Lip profile gasket	4 Pcs	
DF100.60	Upper snap-on finishing profile	2 Pcs	
DF2121	810 clamps for glass 10+10	24 Pcs	
DF810SP.60	Slab profile with lower fin	1 Pc	
Art.	Length	Qty	Y
DF810SP21KIT	60 6000 mm	1 Pc	V.

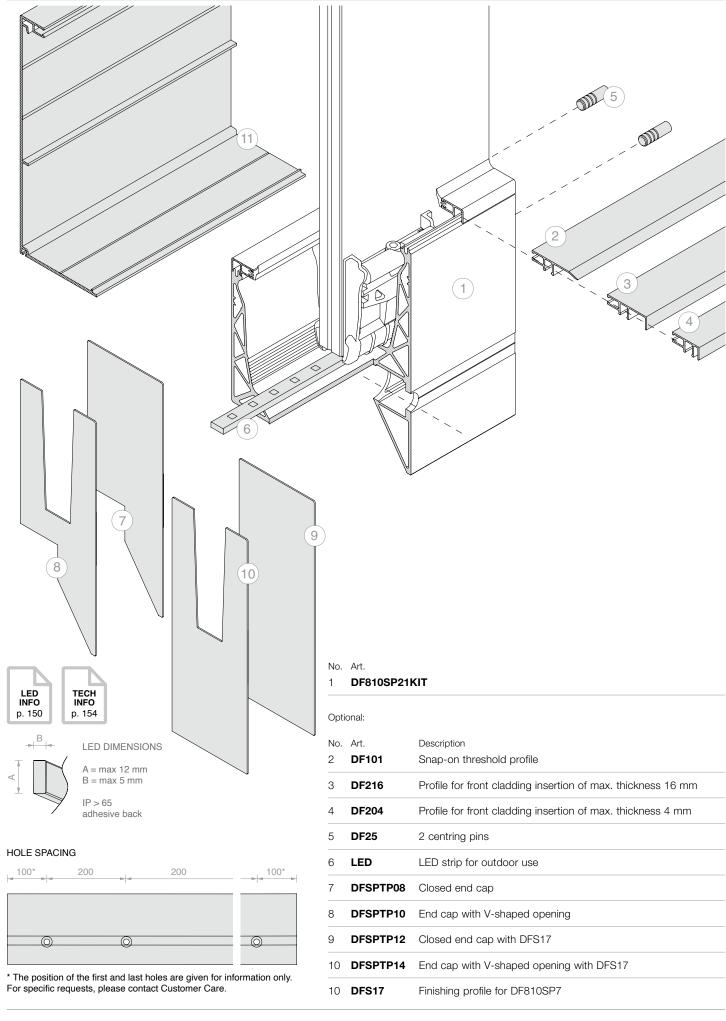


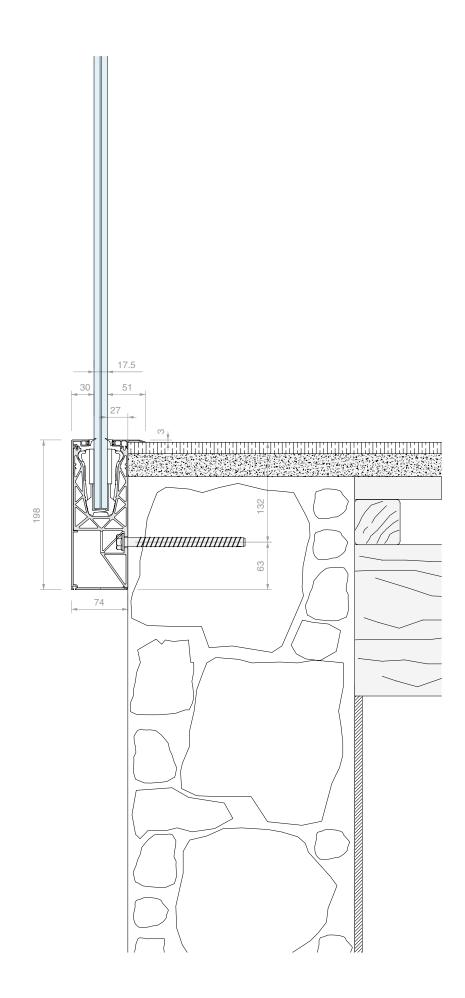
Kit comprising:

1 1 3			/_
Art.	Description	Qty.	
DFP88G01.03	Lip profile gasket	2 Pcs	
DF100.30	Upper snap-on finishing profile	2 Pcs	a la
DF2121	810 clamps for glass 10+10	12 Pcs	
DF810SP.30	Slab profile with lower fin	1 Pc	
Art.	Length	Qty	
DF810SP21KIT	30 3000 mm	1 Pc	V



Art. DFP88G01.03	Description Lip profile gasket	Qty. 1 Pc
DF100.15	Upper snap-on finishing profile	2 Pcs
DF2121	810 clamps for glass 10+10	6 Pcs
DF810SP.15	Slab profile with lower fin	1 Pc
Art. DF810SP21KIT	Length	Qty 1 Pc









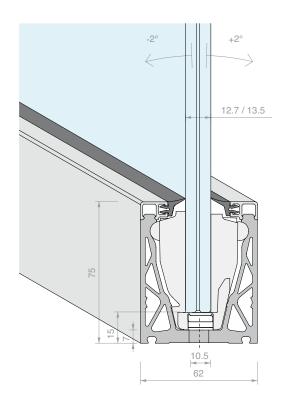




DEFENDER XP KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 6+6 Material: Aluminium Finish: 16 /10 /97 /R25 /RAL







Kit comprising:

Art. DFP15G01.03	Description Lip profile gasket	Qty. 2 Pcs	
DFP88G01.03	Lip profile gasket	2 Pcs	6
DFP100.60	Upper snap-on finishing profile	2 Pcs	
DFXP135	XP clamps for glass 6+6	24 Pcs	
DFXP88.60	Floor profile	1 Pc	G
Art.	Length	Qty	
DF66XPKIT.60	6000 mm	1 Pc	



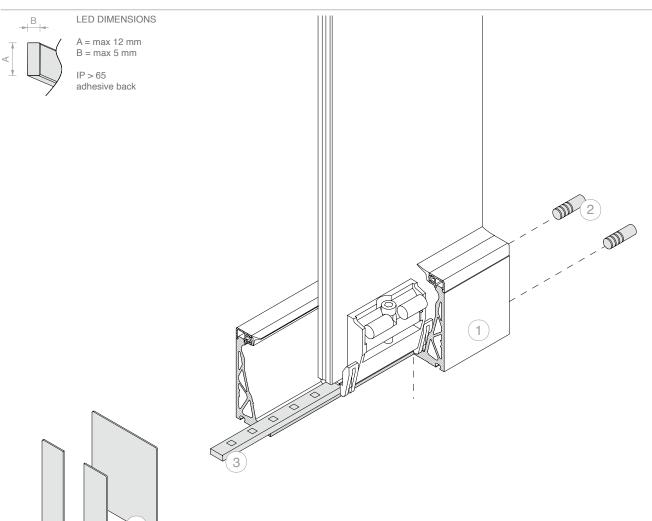
Kit comprising:

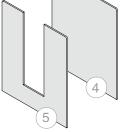
DF66XPKIT.30	3000 mm	1 Pc
Art.	Length	Qty
DFXP88.30	Floor profile	1 Pc
DFXP135	XP clamps for glass 6+6	12 Pcs
DFP100.30	Upper snap-on finishing profile	2 Pcs
DFP88G01.03	Lip profile gasket	1 Pc
DFP15G01.03	Lip profile gasket	1 Pc
Art.	Description	Qty.
Kit comprising:		

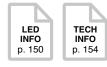


Art. DFP15G01	Description Lip profile gasket	Qty. 1.5 m
DFP88G01	Lip profile gasket	1.5 m
DFP100.15	Upper snap-on finishing profile	2 Pcs
DFXP135	XP clamps for glass 6+6	6 Pcs
DFXP88.15	Floor profile	1 Pc
Art.	Length	Qty
DF66XPKIT.15	6000 mm	1 Pc









HOLE SPACING

62.5*	125	125	125	125	125 62.5*
0	0	0	0	0	0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art. DF66XPKIT 1

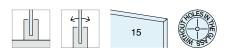
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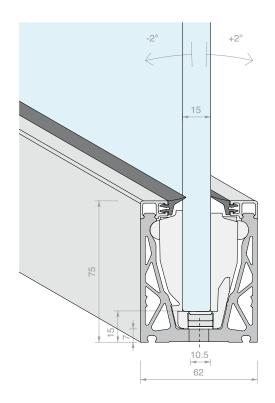
No.	Art.	Description
2	DF25	2 centring pins
3	LED	LED strip for outdoor use
4	DFP7562	Closed end cap
5	DFP7562U	End cap with U-shaped opening



DEFENDER XP KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 15 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL







Kit comprising:

Art.DescriptionQtyDFP15G01.03Lip profile gasket2 PcsDFP88G01.03Lip profile gasket2 PcsDFP100.60Upper snap-on finishing profile2 Pcs
DFP88G01.03Lip profile gasket2 PcsDFP100.60Upper snap-on finishing profile2 Pcs
DFP100.60 Upper snap-on finishing profile 2 Pcs
DFP150 XP clamps for glass 15 mm 24 Pcs
DFXP88.60 Floor profile 1 Pc
Art. Length Qty
DF15XPKIT.60 6000 mm 1 Pc

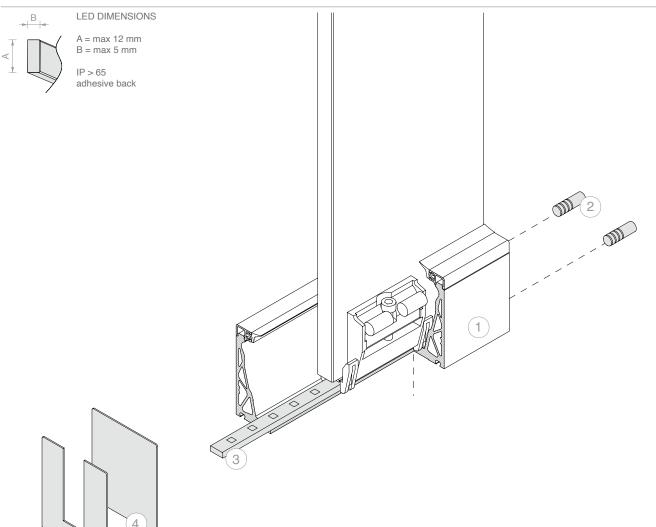


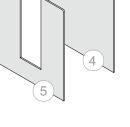
Kit comprising:
Art. Description Qty. DFP15G01.03 Lip profile gasket 1 Pc
DFP88G01.03 Lip profile gasket 1 Pc
DFP100.30 Upper snap-on finishing profile 2 Pcs
DFP150 XP clamps for glass 15 mm 12 Pcs
DFXP88.30 Floor profile 1 Pc
Art. Length Qty
DF15XPKIT.30 3000 mm 1 Pc

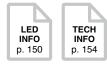


			/
Art.	Description	Qty.	
DFP15G01	Lip profile gasket	1.5 m 🐓	
DFP88G01	Lip profile gasket	1.5 m	
DFP100.15	Upper snap-on finishing profile	2 Pcs	
DFP150	XP clamps for glass 15 mm	6 Pcs	
DFXP88.15	Floor profile	1 Pc	
Art.	Length	Qty	¥
DF15XPKIT.15	6000 mm	1 Pc	









HOLE SPACING

62.5*	125	125	125	125	125 62.5*
0	0	0	0	0	0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art. DF15XPKIT 1

\cap	ntional	
U	ptional:	

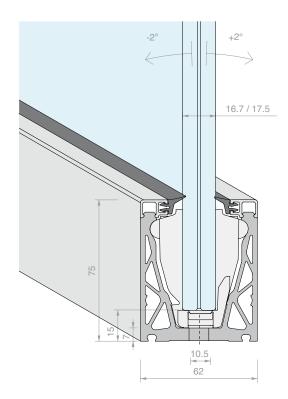
No.	Art.	Description
2	DF25	2 centring pins
3	LED	LED strip for outdoor use
4	DFP7562	Closed end cap
5	DFP7562U	End cap with U-shaped opening



DEFENDER XP KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 8+8 Material: Aluminium Finish: 16 /10 /97 /R25 /RAL







Kit comprising:					
Art. DFP88G01.03	Description Lip profile gasket	Qty. 4 Pcs			
DFP100.60	Upper snap-on finishing profile	2 Pcs			
DFXP175	XP clamps for glass 8+8	24 Pcs			
DFXP88.60	Floor profile	1 Pc	/		
Art.	Length	Qty			
DF88XPKIT.60	6000 mm	1 Pc			



Kit comprising:

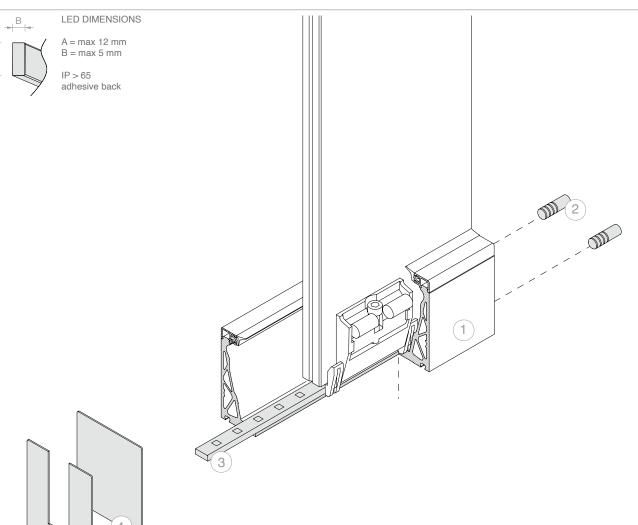
Art. DFP88G01.03	Description Lip profile gasket	Qty. 2 Pcs
DFP100.30	Upper snap-on finishing profile	2 Pcs
DFXP175	XP clamps for glass 8+8	12 Pcs
DFXP88.30	Floor profile	1 Pc
Art.	Length	Qty
DF88XPKIT.30	3000 mm	1 Pc

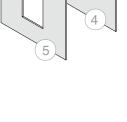


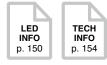
Art. DFP88G01.03	Description Lip profile gasket	Qty. 1 Pc
DFP100.15	Upper snap-on finishing profile	2 Pcs
DFXP175	XP clamps for glass 8+8	6 Pcs
DFXP88.15	Floor profile	1 Pc
Art.	Length	Qty
DF88XPKIT.15	6000 mm	1 Pc

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Note: System compatible with LED strips at the base of the channel only in the version for 8+8 glass.

HOLE SPACING

62.5*	125	125	125	125	125 62.5*
0	0	0	0	0	0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art. 1 **DF88XPKIT**

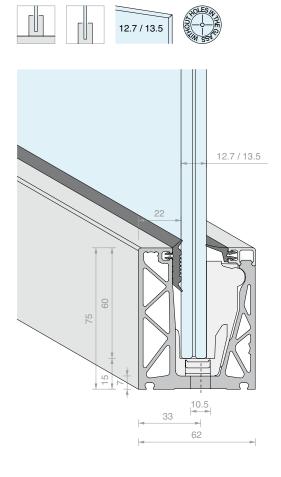
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No.	Art.	Description
2	DF25	2 centring pins
3	LED	LED strip for outdoor use
4	DFP7562	Closed end cap
5	DFP7562U	End cap with U-shaped opening



DEFENDER PICO KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 6+6 Material: Aluminium Finish: /6 /10 /97 R25 RAL





Kit comprising:

Art.	Description	Qty.	
DFP15G01.03	Lip profile gasket 2 P		
DFPG03.03	Flat profile gasket 2		
DFP100.60	Upper snap-on finishing profile	1 Pc	
DFP135	PICO clamps for glass 6+6	24 Pcs	
DFP88.60	Floor profile	1 Pc	
Art.	Length	Qty	
DF66PICOKIT.	60 6000 mm	1 Pc	



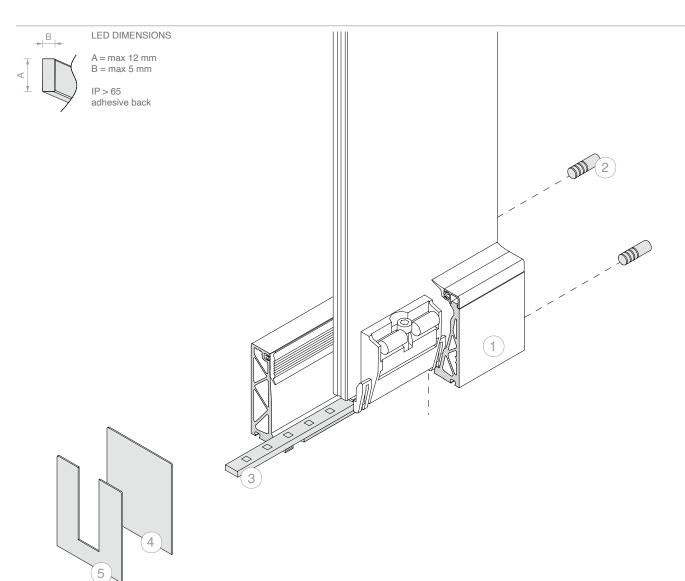
Kit comprising:

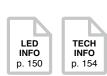
Art. DFP15G01.03	Description Lip profile gasket	Qty. 1 Pc
DFPG03.03	Flat profile gasket	1 Pc
DFP100.30	Upper snap-on finishing profile	1 Pc
DFP135	PICO clamps for glass 6+6	12 Pcs
DFP88.30	FP88.30 Floor profile	
Art. DF66PICOKIT.	Length 30 3000 mm	Qty 1 Pc



Art.	Description	Qty.	
DFP15G01	Lip profile gasket	1.5 m	
DFPG03	Flat profile gasket	1.5 m	
DFP100.15	Upper snap-on finishing profile	1 Pc	
DFP135	PICO clamps for glass 6+6	6 Pcs	
DFP88.15	Floor profile	1 Pc	
Art.	Length	Qty	
DF66PICOKIT.1	5 1498 mm	1 Pc	







HOLE SPACING

62.5*	125	125	125	125	125 62.5*
0	0	0	0	0	0

* The position of the first and last holes are given for information only For specific requests, please contact Customer Care.

No. Art. 1 **DF66PICOKIT**

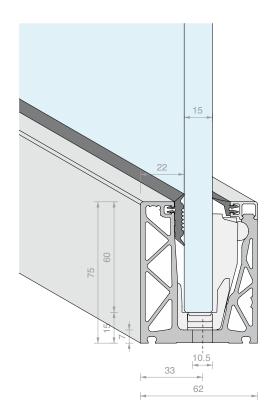
	Optional:			
	No.	Art.	Description	
62.5*	2	DF25	2 centring pins	
0	3	LED	LED strip for outdoor use	
nation only.	4	DFP7562	Closed end cap	
ation only.	5	DFP7562U	End cap with U-shaped opening	



DEFENDER PICO KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 15 Material: Aluminium Finish: 16 /10 /97 /R25 /RAL







Kit comprising:

Art.	Description	Qty.	
DFP15G01.03	Lip profile gasket		
DFPG03.03	Flat profile gasket	2 Pcs	
DFP100.60	Upper snap-on finishing profile	1 Pc	
DFP150	PICO clamps for glass 15 mm	24 Pcs	
DFP88.60	Floor profile	1 Pc	
Art.	Length	Qty	
DF15PICOKIT.	60 6000 mm	1 Pc	
	ě	,	



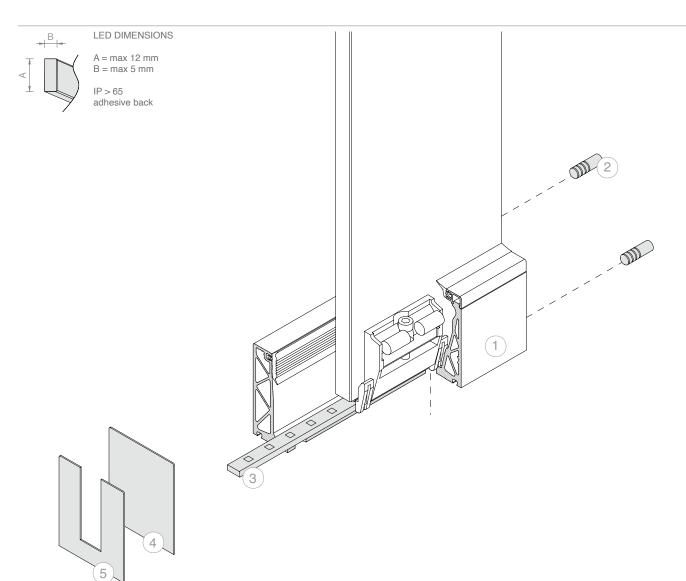
Kit comprising:

Art. DFP15G01.03	Description Lip profile gasket	Qty. 1 Pc
DFPG03.03	Flat profile gasket	1 Pc
DFP100.30	Upper snap-on finishing profile	1 Pc
DFP150	PICO clamps for glass 15 mm	12 Pcs
DFP88.30	Floor profile	1 Pc
Art.	Length	Qty
DF15PICOKIT.	30 3000 mm	1 Pc



Art.	Description	Qty.
DFP15G01	Lip profile gasket	1.5 m
DFPG03	Flat profile gasket	1.5 m
DFP100.15	Upper snap-on finishing profile	1 Pc
DFP150	PICO clamps for glass 15 mm	6 Pcs
DFP88.15	Floor profile	1 Pc
Art.	Length	Qty
DF15PICOKIT.1	5 1498 mm	1 Pc







HOLE SPACING

62.5*	125	125	125	125	125 62.5'
0	0	0	0	0	0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

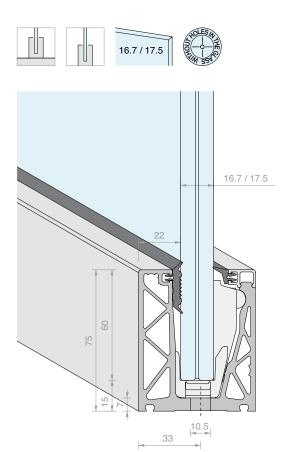
No. Art. 1 **DF15PICOKIT**

No.	Art.	Description
2	DF25	2 centring pins
3	LED	LED strip for outdoor use
4	DFP7562	Closed end cap
5	DFP7562U	End cap with U-shaped opening



DEFENDER PICO KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 8+8 Material: Aluminium Finish: /6 /10 /97 /R25 /RAL



33

62

-

6000 mm лЬ

Kit comprising:

r at ooniprionigi		
Art.	Description	Qty.
DFP88G01.03	Lip profile gasket	2 Pcs
DFPG03.03	Flat profile gasket	2 Pcs
DFP100.60	Upper snap-on finishing profile	1 Pc
DFP175	PICO clamps for glass 8+8	24 Pcs
DFP88.60	Floor profile	1 Pc
Art.	Length	Qty
DF88PICOKIT.6	6000 mm	1 Pc



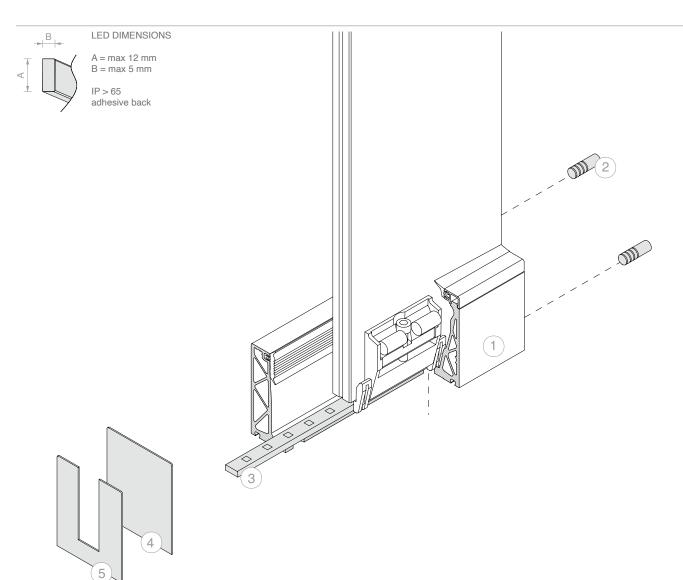
Kit comprising:

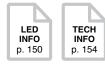
Art. DFP88G01.03	Description Lip profile gasket	Qty. 1 Pc
DFPG03.03	Flat profile gasket	1 Pc
DFP100.30	Upper snap-on finishing profile	1 Pc
DFP175	PICO clamps for glass 8+8	12 Pcs
DFP88.30	Floor profile	1 Pc
Art.	Length	Qty
DF88PICOKIT.	3000 mm	1 Pc



Art.	Description	Qty.
DFP88G01	Lip profile gasket	1.5 m
DFPG03	Flat profile gasket	1.5 m
DFP100.15	Upper snap-on finishing profile	1 Pc
DFP175	PICO clamps for glass 8+8	6 Pcs
DFP88.15	Floor profile	1 Pc
Art.	Length	Qty
DF88PICOKIT.1	15 1498 mm	1 Pc







HOLE SPACING

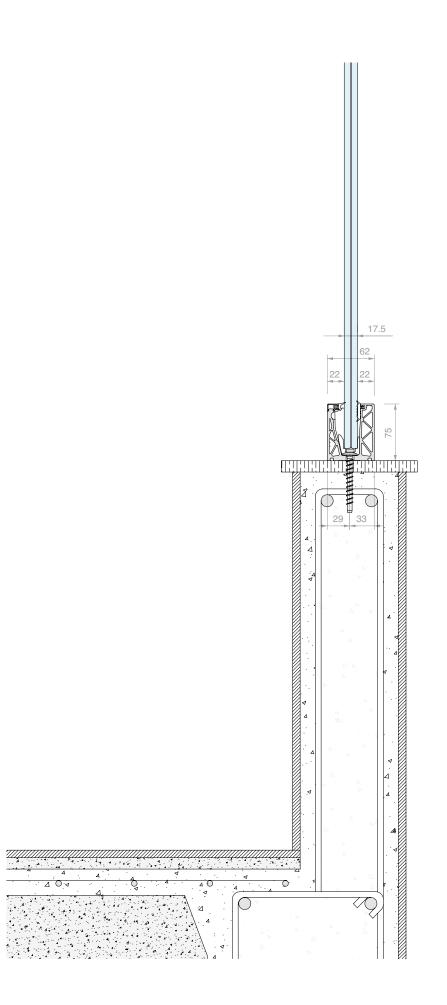
62.5*	125	125	125	125	125 62.5*
0	0	0	0	0	0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art.

1 DF88PICOKIT

No. 2	Art. DF25	Description 2 centring pins
3	LED	LED strip for outdoor use
4	DFP7562	Closed end cap
5	DFP7562U	End cap with U-shaped opening





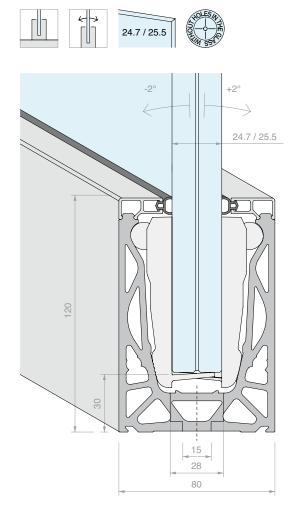




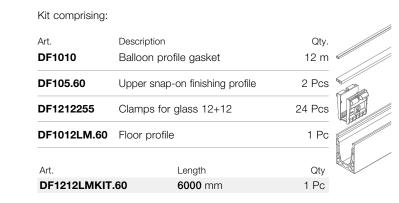


DEFENDER 1212LM KIT

FLOOR INSTALLATION CONFIGURED FOR GLASS 12+12 Material: Aluminium Finish: /97









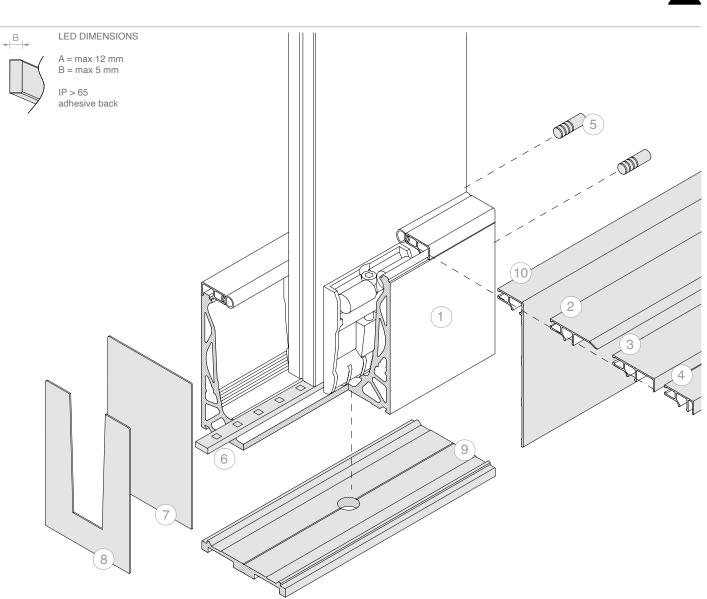
Kit comprising:

Art.	Description	Qty.
DF1010	Balloon profile gasket	6 m
DF105.30	Upper snap-on finishing profile	2 Pcs
DF1212255	Clamps for glass 12+12	12 Pcs
DF1012LM.30	Floor profile	1 Pc
Art.	Length	Qty
DF1212LMKIT	.30 3000 mm	1 Pc



Art. DF1010	Description Balloon profile gasket	Qty. 3 m	
DF105.15	Upper snap-on finishing profile	2 Pcs	/
DF1212255	Clamps for glass 12+12	6 Pcs	
DF1012LM.15	Floor profile	1 Pc	
Art. DF1212LMKIT	Length	Qty 1 Pc	/

 \triangleleft

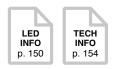


No. Art.

1 DF1212LMKIT

Optional:

No. 2	Art. DF8801	Description Snap-on threshold profile
3	DF116	Profile for front cladding insertion of max. thickness 16 mm
4	DF104	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DF12080	Closed end cap
8	DF4TP	End cap with V-shaped opening
9	DFA80	Water drainage profile
10	DF8803	Finishing profile



HOLE SPACING

100*	200	200	100*
Ō		Ō	0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

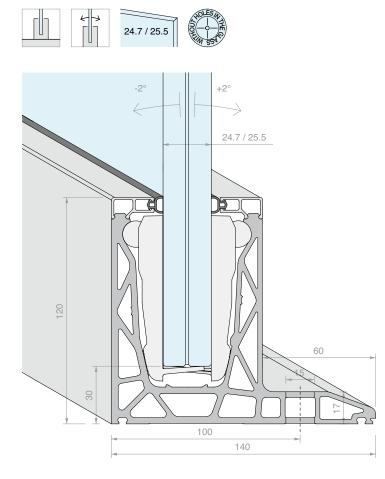






DEFENDER 1212DK KIT

FLOOR INSTALLATION WITH SIDE FIN CONFIGURED FOR GLASS 12+12 Material: Aluminium Finish: /97





Kit comprising:

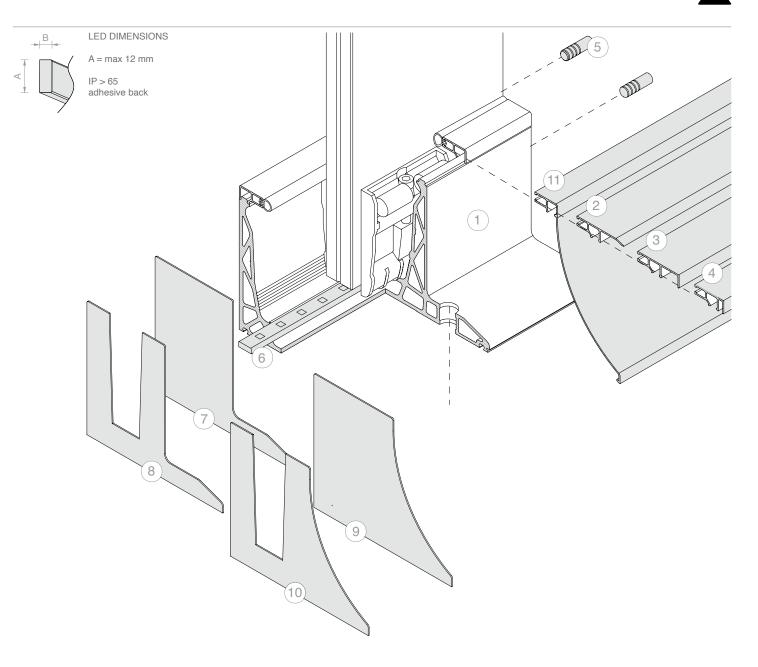
Art. DF1010	Description Balloon profile gasket	Qty. 12 m	
DF105.60	Upper snap-on finishing profile	2 Pcs	and a
DF1212255	Clamps for glass 12+12	24 Pcs	
DF1012DK.60	Floor profile with side fin	1 Pc	
Art. DF1212DKKIT	Length 6000 mm	Qty 1 Pc	



Kit comprising: Description Qty. Art. DF1010 Balloon profile gasket 6 m 🧳 DF105.30 Upper snap-on finishing profile 2 Pcs DF1212255 Clamps for glass 12+12 12 Pcs DF1012DK.30 Floor profile with side fin 1 Pc Art. Length Qty DF1212DKKIT.30 3000 mm 1 Pc



Art.	Description	Qty.
DF1010	Balloon profile gasket	3 m
DF105.15	Upper snap-on finishing profile	2 Pcs
DF1212255	Clamps for glass 12+12	6 Pcs
DF1012DK.15	Floor profile with side fin	1 Pc
Art.	Length	Qty
DF1212DKKIT	.15 1498 mm	1 Pc



No. Art. 1 **DF1212DKKIT**

Optional:

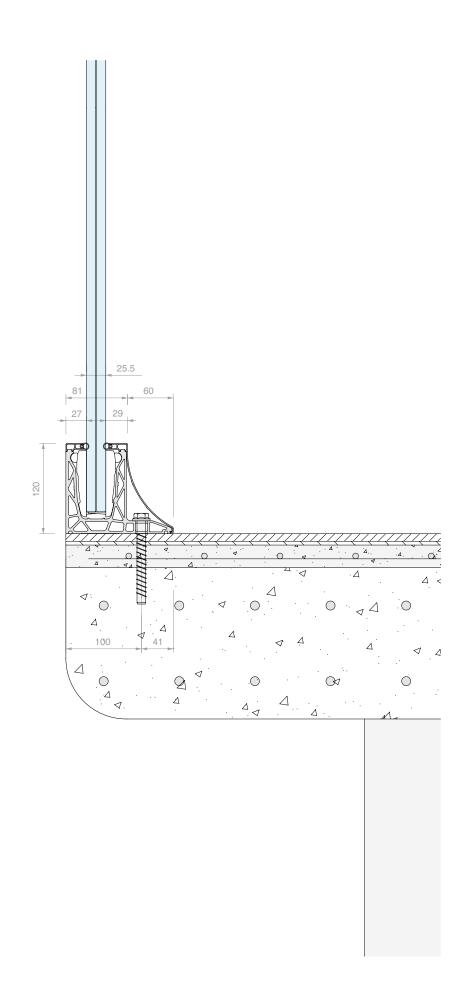
LED	TECH
INFO	INFO
p. 150	p. 154

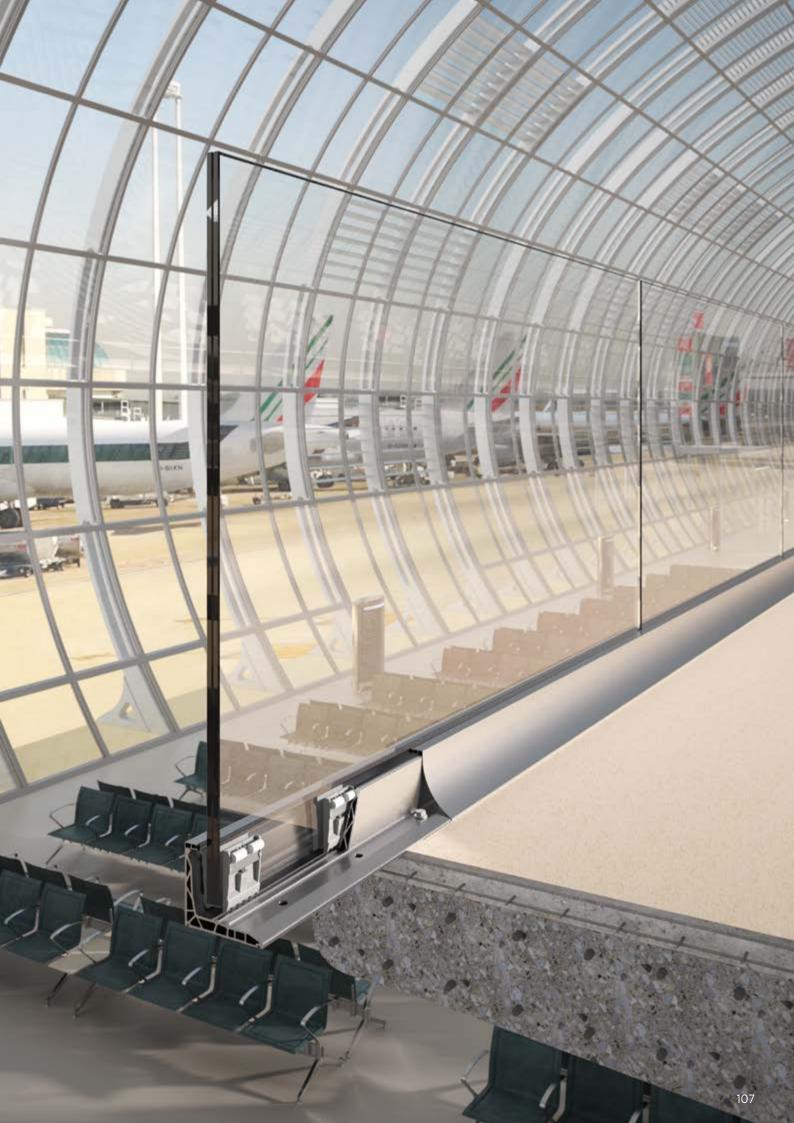
HOLE SPACING

100*	200	200	100*
0	0		0

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

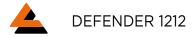
- 1			
No.	Art.	Description	
2	DF8801	Snap-on threshold profile	
3	DF116	Profile for front cladding insertion of max. thickness 16 mm	
4	DF104	Profile for front cladding insertion of max. thickness 4 mm	
5	DF25	2 centring pins	
6	LED	LED strip for outdoor use	
7	DFDKTP17	Closed end cap	
8	DFDKTP21	End cap with V-shaped opening	
9	DFDKTP23	Closed end cap for DFDK05	
10	DFDKTP27	End cap with V-shaped opening for DFDK05	
11	DFDK05	Inclined snap-on finishing profile	







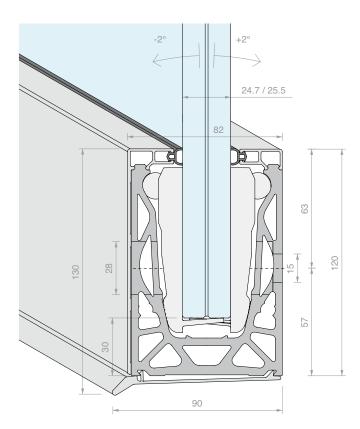




DEFENDER 1212FR KIT

SLAB INSTALLATION CONFIGURED FOR GLASS 12+12 Material: Aluminium Finish: /97







Kit comprising:

Art.	Description	Qty.
DF1010	Balloon profile gasket	12 m
DF8803.60	Side snap-on finishing profile	1 Pc
DFS09.60	Lower snap-on finishing profile	1 Pc
DF105.60	Upper snap-on finishing profile	1 Pc
DF1212255	Clamps for glass 12+12	24 Pcs
DF1012FR.60	12FR.60 Slab profile	
Art.	Length	Qty
DF1212FRKIT	.60 6000 mm	1 Pc



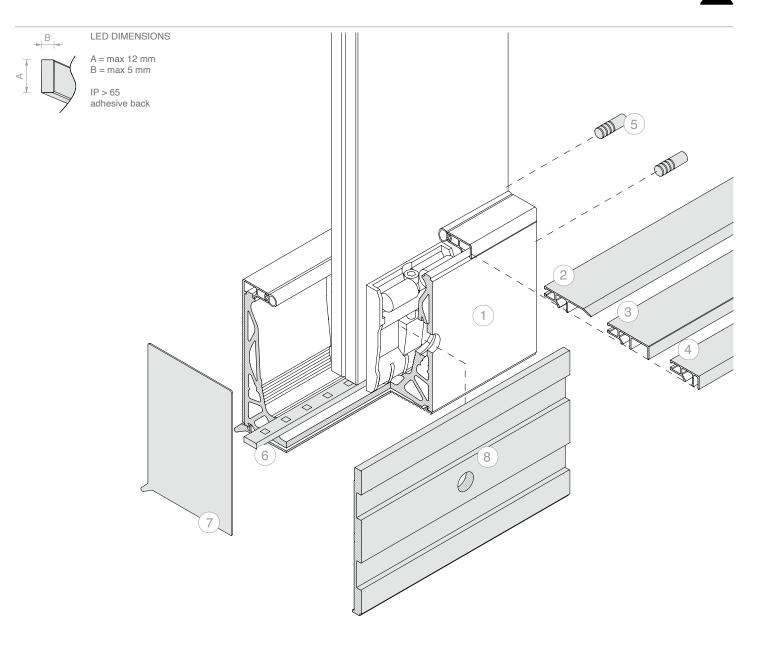
Kit comprising:

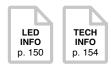
Art. DF1010	Description Balloon profile gasket	Qty. 6 m
DF8803.30	Side snap-on finishing profile	1 Pc
DFS09.30	Lower snap-on finishing profile	1 Pc
DF105.30	Upper snap-on finishing profile	1 Pc
DF1212255	Clamps for glass 12+12	12 Pcs
DF1012FR.30	R.30 Slab profile	
Art.	Length	Qty
DF1212FRKIT.	30 3000 mm	1 Pc



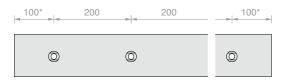
Kit comprising:

Art.	Description	Qty.
DF1010	Balloon profile gasket	3 m
DF8803.15	Side snap-on finishing profile	1 Pc
DFS09.15	Lower snap-on finishing profile	1 Pc
DF105.15	Upper snap-on finishing profile	1 Pc
DF1212255	Clamps for glass 12+12	6 Pcs
DF1012FR.15	Slab profile	1 Pc
Art.	Length	Qty
DF1212FRKIT		1 Pc





HOLE SPACING



* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

No. Art.

1 DF1212FRKIT

Opti	onal:	
No. 2	Art. DF8801	Description Snap-on threshold profile
3	DF116	Profile for front cladding insertion of max. thickness 16 mm
4	DF104	Profile for front cladding insertion of max. thickness 4 mm
5	DF25	2 centring pins
6	LED	LED strip for outdoor use
7	DFS13083	Closed end cap
8	DFSA121	Water drainage profile



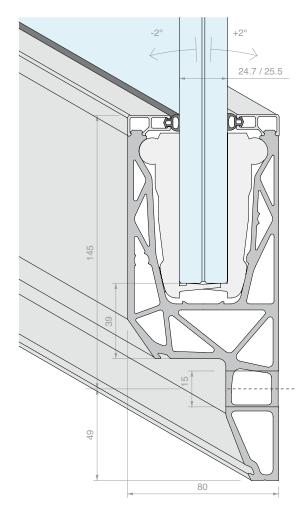




DEFENDER 1212SP KIT

SLAB INSTALLATION WITH LOWER FIN CONFIGURED FOR GLASS 12+12 Material: Aluminium Finish: /97







Kit comprising:

Art. DF1010	Description Balloon profile gasket	Qty. 12 m	
DF105.60	Upper snap-on finishing profile	2 Pcs	
DF1212255	Clamps for glass 12+12	24 Pcs	
DF1012SP.60	Floor profile with lower fin	1 Pc	
Art. DF1212SPKIT.	Length 60 6000 mm	Qty 1 Pc	



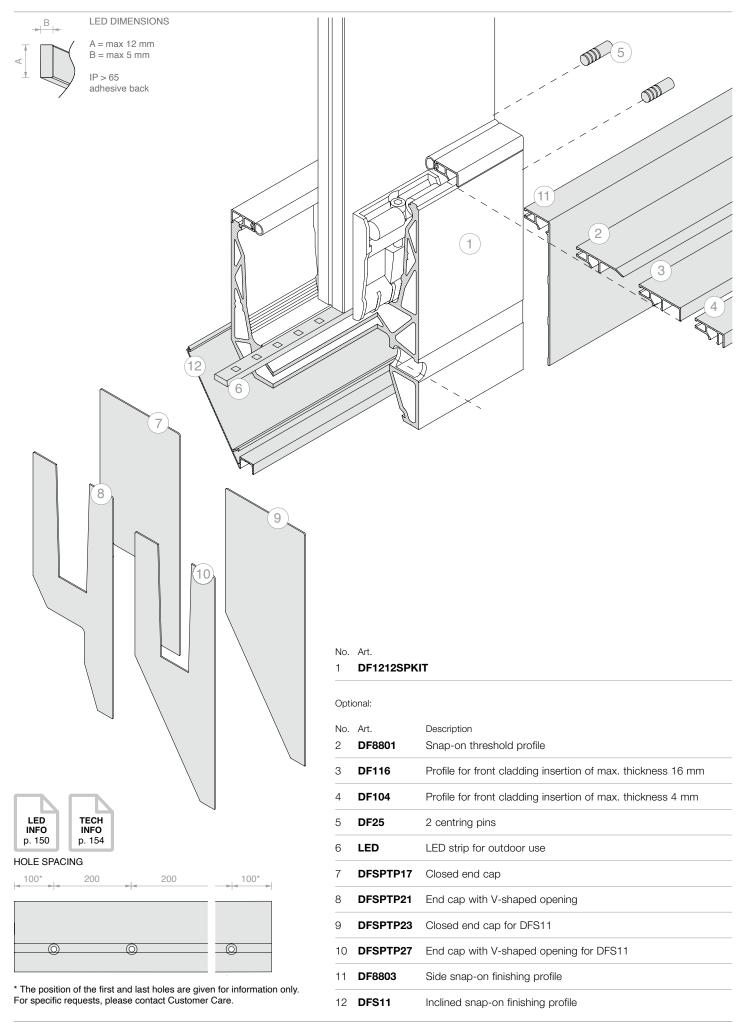
Kit comprising:

Art.	Description	Qty.
DF1010	Balloon profile gasket	6 m 🧳
DF105.30	Upper snap-on finishing profile	2 Pcs
DF1212255	Clamps for glass 12+12	12 Pcs
DF1012SP.30	Floor profile with lower fin	1 Pc
Art.	Length	Qty
DF1212SPKIT	.30 3000 mm	1 Pc



Kit comprising:

Art. DF1010	Description Balloon profile gasket	Qty. 3 m ≪	
DF105.15	Upper snap-on finishing profile	2 Pcs	
DF1212255	Clamps for glass 12+12	6 Pcs	
DF1012SP.15	Floor profile with lower fin	1 Pc	
Art.	Length	Qty	
DF1212SPKIT	.15 1498 mm	1 Pc	V











DEFENDER 810 FLOOR PROFILE

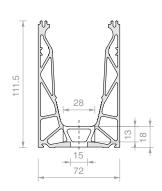
Material: Aluminium (6063-T6)

Finish: /6 /10 /97 /R25 /RAL

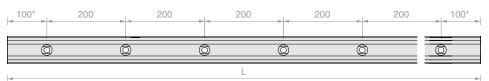
* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

* The position of the first and last holes

are given for information only. For specific requests, please contact Customer Care.



HOLE SPACING

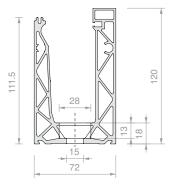


Art.	L	Qty
DF810LM.60	6000 mm	1 Pc
DF810LM.30	3000 mm	1 Pc
DF810LM.15	1498 mm	1 Pc



SINGLE-SIDED DEFENDER 810 FLOOR PROFILE

Material: Aluminium (6063-T6) Finish: /6 /10 /97 /R25 /RAL



HOLE SPACING

100*	200	200	200		200	200	100*
Ô	Ô)	Ô	Ô		
			L				

Art.	L	Qty
DF810MR.60	6000 mm	1 Pc
DF810MR.30	3000 mm	1 Pc
DF810MR.15	1498 mm	1 Pc

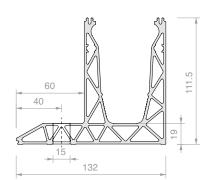
BALUSTRADES



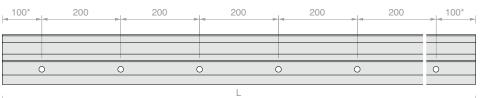


DEFENDER 810 FLOOR PROFILE

WITH SIDE FIN Material: Aluminium (6063-T6) Finish: /97 * The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.



HOLE SPACING

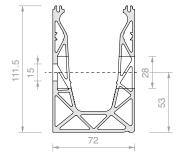


Art.	L	Qty
DF810DK.60	6000 mm	1 Pc
DF810DK.30	3000 mm	1 Pc
DF810DK.15	1498 mm	1 Pc



DEFENDER 810 SLAB PROFILE

Material: Aluminium (6063-T6) Finish: /10 /97 * The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.



HOLE SPACING

100*	200	200	200	200	200 100*
Ö	Ô	Ô	Ô	Ø	Ø
			L		

Art.	L	Qty
DF810FR.60	6000 mm	1 Pc
DF810FR.30	3000 mm	1 Pc
DF810FR.15	1498 mm	1 Pc





SINGLE-SIDED DEFENDER 810 SLAB

PROFILE

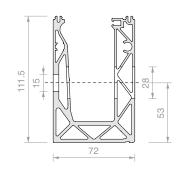
Material: Aluminium (6063-T6) Finish: /10 /97

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

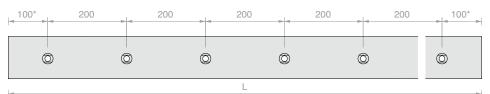
* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

187

09



HOLE SPACING



Art.	L	Qty
DF810MF.60	6000 mm	1 Pc
DF810MF.30	3000 mm	1 Pc
DF810MF.15	1498 mm	1 Pc

111.5

75.5

80

72

DEFENDER 810 FLOOR PROFILE

WITH LOWER FIN Material: Aluminium (6063-T6)

Finish: /97

HOLE SPACING



200 100* 200 200 200 200 100* 0 \bigcirc 6 6 L Art. Qty L DF810SP.60 6000 mm 1 Pc DF810SP.30 3000 mm 1 Pc 1498 mm 1 Pc





DEFENDER XP FLOOR PROFILE

Material: Aluminium (6063-T6)

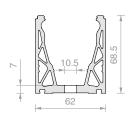
Finish: /6 /10 /97 /R25 /RAL

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

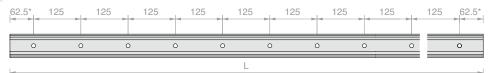
* The position of the first and last holes

are given for information only. For specific requests, please contact Customer Care.





HOLE SPACING

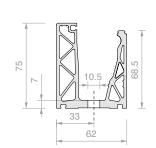


Art.		Qty
DFXP88.60	6000 mm	1 Pc
DFXP88.30	3000 mm	1 Pc
DFXP88.15	1498 mm	1 Pc



SINGLE-SIDED DEFENDER **PICO FLOOR PROFILE**

Material: Aluminium (6063-T6) Finish: /6 /10 /97 /R25 /RAL



HOLE SPACING

62.5* 1	25 12	5 12	5 125	12	5 1	25 12	5 1	125	125 62.5*
0	0	0	0	0	0	0	0	0	0
4				L					

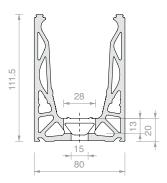
Art.	L	Qty
DFP88.60	6000 mm	1 Pc
DFP88.30	3000 mm	1 Pc
DFP88.15	1498 mm	1 Pc



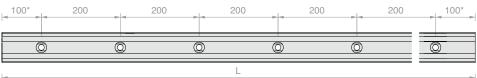


DEFENDER 1212 FLOOR PROFILE

Material: Aluminium (6063-T6) Finish: /97 * The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.



HOLE SPACING

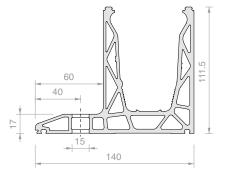


Art.	L	Qty
DF1012LM.60	6000 mm	1 Pc
DF1012LM.30	3000 mm	1 Pc
DF1012LM.15	1498 mm	1 Pc



DEFENDER 1212 FLOOR PROFILE WITH SIDE FIN

Material: Aluminium (6063-T6) Finish: **/97** * The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.



HOLE SPACING

100*	200	200	200	200	200	100*
					-	
					2	
					5	0
			L			

Art.	L	Qty
DF1012DK.60	6000 mm	1 Pc
DF1012DK.30	3000 mm	1 Pc
DF1012DK.15	1498 mm	1 Pc

BALUSTRADES



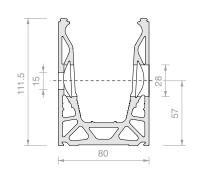


DEFENDER 1212 SLAB PROFILE

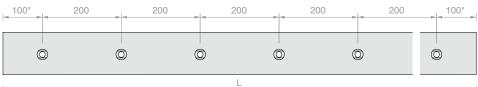
Material: Aluminium (6063-T6) Finish: /97

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.

* The position of the first and last holes are given for information only. For specific requests, please contact Customer Care.



HOLE SPACING



Art.	L	Qty
DF1012FR.60	6000 mm	1 Pc
DF1012FR.30	3000 mm	1 Pc
DF1012FR.15	1498 mm	1 Pc

120.5

65

5

DEFENDER 1212 FLOOR PROFILE

WITH LOWER FIN Material: Aluminium (6063-T6)

Finish: /97



	HOLE SPACING	80		
	100* 200	200 200	200	200 100*
		0		
			0 0	
	-	L		
Art.	L			Qty
DF1012SP.60	6000 mm			1 Pc
DF1012SP.30	3000 mm			1 Pc
DF1012SP.15	1498 mm			1 Pc

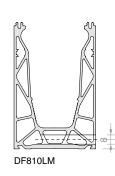
>>> PRICE LIST REFERENCE V1 - Page 9 >>> 123

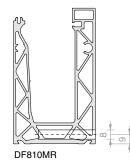




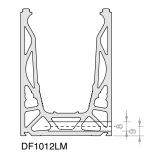


PROCESSING FOR WATER DRAINAGE SLOTS ON PROFILE DF810LM - DF810MR - DF1012LM

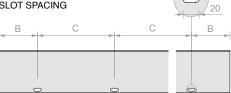




Ø8



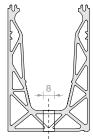
SLOT SPACING



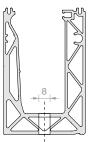
Art.	В	С	No. of slots	Qty
DFFOROAS9	600 mm	600 mm	9	1 Pc
DFFOROAS4	600 mm	600 mm	4	1 Pc
DFFOROAS2	449 mm	600 mm	2	1 Pc
DFFOROAS	-	-	Additional slot	1 Pc



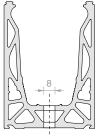
PROCESSING FOR WATER DRAINAGE HOLES ON PROFILE DF810FR - DF810MF - DF1012FR



DF810FR

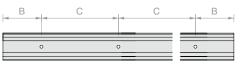


DF810MF



DF1012FR

HOLE SPACING



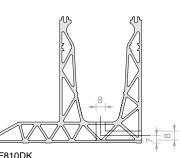
Art.	В	С	No. of holes	Qty
DFFORODR9	600 mm	600 mm	9	1 Pc
DFFORODR4	600 mm	600 mm	4	1 Pc
DFFORODR2	449 mm	600 mm	2	1 Pc
DFFORODR	-	-	Additional hole	1 Pc

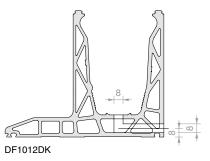
BALUSTRADES





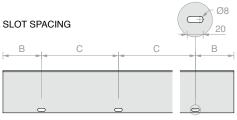
PROCESSING FOR WATER DRAINAGE HOLES AND SLOTS ON PROFILE DF810DK - DF1012DK





DF810DK

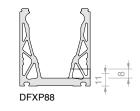
50

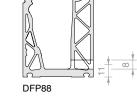


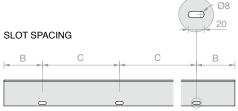
Art.	В	С	No. of slots + holes	Qty
DFFORODRAS9	600 mm	600 mm	9	1 Pc
DFFORODRAS4	600 mm	600 mm	4	1 Pc
DFFORODRAS2	449 mm	600 mm	2	1 Pc
DFFORODRAS	-	-	Additional hole and slot	1 Pc



PROCESSING FOR WATER DRAINAGE SLOTS ON PROFILE DFXP88 - DFP88





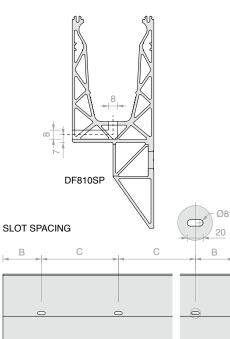


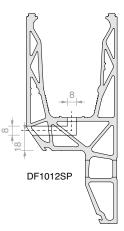
Art.	В	С	No. of slots	Qty
DFFOROAS9	600 mm	600 mm	9	1 Pc
DFFOROAS4	600 mm	600 mm	4	1 Pc
DFFOROAS2	449 mm	600 mm	2	1 Pc
DFFOROAS	-	-	Additional slot	1 Pc





PROCESSING FOR WATER DRAINAGE HOLES AND SLOTS ON PROFILE DF810SP - DF1012SP

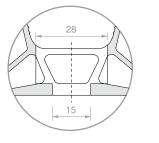




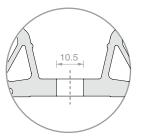
Art.	В	С	No. of slots + holes	Qty
DFFORODRAS9	600 mm	600 mm	9	1 Pc
DFFORODRAS4	600 mm	600 mm	4	1 Pc
DFFORODRAS2	449 mm	600 mm	2	1 Pc
DFFORODRAS	-	-	Additional hole and slot	1 Pc



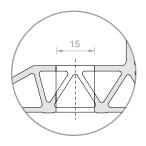
PROCESSING FOR ADDITIONAL ANCHORING HOLES ON DEFENDER PROFILES



DFFORO2815



DFFORO10



DFFORO15

Art.
DFFORO2815
DFFORO10
DFFORO15

 For profiles
 Qty

 DF810LM - DF810MR - DF810FR - DF810MF - DF810SP - DF1012LM - DF1012FR
 1 Pc

 DFXP88 - DFP88
 1 Pc

 DF810DK - DF1012DK - DF1012SP
 1 Pc

















DEFENDER 810 DOUBLE-SIDED ADJUSTABLE CLAMPS

Material: POM, Stainless steel

Clamp configured for glass 8+8 mm. It uses adapter plate DFAD17.

By removing the adaptor plate DFAD17, the clamp can be used for glass of 10+10 mm.

Art.	For glass	Quantity	Qty
DF1721KIT6	From 16.7 to 21.5 mm	6 clamps	1 Pc
DF1721	From 16.7 to 21.5 mm	1 clamp	1 Pc
This model of clamp is already	configured for 10+10 panes of g	glass. It does not use the DFA	D17
thickness adaptors.			

 Art.
 For glass
 Quantity
 Qty

 DF2121KIT6
 From 20.7 to 21.5 mm
 6 clamps
 1 Pc

 DF2121
 From 20.7 to 21.5 mm
 1 clamp
 1 Pc

 1 DEFENDER 810 THICKNESS ADAPTOR FOR DOUBLE-SIDED CLAMP
 Material: POM

Art.	For glass	Qty
DFAD17	From 16.7 to 17.5 mm	1 Pc

SINGLE-SIDED ADJUSTABLE DEFENDER 810MR CLAMPS

Material: POM, Stainless steel

Clamp configured for glass 8+8 mm. It uses adaptor plate DFAD17MR.

By removing the adaptor plate DFAD17MR, the clamp can be used for glass of 10+10 mm.

Art.	For glass	Quantity	Qty
DF1721MRKIT3	From 16.7 to 21.5 mm	3 clamps	1 Pc
DF1721MR	From 16.7 to 21.5 mm	1 clamp	1 Pc

Clamp configured for 10+10 panes of glass. It does not use the adaptor DFAD17MR.

Art.	For glass	Quantity	Qty
DF2121MRKIT3	From 20.7 to 21.5 mm	3 clamps	1 Pc
DF2121MR	From 20.7 to 21.5 mm	1 clamp	1 Pc
1 DEFENDER 810MR TH	CKNESS ADAPTOR FOR S	INGLE-SIDED CLAMP	
Material: POM			

Art.	For glass	Qty
DFAD17MR	From 16.7 to 17.5 mm	1 Pc
ADJUSTMENT TOOL D	EFENDER 810MR FOR SINGLE-SIDED CLAMP	
Material: POM		

Qty

1 Pc



DEFENDER XP DOUBLE-SIDED ADJUSTABLE CLAMPS

Material: POM, Grivory, Stainless steel



Art.	For glass	Quantity	Qty
DFXP66KIT12	From 12.7 to 13.5 mm	12 clamps	1 Pc
DFXP15KIT12	15 mm	12 clamps	1 Pc
DFXP88KIT12	From 16.7 to 17.5 mm	12 clamps	1 Pc
DFXP135	From 12.7 to 13.5 mm	1 clamp	1 Pc
DFXP150	15 mm	1 clamp	1 Pc
DFXP175	From 16.7 to 17.5 mm	1 clamp	1 Pc

DEFENDER PICO SINGLE-SIDED CLAMPS

Material: POM, Aluminium (DFP17) or Grivory, Stainless steel



Art.	For glass	Quantity	Qty
DFP66KIT12	From 12.7 to 13.5 mm	12 clamps	1 Pc
DFP15KIT12	15 mm	12 clamps	1 Pc
DFP88KIT12	From 16.7 to 17.5 mm	12 clamps	1 Pc
DFP135	From 12.7 to 13.5 mm	1 clamp	1 Pc
DFP150	15 mm	1 clamp	1 Pc
DFP175	From 16.7 to 17.5 mm	1 clamp	1 Pc

DEFENDER 1212 DOUBLE-SIDED ADJUSTABLE CLAMPS WITH BLACK BALLOON GASKET

Material: POM, Aluminium, Stainless steel, TPE



Art.	For glass	Quantity	Qty
DF1212KIT12	From 24.7 to 25.5 mm	12 clamps + 6 m of gasket	1 Pc

DEFENDER 1212 DOUBLE-SIDED ADJUSTABLE CLAMP

Material: POM, Aluminium, Stainless steel, TPE



 Art.
 For glass
 Quantity
 Qty

 DF1212255 From **24.7** to **25.5** mm
 1 clamp
 1 Pc





GASKET WITH SHORT LIP

Material: TPE Finish: /6 /97

FLAT GASKET Material: TPE Finish: /6 /97



3.5

27.4

Art.	Package	Qty
DFP88G01		1 m
DFP88G01.03	3 m profile	1 Pc
DFP88G01.60	60 m roll	1 Pc



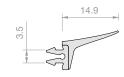
-

Art.	Package	Qty
DFPG03		1 m
DFPG03.03	3 m profile	1 Pc
DFPG03.60	60 m roll	1 Pc



GASKET WITH LONG LIP

Material: TPE Finish: /6 /97



Art.	For glass	Package	Qty
DFP15G01	12.7 mm/13.5 mm/15 mm		1 m
DFP15G01.03	12.7 mm/13.5 mm/15 mm	3 m profile	1 Pc
DFP15G01.60	12.7 mm/13.5 mm/15 mm	60 m roll	1 Pc

BALLOON GASKET

Material: TPE Finish: /6 /56





Art.	For glass	Package	Qty
DF1010	From 16.7 to 25.5 mm		1 m
DF1010.60	From 16.7 to 25.5 mm	60 m roll	1 Pc





SNAP-ON FINISHING PROFILE FOR DEFENDER 810

Material: Aluminium

Finish: /6 /10 /97 /R25 /RAL

Note: For installation, apply silicone along the entire length of the profile.





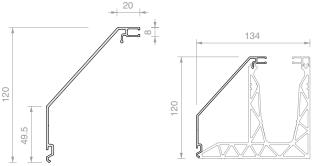
Art.	Length	Qty
DF100.60	6000 mm	1 Pc
DF100.30	3000 mm	1 Pc
DF100.15	1498 mm	1 Pc

INCLINED SNAP-ON FINISHING PROFILE WITH DRIP GUARD FOR DEFENDER 810DK

Material: Aluminium Finish: /97

111311. /3/

Note: For installation, apply silicone along the entire length of the profile.



Art.	Length	Qty
DFDK07.60	6000 mm	1 Pc
DFDK07.30	3000 mm	1 Pc
DFDK07.15	1498 mm	1 Pc



SIDE AND LOWER FINISHING PROFILE WITH DRIP GUARD FOR DEFENDER 810FR, 810MF

Material: Aluminium Finish: /6 /10 /97 /R25 /RAL

Note: For installation, apply silicone along the entire



74



 Art.
 Length
 Qty

 DFS15.60
 6000 mm
 1 Pc

 DFS15.30
 3000 mm
 1 Pc

 DFS15.15
 1498 mm
 1 Pc





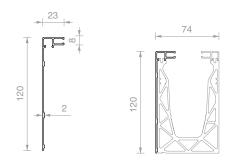


SIDE SNAP-ON FINISHING PROFILE FOR THE DEFENDER 810 RANGE

Material: Aluminium

Finish: /6 /10 /97 /R25 /RAL

Note: For installation, apply silicone along the entire length of the profile.



Art.	Length	Qty
DFS03.60	6000 mm	1 Pc
DFS03.30	3000 mm	1 Pc
DFS03.15	1498 mm	1 Pc

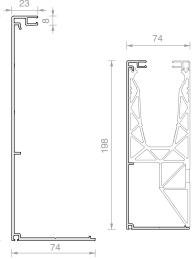
198

119

SIDE AND LOWER SNAP-ON FINISHING **PROFILE WITH DRIP GUARD** FOR DEFENDER 810SP

Material: Aluminium Finish: /97

Note: For installation, apply silicone along the entire length of the profile.



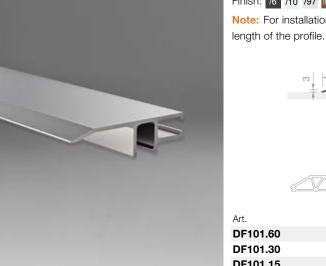
Art.	Length	Qty
DFS17.60	6000 mm	1 Pc
DFS17.30	3000 mm	1 Pc
DFS17.15	1498 mm	1 Pc

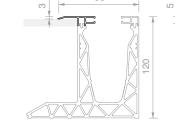
SNAP-ON THRESHOLD FINISHING PROFILE FOR DEFENDER 810

Material: Aluminium









Art.	Length
DF101.60	6000 mm
DF101.30	3000 mm
DF101.15	1498 mm



98

27

Qty

1 Pc 1 Pc

1 Pc

20



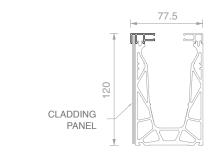


SNAP-ON FINISHING PROFILE FOR FRONT 4 MM CLADDING INSERTION FOR DEFENDER 810

Material: Aluminium

Finish: /6 /10 /97 /R25 /RAL

Note: For installation, apply silicone along the entire length of the profile.



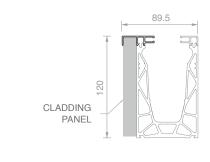
Art.	Length	Qty
DF204.60	6000 mm	1 Pc
DF204.30	3000 mm	1 Pc
DF204.15	1498 mm	1 Pc

SNAP-ON FINISHING PROFILE FOR FRONT 16 MM CLADDING INSERTION FOR DEFENDER 810

Material: Aluminium

Finish: /6 /10 /97 /R25 /RAL

Note: For installation, apply silicone along the entire length of the profile.



Art.	Length	Qty
DF216.60	6000 mm	1 Pc
DF216.30	3000 mm	1 Pc
DF216.15	1498 mm	1 Pc

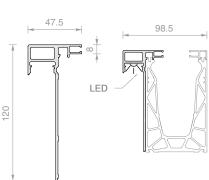
16

FRONT SNAP-ON FINISHING PROFILE FOR INSERTING LEDS FOR DEFENDER 810

Material: Aluminium Finish: /6 /10 /97 /R25 /RAL

Note: Supplied with 2 self-drilling screws Art. PENLVIT

For installation, apply silicone along the entire length of the profile.



Art.	Length	Qty
DF147L.60	6000 mm	1 Pc
DF147L.30	3000 mm	1 Pc
DF147L.15	1498 mm	1 Pc







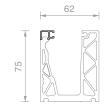
UPPER SNAP-ON FINISHING PROFILE FOR DEFENDER XP / PICO

Material: Aluminium

Finish: /6 /10 /97 /R25 /RAL

Note: For installation, apply silicone along the entire length of the profile.



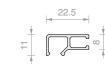


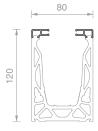
Art.	Length	Qty
DFP100.60	6000 mm	1 Pc
DFP100.30	3000 mm	1 Pc
DFP100.15	1498 mm	1 Pc

SNAP-ON FINISHING PROFILE FOR DEFENDER 1212

Material: Aluminium Finish: /97

Note: For installation, apply silicone along the entire length of the profile.





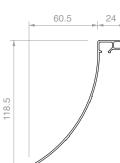
Art.	Length	Qty
DF105.60	6000 mm	1 Pc
DF105.30	3000 mm	1 Pc
DF105.15	1498 mm	1 Pc

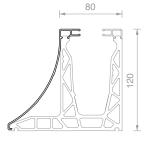
INCLINED SNAP-ON FINISHING PROFILE FOR DEFENDER 1212DK

Material: Aluminium Finish: /97

Note: For installation, apply silicone along the entire

length of the profile.





Art.	Length	Qty
DFDK05.60	6000 mm	1 Pc
DFDK05.30	3000 mm	1 Pc
DFDK05.15	1498 mm	1 Pc







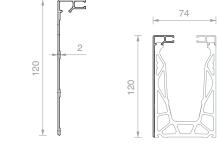


SNAP-ON SIDE FINISHING PROFILE

FOR DEFENDER 1212

Material: Aluminium Finish: /97

Note: For installation, apply silicone along the entire length of the profile.

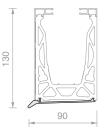


Art.	Length	Qty
DF8803.60	6000 mm	1 Pc
DF8803.30	3000 mm	1 Pc
DF8803.15	1498 mm	1 Pc

LOWER SNAP-ON FINISHING PROFILE WITH DRIP GUARD FOR DEFENDER 1212FR

Material: Aluminium Finish: /97

Note: For installation, apply silicone along the entire length of the profile.





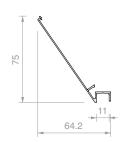
Art.	Length	Qty
DFS09.60	6000 mm	1 Pc
DFS09.30	3000 mm	1 Pc
DFS09.15	1498 mm	1 Pc

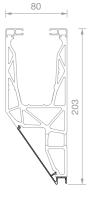
LOWER SNAP-ON FINISHING PROFILE FOR DEFENDER 1212SP

Material: Aluminium Finish: /97

Art. DFS11.60 DFS11.30 DFS11.15

Note: For installation, apply silicone along the entire length of the profile.





Length	Qty
6000 mm	1 Pc
3000 mm	1 Pc
1498 mm	1 Pc













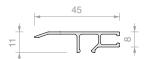
SNAP-ON THRESHOLD FINISHING PROFILE

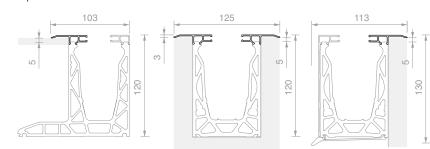
FOR DEFENDER 1212

Material: Aluminium

Finish: /97

Note: For installation, apply silicone along the entire length of the profile.



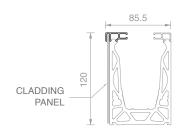


Art.	Length	Qty
DF8801.60	6000 mm	1 Pc
DF8801.30	3000 mm	1 Pc
DF8801.15	1498 mm	1 Pc

SNAP-ON FINISHING PROFILE FOR FRONT 4 MM CLADDING INSERTION FOR DEFENDER 1212

Material: Aluminium Finish: /97

Note: For installation, apply silicone along the entire length of the profile.

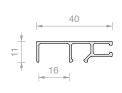


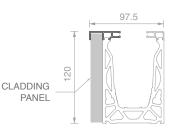
Art.	Length	Qty
DF104.60	6000 mm	1 Pc
DF104.30	3000 mm	1 Pc
DF104.15	1498 mm	1 Pc

SNAP-ON FINISHING PROFILE FOR FRONT 16 MM CLADDING INSERTION FOR DEFENDER 1212 Material: Aluminium

Finish: /97

Note: For installation, apply silicone along the entire length of the profile.





Art. Length Qty	
DF116.60 6000 mm 1 F	ъс
DF116.30 3000 mm 1 F	°c
DF116.15 1498 mm 1 F	°C



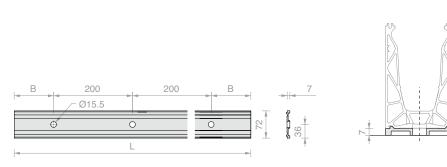






WATER DRAINAGE PROFILE FOR DEFENDER 810LM / 810MR

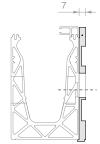
Material: Aluminium Finish: /10 /97 /R25

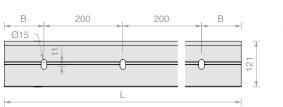


Art.	L	В	No. of holes	Qty
DFA7260	6000 mm	100 mm	30	1 Pc
DFA7230	3000 mm	100 mm	15	1 Pc
DFA72054	540 mm	70 mm	3	1 Pc

WATER DRAINAGE PROFILE FOR DEFENDER 810FR / 810MF / 1212FR

Material: Aluminium Finish: /10 /97 /R25

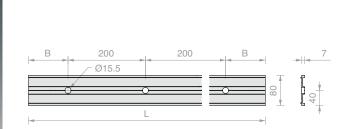


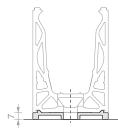


-				
Art.	L	В	No. of slots	Qty
DFSA12160	6000 mm	100 mm	30	1 Pc
DFSA12130	3000 mm	100 mm	15	1 Pc
DFSA121054	540 mm	70 mm	3	1 Pc

WATER DRAINAGE PROFILE FOR DEFENDER 1212LM

Material: Aluminium Finish: /97





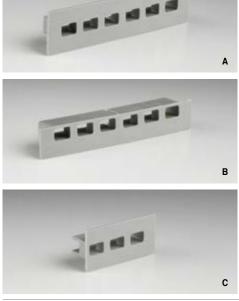
Art.	L	В	No. of holes	Qty
DFA8060	6000 mm	100 mm	30	1 Pc
DFA8030	3000 mm	100 mm	15	1 Pc
DFA80054	540 mm	70 mm	3	1 Pc





BALUSTRADES





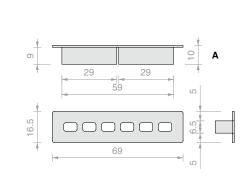


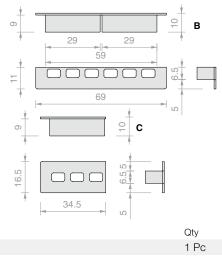
GRATE FOR WATER DRAINAGE PROFILES FOR DEFENDER

Material: POM

Grate for DFA and DFSA profiles to stop detritus carried by draining water. Adaptable to the three sizes A, B, C.

Finish: <mark>/88</mark> /97



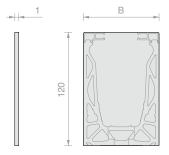


Art. DFGD

CLOSED END CAP



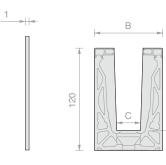
Note: For installation, apply silicone to the entire surface of the cap.



Art.	В	For profiles	Qty
DF12072AL	72 mm	DF810LM - DF810MR	1 Pc
DF12080AL *	80 mm	DF1212LM	1 Pc

END CAP WITH V-SHAPED OPENING

Material: Aluminium Finish: /6 /10 /97 /R25 /RAL Finish: /97 * Note: For installation, apply silicone to the entire surface of the cap.



Art.	В	С	For profiles	Qty
DF2TPAL	72 mm	24 mm	DF810LM - DF810MR	1 Pc
DF4TPAL *	80 mm	28 mm	DF1212LM	1 Pc

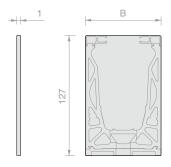






CLOSED END CAP FOR PROFILE WITH DFA

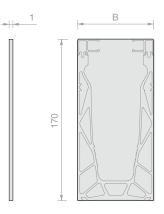
Material: Aluminium Finish: /10 /97 /R25 Finish: /97 * Note: For installation, apply silicone to the entire surface of the cap.



Art.	В	For profiles	Qty
DF12772AL	72 mm	DF810LM - DF810MR	1 Pc
DF12780AL*	80 mm	DF1212LM	1 Pc

CLOSED END CAP FOR INCLINED INSTALLATION

Material: Aluminium Finish: /6 /10 /97 /R25 /RAL Finish: /97 * Note: For installation, apply silicone to the entire surface of the cap.



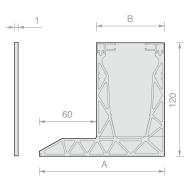
Art.	В	For profiles	Qty
DF17072AL	72 mm	DF810LM - DF810MR	1 Pc
DF17080AL *	80 mm	DF1212LM	1 Pc



CLOSED END CAP

Material: Aluminium Finish: /97

Note: For installation, apply silicone to the entire surface of the cap.



Art.	А	В	For profiles	Qty
DFDKTP08AL	132 mm	72 mm	DF810DK	1 Pc
DFDKTP17AL	140 mm	80 mm	DF1212DK	1 Pc



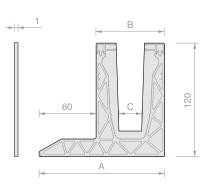




END CAP WITH V-SHAPED OPENING

Material: Aluminium Finish: /97 Note: For installation, apply silicone

to the entire surface of the cap.

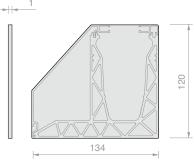


Art.	А	В	С	For profiles	Qty
DFDKTP10AL	132 mm	72 mm	24 mm	DF810DK	1 Pc
DFDKTP21AL	140 mm	80 mm	28 mm	DF1212DK	1 Pc

CLOSED END CAP FOR PROFILE WITH DFDK07

Material: Aluminium Finish: /97 Note: For installation, apply silicone

to the entire surface of the cap.



Art.	For profiles	Qty
DFDKTP29AL	DF810DK	1 Pc



END CAP WITH V-SHAPED OPENING FOR PROFILE WITH DFDK07

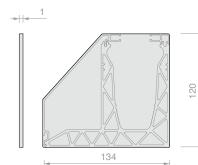
Finish: /97

Art.

DFDKTP31AL

▶||→ 20 134

For profiles Qty DF810DK 1 Pc



DFDKTP29AL	DF810DK	11
Art.	For profiles	Qt

Material: Aluminium

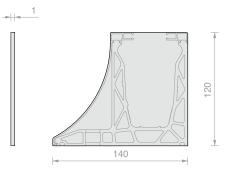
Note: For installation, apply silicone to the entire surface of the cap.





CLOSED END CAP FOR PROFILE WITH DFDK05

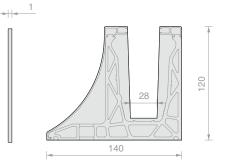
Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.



Art.	For profiles	Qty
DFDKTP23AL	DF1212DK	1 Pc



Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.



Art.	For profiles	Qty
DFDKTP27AL	DF1212DK	1 Pc



CLOSED END CAP

Material: Aluminium Finish: <u>/6</u> /10 /97 <u>IR25</u> <u>IRAL</u> **Note:** For installation, apply silicone to the entire surface of the cap.

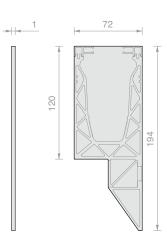




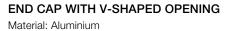
Art.	For profiles	Qty
DF12774AL	DF810FR	1 Pc

BALUSTRADES





Art.	For profiles	Qty
DFSPTP08AL	DF810SP	1 Pc

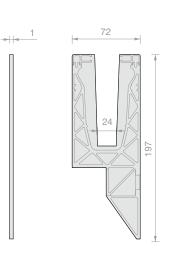


Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.

Material: Aluminium

to the entire surface of the cap.

Finish: /97



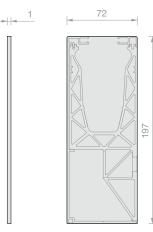
Art.	For profiles	Qty
DFSPTP10AL	DF810SP	1 Pc

CLOSED END CAP FOR PROFILE WITH DFS17

Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.

Art.

DFSPTP12AL



profiles	Qty
810SP	1 Pc







DEFENDER

DF

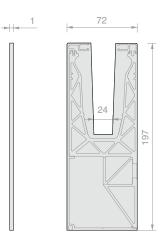






END CAP WITH V-SHAPED OPENING FOR PROFILE WITH DFS17

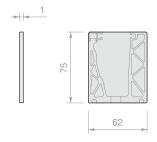
Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.



Art.	For profiles	Qty
DFSPTP14AL	DF810SP	1 Pc

CLOSED END CAP

Material: Aluminium Finish: <u>/6</u> /10 /97 <u>(R25</u> <u>(RAL</u> **Note:** For installation, apply silicone to the entire surface of the cap.



Art.	For profiles	Qty
DFP7562AL	DFP88 - DFXP88	1 Pc

END CAP WITH U-SHAPED OPENING

Material: Aluminium Finish: 16 /10 /97 R25 RAL Note: For installation, apply silicone to the entire surface of the cap.

▶		
	- 12 - 12 - 12 - 12 - 12 - 12 - 12 - 12	A V
	62	

Qty

1 Pc

For profiles

DFP88 - DFXP88

>>>	DRICE LIST	DEEEDEN	ICF V1 - 1	2< 17 DANS	>

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Art.

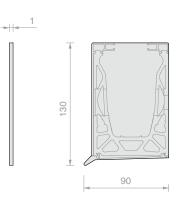
DFP7562UAL





CLOSED END CAP

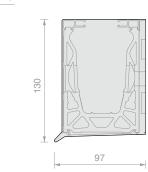
Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.



Art.	For profiles	Qty
DFS13083AL	DF1012FR	1 Pc

CLOSED END CAP WITH PROFILE DFSA

Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.

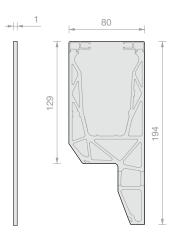


Art.	For profiles	Qty
DFS13090AL	DF1012FR	1 Pc



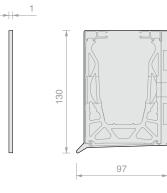


Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.



Art. DFSPTP17AL

For profiles	Qty
DF1012SP	1 Pc



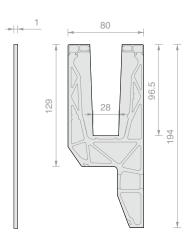
Qty
1 Do



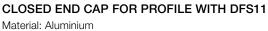


END CAP WITH V-SHAPED OPENING

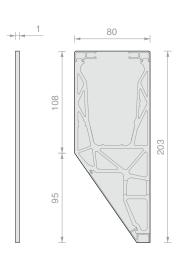
Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.

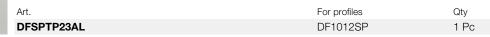


Art.	For profiles	Qty
DFSPTP21AL	DF1012SP	1 Pc



Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.

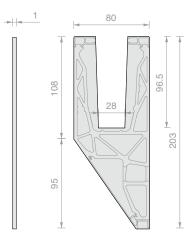






END CAP WITH V-SHAPED OPENING FOR PROFILE WITH DFS11

Material: Aluminium Finish: /97 Note: For installation, apply silicone to the entire surface of the cap.



For profilesQtyDF1012SP1 Pc

Art.

DFSPTP27AL

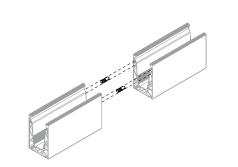






2 IN-LINE CENTRING PINS

Material: Aluminium Finish: aluminium





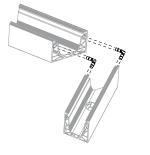
Art.	Qty
DF25	1 Pc

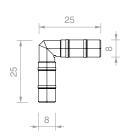
2 X 90° CENTRING PINS

Material: Grivory® Finish: black

Art.

DF2525





<

Qty

1 Pc



EXPANDABLE COVER CAP FOR DFXP88/DFP88 PROFILES Material: POM Finishes: black, grey



Art.	В	С	For glass – A	Finishes	Qty
DFP88TEC	18/26 mm	10/18.5 mm	17.5 mm	Black	1 Pc
DFP88TECG	18/26 mm	10/18.5 mm	17.5 mm	Grey	1 Pc

EXPANDABLE COVER CAP FOR DF810/DF1212 PROFILES Material: POM Finishes: black, grey					
Art.	В	С	For glass – A	Finishes	Qty
DFTEC88	18/26 mm	10/18.5 mm	17.5 mm	Black	1 Pc
DFTEC88G	18/26 mm	10/18.5 mm	17.5 mm	Grey	1 Pc
DFTEC1010	18/26 mm	10/18.5 mm	21.5 mm	Black	1 Pc
DFTEC1010G	18/26 mm	10/18.5 mm	21.5 mm	Grey	1 Pc
DFTEC1212	18/26 mm	10/18.5 mm	25.5 mm	Black	1 Pc
DFTEC1212G	18/26 mm	10/18.5 mm	25.5 mm	Grey	1 Pc

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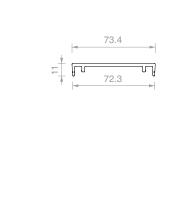
BALUSTRADES





TEMPORARY CLOSING PROFILE

Material: PVC

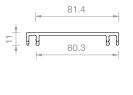


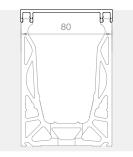


Art.	Length	For profiles	Qty
DFCLS72.30	3000 mm	DF810LM - DF810FR - DF810MF - DF810DK - DF810SP	1 Pc

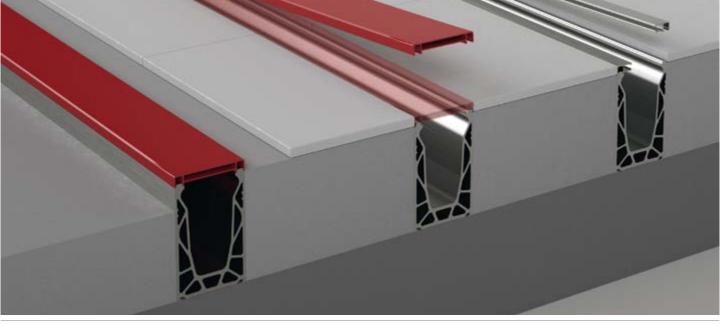
TEMPORARY CLOSING PROFILE Material: PVC















FLEXIBLE SCREWDRIVER WITH CH5 INSERT

Art.	Qty
DFFLEX03	1 Pc

MAKITA GUN SCREWDRIVER

Dual speed - Clutch release - LED lighting - Reversible TIGHTENING TORQUE = 2.9 Nm



Art.	Qty
DFMAK21	1 Pc

FLEXIBLE EXTENSION FOR SCREWDRIVER

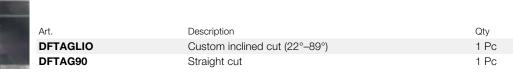
May be used in combination with MAKITA screwdriver Art. DFMAK21 or similar



Art.	Description	Qty
DFFLEX01	Flexible extension with CH5 hexagonal insert	1 Pc
DFFLEX05	CH5 hexagonal insert	1 Pc

CALCULATION AND CUTTING

Custom inclined cut (22°-89°)



BALUSTRADES



CONCRETE ANCHORS FOR DF810/DF1012 PROFILES

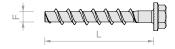
Material: Galvanised steel/A4 stainless steel Properties: High-performance concrete anchor with C20/25 to C50/60 resistance class,

fissured and non-fissured.

Package: 15 Pcs







Art.	L - anchor length	F - Hole Ø	L1 - Hole depth	Tightening wrench	Material	Qty
DFFH10ZN	100 mm	10 mm	110 mm	SW16	Galvanised steel	1 Pc
DFFH10A4	100 mm	10 mm	110 mm	SW16	Stainless steel A4	1 Pc
DFFH12ZN	110 mm	12 mm	120 mm	SW17	Galvanised steel	1 Pc
DFFH12A4	110 mm	12 mm	120 mm	SW17	Stainless steel A4	1 Pc

L1

CONCRETE ANCHORS FOR DFXP/DFPICO PROFILES

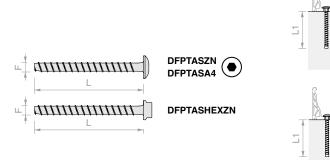
Material: Galvanised steel/A4 stainless steel Properties: High-performance concrete anchor with C20/25 to C50/60 resistance class. fissured and non-fissured.

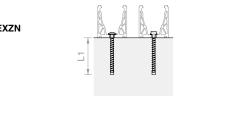






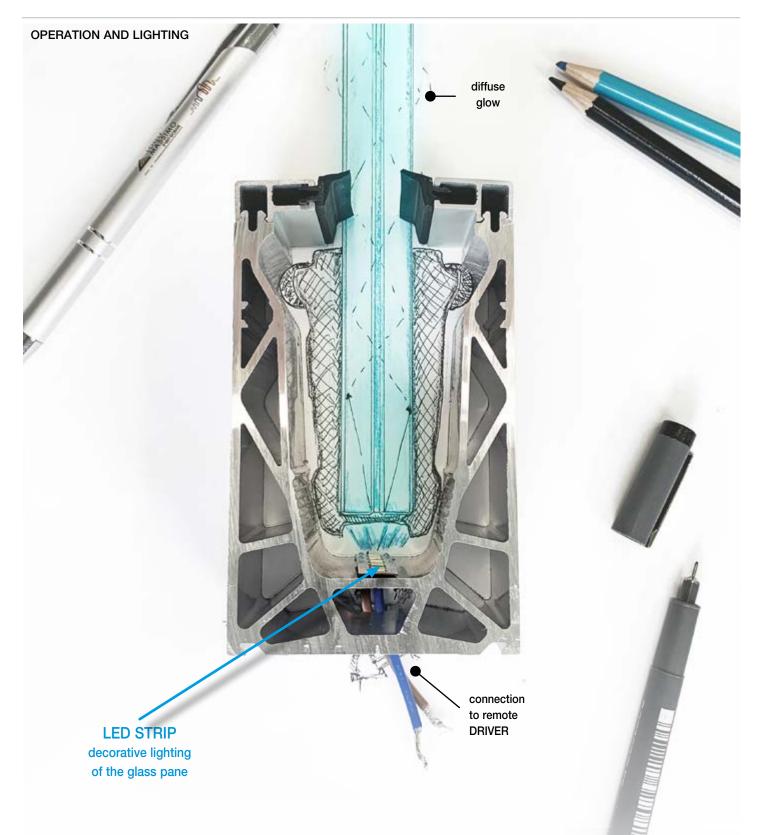
ETA homologation Option 1 Certified double anchoring depth AbZ homologation for fixings in fresh concrete R120 fire certification, even for masonry





Art.	L - anchor length	F - Hole Ø	L1 - Hole depth	Tightening wrench	Material	Qty
DFPTASZN	80 mm	6 mm	90 mm	TORX T-30	Galvanised steel	1 Pc
DFPTASA4	90 mm	6 mm	100 mm	TORX T-30	Stainless steel A4	1 Pc
DFPTASHEXZN	80 mm	6 mm	90 mm	SW10	Galvanised steel	1 Pc





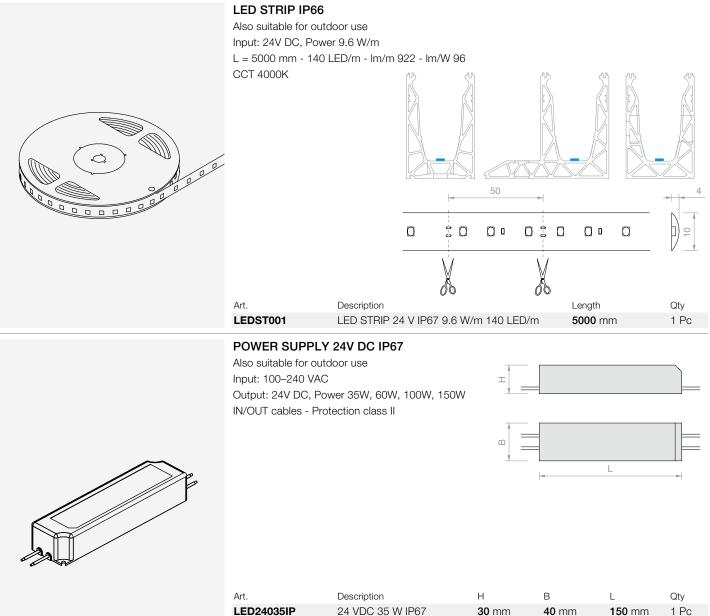
For LED STRIP applications which are longer than 5 m, it is recommended to use multiple power supplies to reduce the effects of natural voltage drops. Applications with multiple branch circuits are possible with suitably sized DRIVERS. Where appropriate, it is recommended to apply an outdoor use silicone to properly protect the cables from the weather. It is recommended to contact a qualified electrician to connect the LED STRIP to the mains.

LED STRIP: decorative lighting for the glass pane (recommended LEDST001)

The effect of decorative lighting on glass can highlight defects on the surface or inside the panes of glass, due to the glow of the lights. These defects tend to become more evident with increasing light intensity. Pay close attention during the production of the panes of glass and use only medium brightness LED STRIPS.

Check the operation of each LED STRIP before proceeding with installation.





Art.	Description	н	В	L
LED24035IP	24 VDC 35 W IP67	30 mm	40 mm	150 mm
LED24060IP	24 VDC 60 W IP67	32 mm	42 mm	162 mm
LED24100IP	24 VDC 100 W IP67	37 mm	52 mm	190 mm

24 VDC 150 W IP67

- Pay attention to the polarity of the products.

- Only use stabilised 24V DC power supplies.

- After having calculated the total power draw of the devices to be installed,

LED24150IP

select a power supply unit which always has a load margin

of more than 15/20% over the calculated load.

- During maintenance, disconnect the power supply.

Connect multiple devices in parallel:

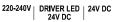
to avoid damaging the LEDs, make all connections before powering on

Max. continuous length 5 metres.

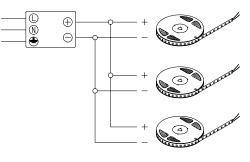
Example: Length of STRIP 3 m

Type LED STRIP 1 24 V DC MAX 9.6 W/m (Art. LEDST001)

Choosing the power supply unit DRIVER: LED type absorption x LED length + 15% (minimum increase due to voltage drop) 9.6 x 3 x 1.15 = 33.15 W (MIN). The power supply DRIVER to select: 24V DC 35 W LED24035IP Full list of articles: LEDST001 1 Pc - LED24035IP 1 Pc



38 mm



68 mm

1 Pc

1 Pc

1 Pc

222 mm







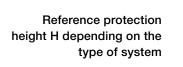
DEFENDER systems Sizing tables

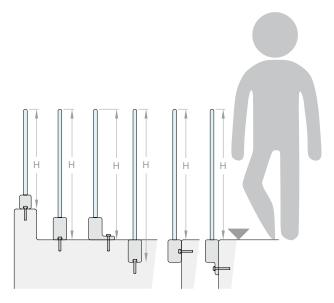
The following pages provide useful information, an extract of the state of the art following the documentation and experience of our company. This information is provided to facilitate the selection of the most adequate construction system and its sizing, presenting a range of technical alternatives allowed according to the standards and usage classes envisaged in different situations.

The descriptions in the tables are a simplified, summary representation of the required principles. The designer must therefore refer to the integral text of the standards for more details and in-depth information. The assessment regarding compliance of the system with the overall safety requirements is performed by the qualified technician in charge of the installation. The technician will verify the applicability of the results to the installation conditions (system loads and pressures, support characteristics, temperature effects, geometry of the panes and profiles, type and sizing of anchors, etc.).

For more information and documentation, visit www.sg-logli.it or contact the Logli technical office.

As of publication, a harmonised European standard is not available. Technical requirements and project criteria differ from country to country, where applicable national standards must be respected. Depending on these differences, the solutions suggested may be determined through experimental tests or numerical calculations. It is therefore not surprising that the feasible technical solutions are not the same between countries, even under the same conditions and for the same intended use.





Legend, tables pages 160-170:

types of glass:

F – pane of float glass EN 572

I - pane of hardened glass EN 1863

T – pane of tempered glass EN 12150

TH - pane of tempered glass with 'heat soak test' EN 14179

¹ Protection height H depending on the type of fixing. It is measured differently for floor or slab systems (see diagram above).

² Value referring to the correct functioning of the aluminium and glass system. The resistance of the anchors and structure needs to be evaluated case-by-case, and more anchoring points may be required. No bar should be secured with less than 3 anchor points.

³ Circled values $\sqrt{(i)}$ dicate solutions for which testing documents or specific calculations are available. In countries where validation processes relating to the complete system exist (such as ATec in France or AbP Germany), these positions may be accompanied by the related documentation. Values that are not circled $\sqrt{}$ refer to positions that have been recognised as satisfactory on the basis of tests on similar glass compositions or extrapolations from more extensive tests. The designer should request and verify the technical documentation before ordering.

⁴ In cases where it is possible to design without considering the wind and the support profile is not recessed below the walking surface, the height of the system may be higher than the indicated value (the required tests would be similar to those already made). In the specific case of Avis Techniques for balustrades in France, their application is limited to a height of 1.10 m from the walking surface. Greater heights exclude the product from the balustrade category, classifying it as a wall or divider.

⁵ Except for areas liable to exceptional crowding, such as concert halls, stadiums, stairways and tribunes.

⁶ The numerical values refer to the wind exposure category for a -2 exposure coefficient. Values on a black background **00**...**0** indicate solutions for which testing certificates are available. The other values **00**...**0** refer to solutions that may be recognised as satisfactory on the basis of tests on similar glass compositions or extrapolations from more extensive tests.

⁷ Envisages the use of a structural handrail for distribution between adjacent panes or anchored to the structure.

⁸ Envisages the use of more anchoring holes for the upper profile than is standard.

⁹ Envisages the use of more clamps than is standard for the kit.

¹⁰ Only for indoors.

EUROPEAN standards

(adopted in all EU countries) EN 12150 - Tempered glass EN 12543 - Laminated glass and laminated safety glass EN 12600 - Pendulum test EN 13200 - Spectator viewing areas EN 14179 - Heat soak test EN 16612 - Calculation methods for panes of glass EN 16613 - Mechanical properties of the interlayer

ITALY

NTC 2018 - Technical standards UNI 7697 - Glazing applications UNI 10809 - Railings and balustrades UNI 11678 - Testing methods for glass balustrades

FRANCE

NF P 06-001 - Actions on structures NF P 01-012 - Sizing of balustrades Cahier CSTB 3034 - Testing procedure for glass balustrades

GERMANY

DIN 1990 and DIN 1990/NA - Structural engineering and national annex DIN 1991-1 - Actions on structures DIN 18008 - Glass constructions

BELGIUM

NBN B 03-004 - Balustrades for buildings

UNITED KINGDOM

BS 6180 - Indoor and outdoor barriers Approved Document K - Protection against falls

SWITZERLAND

SIA 261 - Actions on constructionsSIA 358 - Railings and balustradesSIA 2057 - Glass in constructions

NETHERLANDS

NEN 2608 - Glass in constructions BRL 4107 - Balustrade design

SPAIN

SE-AE base document - Actions in structures SU base document - Usage safety



• ITALY NTC 2018 - UNI 11678

DEFENDER 810 SYSTEMS P. 44-81

				pane			Intended use ⁽³⁾	
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	compositie	on	Private stairs	Private	Public
				Interlayer	Glass	1.0 kN/m	2.0 kN/m	3.0 kN/m
		110	40	PVB	T/I	\checkmark	\bigcirc	
		110	20	SentryGlas®	T/T	\checkmark	\checkmark	\bigcirc
	8+8			PVB	T/I	\checkmark	\checkmark	
		120(4)	40	EVA SECURE	T/T	\checkmark	\checkmark	
				DG41	T/T	\checkmark	\checkmark	
				PVB	T/I	\checkmark	\checkmark	\bigcirc
810LM	10.10	110	20	EVA SECURE	T/T	\checkmark	\checkmark	\checkmark
	10+10			DG41	T/T	\checkmark	\checkmark	\checkmark
		120(4)	20	SentryGlas®	T/T	\checkmark	\checkmark	\bigcirc
			40	PVB	T/I	\checkmark	\bigcirc	
		110	20	SentryGlas®	T/T	\checkmark	\checkmark	\checkmark
	8+8			PVB	T/I	\checkmark	\checkmark	
		120(4)	40	EVA SECURE	T/T	\checkmark	\checkmark	
				DG41	T/T	\checkmark	\checkmark	
				PVB	T/I	\checkmark	\checkmark	\bigcirc
810MR		110	20	EVA SECURE	T/T	\checkmark	\checkmark	\checkmark
	10+10			DG41	T/T	\checkmark	\checkmark	\checkmark
		120(4)	20	SentryGlas®	T/T	\checkmark	\checkmark	\checkmark
		110	40	SentryGlas®	T/T	\checkmark	\checkmark	\checkmark
				PVB	T/I	\checkmark	\bigcirc	
	8+8	120(4)	60	EVA SECURE	T/T	\checkmark	\checkmark	
				DG41	T/T	\checkmark	√	
				PVB	T/I	\checkmark	\checkmark	\checkmark
810DK		110		EVA SECURE	T/T	\checkmark	\checkmark	\checkmark
orobit	10+10		40	DG41	T/T	\checkmark	\checkmark	\checkmark
		120(4)	-	SentryGlas®	T/T	\checkmark	\checkmark	\bigcirc
		110	40	PVB	T/I	\checkmark	\bigcirc	
	8+8	120(4)	20	SentryGlas®	T/T	\checkmark	\checkmark	
		110	20	SentryGlas®	T/T	\checkmark	\checkmark	\bigcirc
	10+10			EVA SECURE	T/T	\checkmark	\checkmark	
810FR		120(4)	20	DG41	T/T	\checkmark	\checkmark	
		110	40	PVB	T/I	\checkmark	\checkmark	
	8+8	120(4)	20	SentryGlas®	T/I	\checkmark	\checkmark	
		110	20	SentryGlas®	Т/Т	\checkmark	\checkmark	\checkmark
	10+10			EVA SECURE	Т/Т	\checkmark	\checkmark	
810MF		120(4)	20	DG41	Т/Т	\checkmark	\checkmark	
		110	20	PVB	T/I	 √	\checkmark	
	8+8	110 120 ⁽⁴⁾	20	SentryGlas®	Т/Т	\checkmark	 √	
		12007	20	SentryGlas®	T/T	\checkmark	\checkmark	\checkmark
	10+10	110	20	EVA SECURE	T/T			
	10+10	120(4)	20			\checkmark	\checkmark	
810SP				DG41	T/T	\checkmark	\checkmark	

DEFENDER XP/PICO SYSTEMS P. 84-97

						Intended use ⁽³⁾			
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositio	on	Private stairs	Private	Public	
				Interlayer	Glass	1.0 kN/m	2.0 kN/m	3.0 kN/m	
		60	25	SentryGlas®	T/T	\checkmark	✓ ⁽⁷⁾		
	6+6	80	25	PVB	T/I	\checkmark			
		100	25	SentryGlas®	T/T	\checkmark			
	8+8	80	25	PVB	T/I	\checkmark	\bigcirc		
XP		100	25	PVB	T/I	\checkmark			
		110	25	SentryGlas®	T/T	\checkmark			
		60	25	PVB	T/I	\checkmark			
	6+6	80	25	SentryGlas®	T/T	\checkmark			
PICO		100	25	SentryGlas®	T/T	\checkmark			
		80	25	PVB	T/I	\checkmark	\bigcirc		
	8+8	100	25	PVB	T/I	√ ⁽⁷⁾			
		110	25	SentryGlas®	T/T	√ ⁽⁷⁾			

DEFENDER 1212 SYSTEMS P. 100-115

							Intended use ⁽³⁾	
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositie	on	Private stairs	Private	Public
				Interlayer	Glass	1.0 kN/m	2.0 kN/m	3.0 kN/m
			40	DG41	F/F	\checkmark	\oslash	
1212LM	12+12	120 ⁽⁴⁾		EVA SECURE	T/T	\checkmark	\checkmark	\checkmark
	12+12 12019	120()	20	DG41	T/T	\checkmark	\checkmark	\checkmark
1212DK				SentryGlas®	T/T	\checkmark	\checkmark	\checkmark
				DG41	F/F	\checkmark	\checkmark	
		110		PVB	T/T	\checkmark	\checkmark	√ ⁽⁷⁾
1212FR	12+12	110	20	EVA SECURE	T/T	\checkmark	\checkmark	\checkmark
				DG41	T/T	\checkmark	\checkmark	\checkmark
1212SP		120 ⁽⁴⁾		SentryGlas®	Т/Т	\checkmark	\checkmark	\checkmark

Research lies at the basis of any technological evolution

For more than 15 years, we have been first in assessing and verifying the performance of balustrade glass, working with important subjects at universities and in research.

With advanced equipment and technical/scientific contributions from universities, we continuously develop new construction solutions. We also perform tests on our systems in combination with many types of glass to provide clear, reliable indications for designers and installers.



FRANCE NF 1991-1-1/Cahier CSTB 3034

DEFENDER 810 SYSTEMS P. 44-81

							Intended use ⁽³⁾			
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositi	on	Private	Public	Stadiums		
				Interlayer	Glass	0.6 kN/m	1.0 kN/m	3.0 kN/m		
			40	PVB	ТН/ТН	\bigcirc				
	8+8	110	40	EVA Daylight	TH/TH	\bigcirc				
			20	PVB	TH/TH	\checkmark	\bigcirc			
				PVB	ТН/ТН	\checkmark	\bigcirc			
810LM	10+10	160 ⁽⁴⁾	20	EVALAM	1/1	\checkmark	\bigcirc			
				EVA Daylight	ТН/ТН	\checkmark	\bigcirc			
			40	PVB	TH/TH	\oslash				
	8+8	110	40	EVA Daylight	ТН/ТН	\checkmark				
			20	PVB	ТН/ТН	\checkmark	\bigcirc			
				PVB	ТН/ТН	\checkmark	\bigcirc			
810MR	10+10	160 ⁽⁴⁾	20	EVALAM	1/1	\checkmark	\bigcirc			
				EVA Daylight	ТН/ТН	\checkmark	\bigcirc			
			60	PVB	ТН/ТН	\bigcirc				
	8+8	8+8	110	60	EVA Daylight	ТН/ТН	\checkmark			
			40	SentryGlas®	ТН/ТН	\checkmark	\bigcirc			
				PVB	ТН/ТН	\checkmark	\bigcirc			
810DK	10+10	160(4)	40	EVA Daylight	ТН/ТН	\checkmark	\checkmark			
				EVALAM	1/1	\checkmark	\checkmark			
	8+8			40	PVB	ТН/ТН	\bigcirc			
		110	40	EVA Daylight	ТН/ТН	\bigcirc				
			20	SentryGlas®	ТН/ТН	\checkmark	\bigcirc			
810FR		110	20	EVALAM	1/1	\checkmark	\bigcirc			
	10+10	160 ⁽⁴⁾	20	PVB	TH/TH	\checkmark	\bigcirc			
		100(*)	20	EVA Daylight	TH/TH	\checkmark	\bigcirc			
			40	PVB	ТН/ТН	\oslash				
	8+8	110	40	EVA Daylight	TH/TH	\checkmark				
			20	SentryGlas®	TH/TH	\checkmark	\bigcirc			
810MF		110	20	EVALAM	1/1	\checkmark	\bigcirc			
	10+10	160 ⁽⁴⁾	20	PVB	TH/TH	\checkmark	\bigcirc			
		100.7	20	EVA Daylight	TH/TH	\checkmark	\bigcirc			
			40	PVB	TH/TH	\bigcirc				
	8+8	110	40	EVA Daylight	TH/TH	\checkmark				
			20	SentryGlas®	TH/TH	\checkmark	\bigcirc			
				EVALAM	1/1	\checkmark	\checkmark			
810SP	DSP 10+10	10+10 160 ⁽⁴⁾	20	PVB	TH/TH	\checkmark	\bigcirc			
				EVA Daylight	TH/TH	\checkmark	\checkmark			

DEFENDER XP/PICO SYSTEMS P. 84-97

							Intended use ⁽³⁾	
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositi	on	Private	Public	Stadiums
				Interlayer	Glass	0.6 kN/m	1.0 kN/m	3.0 kN/m
	8+8	80	25	PVB	TH/TH	✓ ⁽⁷⁾	√ ⁽⁷⁾	
XP	0+0	90	25	SentryGlas®	TH/TH	√ ⁽⁷⁾		
	8+8	80	25	PVB	TH/TH	\checkmark	\oslash	
		90	25	SentryGlas®	TH/TH	\checkmark	\checkmark	
PICO		110	25	SentryGlas [®]	TH/TH	\oslash		

DEFENDER 1212 SYSTEMS P. 100-115

							Intended use ⁽³⁾	
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositie	on	Private	Public	Stadiums
				Interlayer	Glass	0.6 kN/m	1.0 kN/m	3.0 kN/m
1212LM	12+12	60	20	PVB	TH/TH	\checkmark	\checkmark	\checkmark
	12712	110	10 ⁽⁸⁾	SentryGlas®	TH/TH	\checkmark	\checkmark	Ø ⁽⁹⁾
	12+12	60 20	PVB	TH/TH	\checkmark	\checkmark	\checkmark	
1212DK		110		SentryGlas®	TH/TH	\checkmark	\checkmark	✓ ⁽⁹⁾
	12+12 -	50	20	PVB	TH/TH	\checkmark	\checkmark	\checkmark
1212FR	12+12	70	20	SentryGlas®	TH/TH	\checkmark	\checkmark	\checkmark
	10.10	50		PVB	TH/TH	\checkmark	\checkmark	\checkmark
1212SP	12+12	70	20	SentryGlas®	TH/TH	\checkmark	\checkmark	\checkmark



GERMANY DIN 18008

DEFENDER 810 SYSTEMS P. 44-81

							Intended use ⁽³⁾	
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositi	on	Private	Public	Stadiums
				Interlayer	Glass	0.5 kN/m	1.0 kN/m	2.0 kN/m
		100	20	PVB	T/T	\checkmark	\checkmark	
	8+8	110	40	PVB	T/T	\checkmark		
		110	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
	10+10	80	20	SentryGlas®	T/T	\checkmark	\checkmark	√ ⁽⁷⁾⁽¹⁰⁾
810LM	10+10	120	20	PVB	T/T	\checkmark	√ ⁽⁷⁾	
	8+8	110	40	PVB	T/T	\checkmark		
	0+0	110	20	PVB	T/T	\checkmark	\checkmark	
	10+10	80	20	PVB	T/T	\checkmark	\checkmark	√ ⁽⁷⁾
810MR	10+10	120	20	PVB	T/T	\checkmark	\checkmark	
		100	20	PVB	T/T	\checkmark	\checkmark	
	8+8	110	40	PVB	T/T	\checkmark		
		110	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
	10+10	110	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	√ ⁽⁷⁾⁽¹⁰⁾
810DK	10+10	120	20	PVB	T/T	\checkmark	√ ⁽⁷⁾	
	8+8	90	20	PVB	T/T	\checkmark	\checkmark	
		100	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
		110	40	PVB	T/T	\checkmark		
	10+10	80	20	SentryGlas®	T/T	\checkmark	\checkmark	√ ⁽⁷⁾⁽¹⁰⁾
810FR	10+10	120	20	PVB	T/T	\checkmark	\checkmark	
	8+8	110	40	PVB	T/T	\checkmark		
	0+0	110	20	PVB	T/T	\checkmark	\checkmark	
	10+10	110	20	SentryGlas®	T/T	\checkmark	\checkmark	√ ⁽⁷⁾⁽¹⁰⁾
810MF	10+10	120	20	PVB	T/T	\checkmark	\checkmark	
		90	20	PVB	T/T	\checkmark	\checkmark	
	8+8	100	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
		110	40	PVB	T/T	\checkmark		
91060	10+10	100	20	SentryGlas®	T/T	\checkmark	\checkmark	√ ⁽⁷⁾⁽¹⁰⁾
810SP	10+10	120	20	PVB	T/T	\checkmark	\checkmark	

DEFENDER PICO SYSTEMS P. 90-97

				pane composition		Intended use ⁽³⁾		
System DEFENDER	Composition	Height ⁽¹⁾ Fixings ⁽²⁾ [cm] [cm]				Private	Public	Stadiums
				Interlayer	Glass	0.5 kN/m	1.0 kN/m	2.0 kN/m
(60	25	PVB	T/T	\checkmark	√ ⁽⁷⁾	√ ⁽⁷⁾
	8+8	90	25	PVB	T/T	\checkmark	√ ⁽⁷⁾	
		80	12.5	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	√ ⁽⁷⁾
		100	25	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
PICO		110	25	SentryGlas®	T/T	√ ⁽⁷⁾		



DEFENDER 1212 SYSTEMS P. 100-115

					pane			Intended use ⁽³)
System DEFENDER	Composition	Environment	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	compositio	on	Private	Public	Stadiums
					Interlayer	Glass	0.5 kN/m	1.0 kN/m	2.0 kN/m
	12+12	indeer	120	20	PVB	T/T	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
1212LM		indoor	130	20	SentryGlas [®]	T/T	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
		outdoor	110	20	PVB	т/т	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
1212DK			130	20	SentryGlas®	T/T	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
			110	20	PVB	T/T	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
1212FR	12+12	indoor	130	20	SentryGlas [®]	T/T	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
	12+12	2 outdoor	100	20	PVB	T/T	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
1212SP			130	20	SentryGlas®	Т/Т	√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾

Why use a rigid interlayer?

The interlayer plays a fundamental role!

In addition to guaranteeing that the shards of glass are not dangerous if the glass breaks, this layer of plastic allows the panes of glass to work together for higher performance.

Glass with rigid interlayers may resist greater loads or, for equal resistance, have a lower thickness without compromising safety!



BELGIUM NBN B 03-004

DEFENDER 810 SYSTEMS P. 44-81

					-	Intended use ⁽⁶⁾			
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pa compo	ne osition	Private	Public	Stadiums	
				Interlayer	Glass	0.5 kN/m	1.0 kN/m	3.0 kN/m	
		110	60	PVB	F/F	2			
	8+8	110	40	DG41	T/T	5	5		
		120	40	DG41	T/T	(4)	4		
		110	40	DG41	F/F	5	5		
810LM	10+10	110	20	DG41	T/T	8	8		
OTOLIM	10+10	120	40	DG41	F/F	4	4		
		120	20	DG41	T/T	7	0		
		110	60	PVB	F/F	2			
	8+8	110	40	DG41	T/T	(4)	(4)		
		120	40	DG41	T/T	3	8		
		110	40	DG41	F/F	5	5		
810MR	10.10	110	20	DG41	T/T	7	7		
oronni	10+10	100	40	DG41	F/F	4	4		
		120	20	DG41	T/T	6	6		
	8+8	110	60	DG41	T/T	4	(4)		
		120	60	DG41	T/T	3	3		
	10+10	110	40	DG41	T/T	8	8		
810DK	10+10	120	40	DG41	T/T	7	0		
		110	40	PVB	F/F	0			
\frown	8+8	110	20	DG41	T/T	3	3		
		120	20	DG41	T/T	2	2		
		110	20	DG41	F/F	4	(4)		
810FR	10,10	110	20	DG41	T/T	6	6		
OTUEN	10+10		20	DG41	F/F	3	3		
		120	20	DG41	T/T	5	5		
		110	40	PVB	F/F	0			
	8+8	110	20	DG41	T/T	3	1		
		120	20	DG41	T/T	2	1		
		110	20	DG41	F/F	4	(4)		
	10.10	110	20	DG41	T/T	5	5		
810MF	10+10	100	20	DG41	F/F	3	8		
		120	20	DG41	T/T	4	4		
		110	40	DG41	T/T	3			
	8+8	120	40	DG41	T/T	2]		
	40.40	110	20	DG41	T/T	6	6		
810SP	10+10	120	20	DG41	T/T	5	6		

DEFENDER XP/PICO SYSTEMS P. 84-97

						Intended use ⁽⁶⁾				
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositio	on	Private	Public	Stadiums		
				Interlayer	Glass	0.5 kN/m	1.0 kN/m	3.0 kN/m		
	6+6	50		DG41	F/F	0				
XP	8+8	110	25	PVB	F/F	0				
		120		DG41	T/T	0				
	6+6 50	50		DG41	T/T	0				
	0.0	110	25	PVB	F/F	0				
PICO	8+8	120		DG41	T/T	2				

DEFENDER 1212 SYSTEMS P. 100-115

						Intended use ⁽⁶⁾				
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositi	on	Private	Public	Stadiums		
				Interlayer	Glass	0.5 kN/m	1.0 kN/m	3.0 kN/m		
	12+12	120	40	DG41	F/F	8	7			
1212LM	12712	120	20	DG41	Т/Т	8	8	0		
	12+12	120	40	DG41	F/F	8	\bigcirc			
1212DK	12712	120	20	DG41	Т/Т	8	8	Ð		
	12+12	110	20	DG41	Т/Т	0	0			
1212FR	12712	120	20	DG41	Т/Т	6	6			
	10,10	110	20	DG41	T/T	6	6			
1212SP	12+12	120	20	DG41	Т/Т	5	6			



WITED KINGDOM British Standard 6180

DEFENDER 810 SYSTEMS P. 44-81

				pane			Intended use ⁽³⁾	
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	compositi	on	Private	Public	Stadiums
				Interlayer	Glass	0.74 kN/m	1.5 kN/m	3.0 kN/m
		60		PVB	T/T	\checkmark	\checkmark	\checkmark
		100	40	PVB	T/T	\checkmark	\checkmark	
	8+8	110		PVB	T/T	\bigcirc		
		110	20	SentryGlas®	T/T	\checkmark	\bigcirc	
		120	40	SentryGlas®	T/T	\checkmark		
		80		PVB	T/T	\checkmark	\checkmark	\checkmark
810LM	10,10	110		PVB	T/T	\checkmark	\bigcirc	
	10+10	120	20	SentryGlas®	T/T	\checkmark	\bigcirc	
	-	140		SentryGlas®	T/T	\checkmark		
		60		PVB	T/T	\checkmark	\checkmark	\checkmark
		100	40	PVB	T/T	√	√	
	8+8	110		PVB	T/T	√		4
		110	20	SentryGlas®	T/T	\checkmark	\checkmark	
	-	120	40	SentryGlas®	T/T	√	•	
		80		PVB	T/T	\checkmark	\checkmark	\checkmark
810MR	-	110		PVB	Т/Т	\checkmark	\checkmark	v
	10+10	120	20	SentryGlas®	Т/Т	\checkmark	\checkmark	
	-	140		SentryGlas®	T/T	\checkmark		
		60		PVB		\checkmark	/	1
	-		_		T/T		\checkmark	\checkmark
	8+8	100	60	PVB	T/T	\checkmark	√	
	-	120		PVB	T/T	\bigcirc	1	
		110		SentryGlas®	T/T	\checkmark	\checkmark	
810DK		80		PVB	T/T	\checkmark	\checkmark	\checkmark
orobit	10+10	120	40	PVB	T/T	\checkmark	\bigcirc	
		140		SentryGlas®	T/T	\checkmark	-	
	-	60	20	PVB	T/T	\checkmark	\checkmark	\checkmark
	8+8	100	40	PVB	T/T	\checkmark	\checkmark	
		110		PVB	T/T	\bigcirc		
	-	80		PVB	T/T	\checkmark	\checkmark	\checkmark
	10+10	110	20	SentryGlas®	T/T	\checkmark	\bigcirc	
810FR		140		SentryGlas®	T/T	\checkmark		
		60	20	PVB	T/T	\checkmark	\checkmark	\checkmark
	8+8	100	40	PVB	T/T	\checkmark	\checkmark	
		110	40	PVB	T/T	\checkmark		
		80		PVB	T/T	\checkmark	\checkmark	\checkmark
	10+10	110	20	SentryGlas®	T/T	\checkmark	\checkmark	
810MF		140		SentryGlas®	T/T	\checkmark		1
		60	20	PVB	T/T	\checkmark	\checkmark	\checkmark
	8+8	100		PVB	T/T	\checkmark	\checkmark	
		110	40	PVB	T/T	√		4
		80		PVB	T/T	\checkmark	\checkmark	\checkmark
810SP	10+10	110	20	SentryGlas®	T/T	\checkmark	\checkmark	
	10+10	140		SentryGlas®	T/T	\checkmark		

DEFENDER XP/PICO SYSTEMS P. 84-97

							Intended use ⁽³⁾	
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane compositio	on	Private	Public	Stadiums
				Interlayer	Glass	0.74 kN/m	1.5 kN/m	3.0 kN/m
		50	25	PVB	T/T	\checkmark	\checkmark	
	6+6	60	25	PVB	T/T	\checkmark		
		80	25	SentryGlas®	T/T	\checkmark		
		40	25	PVB	T/T	\checkmark	\checkmark	\checkmark
ХР	8+8	60	25	PVB	T/T	\checkmark	\checkmark	
	0+0	70	25	PVB	T/T	\checkmark		
		90	25	SentryGlas®	T/T	\checkmark		
		50	25	-	Т	\checkmark	\checkmark	\checkmark
PICO	15	70	25	-	Т	\checkmark	\checkmark	
		90	25	-	Т	\checkmark		

DEFENDER 1212 SYSTEMS P. 100-115

				pane		Intended use ⁽³⁾				
System DEFENDER	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	compositio	on	Private	Public	Stadiums		
				Interlayer	Glass	0.74 kN/m	1.5 kN/m	3.0 kN/m		
		100	20	SentryGlas®	T/T	\checkmark	\bigcirc	\checkmark		
		110	10 ⁽⁸⁾	SentryGlas®	T/T	\checkmark	\checkmark	(⁹⁾		
	12+12	130	20	SentryGlas®	T/T	\checkmark	\checkmark			
	12+12	140	10 ⁽⁸⁾	SentryGlas®	T/T	\checkmark	✓ ⁽⁹⁾			
1212LM		150	20	SentryGlas®	T/T	\checkmark				
		180	10 ⁽⁸⁾	SentryGlas®	T/T	✓ ⁽⁹⁾				
	12+12	100	20	SentryGlas®	T/T	\checkmark	\checkmark	\checkmark		
		130	20	SentryGlas®	T/T	\checkmark	\checkmark			
1212DK		150	20	SentryGlas®	T/T	\checkmark				
		70	20	SentryGlas®	Т/Т	\checkmark	\checkmark	\checkmark		
1212FR	12+12	100	20	SentryGlas®	Т/Т	\checkmark	\checkmark			
1212SP		130	20	SentryGlas®	T/T	\checkmark				

Responsible project

It is important to identify the supporting areas that may be used to scale the balustrade, which reduces safety for adults and children.

Likewise, if there is terracing or fixed elements near the balustrade, it may be necessary to increase the minimum height expected for normal situations.



SWITZERLAND SIA 261 - SIA2057

DEFENDER 810 SYSTEMS P. 44-81

					pane			Intended use ⁽³)
System DEFENDER	Composi- tion	Environment	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	compositio	on	Private	Public	Stadiums
					Interlayer	Glass	0.8 kN/m	1.6 kN/m	3.0 kN/m
	0.0	a utala au	70	20	PVB	T/T	\checkmark	\checkmark	
	8+8	outdoor	130	20	PVB	T/T	\checkmark		
	10+10	outdoor	100	20	PVB	T/T	\checkmark	\checkmark	
810LM	10+10	outdoor	110	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
			80	20	PVB	T/T	\checkmark	\checkmark	
	8+8	outdoor	110	40	PVB	T/T	\checkmark		
			130	20	PVB	T/T	\checkmark		
810MR	10+10	outdoor	110	20	PVB	T/T	\checkmark	\checkmark	
	10+10	0010001	130	20	PVB	T/T	\checkmark		
	8+8	outdoor	70	20	PVB	T/T	\checkmark	\checkmark	
	0+0	Outdoor	130	20	PVB	T/T	\checkmark		
		indoor	130	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
810DK	10+10	outdoor	100	20	PVB	T/T	\checkmark	\checkmark	
		Outdoor	110	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
			50	20	PVB	T/T	\checkmark	\checkmark	
	8+8	outdoor	60	20	PVB	T/T	\checkmark	√ ⁽⁷⁾	
	0+0	outdoor	110	40	PVB	T/T	\checkmark		
			120	20	PVB	T/T	√ ⁽⁷⁾		
		indoor	110	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
810FR	10+10		90	20	PVB	T/T	\checkmark	\checkmark	
	10+10	outdoor	100	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
			130	20	PVB	T/T	\checkmark		
	8+8	outdoor	70	20	PVB	T/T	\checkmark	\checkmark	
	0+0	ouldoor	130	40	PVB	T/T	\checkmark		
			110	20	PVB	T/T	\checkmark	\checkmark	
810MF	10+10	outdoor	130	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
010iiii			130	20	PVB	T/T	\checkmark		
			50	20	PVB	Т/Т	\checkmark	\checkmark	
	0.0	0	60	20	PVB	T/T	\checkmark	√ ⁽⁷⁾	
	8+8	outdoor	110	40	PVB	T/T	\checkmark		
			120	40	PVB	T/T	√ ⁽⁷⁾		
		indoor	120	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
810SP	10.40		90	20	PVB	T/T	\checkmark	\checkmark	
	10+10	0 outdoor	100	20	SentryGlas®	T/T	\checkmark	√ ⁽⁷⁾	
			130	20	PVB	Т/Т	\checkmark		
	ļ	1	l	1	1	1		1	

DEFENDER XP/PICO SYSTEMS P. 84-97

								Intended use ⁽³)
System DEFENDER	Composition	Environment	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane composition		Private	Public	Stadiums
					Interlayer	Glass	0.8 kN/m	1.6 kN/m	3.0 kN/m
XP		indoor	40	25	PVB	1/1	\checkmark	\checkmark	
	8+8	indoor	90	25	PVB	1/1	\checkmark		
		outdoor	60	25	SentryGlas®	1/1	\checkmark	\checkmark	
			90	25	SentryGlas®	1/1	\checkmark		
		indoor	50	25	PVB	1/1	\checkmark	\oslash	
	8+8	Indoor	80	25	SentryGlas®	1/1	\checkmark	\bigotimes	
PICO	0+0	outdoor	70	25	SentryGlas®	1/1	\checkmark	\bigcirc	
		outdoor -	90	25	PVB	1/1	\oslash		

DEFENDER 1212 SYSTEMS P. 100-115

					pane		Intended use ⁽³⁾			
System DEFENDER	Composition	Environment	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	compositio	on	Private	Public	Stadiums	
					Interlayer	Glass	0.8 kN/m	1.6 kN/m	3.0 kN/m	
			100	20	SentryGlas®	F/F	\checkmark	\oslash		
		indoor	120	40	PVB	F/F	\oslash			
	1212LM 12+12		120	20	PVB	1/1	\checkmark	\oslash		
1212LM			120	20	PVB	T/T	\checkmark	\checkmark	\bigcirc	
	12+12	outdoor	80	20	SentryGlas®	F/F	\checkmark	\oslash		
			90	20	SentryGlas®	1/1	\checkmark	\checkmark	\bigcirc	
1212FR			outdoor	100	20	PVB	T/T	\checkmark	\checkmark	\bigcirc
			110	20	SentryGlas®	T/T	\checkmark	\checkmark	\bigcirc	
			120	40	PVB	F/F	\checkmark			
		indoor	120	20	PVB	1/1	\checkmark	\checkmark		
1212DK	10.10		120	20	PVB	T/T	\checkmark	\checkmark	\checkmark	
	12+12		90	20	SentryGlas®	1/1	\checkmark	\checkmark	\checkmark	
		outdoor	100	20	PVB	T/T	\checkmark	\checkmark	\checkmark	
1212SP			110	20	SentryGlas®	T/T	\checkmark	\checkmark	\checkmark	



NETHERLANDS NEN-EN 1991-1-1

DEFENDER 810 SYSTEMS P. 44-81

					pane			Intended use ⁽³⁾)
System DEFENDER	Composition	Handrail	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	compositio	on	Residential, private	Residential, common	Public ⁽⁵⁾
					Interlayer	Glass	0.3 kN/m	0.5 kN/m	0.8 kN/m
		no	120		PVB		\checkmark		
810LM	8+8		110	40	PVB	Т/Т	√ ⁽⁷⁾	√ ⁽⁷⁾	
		yes	130		SentryGlas®		√ ⁽⁷⁾	√ ⁽⁷⁾	
810MR		no	110		PVB	171	\checkmark	\checkmark	
	10+10) yes	120	20	PVB		✓ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
810DK		ycs	130		SentryGlas®		√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
		no	110	40	PVB		\checkmark		
810FR	8+8	yes	110	20	PVB		✓ ⁽⁷⁾	√ ⁽⁷⁾	
		yoo	120		SentryGlas [®]	T/T	√ ⁽⁷⁾	√ ⁽⁷⁾	
810MF		no	110		PVB	171	\checkmark	\checkmark	
	10+10	10+10 yes -	100	20	PVB		√ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾
810SP		,	120		SentryGlas®		✓ ⁽⁷⁾	√ ⁽⁷⁾	√ ⁽⁷⁾

DEFENDER PICO SYSTEMS P. 90-97

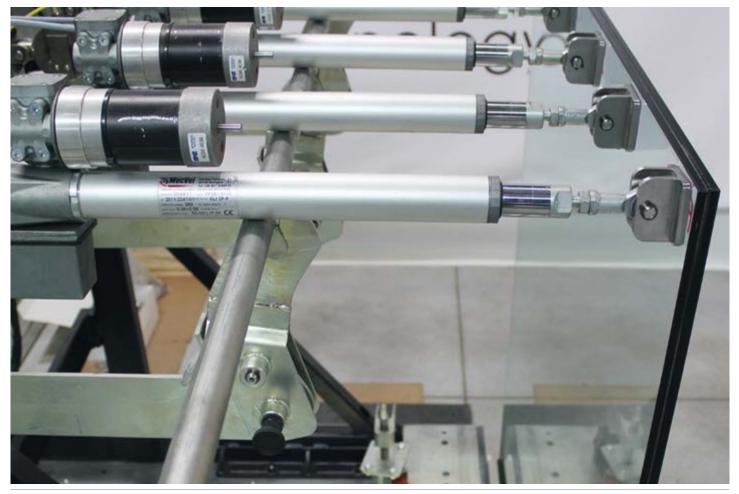
							Intended use ⁽³⁾			
System DEFENDER			Height ⁽¹⁾ Fixings ⁽²⁾ [cm] [cm]		pane compositio	on	Residential, private	Residential, common	Public ⁽⁵⁾	
					Interlayer	Glass	0.3 kN/m	0.5 kN/m	0.8 kN/m	
		no	120	25	PVB		\oslash			
	8+8		110	12.5	PVB	т/т	√ ⁽⁷⁾	(7)		
PICO		yes	120	12.5	SentryGlas®		√ ⁽⁷⁾	Ø ⁽⁷⁾		

.



DEFENDER 1212 SYSTEMS P. 100-115

	Composition	Height ⁽¹⁾ [cm]	Fixings ⁽²⁾ [cm]	pane composition		Intended use ⁽³⁾		
System DEFENDER						Residential,	Public	Stadiums
				Interlayer	Glass	0.5 kN/m	0.8 kN/m	3.0 kN/m
1212LM	12+12	120	20	PVB	T/T	\checkmark	\bigcirc	
1212DK	10+10+4	110	20	Sentryglas®	T/T	\checkmark	\checkmark	Ø
1212FR	12+12	110	20	PVB	T/T	\checkmark	\bigcirc	
1212SP	10+10+4	100	20	Sentryglas®	T/T	\checkmark	\checkmark	\oslash



POINT FIXINGS FOR BALUSTRADES

Full transparency and safety

Point fixings really bring out the quality of glass, giving your balustrade the lightness associated with an all-glass product.

EVO series

A range of point fixings with high mechanical properties that are suitable for every requirement.

Choose from visible screws or blind studs, adjustable or fixed spacers: every option in the EVO range offers enviable levels of performance.

> A material for every application: EVO point fixings are made of solid stainless steel and are available in:

> > AISI 304 for indoor use

AISI 316 for use in more hostile environments



3 MODELS2 MATERIALS5 FINISHES





30





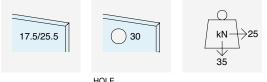
30 - 40





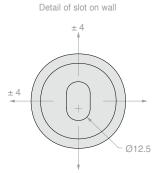
POINT FIXING WITH ADJUSTABLE SPACER AND BLIND STUD

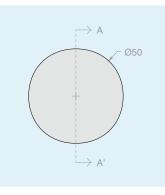
10 mm front adjustment of the spacer, from 30 to 40 mm. Adjustment of the wall position by \pm 4 mm in all directions. Anchoring with by M12 threaded rod (not supplied) Recommended installation tool Art. CHSETT32/CH12EXA

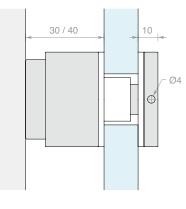


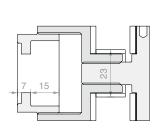
HOLE RECOMMENDED

A-A'











Material: AISI 316 stainless steel Finish: /8 /15

Material: AISI 304 stainless steel								
Finish:	/8	/15	/97	/R2	/RAL			

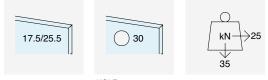
Art.	Qty	Art.	Qty
EVODR304	1 Pc	EVODR316	1 Pc





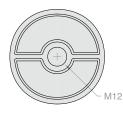
POINT FIXING WITH BLIND STUD

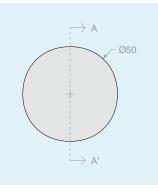
Anchoring with M12 threaded rod (not supplied) Recommended installation tool Art. CHSETT32

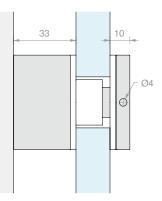


HOLE RECOMMENDED

Detail of hole on wall

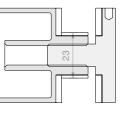






Material: AISI 316 stainless steel





Material: AISI 304 stainless steel

Finish: /8 /15 /97 /R2 /RAL

Art.

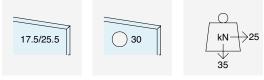
EVOFIX304

Finish: /8 /15 Qty Art. 1 Pc EVOFIX316

174 >>> PRICE LIST REFERENCE V1 - Page 20 >>> Qty 1 Pc



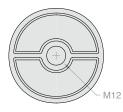
POINT FIXING WITH VISIBLE SCREWS Anchoring with M12 threaded rod (not supplied)

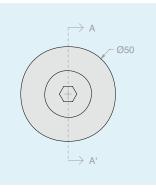


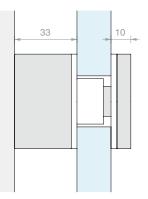
HOLE RECOMMENDED

A-A'

Detail of hole on wall







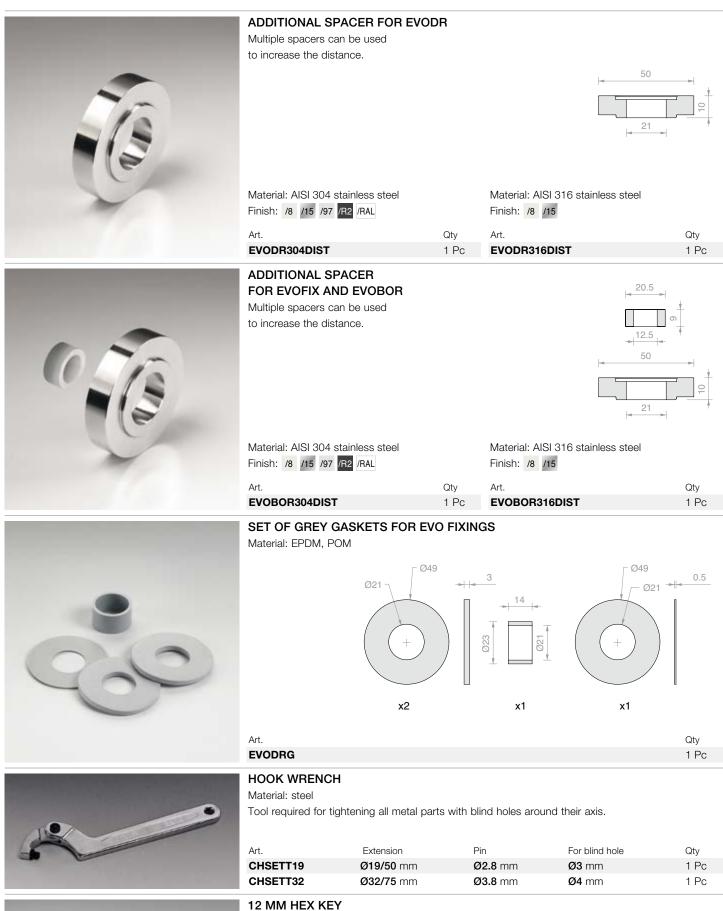


Material: AISI 304 stainless steel Finish: /8 /15 /97 /R2 /RAL Material: AISI 316 stainless steel Finish: /8 /15

Art.	Qty	Art.	Qty
EVOBOR304	1 Pc	EVOBOR316	1 Pc



Qty 1 Pc





Material: steel

Art.		
CH12EXA		





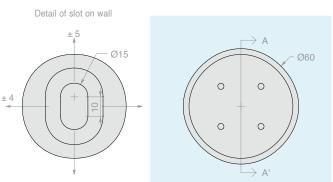


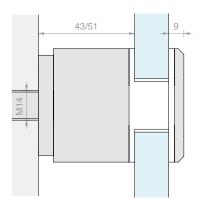
POINT FIXING WITH ADJUSTABLE SPACER

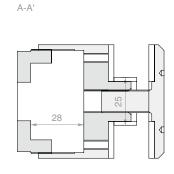
Material: AISI 316 stainless steel 8 mm front adjustment of the spacer, from 43 to 51 mm Adjustment of the wall position ± 5 mm in all directions Anchoring with M14 x 140 threaded rod (included) Finish: /8 /15 Recommended installation tool Art. UT300











Qty 1 Pc

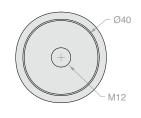
Art. ATP60

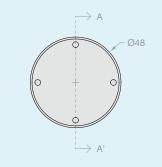


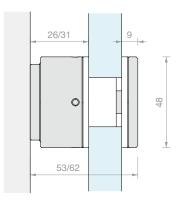


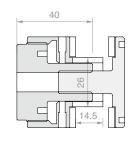
POINT FIXING WITH ADJUSTABLE SPACER

Material: AISI 316 stainless steel 5 mm front adjustment of the spacer, from 26 to 31 mm Anchoring with M12 threaded rod (not supplied) Finish: /8 /15 Recommended installation tool Art. UT300/CHSETT32 Detail of hole on wall

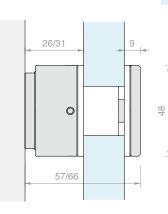




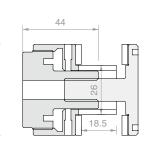


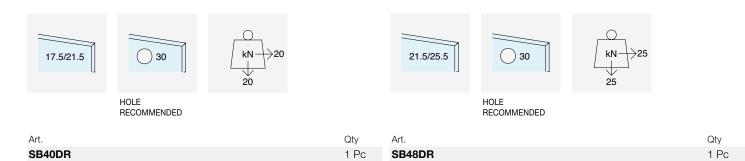


A-A'



A-A'







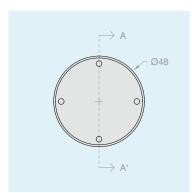
FIXING STUD Material: AISI 316 stainless steel With countersunk screws M12 x 30 mm, M12 x 35 mm, M12 x 40 mm Finish: //8 //15 Recommended installation tool Art. UT300

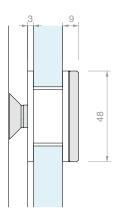




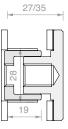
HOLE RECOMMENDED

32





A-A'



Qty

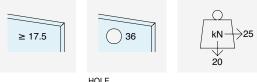
1 Pc



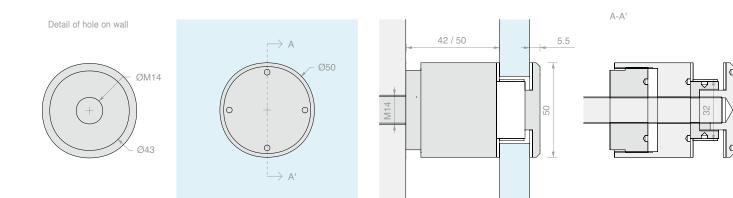


POINT FIXING WITH ADJUSTABLE SPACER

Material: AISI 304 stainless steel 8 mm front adjustment of the spacer, from 42 to 50 mm Anchoring with M14 x 140 threaded rod (included) Finish: /9 Recommended installation tool Art. UT300



HOLE RECOMMENDED









POINT FIXINGS

Material: AISI 304 stainless steel Can fit 11.5 mm glass with the addition of article ATP452 Anchoring with M14 x 140 threaded rod (included) Finish: /9 Recommended installation tool Art. UT300



5.5



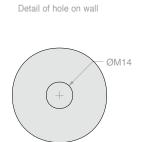
HOLE RECOMMENDED

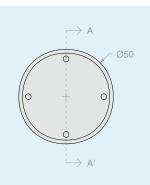
A-A'

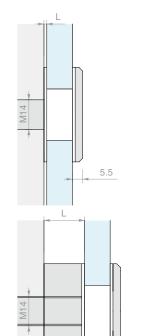
28

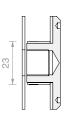
(

ATP5365











A-A'



ATP565 ATP5215 ATP5365

ATP5365	36.5 mm	1 Pc
ATREASE	00 F	4.0.
ATP5215	21.5 mm	1 Pc
ATP565	6.5 mm	1 Pc
ATP515	1.5 mm	1 Pc
Art.	L	Qty



POINT FIXINGS WITH COLLAR

Material: AISI 304 stainless steel Anchoring with M14 x 140 threaded rod (included) Finish: /9 Recommended installation tool Art. UT300



Г	0
	kN→25
	20

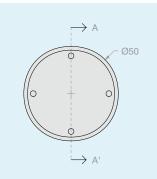
HOLE RECOMMENDED

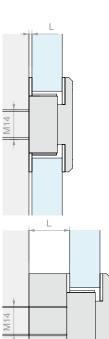
36

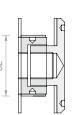
ATP503365

ØM14

Detail of hole on wall



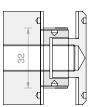




A-A'



A-A'





 Art.
 L
 Qty

 ATP50315
 1.5 mm
 1 Pc

 ATP50365
 6.5 mm
 1 Pc

 ATP503215
 21.5 mm
 1 Pc

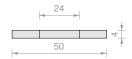
 ATP503365
 36.5 mm
 1 Pc





EXPANSION SEAL

Material: PVC Additional seal for using articles ATP515, ATP565, ATP5215 and ATP5365 with 11.5 mm glass Finish: white



Qty

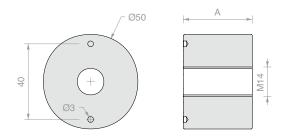
1 Pc

Art. ATP452



SPACER

material: AISI 304 stainless steel Finish: /9 Recommended installation tool Art. UT300

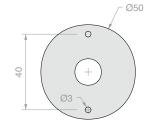


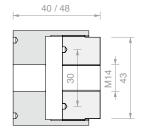
Art.	A	Qty
DISTCOFIS11	20 mm	1 Pc
DISTCOFIS12	35 mm	1 Pc



ADJUSTABLE SPACER

Material: AISI 304 stainless steel 8 mm front adjustment of the spacer, from 40 to 48 mm Finish: /9 Recommended installation tool Art. UT300





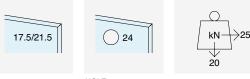
Art.

DISTCOFISR



POINT FIXING WITH VISIBLE SCREWS

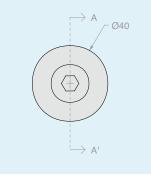
Material: AISI 304 stainless steel Supplied with M10 x 35 mm screw Anchoring to the wall with M10 threaded rod (not supplied) Finish: 19 Recommended installation tool Art. UT300



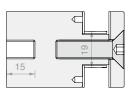
HOLE RECOMMENDED







 A-A'



Qty 1 Pc

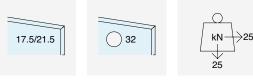




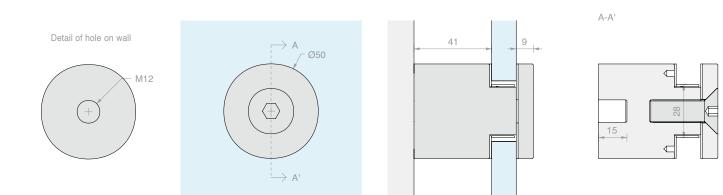


POINT FIXING WITH VISIBLE SCREWS

Material: AISI 304 stainless steel Supplied with M12 x 35 mm screw. Anchoring to the wall with M12 threaded rod (not supplied) Finish: /9 Recommended installation tool Art. UT300/CH12EXA



HOLE RECOMMENDED



Art. DISTB50



DOUBLE BRACKETS FOR BALUSTRADES

Patented solidity

Features of the product range: Two brackets, different distances from the wall, but the same exceptionally high mechanical properties.

Choose from an adjustable spacer or no spacer; the SB brackets range offers all of the practicality of a single threaded rod for fixing but with two attachment points on the glass.

The guarantee of stainless steel: made of AISI 316 for use in the most hostile environments ******

DOUBLE BRACKETS FOR BALUSTRADES



BRACKET WITH ADJUSTABLE SPACERS

Material: AISI 316 stainless steel

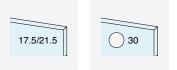
5 mm adjustment of the spacer from 26 to 31 mm

and 5 mm adjustment of its position in all directions.

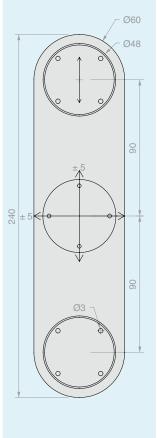
Adjustment of the wall position of the whole bracket \pm 5 mm in all directions.

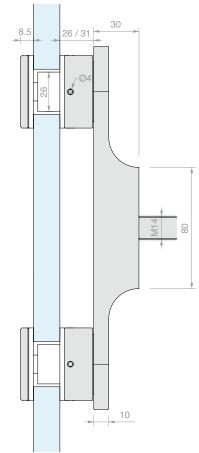
Anchoring with a single M14 x 200 mm threaded rod (included) Finish: /8 /15

Recommended installation tool Art. UT300/CHSETT32/UT250











Art. SB200K Qty





BRACKET WITH STUDS

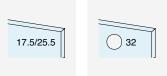
Material: AISI 316 stainless steel

Front adjustment of the entire bracket stud

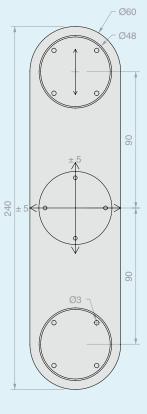
 \pm 5 mm in all directions.

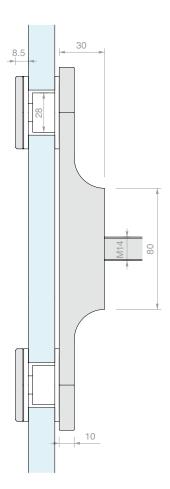
Anchoring with M14 x 200 mm threaded rod (included) Finish: /8 /15

Recommended installation tool Art. UT300/UT250



HOLE RECOMMENDED

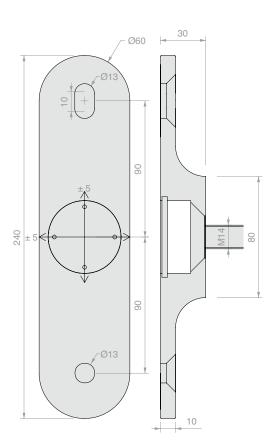






BRACKET ONLY

Material: AISI 316 stainless steel Front fixing slots and adjustment of the whole bracket \pm 5 mm in all directions. Anchoring with a single M14 x 200 mm threaded rod (included) Finish: /8 /15 Recommended installation tool Art. UT300



Art. SB200ST Qty 1 Pc



POINT FIXING WITH ADJUSTABLE SPACER

Material: AISI 316 stainless steel Front adjustment from 26 to 31 mm Anchoring with M12 threaded rod (not supplied). Recommended hole size Ø30 mm Recommended tool for installation Art. UT300/CHSETT32 Finish: /8 /15

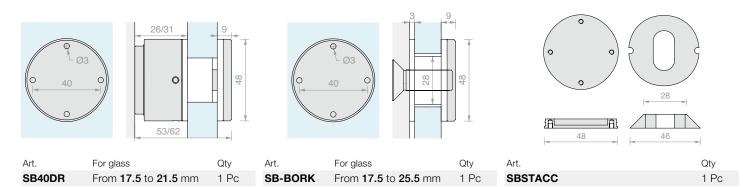


FIXING STUD Material: AISI 316 stainless steel With countersunk screws M12 x 30 mm, M12 x 35 mm, M12 x 40 mm. Compatible with bracket SB200ST. Recommended hole size Ø32 mm

Recommended tool for installation Art. UT300 Finish: /8 /15



SPARE PARTS FOR BRACKETS Material: AISI 316 stainless steel Cap, nut and spare parts for brackets Art. SB200ST, SB200K, SB148. Recommended tool for installation Art. UT250 Finish: /8 /15







Art.	Qty
CH12EXA	1 Pc
PIN WBENCH	

FOR Ø3/Ø2.5/Ø2 mm BLIND HOLES

12 MM HEX KEY Material: steel

Material: iron body and steel pins The compass opening allows to operate with wide radiuses, for pair of holes with a centre distance between 9 mm and 55 mm

Art.	Description	Qty
UT300	Pin wrench with Ø2.9 mm pins	1 Pc
UTC300R	N.2 spare pins Ø2.9 mm	1 Pc
UT250	Pin wrench with Ø2.4 mm pins	1 Pc
UTC250R	N.2 spare pins Ø2.4 mm	1 Pc
UT200	Pin wrench with Ø1.8 mm pins	1 Pc
UTC200R	N.2 spare pins Ø1.8 mm	1 Pc

HOOK WRENCH

Material: steel

Tool required for tightening all metal parts with blind holes around their axis.

Art.	Extension	Pin	For blind hole	Qty
CHSETT19	Ø19/50 mm	Ø2.8 mm	Ø3 mm	1 Pc
CHSETT32	Ø32/75 mm	Ø3.8 mm	Ø4 mm	1 Pc







THREADED ROD DIN 975

Material: Galvanised steel, Stainless steel AISI 316



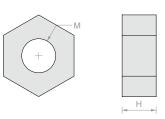


Art.	Material	M	Qty
BFM975-10-ZN	Galvanised steel	M10	1 Pc
BFM975-12-ZN	Galvanised steel	M12	1 Pc
BFM975-14-ZN	Galvanised steel	M14	1 Pc
BFM975-10-A4	AISI 316 stainless steel	M10	1 Pc
BFM975-12-A4	AISI 316 stainless steel	M12	1 Pc
BFM975-14-A4	AISI 316 stainless steel	M14	1 Pc



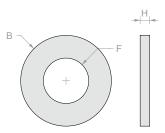
NUT FOR THREADED ROD DIN 934

Material: Galvanised steel, Stainless steel AISI 316



Art.	Material	Н	Μ	Qty
DEX934-10-ZN	Galvanised steel	8 mm	M10	1 Pc
DEX934-12-ZN	Galvanised steel	10 mm	M12	1 Pc
DEX934-14-ZN	Galvanised steel	11 mm	M14	1 Pc
DEX934-10-A4	AISI 316 stainless steel	8 mm	M10	1 Pc
DEX934-12-A4	AISI 316 stainless steel	10 mm	M12	1 Pc
DEX934-14-A4	AISI 316 stainless steel	11 mm	M14	1 Pc





RON125-14-A4	AISI 316 stainless steel	Ø28 mm	2.5 mm	15 mm	1 Pc
RON125-12-A4	AISI 316 stainless steel	Ø24 mm	2.5 mm	13 mm	1 Pc
RON125-10-A4	AISI 316 stainless steel	Ø20 mm	2 mm	10.5 mm	1 Pc
RON125-14-ZN	Galvanised steel	Ø28 mm	2.5 mm	15 mm	1 Pc
RON125-12-ZN	Galvanised steel	Ø24 mm	2.5 mm	13 mm	1 Pc
RON125-10-ZN	Galvanised steel	Ø20 mm	2 mm	10.5 mm	1 Pc
Art.	Material	В	Н	F	Qty



Balustrades on point fixings sizing tables

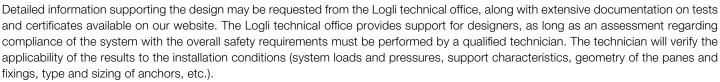
The following pages contain a range of feasible solutions for experimental verification (trials or tests). The information is presented to facilitate the choice of the fixing and to size the system for the most common situation of uniform linear horizontal load F applied to the handrail. The information determined from experimental results is an extract of the state of the art upon publication according to the documentation and experience of the company. Computational checks on similar solutions err on the side of safety, resulting in lower strength values and implying the use of thicker slabs or more favourable geometries.

In the absence of a harmonised European standard, national standards may limit the type of laminates that can be used or provide for additional verifications, such as the application of point loads or impact tests. Because the effect of these actions is tied to the specific geometry of the construction (for example, the dimensions of the pane, the number of fixings per pane, the position on the building, the height of the walking surface or the presence of a structural handrail), the behaviour of glass systems cannot be generalised and must be assessed by the designer case by case.

- In addition to the static load, dynamic impact and post-breakage tests are required in Italy. In the case of laminates with non-rigid interlayers, the use of a structural handrail is required.
 - In France, dynamic impact tests are required, in addition to the HST test according to EN 14179 if the glass is tempered.
 - The values in the tables below are not applicable for Germany, where verifications via calculation and the AbP certificate are required. Calculation tests and AbP certificate are available for some classes of products. For further information, please contact the technical office.



In addition to verifying the resistance per linear load, the United Kingdom requires that the maximum deflection at the height of the handrail be respected.



The use of a handrail is always preferred with regard to safety, and its installation is recommended.

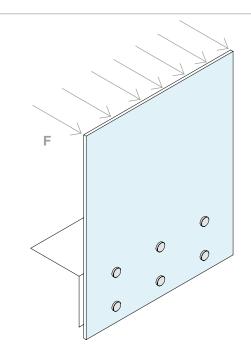
Table legend:

Values in coloured cells refer to the recommended characteristic load value Fk expressed in kN/m, which it is linearly applied to the upper edge height of the pane (or handrail) that may be assessed during experimental tests. The values indicated correspond to the load used for tests at the serviceability limit state (SLS), considering a safety coefficient of 1.5 for the strength test at the ultimate limit state (ULS). For example, a cell with a value of 3.0 means that the maximum project load per ULS is 3.0x1.5 = 4.5 kN/m. Cells that contain a round symbol ① indicate positions for which reports for static loads tests carried out by independent laboratories are available. Cells that contain a diamond symbol \blacklozenge indicate positions for which reports for dynamic impact tests carried out by independent laboratories are available.

¹ The protection height H is measured vertically from the highest fixing to the upper edge of the pane (or handrail).

² 'Rigid interlayer' means a polymer used to laminate the glass meeting the criteria in EN 16613 for rigidity class 2; the suggestions in the table are based on the use of Sentryglas[®]. The data reported in the table for traditional interlayers (non-rigid) are based on the use of PVB. During the design phase, attention should be paid to national standards regulating the use of interlayers for glass balustrades, with particular reference to the operating temperature (inside/outside) and the requirement to use structural handrails with regard to post-breakage requests, if non-rigid products (those not in class 2) are used.

³ The use of an interlayer with a thickness greater than or equal to 1.52 mm is recommended. The panes are tempered according to EN 12150. HST treatment according to EN 14179 is recommended, and required for installations in France.



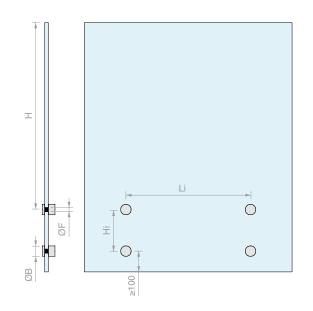






table for point fixings with 60-mm stud in a 30-mm hole											
		E	Layer ⁽³⁾] →		12+12mm] [10+10mm	8+8mm
		[Li(cm)] →	30	40	50	60		30 40 50 60	30 40 50 60
		Hi(cm)	H ⁽¹⁾ (cm)]							
			90	-	5,0	5,0	5,0	4,5		4,0 4,0 3,5 3,0	2,5 2,5 2,0 2,0
		30	100		5,0	5,0	4,5	4,0		3,5 3,5 3,0 3,0	2,5 2,0 2,0 2,0
		30	<u>110</u> 120		5,0 4,5	4,5 4,0	4,0 3,5	3,5 3,5	┥┝	3,53,03,02,53,03,02,52,5	2,0 2,0 2,0 1,5 2,0 2,0 1,5 1,5
			130		4,0	3,5	3,5	3,0	1	3,0 2,5 2,5 2,0	2,0 1,5 1,5 1,5
			90		5,0	5,0	4,5	4,0		4,0 3,5 3,0 3,0	2,5 2,5 2,0 2,0
	rigid		100		5,0	4,5	4,0	3,5		3,5 3,0 3,0 2,5	2,5 2,0 2,0 1,5
	interlayer	20	110	-	4,5	4,0	3,5	3,0		3,0 3,0 2,5 2,0	2,0 2,0 1,5 1,5
	(Sentryglas®)	-	<u>120</u> 130		4,0	3,5 3,5	3,5 3,0	3,0 2,5		3,02,52,52,02,52,52,02,0	2,0 1,5 1,5 1,5 1,5 1,5 1,5 1,0
			90		5,0	4,5	3,5	3,0	11	3,5 3,0 2,5 2,5	2,5 2,0 1,5 1,5
			100		4,5	4,0	3,5	3,0		3,0 2,5 2,5 2,0	2,0 2,0 1,5 1,5
Indoor		12	110		4,0	3,5	3,0	2,5		3,0 2,5 2,0 [•] 2,0	2,0 1,5 1,5 1,0
0			120		3,5	3,0	2,5	2,5	┨┠	2,5 2,0 2,0 1,5	1,5 1,5 1,0 1,0
E			<u>130</u> 90	1	3,5 3,5	3,0 3,5	2,5 3,0	2,0 3,0	┨┠	2,52,01,51,52,52,52,02,0	1,51,51,01,01,51,51,51,0
45			100		3,5	3,0	2,5	2,5		2,5 2,0 2,0 1,5	1,5 1,5 1,0 1,0
•		30	110		3,0	2,5	2,5	2,0		2,0 2,0 1,5 1,5	1,5 1,0 1,0 1,0
			120		2,5	2,5	2,0	2,0		2,0 1,5 1,5 1,5	1,0 1,0 1,0 1,0
			130		2,5	2,5	2,0	2,0		1,5 1,5 1,5 1,0	1,0 1,0 1,0 0,5
	traditional	-	<u>90</u> 100		3,5 3,0	3,0 3,0	3,0 2,5	2,5 2,0	+ +	2,52,02,01,52,02,01,51,5	1,51,51,01,01,51,01,01,0
	interlayer	20	110		3,0	2,5	2,5	2,0		2,0 2,0 1,5 1,5 2,0 1,5 1,5	1,0 1,0 1,0 1,0
	(PVB)		120		2,5	2,5	2,0	2,0	11	2,0 1,5 1,5 1,0	1,0 1,0 1,0 0,5
			130		2,5	2,0	2,0	1,5		1,5 1,5 1,5 1,0	1,0 1,0 1,0 0,5
		_	90		3,5	3,0	2,5	2,0		2,0 2,0 1,5 1,5	1,5 1,0 1,0 1,0
		12	100	-	3,0	2,5	2,0	2,0	┥┝	2,0 1,5 1,5 1,5	1,5 1,0 1,0 0,5
			<u>110</u> 120		2,5 2,5	2,5 2,0	2,0 2,0	1,5 1,5	1	2,0 1,5 1,5 1,0 1,5 1,5 1,0 1,0	1,01,01,00,51,01,00,50,5
			130		2,0	2,0	1,5	1,5		1,5 1,5 1,0 1,0	1,0 0,5 0,5 0,5
			90		4,5	4,0	4,0	3,5	11	3,5 3,0 2,5 2,5	2,0 2,0 1,5 1,5
			100		4,0	4,0	3,5	3,0		3,0 2,5 2,5 2,0	2,0 1,5 1,5 1,5
		30	110		3,5		3,0	2,5		2,5 2,5 2,0 2,0	1,5 1,5 1,5 1,0
			<u>120</u> 130		3,5 3,0	3,0 3,0	3,0 2,5	2,5 2,5		2,52,02,01,52,02,01,51,5	1,51,51,01,01,51,01,01,0
			90		4,5	4,0	3,5	3,0		3,0 2,5 2,5 2,0	2,0 1,5 1,5 1,5
	rigid-		100		4,0	3,5	3,0	2,5		2,5 2,5 2,0 2,0	2,0 1,5 1,5 1,0
	interlayer	20	110		3,5	3,0	2,5	2,5		2,5 2,0 2,0 1,5	1,5 1,5 1,0 1,0
	(Sentryglas®)	-	120	-	3,0	3,0	2,5	2,0		2,0 2,0 1,5 1,5	1,5 1,0 1,0 1,0
			<u>130</u> 90	-	3,0 4,0	2,5 3,5	2,5 3,0	2,0 2,5	┥┝	2,02,01,51,52,52,52,01,5	1,51,01,01,01,51,51,01,0
			100		3,5	3,0	2,5	2,0		2,0 2,0 1,5 1,5	1,5 1,5 1,0 1,0
Outdoor		12	110		3,0	2,5	2,5	2,0		2,0 2,0 1,5 1,5	1,5 1,0 1,0 1,0
~			120		3,0	2,5	2,0	2,0		2,0 1,5 1,5 1,0	1,0 1,0 1,0 0,5
	-		130		2,5	2,0	2,0	2,0	┥┝	2,0 1,5 1,5 1,0	1,0 1,0 1,0 0,5
4		-	<u>90</u> 100	1	3,5 3,0	3,0 3,0	3,0 2,5	2,5 2,5	$\left\{ \right\}$	2,52,02,01,52,02,01,51,5	1,51,51,01,01,51,01,01,0
		30	110		2,5	2,5	2,5	2,5		2,0 2,0 1,5 1,5 1,5	1,0 1,0 1,0 1,0
			120		2,5	2,0	2,0	2,0		1,5 1,5 1,5 1,0	1,0 1,0 1,0 0,5
			130		2,0	2,0	2,0	1,5	╽╿	1,5 1,5 1,5 1,0	1,0 1,0 0,5 0,5
		-	90		3,0	3,0	2,5	2,5	$\left \right $	2,0 2,0 2,0 1,5	1,5 1,0 1,0 1,0
	traditional interlayer	20	<u>100</u> 110		3,0 2,5	2,5 2,5	2,5 2,0	2,0 2,0	┨┠	2,02,01,51,52,01,51,51,0	1,01,01,01,01,01,01,00,5
	(PVB)	20	120		2,5	2,0	2,0	1,5	$\left\{ \right\}$	1,5 1,5 1,5 1,0	1,0 1,0 0,5 0,5
	(130	1	2,0	2,0	1,5	1,5	<u> </u>	1,5 1,5 1,0 1,0	1,0 1,0 0,5 0,5
			90		3,0	2,5	2,5	2,0	╡╿	2,0 2,0 1,5 1,5	1,5 1,0 1,0 1,0
		10	100		2,5	2,5	2,0	2,0	$\left \right $	2,0 1,5 1,5 1,0	1,0 1,0 1,0 0,5
		12	110 120	1	2,5 2,0	2,0 2,0	2,0 1,5	1,5 1,5	$\left\{ \right\}$	1,51,51,01,01,51,51,01,0	1,01,00,50,51,01,00,50,5
			130		2,0	2,0	1,5	1,5		1,5 1,0 1,0 1,0	1,0 0,5 0,5 0,5
				4	_,•	_, _	.,•	,-		, , , , , , , , , , , , , , , , , , , ,	



table for point fixings with 50-mm stud in a 30-mm l										n a 30-mm hol	le					
		Layer ⁽³⁾	$]$ \rightarrow		12+12mm					10+1	0mm		8-	+8mm]	
<u> </u>			Li(cm)	\rightarrow	30	40	50	60		30	40	50	60	30 40	0 50 60	
		Hi(cm)	H ⁽¹⁾ (cm)	1												
			90		5,0	5,0	4,5	4,0		4,0	3,5	3,0	3,0	2,5 2,5		
		30	<u>100</u> 110	-	5,0 4,5	4,5 4,0	4,0 3,5 [●]	3,5 3,5		3,5 3,0	3,0 3,0	3,0 2,5 [●]	2,5 2,5	2,5 2,0 2,0 2,0		
		- 30	120		4,0	3,5	3,5	3,0		3,0	2,5	2,5	2,5	2,0 2,0 2,0		
			130		3,5	3,5	3,0	3,0		2,5	2,5	2,0	2,0	1,5 1,	5 1,5 1,0	
	rigid		<u>90</u> 100	-	5,0 4,5	4,5 4,0	4,0 3,5	3,5 3,5		3,5 3,5	3,5 3,0	3,0 2,5	2,5 2,5	2,5 2,0 2,0 2,0		-
	interlayer	20	110		4,0	4,0	3,5	3,0		3,0	2,5	2,5	2,0	2,0 1,		
	(Sentryglas®)		120		4,0	3,5	3,0	2,5		2,5	2,5	2,0	2,0	2,0 1,		
			<u>130</u> 90	1	3,5 4,5	3,0 4,0	3,0 3,5	2,5 3,0		2,5 3,0	2,0 3,0	2,0 2,5	1,5 2,0	1,5 1,5 2,0 2,0		-
			100		4,5	3,5	3,0	3,0		3,0	2,5	2,0	2,0	2,0 1,	5 1,5 1,0	
Indoor		12	<u>110</u> 120		4,0	3,0 3,0		2,5		2,5	2,0	2,0 2,0	1,5 1,5	1,5 1, 1,5 1,		_
0-			130		3,5 3,0	2,5	2,5 2,0	2,0 2,0		2,0	2,0	2,0	1,5	1,5 1,		-
JE			90		3,5	3,5	3,0	2,5		2,5	2,0	2,0	2,0	1,5 1,	5 1,0 1,0	
\bigcirc		30	<u>100</u> 110		3,5 3,0	3,0 2,5	2,5 2,5	2,5 2,0		2,0	2,0 2,0	2,0 1,5	1,5 1,5	1,5 1,0 1,0 1,0		-
		50	120		2,5	2,5	2,0	2,0		2,0	1,5	1,5	1,5	1,0 1,0		
			130		2,5	2,0	2,0	2,0		1,5	1,5	1,5	1,0	1,0 1,0		
	traditional		<u>90</u> 100		3,5 3,0	3,0 2,5	2,5 2,5	2,5 2,0		2,5 2,0	2,0 2,0	2,0 1,5	1,5 1,5	1,5 1,5 1,5 1,0		-
	interlayer	20	110		2,5	2,5	2,0	2,0		2,0	1,5	1,5	1,5	1,0 1,0		-
	(PVB)		120		2,5	2,0	2,0	1,5		1,5	1,5	1,5	1,0	1,0 1,0		_
			<u>130</u> 90		2,0 3,0	2,0 2,5	2,0 2,5	1,5 2,0		1,5 2,0	1,5 2,0	1,0 1,5	1,0 1,5	1,0 1,0 1,5 1,0		-
		12	100		2,5	2,5	2,0	2,0		2,0	1,5	1,5	1,0	1,0 1,0	0 1,0 0,5	
			<u>110</u> 120	-	2,5 2,0	2,0 2,0	2,0 1,5	1,5 1,5		1,5 1,5	1,5 1,5	1,0 [●] 1,0	1,0 1,0	1,0 1,0 1,0 1,0		_
			130		2,0	1,5	1,5	1,5		1,5	1,0	1,0	1,0	1,0 1,		-
			90		4,5	4,0	3,5	3,0		3,0	3,0	2,5	2,0	2,0 2,	0 1,5 1,5	
		30	<u>100</u> 110		4,0 3,5	3,5 3,0	3,0 3,0	3,0 2,5		3,0	2,5 2,0	2,0 2,0	2,0 2,0	2,0 1, 1,5 1,	5 1,5 1,0 5 1,0 1,0	
			120		3,0	3,0	2,5	2,5		2,5	2,0	2,0	1,5	1,5 1,	5 1,0 1,0	
			130		3,0	2,5	2,5	2,0		2,0	2,0	1,5	1,5	1,5 1,		_
	rigid		<u>90</u> 100		4,0 3,5	3,5 3,0	3,0 2,5	2,5 2,5		3,0 2,5	2,5 2,0	2,0 2,0	2,0 1,5	2,0 1, 1,5 1,		-
	interlayer	20	110		3,5	2,5	2,5	2,5		2,5	2,0	1,5	1,5	1,5 1,	5 1,0 1,0	
	(Sentryglas®)		<u>120</u> 130		3,0 2,5	2,5 2,5	2,5 2,0	2,0 2,0		2,0	2,0 1,5	1,5 1,5	1,5 1,0	1,5 1,0 1,0 1,0		
			90		3,5	3,0	2,5	2,5		2,0	2,0	2,0	1,5	1,5 1,		
		10	100		3,5	2,5	2,5	2,0		2,0	2,0	1,5	1,5	1,5 1,	0 1,0 1,0	
Outdoor		12	110 120		3,0 2,5	2,5 2,0	2,0 2,0	2,0 1,5		2,0 1,5	1,5 1,5	1,5 1,5	1,0 1,0	1,0 1,0 1,0 1,0		-
<u></u>			130		2,5	2,0	1,5	1,5		1,5	1,5	1,0	1,0	1,0 1,0		
JE			90		3,0	3,0	2,5	2,5		2,0	2,0	2,0	1,5	1,5 1,0		_
		30	<u>100</u> 110		3,0 2,5	2,5 2,5	2,5 2,0	2,0 2,0		2,0	2,0 1,5	1,5 1,5	1,5 1,5	1,0 1,0 1,0 1,0		-
			120		2,5	2,0	2,0	2,0		1,5	1,5	1,5	1,0	1,0 1,0	0 1,0 0,5	
			<u>130</u> 90		2,0 3,0	2,0 3,0	2,0 2,5	1,5 2,0		1,5 2,0	1,5 2,0	1,0 1,5	1,0 1,5	1,0 1,0 1,5 1,0		-
	traditional		100		3,0	2,5	2,0	2,0		2,0	1,5	1,5	1,5	1,0 1,0		
	interlayer	20	110		2,5	2,0	2,0	2,0		1,5	1,5	1,5	1,0	1,0 1,	0 1,0 0,5]
	(PVB)		<u>120</u> 130		2,5 2,0	2,0 2,0	2,0 1,5	1,5 1,5		1,5 1,5	1,5 1,0	1,0 1,0	1,0 1,0	1,0 1,0 1,0 0,		-
			90		3,0	2,5	2,0	2,0		2,0	1,5	1,5	1,0	1,0 1,0	0 1,0 0,5	1
		12	<u>100</u> 110		2,5	2,0	2,0	1,5		1,5 1,5	1,5 1,5	1,5	1,0 1,0	1,0 1,0 1,0 1,0		-
		12	110		2,5 2,0	2,0 2,0	1,5 1,5	1,5 1,5		1,5	1,5	1,0 1,0	1,0	1,0 1,0 1,0 0,		-
			130	1	2,0	1,5	1,5	1,0	1	1,0	1,0	1,0	1,0	1,0 0,		





table for point fixings with 40-mm stud in a 24-mm hole

									t	table for	point	fixings	s with 4	40-mm s	tud in	a 24-mi	m hole
24	40		Layer ⁽³⁾	\rightarrow		12+1	2mm				10+1	0mm			8+8	mm	
			Li(cm)	\rightarrow	30	40	50	60		30	40	50	60	30	40	50	60
		Hi(cm)	H ⁽¹⁾ (cm)	1													
		1.1.(011)	90		5,0	4,5	4,5	4,0		3,5	3,5	3,0	2,5	2,5	2,0	2,0	1,5
		30	100 110		4,5	4,0	4,0 3,5	3,5 3,0		3,5 3,0	3,0 2,5	2,5 2,5	2,5 2,0	2,0	2,0 1,5	1,5 1,5	1,5 1,5
			120		4,0	3,5	3,0	3,0		2,5	2,5	2,0	2,0	1,5	1,5	1,5	1,0
			130 90		3,5 5,0	3,0 4,5	3,0 4,0	2,5 3,5		2,5 3,5	2,0 3,0	2,0 2,5	2,0 2,5	1,5 2,0	1,5 2,0	1,5 1,5	1,0 1,5
	rigid		100		4,5	4,0	3,5	3,0		3,0	2,5	2,5	2,0	2,0	1,5	1,5	1,5
	interlayer (Sentryglas®)	20	110 120		4,0	3,5	3,0	2,5		2,5	2,5	2,0	2,0	2,0	1,5 1,5	1,5 1,0	1,0
	(Sentrygias*)		130		3,5 3,5	3,0 3,0	3,0 2,5	2,5 2,0		2,5 2,0	2,0 2,0	2,0 2,0	1,5 1,5	1,5	1,5	1,0	1,0 1,0
			90		4,5	3,5	3,0	2,5		2,5	2,5	2,0	2,0	2,0	1,5	1,5	1,0
Indoor		12	<u>100</u> 110		4,0 3,5	3,0 3,0	2,5 2,5	2,5 2,0		2,5 2,0	2,5 2,0	2,0 1,5	1,5 1,5	1,5 1,5	1,5 1,5	1,0 1,0	1,0 1,0
0			120		3,0	2,5	2,0	2,0		2,0	2,0	1,5	1,5	1,5	1,0	1,0	1,0
			130 90		3,0 3,5	2,5 3,0	2,0 2,5	2,0 2,5		2,0 2,5	1,5 2,0	1,5 2,0	1,5 1,5	1,5 1,5	1,0 1,5	1,0 1,0	0,5 1,0
6			100		3,0	2,5	2,5	2,0		2,0	2,0	1,5	1,5	1,5	1,0	1,0	1,0
-		30	110 120		2,5	2,5	2,0 2,0	2,0		2,0 1,5	1,5 1,5	1,5 1,5	1,5	<u>1,0</u> 1,0	1,0 1,0	1,0	1,0
			130		2,5 2,0	2,0 2,0	2,0	2,0 1,5		1,5	1,5	1,5	1,0 1,0	1,0	1,0	1,0 0,5	0,5 0,5
		20	90		3,0	3,0	2,5	2,0		2,0	2,0	1,5	1,5	1,5	1,0	1,0	1,0
	traditional interlayer		<u>100</u> 110		3,0 2,5	2,5 2,0	2,0 2,0	2,0 1,5		2,0 1,5	1,5 1,5	1,5 1,5	1,5 1,0	<u>1,0</u> 1,0	1,0 1,0	1,0 1,0	1,0 0,5
	(PVB)		120		2,5	2,0	2,0	1,5		1,5	1,5	1,0	1,0	1,0	1,0	0,5	0,5
		12	130 90		2,0 3,0	2,0 2,5	1,5 2,0	1,5 2,0		1,5 2,0	1,5 1,5	1,0 1,5	1,0 1,0	1,0	0,5 1,0	0,5 1,0	0,5 0,5
			100		2,5	2,0	2,0	1,5		1,5	1,5	1,0	1,0	1,0	1,0	0,5	0,5
			110 120		2,5 2,0	2,0 1,5	1,5 1,5	1,5 1,5		1,5 1,5	1,5 1,0	1,0 1,0	1,0 1,0	1,0 1,0	1,0 0,5	0,5 0,5	0,5 0,5
			130		2,0	1,5	1,5	1,5		1,5	1,0	1,0	1,0	1,0	0,5	0,5	0,5
		30	90		4,0	3,5 3,5	3,5	3,0		3,0	2,5	2,5	2,0	2,0 1,5	1,5	1,5 1,5	1,5
			100 110		3,5 3,5		3,0 2,5	2,5 2,5		2,5 2,5	2,5 2,0	2,0 2,0	2,0 1,5	1,5	1,5 1,5		1,0 1,0
			120		3,0	2,5	2,5	2,0		2,0	2,0	1,5	1,5	1,5	1,0	1,0	1,0
			130 90		3,0 4,0	2,5 3,5	2,0 3,0	2,0 2,5		2,0 2,5	1,5 2,5	1,5 2,0	1,5 2,0	<u>1,0</u> 1,5	1,0 1,5	1,0 1,5	1,0 1,0
	rigid		100		3,5	3,0	2,5	2,5		2,5	2,0	2,0	1,5	1,5	1,5	1,0	1,0
	interlayer (Sentryglas®)		110 120		3,0 3,0	2,5 2,5	2,5 2,0	2,0 2,0		2,0 2,0	2,0 1,5	1,5 1,5	1,5 1,5	1,5 1,0	1,0 1,0	1,0 1,0	1,0 0,5
	(Sentrygias)		130		2,5	2,5	2,0	2,0		2,0	1,5	1,5	1,0	1,0	1,0	1,0	0,5
			90 100		3,5 3,0	3,0 2,5	2,5 2,0	2,0 2,0		2,0 2,0	2,0 1,5	1,5 1,5	1,5 1,0	1,5 1,0	1,0 1,0	1,0 1,0	1,0 0,5
Outdoor		12	110		2,5	2,5	2,0	1,5		1,5	1,5	1,5	1,0	1,0	1,0	1,0	0,5
0			120		2,5	2,0	1,5	1,5		1,5	1,5	1,0	1,0	1,0	1,0	0,5	0,5
E			130 90		2,5 3,0	2,0 3,0	1,5 2,5	1,5 2,5		1,5 2,0	1,5 2,0	1,0 1,5	1,0 1,5	1,0 1,5	1,0 1,0	0,5 1,0	0,5 1,0
6			100		2,5	2,5	2,0	2,0		2,0	1,5	1,5	1,5	1,0	1,0	1,0	1,0
		30	110 120		2,5 2,0	2,0 2,0	2,0 2,0	2,0 1,5		1,5 1,5	1,5 1,5	1,5 1,0	1,0 1,0	1,0 1,0	1,0 1,0	1,0 0,5	0,5 0,5
			130		2,0	2,0	1,5	1,5		1,5	1,0	1,0	1,0	1,0	0,5	0,5	0,5
	tuo eliti e u e l		90 100		3,0	2,5	2,5	2,0		2,0	2,0	1,5	1,5	1,0	1,0	1,0	1,0
	traditional interlayer	20	110		2,5 2,5	2,5 2,0	2,0 2,0	2,0 1,5		2,0 1,5	1,5 1,5	1,5 1,0	1,0 1,0	1,0 1,0	1,0 1,0	1,0 0,5	0,5 0,5
	(PVB)		120		2,0	2,0	1,5	1,5		1,5	1,5	1,0	1,0	1,0	0,5	0,5	0,5
			130 90		2,0 2,5	1,5 2,5	1,5 2,0	1,5 1,5		1,5 1,5	1,0 1,5	1,0 1,5	1,0 1,0	1,0 1,0	0,5 1,0	0,5 1,0	0,5 0,5
			100	1	2,5	2,0	1,5	1,5		1,5	1,5	1,0	1,0	1,0	1,0	0,5	0,5
		12	110 120		2,0 2,0	2,0 1,5	1,5 1,5	1,5 1,0		1,5 1,0	1,0 1,0	1,0 1,0	1,0 1,0	1,0 1,0	0,5 0,5	0,5 0,5	0,5 0,5
			130	j	2,0	1,5	1,5	1,0		1,0	1,0	1,0	0,5	0,5	0,5	0,5	0,5

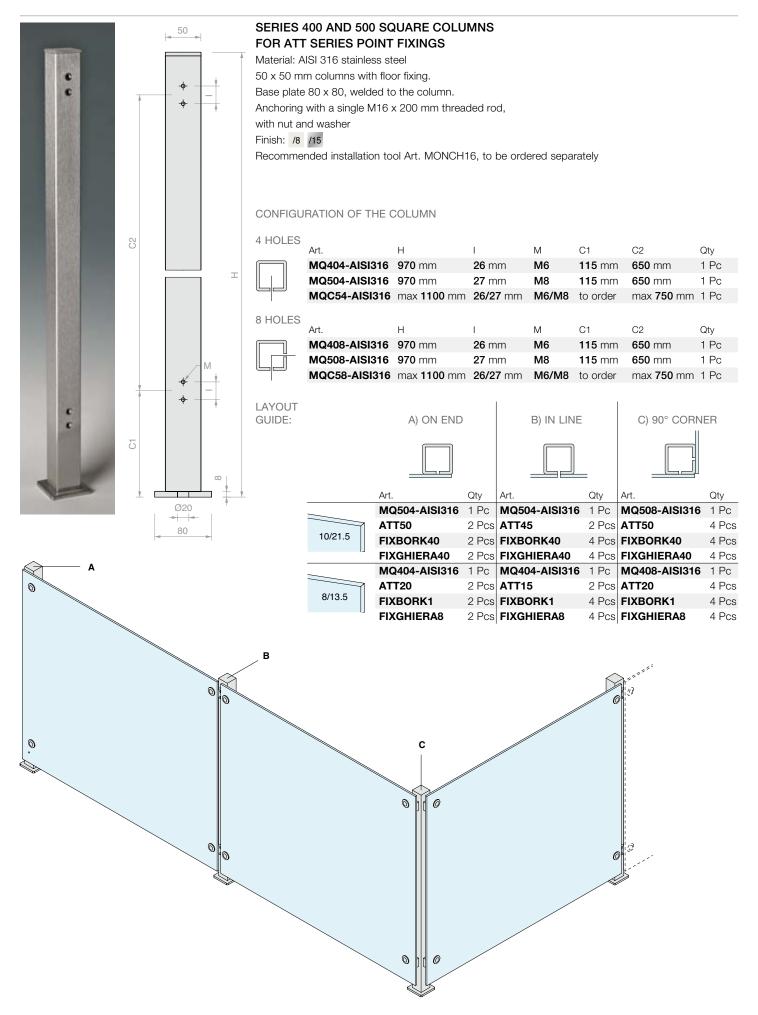
COLUMNS The elegance of glass

Logli columns combine beauty and resistance.

0

The guarantee of stainless steel: made of AISI 316 for use in the most hostile environments.







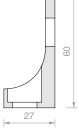
SINGLE BRACKET FOR

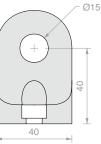


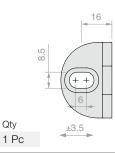
FIXING ON COLUMNS Material: AISI 304 stainless steel Can be used for fixing end panes and at 90° on series 400 MQ columns. 5 Recommended connector Art. FIXBORK1 with ring Art. FIXGHIERA8 Ø15 Finish: /8 /15 02 40 50 Ø6.5 20 15 26 40 Art. Qty ATT20 1 Pc DOUBLE BRACKET FOR **FIXING ON COLUMNS** 5 Material: AISI 304 stainless steel Can be used for in-line fixing of glass on series Ø15 400 MQ columns. Recommended connector Art. FIXBORK1 with ring Art. FIXGHIERA8 Finish: /8 /15 Ø6.5 20 120 80 С 26 15 40 Art. Qty ATT15 1 Pc SINGLE BRACKET 5 Material: AISI 304 stainless steel Ancoraggio staffa a pavimento mediante vite a testa cilindrica con cava esagonale M8x40 mm (in dotazione). Recommended connector Art. FIXBORK1 00 with ring Art. FIXGHIERA8 40 Finish: /8 /15











Qty

Art.

ATT10





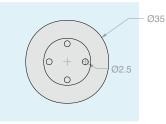


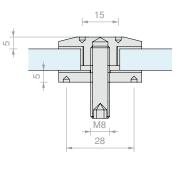
FIXING STUD FOR ATT SERIES BRACKETS

Material: AISI 304 stainless steel Compatible with fixing glass to brackets ATT10/15/20

Supplied with M8 x 30 mm grub screw Recommended glass hole size Ø18 mm Finish: /9

Recommended installation tool Art. UT250



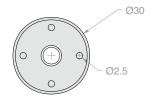


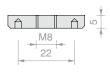


Art.	For glass	Qty
FIXBORK1	From 8 mm	1 Pc

BACK FIXING RING FOR ATT SERIES BRACKETS

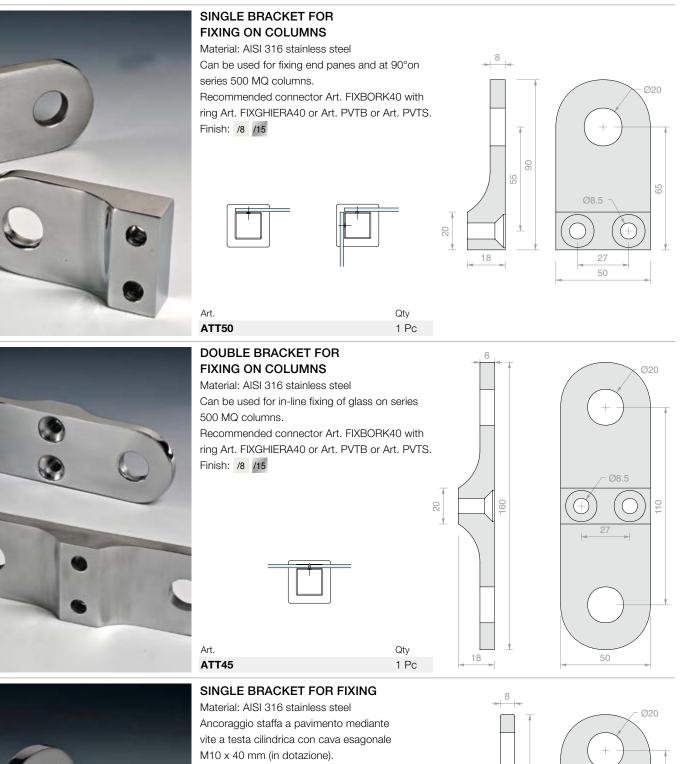
Material: AISI 304 stainless steel Compatible with fixing article FIXBORK1* to brackets ATT10/15/20 Finish: /9 Recommended installation tool Art. UT250



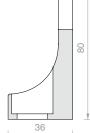


Art.	Μ	Qty
FIXGHIERA8*	M8	1 Pc
FIXGHIERA10	M10	1 Pc





vite a testa cilindrica con cava esagonale M10 x 40 mm (in dotazione). Recommended connector Art. FIXBORK40 with ring Art. FIXGHIERA40 or Art. PVTB or Art. PVTS. Finish: /8 /15

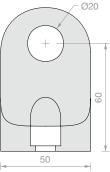


R25

±3.5

Qty

1 Pc

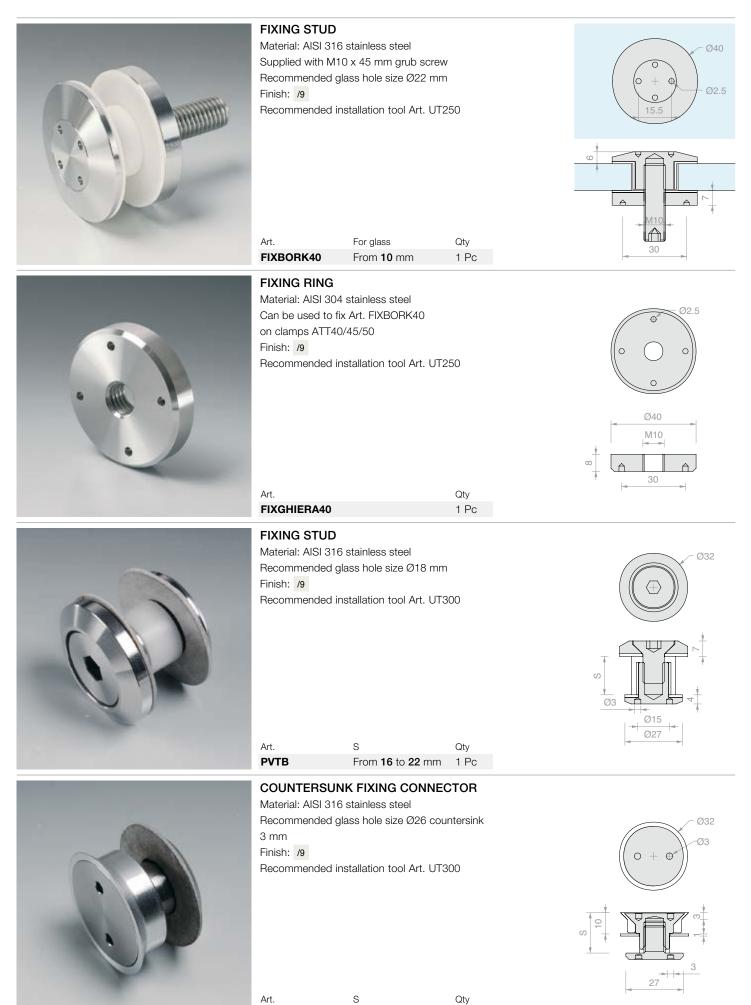




BALUSTRADES

COLUMNS FOR POINT FIXINGS





PVTS

From 18 to 24 mm 1 Pc

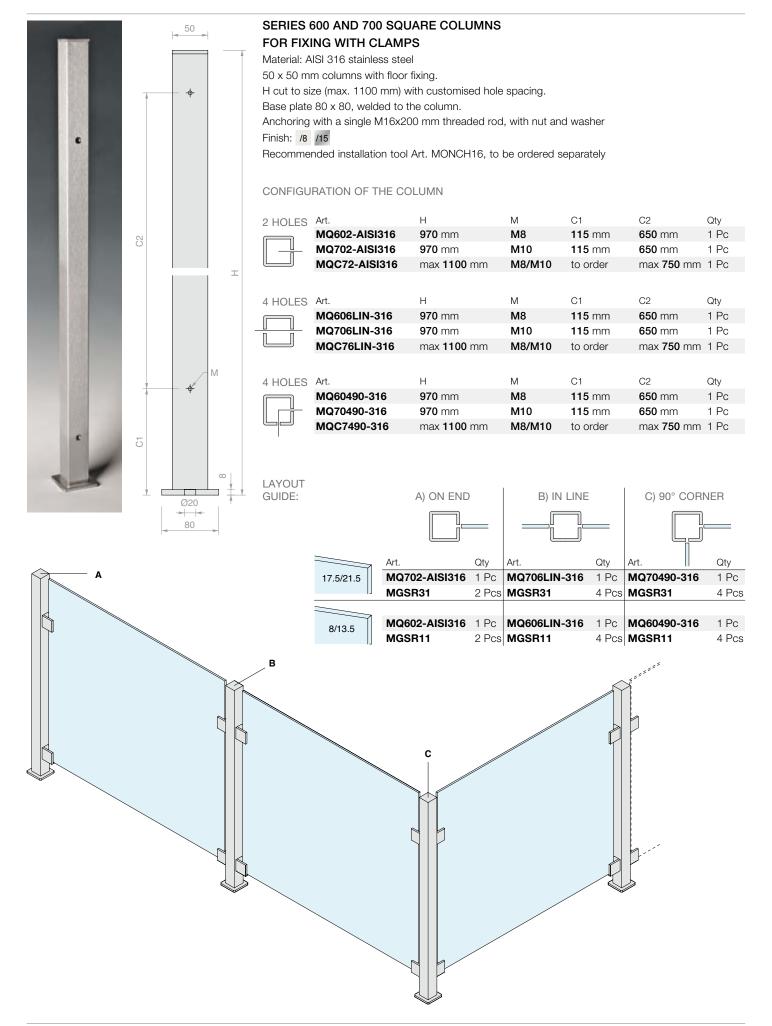
COLUMNS

The rigidity of glass

Logli columns combine beauty and resistance.

The guarantee of stainless steel: made of AISI 316 for use in the most hostile environments.







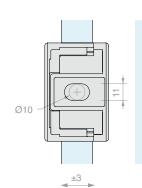


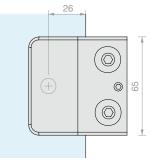


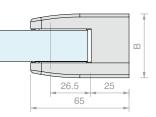


CARRÉ SERIES CLAMP

Material: AISI 316 stainless steel Can be used for fixing glass to MQ columns 700 series. Supplied with support angle and removable safety pin. Recommended optional glass hole size Ø12 mm. Finish: /8 /15



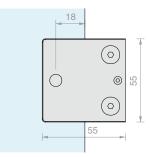


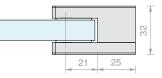


Art.	В	For glass	Qty
MGSR31	42.2 mm	17.5 - 21.5 mm	1 Pc
MGSR31255	45.2 mm	25.5 mm	1 Pc

CARRÉ SERIES CLAMP

Material: AISI 316 stainless steel Can be used for fixing glass to MQ columns 600 series. Supplied with support angle and removable safety pin. Recommended optional glass hole size Ø10 mm. Finish: /8 /15





Art.	For glass	Qty
MGSR11	8 - 10 - 11.5 - 13.5 mm	1 Pc

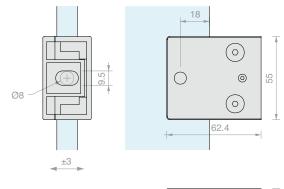


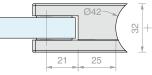


CARRÉ SERIES CLAMP FOR TUBULAR COLUMNS

Material: AISI 316 stainless steel

Can be used for fixing glass on Ø42 mm columns. Supplied with support angle and removable safety pin. Recommended optional glass hole size Ø10 mm. Finish: //8 /15



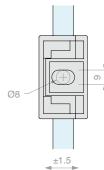


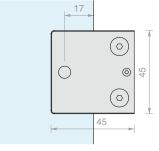
Art.	For glass	Qty
MGSR13	8 - 10 - 11.5 - 13.5 mm	1 Pc

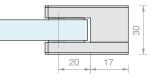


Material: AISI 316 stainless steel

Can be used for fixing glass to MQ columns 600 series. Supplied with support angle and removable safety pin. Recommended optional glass hole size Ø10 mm. Finish: /8 /15







Art.	For glass	Qty
MGSR01	6 - 8 - 10 mm	1 Pc





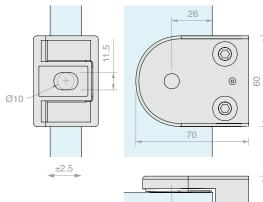






BALLON SERIES CLAMP

Material: AISI 316 stainless steel Can be used for fixing glass to MQ columns 700 series. Supplied with removable safety pin. Recommended optional glass hole size Ø12 mm. Finish: /8 /15





Art.	В	For glass	Qty
MGS21	43 mm	17.5 - 21.5 mm	1 Pc
MGS21255	47 mm	25.5 mm	1 Pc

BALLON SERIES CLAMP

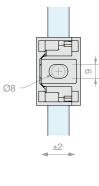
Material: AISI 316 stainless steel

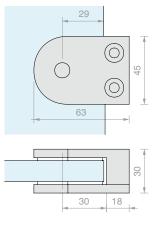
Can be used for fixing glass to MQ columns 600 series.

Supplied with removable safety pin.

Recommended optional glass hole size Ø14 mm.

Finish: /8 /15





Art.	For glass	Qty
MS1207.006	6 mm	1 Pc
MS1207.008	8 mm	1 Pc
MS1207.087	8.7 mm	1 Pc
MS1207.010	10 mm	1 Pc
MS1207.107	10.7 mm	1 Pc
MS1207.012	12 mm	1 Pc
MS1207.127	12.7 mm	1 Pc



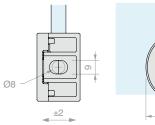


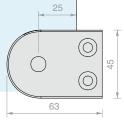


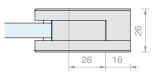


BALLON SERIES CLAMP

Material: AISI 316 stainless steel Can be used for fixing glass on MQ columns 600 series, Supplied with support angle and removable safety pin. Recommended optional glass hole size Ø14 mm. Finish: /8 /15



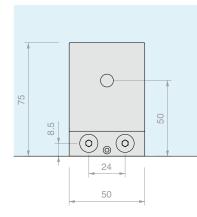


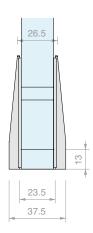


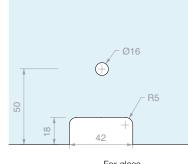
Art.	For glass	Qty
MS1250	From 6 to 12.7 mm	1 Pc

TRAPEZOIDAL CLAMP

Material: AISI 316 stainless steel Removable safety pin Finish: /8 /15







Art.

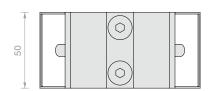
Art.	For glass	Qty
MA402	From 15 to 21.5 mm	1 Pc

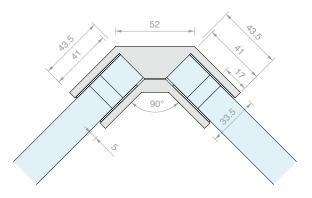




90° CLAMP

Material: AISI 316 stainless steel Removable security pins Recommended optional glass hole size Ø12 mm. Finish: /8 /15

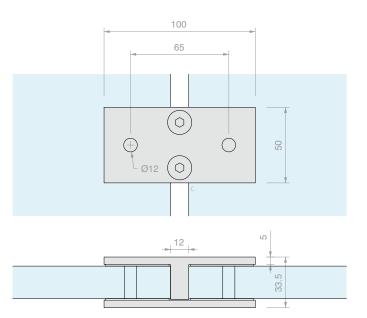




Art.	For glass	Qty
MBLK90	From 17.5 to 21.5 mm	1 Pc

180° CLAMP

Material: AISI 316 stainless steel Removable security pins Recommended optional glass hole size Ø10 mm. Finish: /8 /15



Art.	For glass	Qty
MBLK180	From 17.5 to 21.5 mm	1 Pc









SPARE PARTS FOR COLUMNS

Material: AISI 316 stainless steel, galvanised steel Spare parts for MQ series columns comprising a top cap, M16 x 200 mm threaded rod, nut and washer. Finish: /8 /15

Art.	Qty
MONACC	1 Pc

WRENCH FOR COLUMNS Material: steel

Tool required for floor installation of MQ series columns

Art.	Qty
MONCH16	1 Pc

PIN WRENCH FOR Ø3/Ø2.5/Ø2 mm BLIND HOLES

Material: iron body and steel pins

The compass opening allows to operate with wide radiuses, for pair of holes with a centre distance between 9 mm and 55 mm

Art.	Description	Qty
UT300	Pin wrench with Ø2.9 mm pins	1 Pc
UTC300R	N.2 spare pins Ø2.9 mm	1 Pc
UT250	Pin wrench with Ø2.4 mm pins	1 Pc
UTC250R	N.2 spare pins Ø2.4 mm	1 Pc
UT200	Pin wrench with Ø1.8 mm pins	1 Pc
UTC200R	N.2 spare pins Ø1.8 mm	1 Pc



HANDRAILS



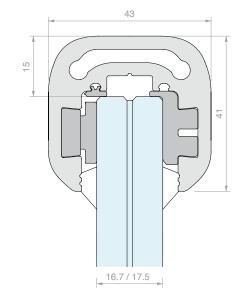




SQUARE STRUCTURAL HANDRAIL KIT FOR GLASS 8+8 MM

Material: Aluminium Finish: /10 /97







6000 mm

Art. CORLM01 Rou	Qty. 1 Pc	
CORLM33	Pressor	24 Pcs
CORLM41	Glass clamping seal	6 m
GTUP4	Glass holder seal	12 m

Kit comprising:

3000 mm

Art. CORLM03 Rou	Description Ind handrail profile	Qty. 1 Pc	
CORLM33	Pressor	12 Pcs	
CORLM41	Glass clamping seal	3 m 🦆	
GTUP4	Glass holder seal	6 m 🦨	

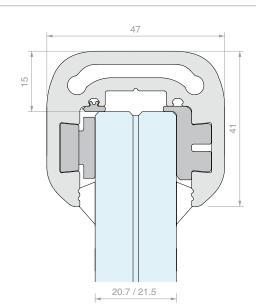
Art. Length Qty Art. Length Qty



SQUARE STRUCTURAL HANDRAIL KIT FOR GLASS 10+10 MM

Material: Aluminium Finish: /10 /97











Kit comprising:

Kit comprising:			Kit comprising:			
Art.	Description	Qty.	Art.	Description	Qty.	
CORLM05 Rou	und handrail profile	1 Pc	CORLM07 Rou	und handrail profile	1 Pc	
CORLM33	Pressor	24 Pcs	CORLM33	Pressor	12 Pcs	
CORLM41	Glass clamping seal	6 m	CORLM41	Glass clamping seal	3 m	
GTUP4	Glass holder seal	12 m	GTUP4	Glass holder seal	6 m	

3000

CORLM2530C

Qty

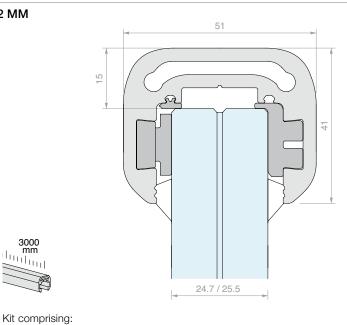
1 Pc

Art.	Length	Qty	Art.	Length	Qty
CORLM2160C	6000 mm	1 Pc	CORLM2130C	3000 mm	1 Pc

SQUARE STRUCTURAL HANDRAIL KIT FOR GLASS 12+12 MM

Material: Aluminium Finish: /10 /97





Kit comprising:

6000 mm

Art.

CORLM2560C

Art. CORLM255C.6	rt. Description CORLM255C.60 Round handrail profile				
CORLM33	Pressor	24 Pcs			
CORLM41	Glass clamping seal	6 m			
GTUP4	Glass holder seal	12 m			

Length

6000 mm

Art. CORLM255C.	Description 30 Round handrail profile	Qty. 1 Pc	
CORLM33	Pressor	12 Pcs	
CORLM41	Glass clamping seal	3 m	
GTUP4	Glass holder seal	6 m	
Art.	Length	Qty	

3000 mm

1 Pc

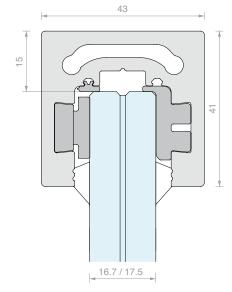




SQUARE STRUCTURAL HANDRAIL KIT FOR GLASS 8+8 MM

Material: Aluminium Finish: /10 /97





Kit comprising:

6000 mm

Art. CORLM09	Description Square handrail profile	Qty. 1 Pc
CORLM33	Pressor	24 Pcs
CORLM41	Glass clamping seal	6 m
GTUP4	Glass holder seal	12 m



Kit comprising:

Qty. Pc	Art. CORLM11	Description Square handrail profile	Qty. 1 Pc	
Pcs	CORLM33	Pressor	12 Pcs	i
6 m	CORLM41	Glass clamping seal	3 m	
2 m	GTUP4	Glass holder seal	6 m	

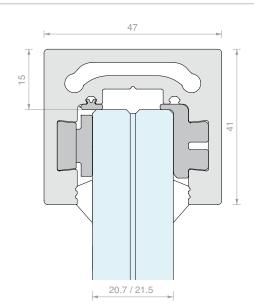
Art.	Length	Qty	Art.	Length	Qty
CORLM1760S	6000 mm	1 Pc	CORLM1730S	3000 mm	1 Pc



SQUARE STRUCTURAL HANDRAIL KIT FOR GLASS 10+10 MM

Material: Aluminium Finish: /10 /97









Kit comprising:

Kit comprising:

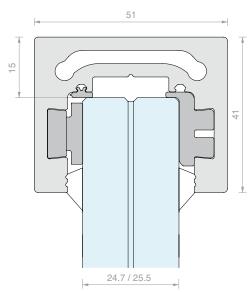
Art. CORLM13	Description Square handrail profile	Qty. 1 Pc	Art. CORLM15	Description Square handrail profile	Qty. 1 Pc	
CORLM33	Pressor	24 Pcs	CORLM33	Pressor	12 Pcs	
CORLM41	Glass clamping seal	6 m	CORLM41	Glass clamping seal	3 m	
GTUP4	Glass holder seal	12 m	GTUP4	Glass holder seal	6 m	

Art.	Length	Qty	Art.	Length	Qty
CORLM2160S	6000 mm	1 Pc	CORLM2130S	3000 mm	1 Pc

SQUARE STRUCTURAL HANDRAIL KIT FOR GLASS 12+12 MM

Material: Aluminium Finish: /10 /97





Kit comprising:

Art.

CORLM2560S

6000 mm աստ

Art. CORLM255S.60	Description Square handrail profile	Qty. 1 Pc
CORLM33	Pressor	24 Pcs
CORLM41	Glass clamping seal	6 m
GTUP4	Glass holder seal	12 m

Length

6000 mm

CORLM33	Pressor
Art. CORLM255S.30	Description Square handrail profile
Kit comprising:	

Glass clamping seal

Length

3000 mm

Glass holder seal

Qty. 1 Pc	
12 Pcs	ið 🥼
3 m	

6 m

Qty

1 Pc

CORLM41

CORLM2530S

GTUP4

Art.

Qty

1 Pc

3000 mm

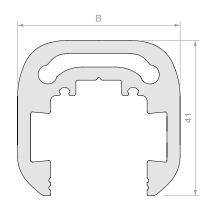






ROUND HANDRAIL PROFILE

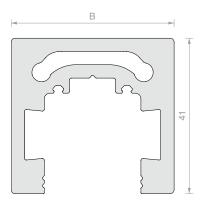
Material: Aluminium Finish: /10 /97



Art.	В	Length	For glass	Qty
CORLM01	43 mm	6000 mm	16.7/17.5 mm	1 Pc
CORLM03	43 mm	3000 mm	16.7/17.5 mm	1 Pc
CORLM05	47 mm	6000 mm	20.7/21.5 mm	1 Pc
CORLM07	47 mm	3000 mm	20.7/21.5 mm	1 Pc
CORLM255C.60	51 mm	6000 mm	24.7/25.5 mm	1 Pc
CORLM255C.30	51 mm	3000 mm	24.7/25.5 mm	1 Pc

SQUARE HANDRAIL PROFILE

Material: Aluminium Finish: /10 /97



Art.	В	Length	For glass	Qty
CORLM09	43 mm	6000 mm	16.7/17.5 mm	1 Pc
CORLM11	43 mm	3000 mm	16.7/17.5 mm	1 Pc
CORLM13	47 mm	6000 mm	20.7/21.5 mm	1 Pc
CORLM15	47 mm	3000 mm	20.7/21.5 mm	1 Pc
CORLM255S.60	51 mm	6000 mm	24.7/25.5 mm	1 Pc
CORLM255S.30	51 mm	3000 mm	24.7/25.5 mm	1 Pc

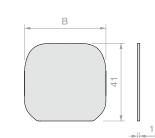


HANDRAILS



ROUND HANDRAIL CLOSED CAP

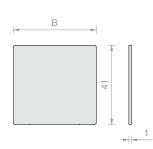
Material: Aluminium Finish: /10 /97



Art.	В	Qty
CORLM17	43 mm	1 Pc
CORLM19	47 mm	1 Pc
CORLM55	51 mm	1 Pc

SQUARE HANDRAIL CLOSED CAP

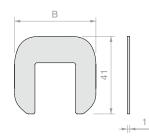
Material: Aluminium Finish: /10 /97





ROUND HANDRAIL OPEN CAP

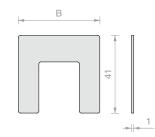
Material: Aluminium Finish: /10 /97



Art.	В	For glass	Qty
CORLM25	43 mm	16.7/17.5 mm	1 Pc
CORLM27	47 mm	20.7/21.5 mm	1 Pc
CORLM59	51 mm	24.7/25.5 mm	1 Pc

SQUARE HANDRAIL OPEN CAP

Material: Aluminium Finish: /10 /97



Art.	В	For glass	Qty
CORLM29	43 mm	16.7/17.5 mm	1 Pc
CORLM31	47 mm	20.7/21.5 mm	1 Pc
CORLM61	51 mm	24.7/25.5 mm	1 Pc



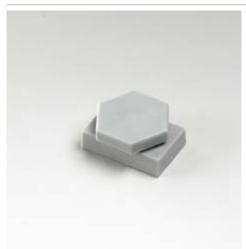






Qty

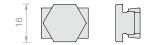
1 Pc



PRESSOR

Material: POM

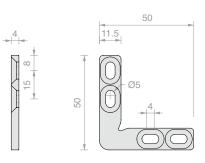
Nut and screw for fastening of structural handrail. Recommended tool for tightening Art. CORLM45



Art.
CORLM33

ANGLE JUNCTION BRACKET FOR CORLM

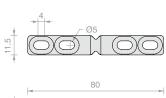
Material: AISI 316 stainless steel Requires set of screws Art. CORLM43 for fixing to the handrail



Art. Qty CORLM35 1 Pc

IN-LINE JUNCTION BRACKET FOR CORLM

Material: AISI 316 stainless steel Requires set of screws Art. CORLM43 for fixing to the handrail





Qty

1 Pc

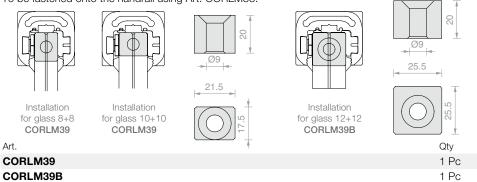




WALL ANCHORING PLUG FOR CORLM

Material: POM For securing the handrail to the wall.

To be fastened onto the handrail using Art. CORLM33.









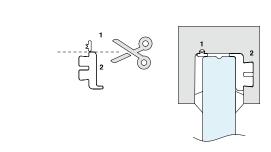
Qty

1 m



GLASS CLAMPING SEAL

Material: EPDM Colour: black



Art.	
CORLM41	



GLASS HOLDER SEAL

Material: PVC

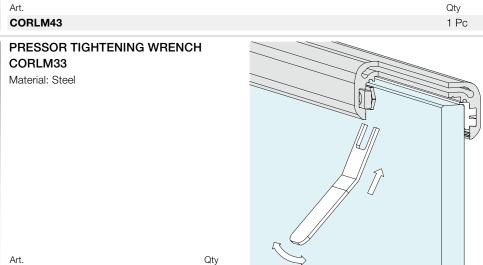
Art.	Thickness	Colour	Qty
GTUP2	2 mm	Transparent	1 m
GTUP3	3 mm	Transparent	1 m
GTUP4	4 mm	Transparent	1 m
GTUP5	5 mm	Transparent	1 m
GTUP6	6 mm	Transparent	1 m

Art.	Thickness	Colour	Qty	Art.	Thickness	Colour	Qty
GTUP2G	2 mm	Embossed	1 m	GTUP2N	2 mm	Black	1 m
GTUP3G	3 mm	Embossed	1 m	GTUP3N	3 mm	Black	1 m
GTUP4G	4 mm	Embossed	1 m	GTUP4N	4 mm	Black	1 m
GTUP5G	5 mm	Embossed	1 m	GTUP5N	5 mm	Black	1 m
GTUP6G	6 mm	Embossed	1 m	GTUP6N	6 mm	Black	1 m

4 SELF-DRILLING SCREWS

Stainless steel self-drilling screws. Drill and thread at the same time.





1 Pc

CORLM45

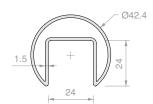






FLUSH-FIT HANDRAIL

Material: AISI 316 stainless steel Finish: /8



Art.	Length	Qty
CORF50	3000 mm	1 Pc

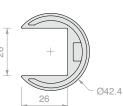
GASKET FOR FLUSH-FIT HANDRAIL

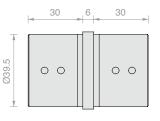
Material: EPDM Colour: black



Art.	For glass	B1	B2	Qty
CORFGM175	17.5 mm	32 mm	24 mm	1 m
CORFGM215	21.5 mm	36 mm	28 mm	1 m

IN-LINE JUNCTION FOR FLUSH-FIT HANDRAIL

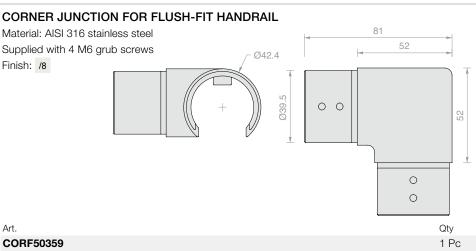




Qty

1 Pc







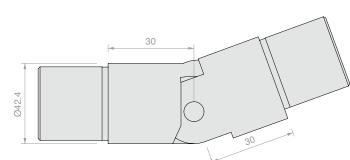
Art.





ADJUSTABLE CORNER JUNCTION UPWARDS

Material: AISI 316 stainless steel Supplied with 4 M6 grub screws Finish: /8

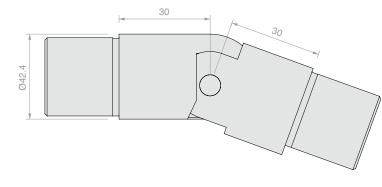


Art.	Description	Qty
CORF-UP25-55	Angle adjustable from 25° to 55°	1 Pc

ADJUSTABLE CORNER JUNCTION DOWNWARDS

Material: AISI 316 stainless steel Supplied with 4 M6 grub screws

Finish: /8

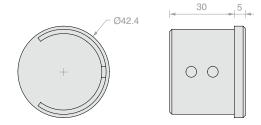




Art.	Description	Qty
CORF-DOW25-55	Angle adjustable from 25° to 55°	1 Pc

END CAP FOR FLUSH-FIT HANDRAIL

Material: AISI 316 stainless steel Supplied with 2 M6 grub screws Finish: /8



Art. CORF50364

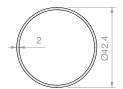
BALUSTRADES





TUBULAR HANDRAIL

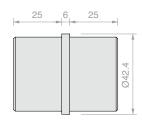
Material: AISI 316 stainless steel Finish: /8



Art.	Length	Qty
CORFT42316	3000 mm	1 Pc

IN-LINE JUNCTION FOR TUBULAR HANDRAIL

Material: AISI 316 stainless steel Finish: /8

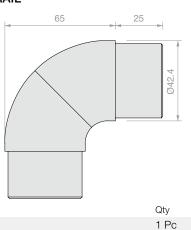


Art.	Qty
CORFGLT4101	1 Pc



ARTICULATED JUNCTION FOR TUBULAR HANDRAIL

Material: AISI 316 stainless steel Finish: /8



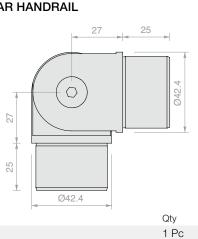
CORFCR4140

ADJUSTABLE CORNER JUNCTION FOR TUBULAR HANDRAIL

Material: AISI 316 stainless steel Locked in position using the screw supplied. Finish: /8



Art.







BALUSTRADES



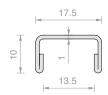




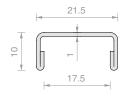


FINISHING PROFILE

Material: AISI 316 stainless steel For fixing on glass, use neutral silicone. Finish: /8 /15



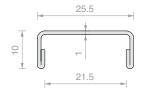
	Art. CPR66	Length 2500 mm	For glass 13.5 mm	Qty 1 Pc
	FINISHING PROFILE			
	Material: AISI 316 stainless steel			
For fixing on glass, use neutral silicone.				
	Finish: /8 /15			





FINISHING PROFILE

Material: AISI 316 stainless steel For fixing on glass, use neutral silicone. Finish: /8 /15



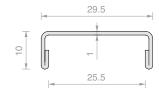


Art.	Length	For glass	Qty
CPR1010	2500 mm	21.5 mm	1 Pc

FINISHING PROFILE

Art. CPR1212

Material: AISI 316 stainless steel For fixing on glass, use neutral silicone. Finish: /8 /15



Length For glass Qty			
	Length	For glass	Qty
2500 mm 25.5 mm 1 Pc	2500 mm	25.5 mm	1 Pc



BALUSTRADES





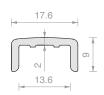






FINISHING PROFILE

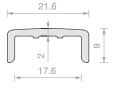
Material: Aluminium For fixing on glass, use neutral silicone. Finish: /10 /97 /RAL



CPRAL66	3000 mm	13.5 mm	1 Pc
Art.	Length	For glass	Qty

FINISHING PROFILE

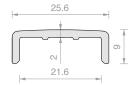
Material: Aluminium For fixing on glass, use neutral silicone. Finish: /10 /97 /RAL



Art.	Length	For glass	Qty
CPRAL88	3000 mm	17.5 mm	1 Pc
OT TIAL CO		17.5 mm	110

FINISHING PROFILE

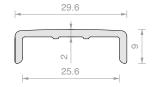
Material: Aluminium For fixing on glass, use neutral silicone. Finish: /10 /97 /RAL



Art.	Length	For glass	Qty
CPRAL1010	3000 mm	21.5 mm	1 Pc

FINISHING PROFILE

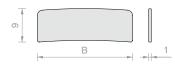
Material: Aluminium For fixing on glass, use neutral silicone. Finish: /10 /97 /RAL



Art.	Length	For glass	Qty
CPRAL1212	3000 mm	25.5 mm	1 Pc

FINISHING CAP FOR CPRAL

Material: Aluminium Finish: /10 /97 /RAL



Art.	В	Qty
CPRAL66TP	17.6 mm	1 Pc
CPRAL88TP	21.6 mm	1 Pc
CPRAL1010TP	25.6 mm	1 Pc
CPRAL1212TP	29.6 mm	1 Pc



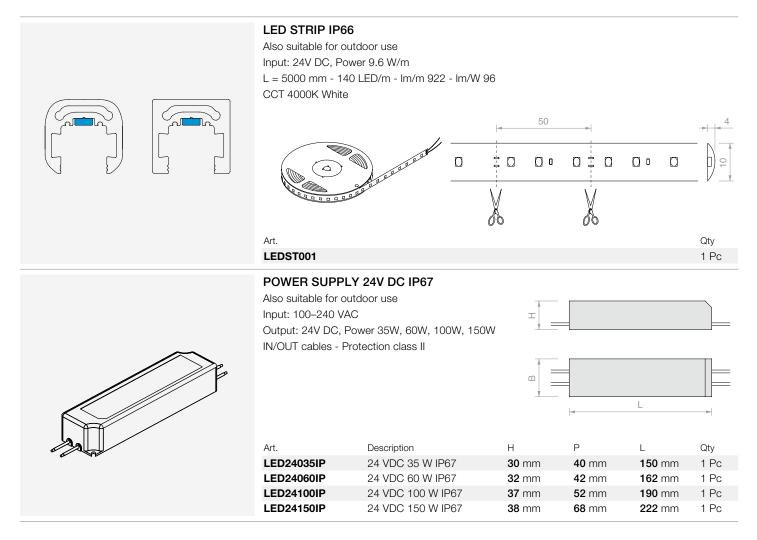
LED

For LED STRIP applications which are longer than 5 m, it is recommended to use multiple power supplies to reduce the effects of natural voltage drops. Applications with multiple branch circuits are possible with suitably sized DRIVERS. Where appropriate, it is recommended to apply an outdoor use silicone to properly protect the cables from the weather. It is recommended to contact a qualified electrician to connect the LED STRIP to the mains.

LED STRIP: decorative lighting for the glass pane (recommended LEDST001)

The effect of decorative lighting on glass can highlight defects on the surface or inside the panes of glass, due to the glow of the lights. These defects tend to become more evident with increasing light intensity. Pay close attention during the production of the panes of glass and use only medium brightness LED STRIPS.





RECOMMENDED FOR CORRECT INSTALLATION:

- Pay attention to the polarity of the products.

- Only use stabilised 24V DC power supplies.

- After having calculated the total power draw of the devices to be installed,

select a power supply unit which always has a load margin

of more than 15/20% over the calculated load.

- During maintenance, disconnect the power supply.

Connect multiple devices in parallel:

to avoid damaging the LEDs, make all connections before powering on

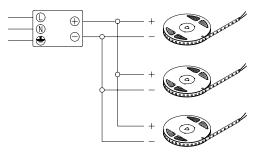
Max. continuous length 5 metres.

Example: Length of STRIP 3 m

Type LED STRIP 1 24 V DC MAX 9.6 W/m (Art. LEDST001)

Choosing the power supply unit DRIVER: LED type absorption x LED length + 15% (minimum increase due to voltage drop) 9.6 x 3 x 1.15 = 33.15 W (MIN). The power supply DRIVER to select: 24V DC 35 W LED24035IP Full list of articles: LEDST001 1 Pc - LED24035IP 1 Pc

220-240V BRIVER LED 24V DC







CLASS 20 Minimum galvanisation thickness 20 micron Suitable for outdoor installation, even in hostile environments

Suitable for outdoor installation, even in hostile environments

*the production times for custom paint finishes are assessed on a case-by-case basis. Galvanised finishes are subject to minimum order quantities and productions times assessed on a case-by-case basis.

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QUICK ORDER MANAGEMENT AND DELIVERY



Waiver: The following is provided for information purposes only and is subject to revision and updates.

INSTALLATION GUIDANCE

During installation, the following precautions are recommended:

· Use neutral detergents to remove dirt, greasy marks and adhesive residues. Do not use abrasive materials.

• For aluminium profiles, to protect against corrosion with cuts and holes made after galvanisation, it is recommended to use sealants (e.g. silicone or butyl), paints (e.g. metal zinc spray) or other suitable corrosion inhibitors.

If installing during winter, it is recommended to take account of the thermal expansion which occurs in summer due to the increase in the ambient temperature, fitting suitable expansion joints.

The coefficient of thermal expansion of aluminium is $2.3 \times 10-5$ °C-1. For example, if the increase in temperature is 35°C, the expansion of a 3 m bar is $2.3 \times 10-5$ °C-1 x 35°C x 3 m = $2.4 \times 10-3$ m, i.e. 2.4 mm.

ANODISING

Anodising (also known as anodic oxidation) is an electrochemical process which induces the formation of an oxide (alumina) on the surface of the aluminium extrusion. This treatment gives the product the following properties:

• corrosion resistance • surface hardness • abrasion resistance

The colouration of the products has a purely aesthetic impact and does not alter the protection provided by the anodising.

Raw aluminium profiles, specifically those without anodising or painting, sold by Logli Massimo SpA, are to be given a suitable coating which the customer is responsible for applying. The customer shall discharge Logli Massimo SpA from any liability regarding any issues arising from the use of untreated materials. The customer also assumes all liability regarding the finish which it applies to the untreated profile.

Note: Galvanising corrosion: This is an issue which can arise at the interface between two different metals in the presence of an electrolyte (e.g. water, especially salt water). It involves an electrochemical process which causes the metal with the lowest electric potential to dissolve. In the most common combinations of metals, it is almost always aluminium which acts as the anode and therefore it corrodes. The obviously only occurs when the surface of the aluminium is not adequately protected.

HANDLING AND CLEANING

Regular cleaning of the product is crucial for preserving the original appearance. In maritime and urban environments (polluting emissions in the atmosphere), it is recommended to clean the surfaces at least every three months. In relatively cleaner outdoor environments, the recommendation is to wash it every six months. For indoor installations, it is also recommended to clean the product at least once a year.

Wash with warm water and neutral detergent; use a soft cloth or a non-abrasive sponge. Rinse thoroughly with clean water. Dry with a soft cloth.



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This PDF version of the Volume 1 CAT24_VOL1_V3_EN has been updated compared to previous versions with some changes which we report below for completeness of information.

• CAT24_VOL1_V1_EN 15/11/2023

• CAT24_VOL1_V2_EN 19/02/2024 Page 50, 52: modified gasket code to DFPG03.03 present in the first two kits.

• CAT24_VOL1_V3_EN 01/02/2025

Page 34 to 142: Defender 810 and Pico/XP family -the /88 finish replaced with the new /R25 Rubigo. Page 149: Concrete anchor for DFXP / DFPICO profiles - minimum purchase quantity of 15 pcs. Removed. Page 162: revised table of values for Belgium. Page 215 to 221 and page 231: finish /88 removed.

> The information provided is for information purposes only. Logli Massimo SpA reserves the right to make changes of any nature at any time to one or more products, or to cease their production. The General Terms of Sale can be found in the catalogue.



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