

ASSEMBLY RECOMMENDATIONS



Duropal XTerior compact

Duropal XTerior compact F

TABLE OF CONTENTS

1.	SAFETY INFORMATION	3
2.	STORAGE AND TRANSPORT	3
3.	MACHINING	4
4.	NOTES ON CARE AND CLEANING	4
5.	VENTILATED CURTAIN WALLS	5
5.1.	System structure.....	6
5.2.	Definition of terms.....	6
6.	FACADE CONSTRUCTION REQUIREMENTS	7
7.	RELEVANT STANDARDS	7
8.	FIRE CLASSIFICATION	7
9.	ASSEMBLY/INSTALLATION	8
9.1.	Visible fasteners on metal substructures	8
9.1.1.	Fasteners.....	8
9.1.2.	Fixed and movable points.....	9
9.1.3.	Fixing and edge spacings	10
9.1.4.	Detailed drawings of visible fixing on metal substructure.....	11
9.2.	Concealed fixing on metal substructure	12
9.2.1.	Agraffe system.....	12
9.2.2.	Fasteners.....	13
9.2.3.	Making the drillhole.....	14
9.2.4.	Installation sequence	14
9.2.5.	Detailed drawing of concealed metal substructure	15
9.3.	Visible fixing on wooden substructures.....	16
9.3.1.	Fasteners.....	16
9.3.2.	Fixing and edge spacings	17
9.3.3.	Fixed and movable points.....	17
9.3.4.	Detailed drawing of wooden substructure	18
9.4.	Balcony railings	19
9.4.1.	Fasteners.....	19
9.4.2.	Fixing and edge spacings	20
9.4.3.	Glass clamp.....	21
10.	FURTHER INFORMATION	21
11.	RECOMMENDATIONS FOR FASTENER MANUFACTURERS.....	21

1. SAFETY INFORMATION

Technical and personal safety are very important at Pfleiderer.

Machining

Pfleiderer boards meet the requirements of the ChemVerbotsV regarding formaldehyde. Wood dust can be produced during machining and use. Wood dust has been classified in the TRGS 900 "MAH values list" under III B as a substance with justified suspicion of carcinogenic potential. According to TRGS 553 the concentration of wood dust in the air at the workplace may not exceed 2 mg/m³. This usually requires the machine tools to be connected to an extraction system.

Personal protective measures

No particular measures necessary. Pfleiderer panels are not toxic under the ChemVerbotsV (Banned Chemicals Regulations). The usual health and safety measures (work gloves, dust mask for sanding work) that apply to the working of solid wood must also be complied with when working / installing wood-based panels.

2. STORAGE AND TRANSPORT

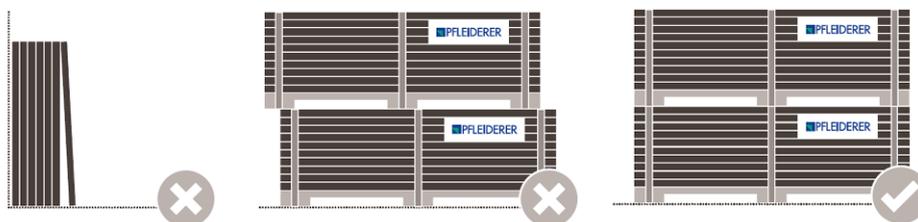
To protect the high-quality surfaces, Pfleiderer delivers the coated surface of Duropal XTerior compact with a protective film.

This film protects the surface of the panel against mechanical damage and dirt during transport, machining, storage and installation.

Film covered panels should be used and the film removed within 6 months of the delivery by Pfleiderer at the latest. One-sided foiling can lead to warping of the panel material if not stored properly. We therefore recommend removing the protective film as soon as possible after the delivery by Pfleiderer and as early as possible in the processing procedure.

Please note and follow the instructions below regarding the storage of Duropal XTerior compact:

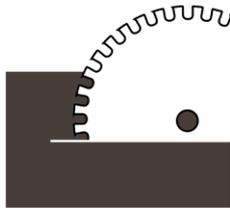
- Packs must be stored on a level surface.
- The panels/boards must be stored preferably horizontally and without direct contact with the floor, on dry bearers.
- The supporting bearers used must be uniformly thick, and placed at uniform spacing from each other (maximum 80 cm).
- If several stacks of panels are layered on top of each other, the supporting bearers must be aligned vertically on top of each other. The panels must be stacked with their edges flush to prevent damage to unprotected edges and corners.
- The top board must be completely covered with a protective board or cardboard. Maintain sufficient distance from walls. Avoid direct contact.



3. MACHINING

All Pfleiderer panel/board types can be sawn, cut, drilled and sanded using standard woodworking machines or woodworking tools. We recommend use of hard-metal tipped tools.

Cutting and sawing



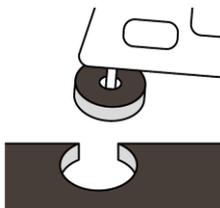
XTerior compact offers top conditions for high-quality workmanship using all standard saws. We recommend use of hard-metal tipped sawblades.

Drilling



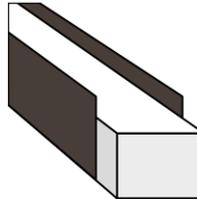
Hard metal-tipped tools and materials must be used for all drillholes. Through-drill bits are to be used for through-holes.

Cutting



XTerior compact is ideally suitable for machining with carbide tipped cutting or CNC machining centres.

Sanding and smoothing of the narrow surfaces



If particularly high standards are set for the quality of the narrow surfaces, the narrow surfaces of XTerior compact can also be easily resanded with grit sizes between 120 and 400.

Further information on use of the panels/boards can be found under the following link:

https://www.pro-hpl.org/assets/uploads/prohpl/files/Verarbeitung_von_HPL_Kompaktplatten_April_2013.pdf

4. NOTES ON CARE AND CLEANING

XTerior compact / XTerior compact F panels are characterised by their excellent material properties. They are durable, hygienic and easy-care. However, any contaminations or dirt of any form should be removed straight away. Please note the following information to achieve an optimum care and cleaning effect and to retain the material surface properties long-term.

BASIC CLEANING

The basic cleaning is used for dirt under normal use conditions. In general it involves greasy dirt, which is caused by activities such as cooking and baking or fingermarks, liquid residues and stains.

The basic cleaning of the coated surface is carried out by regular use of a mild soapy solution. Heavier soiling or more stubborn dirt should be left to soak in the soapy solution. The damp surface should then be wiped down with warm, clean water until all residues of the cleaning agent have been removed. Then rub dry with a dry, lint-free cloth, where possible in the "decor direction" or uniformly in one direction, to avoid smearing or streaks.

Do not use cleaning agents, cloths or sponges that contain abrasive ingredients. Abrasive ingredients and / or harsh scrubbing could irreparably damage the fine texture of the surface! So-called "Balsam" washing-up liquids are also unsuitable cleaning substances. The skin care substances they contain form a film on the product surface that is very difficult to remove.

Furthermore, alcohol-based cleaning products (e.g. glass cleaning products) or even pure plastic cleaning products are also completely unsuitable.

Also, contact with aggressive cleaning products or descalers/water softeners should not be used, but if they are, then they should only remain on the surface for a very short time. Drips must be removed immediately. Longer action of these reagents may result in the formation of micro-cracks or embrittlement of the surface with subsequent irreparable stains, marks or scum (residues). As far as we are aware, the surfaces can be kept perfectly clean if these instructions are followed.

July 22

SPECIAL CLEANING

Cleaning off graffiti

Graffiti can usually be removed with lacquer thinner. It must be noted that the lacquer thinner requires a short application time of a few seconds. The surface is then cleaned with water and is dried with a clean, soft, absorbent cloth. If this cleaning recommendation is followed, the lacquer thinner does not have any negative effect on the coated surface. This means that graffiti can also be removed several times from the same place.

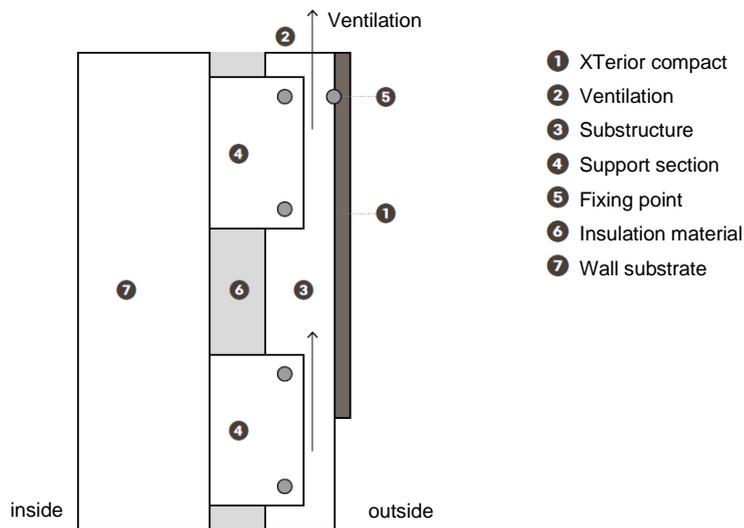


5. VENTILATED CURTAIN WALLS

The good properties of the XTerior compact products offer large advantages, especially when used for ventilated curtain walls:

- High weather resistance
- Fine surface look and feel
- Very good usability / processability due to special product build-up
- Resistant
- Anti-fingerprint effect
- Easy to clean
- Residue-free cleaning of graffiti
- Optimum and favourable cutting format

5.1. System structure



5.2. Definition of terms

Ventilated curtain walls are façades with a ventilated space between the thermal insulation and XTerior compact / XTerior compact F or, in the case of uninsulated superstructures and wooden buildings, between the load-bearing surface and XTerior compact / XTerior compact F. The ventilation space or cavity is connected to the outside air by supply air openings on the underside and exhaust air openings on the top of the wall or wall sections (e.g. storey-wise ventilation) and therefore enables continuous air exchange.

Ventilated curtain walls (VHF) consist of:

1. XTerior compact / XTerior compact F

They are used as protection against the weather and for façade design.

2. Ventilation

The ventilated space is an area between the inside of the cladding and the outside of the wall or thermal insulation that is flowed through by outside air.

This helps to protect the layers behind it from moisture, to remove moisture loads from the inside to the outside and to dissipate the accumulation of heat in the summer.

3. Substructure

Substructures for curtain walling can be made of metal, wood or fibre-reinforced plastics and combinations of these materials.

4. Support section

Support sections are elements that connect the components of the substructure to each other mechanically.

5. Fixing point

Fixing points are points, which fix the XTerior compact / XTerior compact F to the substructure mechanically by metal elements or by means of adhesive bonding.

6. Insulation material

Thermally insulating layer between the anchoring surface (anchorage) and the ventilation cavity; depending on the material, the thermal insulation can also fulfil fire and sound insulation functions.

7. Wall substrate

The anchoring surface is the load-bearing structure of the building. It absorbs the static structural load. The substructure is anchored in the building's structure.

Surface layers, e.g. render, coatings, are generally not load-bearing.

6. FACADE CONSTRUCTION REQUIREMENTS

Ventilated curtain walls (VHF) are connected to the structure mechanically and must be stable at all times. The following loads must be taken into account for the specific property:

- Fixed load
- Wind load (suction and pressure)
- Snow and ice loads
- Impact loads
- Special loads (e.g. seismic loads, advertising hoarding)

The stability analysis for the VHF system, including all individual calculations, must be performed in a checkable form to state-of-the-art standards and according to the respective European and/or national regulations. In particular, the stability analysis must include the structural calculation for the substructure, the cladding and the anchoring and connecting elements.

The fixed load is made up of the self-weight of the cladding and the substructure. Appropriate values are given in the [technical data sheet](#).

The wind loads must differentiate between suction and pressure. The variables to be used in the calculation depend, among other things, on the building geometry, the façade cladding design and the building location. If applicable, special loads (impact, ball throwing or similar) must be taken into account in traffic areas (closer spacing of the substructure, etc.).

7. RELEVANT STANDARDS

Duropal XTerior compact

One-sided/both-sided coating are compact high-pressure laminates for outdoor use in regular flammable quality to EN 438-6:EDS / intensive decors according to EN 438-6:EGS.

Duropal XTerior compact F

one-sided coating are compact high-pressure laminates for outdoor use in flame retardant quality to EN 438-6:EDF

The relevant standards and respective national or state building codes must be complied with in the design and implementation of curtain walling.

8. FIRE CLASSIFICATION

Duropal XTerior compact

normally flammable D-s2, d0 to EN 13501-1

- The State Building Code and the Model Building Code specify usability
- Usable in Germany up to building class 2 (highest floor level up to max. 7m height)

Duropal XTerior compact F:

flame retardant B-s1, d0 to EN 13501-1

- The State Building Code and the Model Building Code specify usability
- Usable in Germany up to building class 5 (highest floor level up to max. 22m height)

The current local construction guidelines must be checked and complied with for use of Duropal XTerior compact F boards in Austria and Switzerland.

9. ASSEMBLY/INSTALLATION

The substructure must be assembled and installed according to the manufacturer's specification and must comply with the national standards. Temperature changes cause most materials to change their dimensions. XTerior compact also changes its dimensions in fluctuating relative humidity.

To prevent lack of fit of the board due to these material properties, expansion joints of at least 8 mm are to be maintained between the XTerior compact boards. Corrosion-resistant materials must be used for the construction.

- The substructure can be made of aluminium, stainless steel or timber
- The fixing of the board is started in the middle of the board
- We recommend laying the panels in one direction
- The centre of the drill hole in the board must correspond with the hole in the substructure
- A ventilation joint of at least 20 mm must be maintained between the XTerior compact board and the insulation material
- The substructures and XTerior compact should be installed by qualified skilled personnel
- To ensure uniform expansion of substructure and board material, an XTerior compact board may not be mounted on two different sections of the substructure
- Always comply with the regional building regulations



Source: SFS intec GmbH

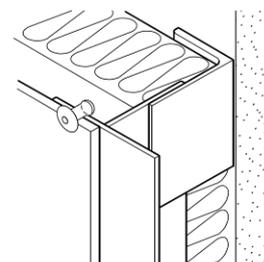
9.1. Visible fasteners on metal substructures

9.1.1. Fasteners

Ventilated curtain walls have very individual colours. To this end, [different manufacturers](#) offer painted head screws, bolts and rivets matching all colours of the Pfleiderer XTerior compact product range.

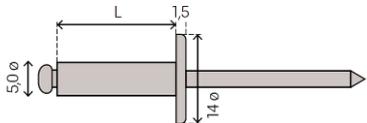
Different fasteners can be used depending on the requirement and installation situation. However, the material of the fasteners must correspond to the chosen metal substructure to prevent contact corrosion.

Substructure	Rivet material
Aluminium	Aluminium
Steel	Steel

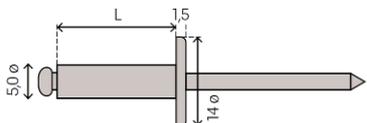


Source: SFS intec GmbH

July 22

Aluminium rivet	L (mm)	Clamping range (mm)
	16	7.0-10.5
	18	9.0-12.5
	21	12.0-15.5
	23	14.0-17.5
	25	15.5-19.5
Sleeve material	Al Mg 5 material No. EN AW-5019	
Riveting mandrel material	Stainless steel material No. 1.4541	
Drillhole diameter, fixed point / movable point	5.1 / 8.5 mm	
Drillhole diameter of the metal substructure	5.1 mm	

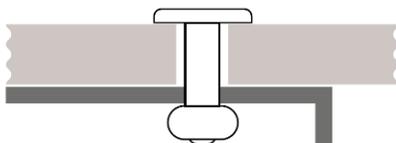
The rivets must be set, unrestrained, using a special setting nosepiece, the clearance should be 0.3 mm.

Stainless steel rivet	L (mm)	Clamping range (mm)
	13	6.0-8.5
	16	9.0-11.0
	18	11.0-13.0
	21	13.0-15.0
	23	15.0-18.0
	25	18.0-20.0
Sleeve material	Stainless steel material No. 1.4567	
Riveting mandrel material	Stainless steel material No. 1.4541	
Drillhole diameter, fixed point / movable point	5.1 / 8.5 mm	
Drillhole diameter of the metal substructure	5.1 mm	

9.1.2. Fixed and movable points

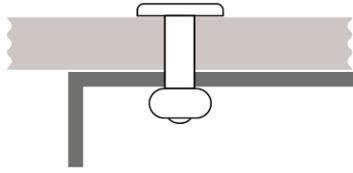
Due to the temperature changes and changes in humidity, length changes (shrinkage and swelling) occur in the façade panels, which is due to the natural basic material wood. The arrangement of movable points ensures that sufficient freedom to move is available for the panel.

To avoid deviations from the flatness, stable, planar execution of the substructure is to be used. Equally, water logging is to be avoided in the design and installation. Regardless of the material used, the substructure must be protected against corrosion.



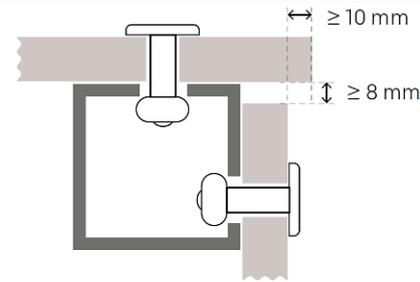
Movable point

Movable points (sliding points) are necessary to allow the swelling and shrinkage of panel material and expansion of the substructure without constraints.



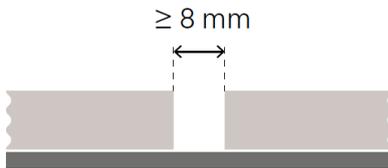
Fixed point

Fixed points are used to uniformly spread the expansion of the panel material and substructure over the entire panel. One fixed point is to be made for each panel.



Making corners

A panel overhang of 10mm along the side panel is recommended to conceal construction tolerances from the main visible side.

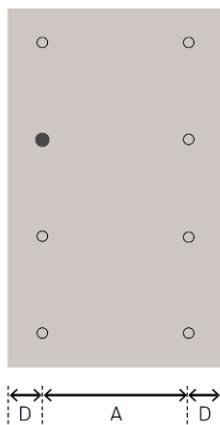


Expansion joints

Expansion joints of at least 8mm must be maintained between panel joints of XTerior compact.

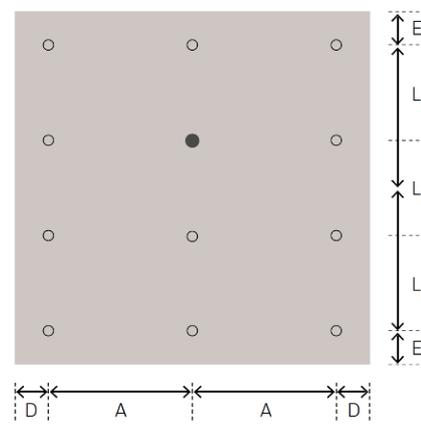
9.1.3. Fixing and edge spacings

Single span system



- Movable point
- Fixed point

Multi-span system



- Movable point
- Fixed point

Board thickness (mm) XTerior compact	Board thickness (mm) XTerior compact F	Max. fixing spacing A (mm)	Max. fixing point spacing L (mm)	Distance from edge D (mm)	Distance from edge E (mm)
6.0	-	500	≤ 400	≥ 20	≥ 20
8.0	8.0	600	≤ 480	≥ 20	≥ 20
10.0	10.0	700	≤ 500	≥ 20	≥ 20

July 22

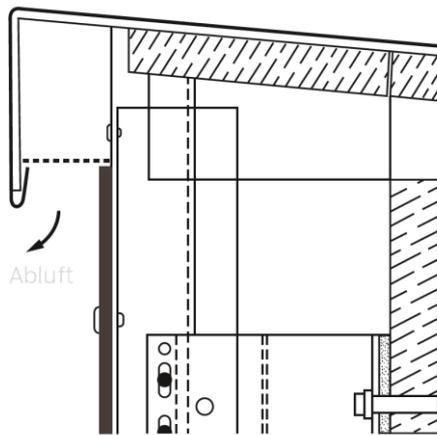
At least one fixing point or maximum two adjacent horizontal fixed points are to be selected for each board. The fixed point is to be made in the middle of the board, to ensure uniform distribution of the swelling and shrinkage movement.

The maximum edge distance of 10 times the panel thickness must not be exceeded.

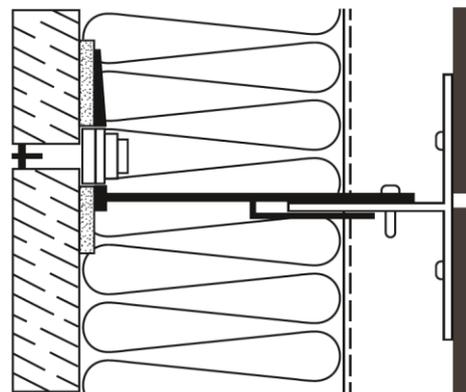
The fixing distances are to be carried out according to the static requirements. If this is not necessary due to local building regulations, the values from the upper chart are to be used.

In the edge area of the structure, the fastening distances should be smaller than in the central area due to pressure and suction.

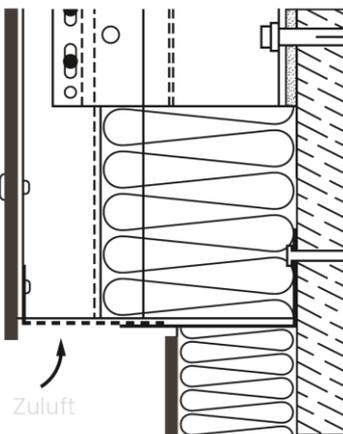
9.1.4. Detailed drawings of visible fixing on metal substructure



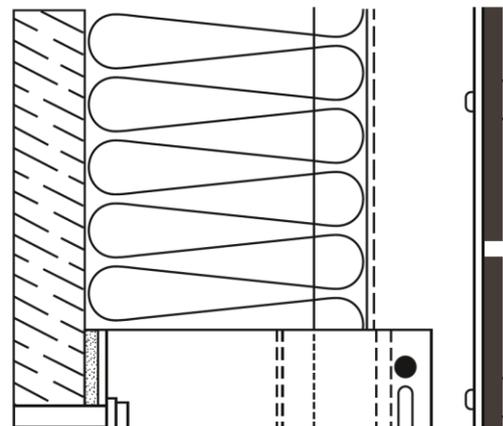
Parapet



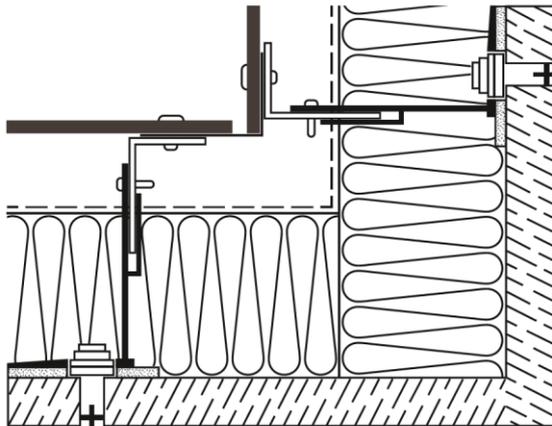
Vertical joint



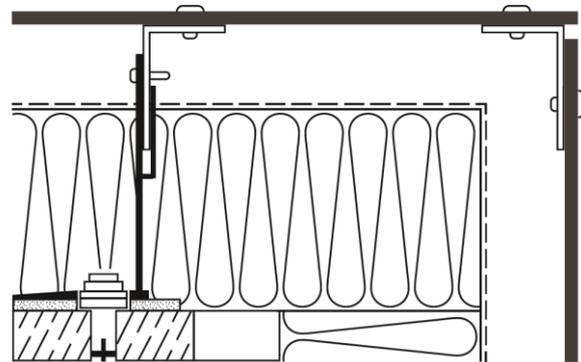
Base joint



Horizontal joint



External wall corner, inside

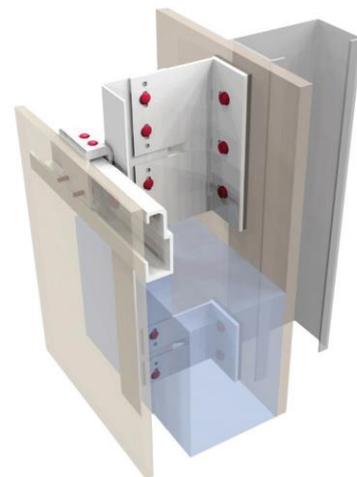


External wall corner, outside

9.2. Concealed fixing on metal substructure

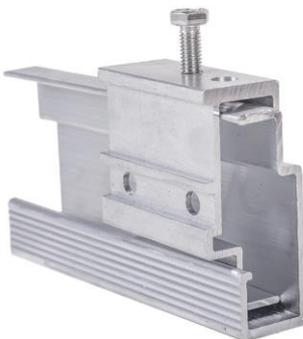
The installation of Duropal XTerior compact / XTerior compact F boards with the TUF-S system of SFS intec GmbH on a metal substructure if specified by ETA-15/0476 for facade use.

To prevent lack of fit of the board due to these material properties, expansion joints of at least 8 mm must be maintained between the XTerior compact / XTerior compact F boards.



Source: SFS intec GmbH

9.2.1. Agraffe system



Source: SFS intec GmbH

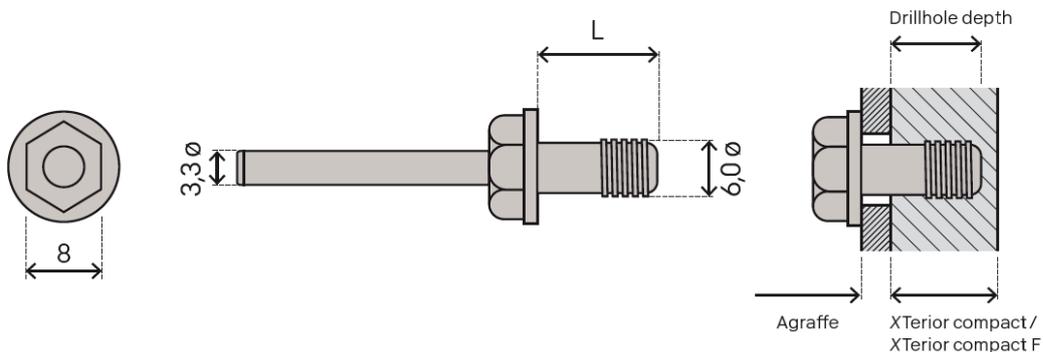
Horizontal SFS support sections (channels) are fixed onto the vertical profiles. Agraffe (clamp or bracket) fasteners fixed onto the back of the panel are then hooked into the support sections, are adjusted and are hooked onto the bearer profiles with a fixed point.

9.2.2. Fasteners

The concealed fixing of the Duropal XTerior compact / XTerior compact F boards can be achieved using the TUF-S fasteners of SFS intec GmbH in accordance with ETA-15/0476. Different drilled depths are required depending on the board thickness.

The radial widening on pulling out the mandrel causes the thread to punch into the façade panel and therefore results in very high pull-out values. The fastener (anchor) can therefore not be over-wound during installation. Independent reversing due to dilation or vibration is not possible. When pre-drilling, a residual thickness of the XTerior compact board of at least 3mm must be maintained.

Fastener	Length (L) of the TUF-S fastener (mm)	Thickness of the XTerior compact board (mm)	Thickness of the agraffe profile (mm)	Drillhole depth (mm)
TUF-S-6 x 7-A4	7	8	2.0	5.0
TUF-S-6 x 8-A4	8	8	3.0	5.0
TUF-S-6 x 9-A4	9	8	4.0	5.0
		10	2.0	7.0
		10	2.5	6.5
TUF-S-6 x 10-A4	10	10	3.0	7.0
			4.0	6.0
		12	2.0	8.0
			2.5	7.5
			3.0	7.0
TUF-S-6 x 11-A4	11	12	4.0	6.0
			2.0	9.0
			2.5	8.5
			3.0	8.0
TUF-S-6 x 12-A4	12	12	4.0	7.0
			3.0	9.0
TUF-S-6 x 13-A4	13	12	4.0	9.0



Source: SFS intec GmbH

9.2.3. Making the drillhole

When drilling the holes, ensure that the visible side of the Duropal XTerior compact / XTerior compact F boards is placed on a clean surface so that the panel is not damaged.

The facade panels must each be positioned with full surface contact so that the board is not deflected or damaged by the drilling pressure.

If the drilling is carried out with the depth stop and the suitable HSS drill bit, the hole is made properly if the depth stop touches the back of the Duropal XTerior compact / XTerior compact F boards and a uniform visible ring forms around the drillhole.

On pulling out the mandrel, for example, using the GESIPA PowerBird® Pro, a light pressure must be exerted on the TUF-S blind fastener. The rivet is correctly inserted if the agraffe clamp/support section is fixed or can only be moved by a minimum amount.



“Depth Locator” depth stop

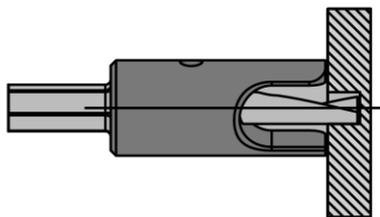
Source: SFS intec GmbH

Drill bits with a “Depth Locator” depth stop must be used to drill the blind holes.

Name/description	For drillhole depth (mm)
“Depth Locator” depth stop	
HSS-6.0 x 40	5.0
HSS-6.0 x 40.5	5.5
HSS-6.0 x 41	6.0
HSS-6.0 x 41.5	6.5
HSS-6.0 x 42	7.0
HSS-6.0 x 42.5	7.5
HSS-6.0 x 43	8.0
HSS-6.0 x 43.5	8.5

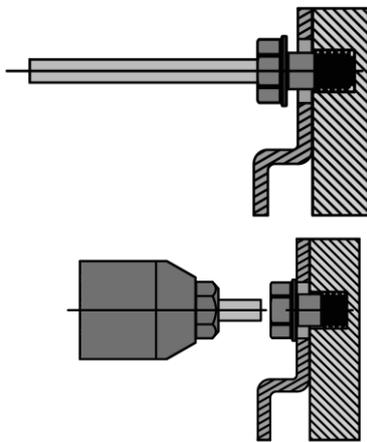
The precise positioning and number of fixed points and drillholes required is generally specified in the installation drawing and is defined by the structural calculations.

9.2.4. Installation sequence



1. Pre-drilling of the Duropal XTerior compact / XTerior compact F boards with the HSS blind hole drill bit \varnothing 6 mm with depth stop

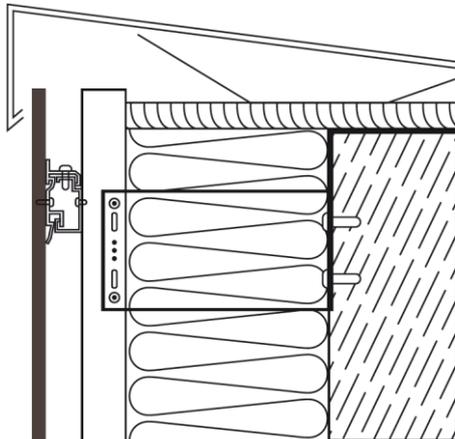
July 22



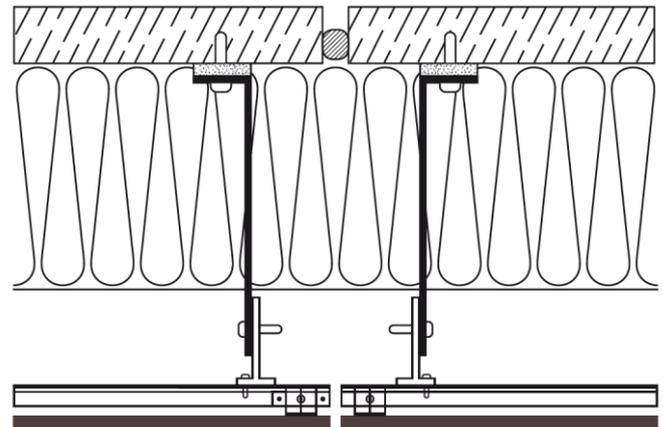
2. Positioning of the agraffe clamp with predrilled holes and pushing through the TUF-S blind fastener.

3. Completely pull out the mandrel, e.g. using the GESIPA® Power-Bird® Pro rivet gun (nosepiece 17/36 or 17/40)

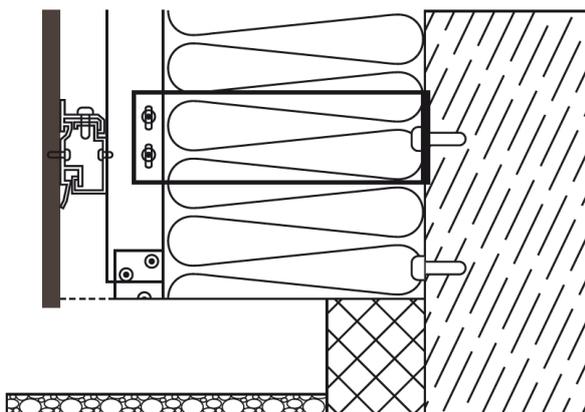
9.2.5. Detailed drawing of concealed metal substructure



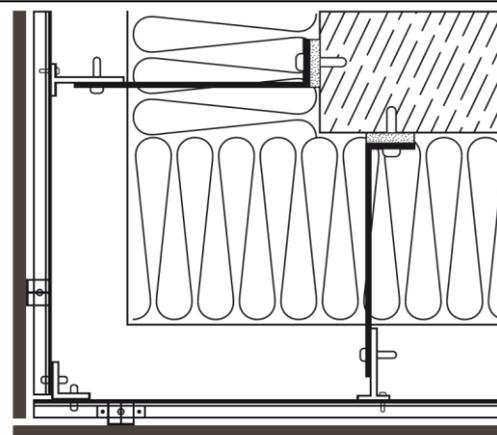
Parapet



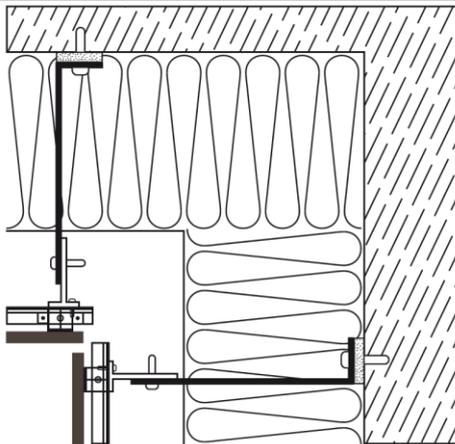
Expansion joint



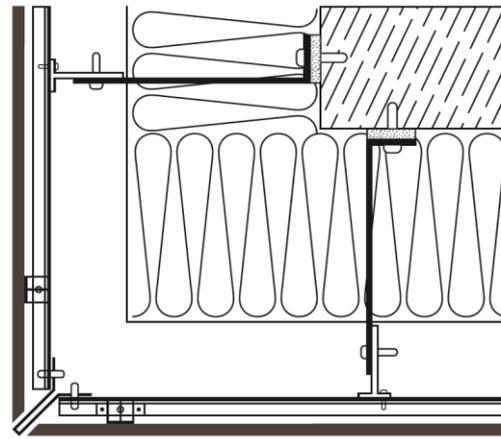
Base joint



External corner



External wall corner, inside



External wall corner, outside with external corner profile

9.3. Visible fixing on wooden substructures

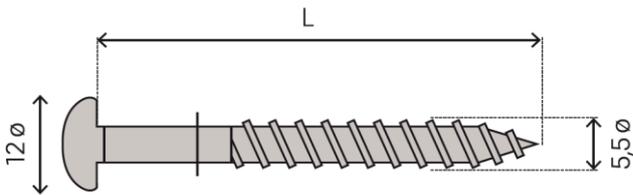
Especially when fixing Duropal XTerior compact / XTerior compact F boards of wood substructures, an adequately large free ventilation cavity of 20 mm and a supply and exhaust air opening of 50 cm²/m must be ensured. The ventilation has a significant influence on the safety of the façade due to the removal of moisture. The plinth height (lower edge of the facade) should be at least 30 cm to protect against waterlogging and spray water.

9.3.1. Fasteners

The Duropal XTerior compact / XTerior compact F boards can be mounted on vertical or horizontal support sections made of wood with the help of façade screws. In addition, the substructure must be protected with an EPDM jointing tape between the wooden battens and the XTerior compact / XTerior compact F.

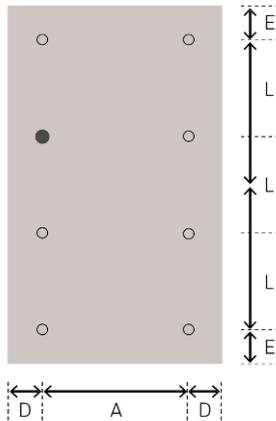
To this end, [various manufacturers](#) supply painted head screws matching all colours of the Pfleiderer XTerior compact product range.

The locally relevant guidelines must always be used for the construction and design.

Stainless steel screw	L (mm)	Diameter (mm)
	35	5.5
Material	Stainless steel	
Drillhole diameter, XTerior compact fixed point / movable point	5.6 / 7.0 mm	

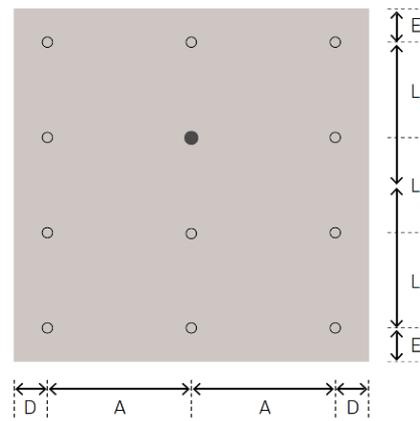
9.3.2. Fixing and edge spacings

Single span system



- Movable point
- Fixed point

Multi-span system



- Movable point
- Fixed point

Board thickness (mm), XTerior compact	Board thickness (mm), XTerior compact F	Max. fixing spacing A (mm)	Max. fixing point spacing L (mm)	Distance from edge D (mm)	Distance from edge E (mm)
6.0	-	500	≤ 400	≥ 20	≥ 20
8.0	8.0	600	≤ 480	≥ 20	≥ 20
10.0	10.0	700	≤ 500	≥ 20	≥ 20

At least one fixing point or maximum two adjacent horizontal fixed points are to be selected for each board. The fixed point is to be made in the middle of the board, to ensure uniform distribution of the swelling and shrinkage movement.

The maximum edge distance of 10 times the panel thickness must not be exceeded.

The fixing distances are to be carried out according to the static requirements. If this is not necessary due to local building regulations, the values from the upper chart are to be used.

In the edge area of the structure, the fastening distances should be smaller than in the central area due to pressure and suction.

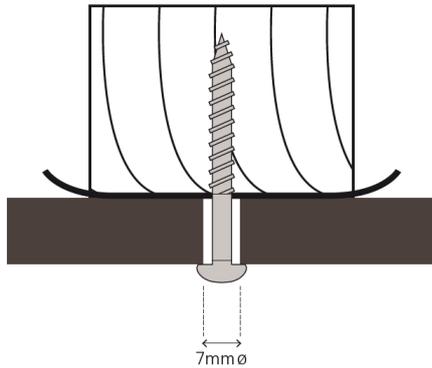
9.3.3. Fixed and movable points

Due to the temperature changes and changes in humidity, length changes (shrinkage and swelling) occur in the façade panels, which is due to the natural basic material wood. The arrangement of movable points ensures that sufficient freedom to move is available for the panel.

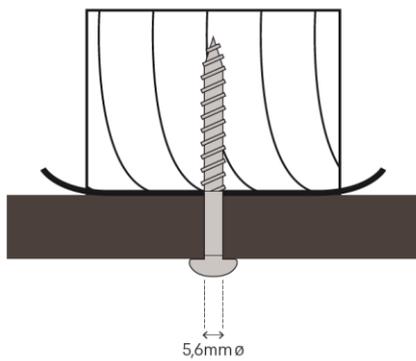
To avoid deviations from the flatness, stable, planar execution of the substructure is to be used. Equally, water logging is to be avoided in the design and installation. Regardless of the material used, the substructure must be protected against corrosion.

At the movable points the screws should not be tightened totally to avoid a bending of the panel under the implied tensions between points of fixation.

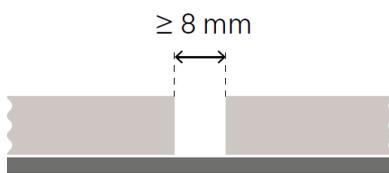
In addition, the substructure must be protected with an EPDM joint tape with a lateral projection of at least 10 mm and a minimum thickness of 1.2 mm.

**Movable point**

Movable points (sliding points) are necessary to allow the swelling and shrinkage of panel material and expansion of the substructure without constraints.

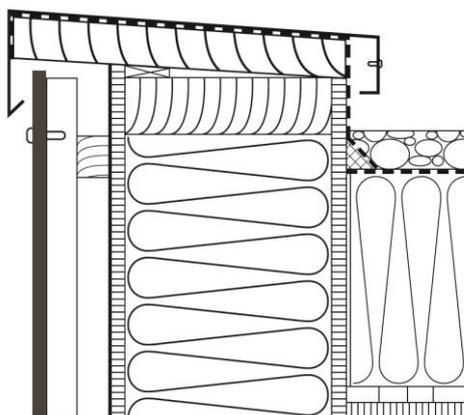
**Fixed point**

Fixed points are used to uniformly spread the expansion of the panel material and substructure over the entire panel. One fixed point is to be made for each panel.

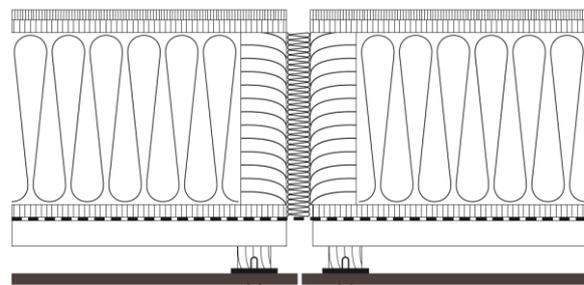
**Expansion joints**

Expansion joints of at least 8mm must be maintained between panel joints of XTerior compact / XTerior compact F

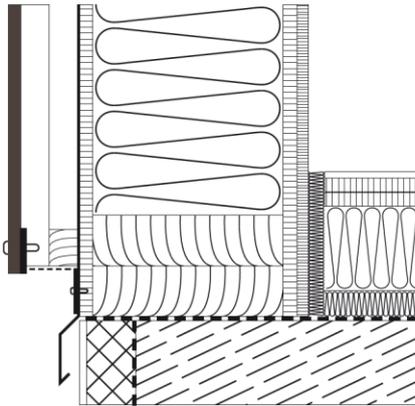
9.3.4. Detailed drawing of wooden substructure



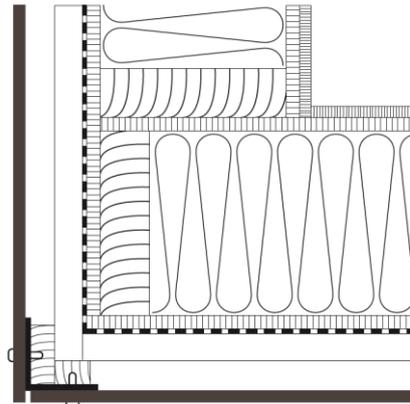
Parapet



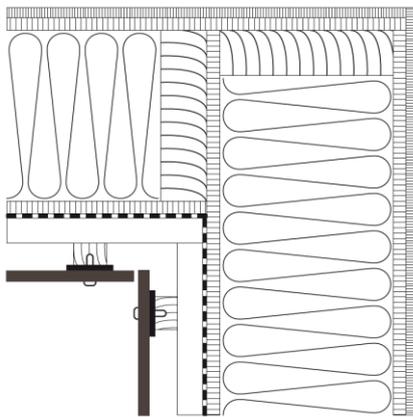
Expansion joint



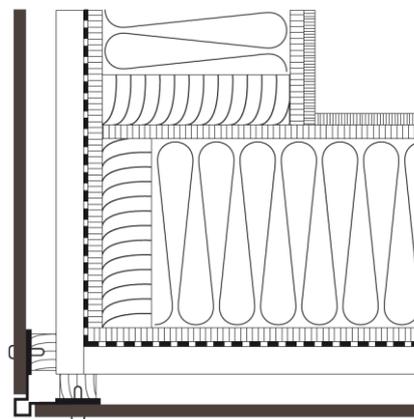
Base joint



External corner



External wall corner, inside

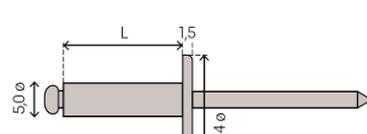


External wall corner, outside with external corner profile

9.4. Balcony railings

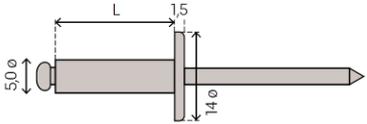
The design of balconies and balcony railings is an important element in the design of buildings. With Duropal XTerior compact / XTerior compact F boards there are no limits to the design of the balcony railings, as long as the fall protection requirements are fulfilled.

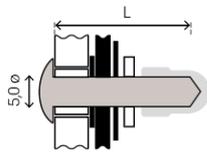
9.4.1. Fasteners

Aluminium rivet	L (mm)	Clamping range (mm)
	16	7.0-10.5
	18	9.0-12.5
	21	12.0-15.5
	23	14.0-17.5
	25	15.5-19.5
Sleeve material	Al Mg 5 material No. EN AW-5019	
Riveting mandrel material	Stainless steel material No. 1.4541	
Drillhole diameter, fixed point / movable point	5.1 / 8.5 mm	
Drillhole diameter of the metal substructure	5.1 mm	

The rivets must be set, unrestrained, using a special setting nosepiece, the clearance should be 0.3 mm.

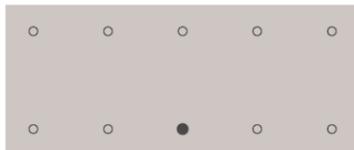
July 22

Stainless steel rivet	L (mm)	Clamping range (mm)
	13	6.0-8.5
	16	9.0-11.0
	18	11.0-13.0
	21	13.0-15.0
	23	15.0-18.0
	25	18.0-20.0
Sleeve material	Stainless steel material No. 1.4567	
Riveting mandrel material	Stainless steel material No. 1.4541	
Drillhole diameter, fixed point / movable point	5.1 / 8.5 mm	
Drillhole diameter of the metal substructure	5.1 mm	

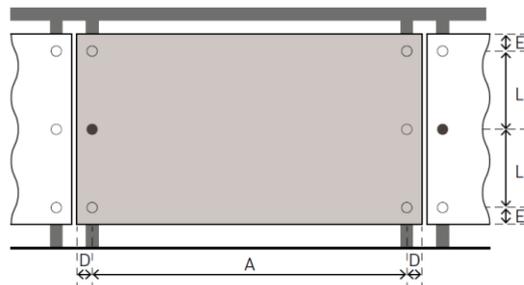
Balcony bolt	L (mm)	Clamping range (mm)
	25	12.0-16.0
	30	17.0-21.0
Drillhole diameter, fixed point / movable point	6.0 / 8.5 mm	
Drillhole diameter of the metal substructure	6.0 / 6.0 mm	

9.4.2. Fixing and edge spacings

Single span system



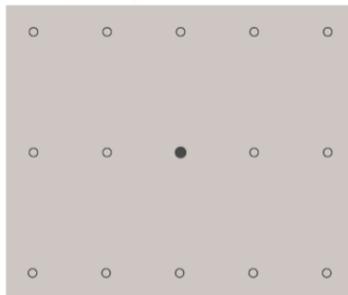
Fixed point, underneath, middle



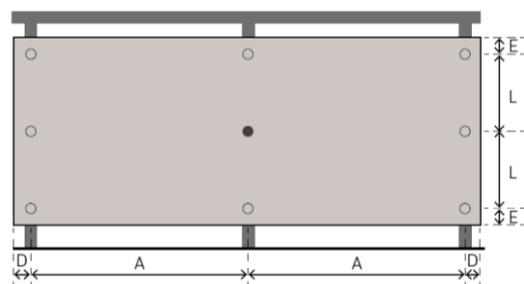
Visible fixing on posts

○ Movable point
● Fixed point

Multi-span system



Fixed point, middle of panel

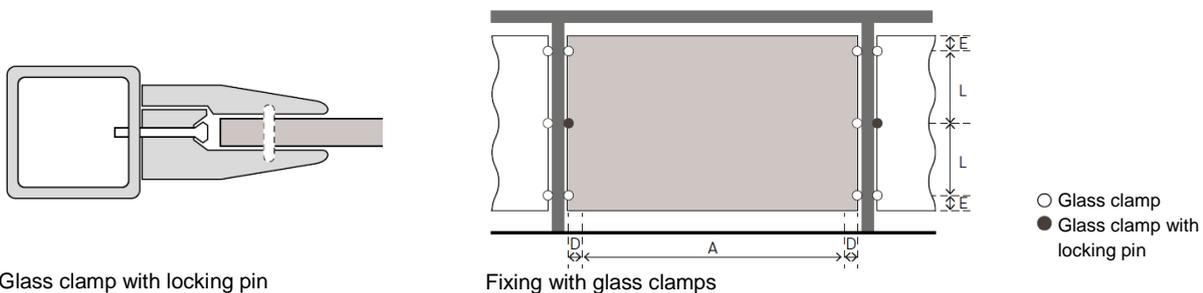


Visible fixing on posts

○ Movable point
● Fixed point

Board thickness (mm)	Max. fixing spacing A (mm)	Max. fixing point spacing L (mm)	Distance from edge D (mm)	Free overhang E (mm)	Railing height (mm)
Rivet					
8.0	≤ 900	≤ 480	≥ 20	≥ 20	900-1100
10.0	≤ 1000	≤ 480	≥ 20	≥ 20	900-1100
Screw/bolt					
8.0	≤ 1000	≤ 500	≥ 20	≥ 20	900-1100
10.0	≤ 1000	≤ 500	≥ 20	≥ 20	900-1100

9.4.3. Glass clamp



Glass clamp with locking pin

Fixing with glass clamps

One locking pin is to be used for each board; the pin protects the boards from falling if the clamping action reduces.

Board thickness (mm)	Max. fixing spacing A (mm)	Max. fixing point spacing L (mm)	Distance from edge D (mm)	Free overhang E (mm)	Railing height (mm)
8.0	≤ 1000	≤ 480	≥ 20	≥ 20	900-1100
10.0	≤ 1040	≤ 480	≥ 20	≥ 20	900-1100

10. FURTHER INFORMATION

- [Technical data sheet – Duropal XTerior compact F - one-sided coating](#)
- [Cleaning recommendation – Duropal XTerior compact / Duropal XTerior compact F](#)

11. RECOMMENDATIONS FOR FASTENER MANUFACTURERS

Painted head fastener (screw/bolt, rivet), and the TUF-S fastener, adapted to the Pfleiderer decor product range:

SFS intec GmbH, Division Construction, In den Schwarzwiesen 2, D-61440 Oberursel; Phone: +49 (0) 6171 700 20, Fax: +49 (0) 6171 700 23 2, www.sfsintec.biz/de

Painted head fastener (screw/bolt, rivet), adapted to the Pfleiderer decor product range:

Moderne Befestigungs-Elemente (MBE) GmbH, Siemensstraße 1, D-58706 Menden; Phone: + 49 (0) 2373 / 17430-0, Fax: + 49 (0) 2373 / 17430-11, www.mbe-gmbh.de

Glass clamp: SWS Glassysteme GmbH, Boehringer Straße 2a, D-68307 Mannheim; Phone: + 49 (0) 2291/7905-0, Fax: + 49 (0) 2291/795-10, www.sws-glassysteme.de

PM HPL/elements

© Copyright 2022 Pfleiderer Deutschland GmbH

This information has been compiled with the greatest care. Nevertheless we can assume no liability for the correctness, completeness and up-to-dateness of this information. Colour deviations caused by the printing technology are possible. In view of the ongoing further development and adaptation of our products, possible amendments to the relevant standards, laws and regulations, our technical data sheets and product documentation expressly do not constitute a legally binding assurance of the properties described there. In particular no guarantee of suitability for a concrete application can be derived. It is therefore the personal responsibility of the individual user in all cases to check the processing and suitability of the products described in this document for the intended application in advance, and to take into consideration the legal framework and the respective state-of-the-art. We furthermore expressly draw attention to the applicability of our General Terms and Conditions. You can find our general terms and conditions on our webpage: www.pfleiderer.com.