

WOODN VERSATILIS



Hotel Le Massif - Courmayeur - Italy (TZ9555-R)

MATERIAL'S FEATURES

Mechanical properties

Elasticity (bending)	UNI EN ISO 178	2070 Mpa (@23 °C) 660 Mpa (@65 °C)
Yield strenght (flexural)	UNI EN ISO 178	31 Mpa (@23 °C)
Water absorbption and humidity	ASTM D1037	absorption 0,07%
Dynamic- Mechanical analysis of transition temperature	ASTM D4065/95	78.8 °C
Linear thermal expansion coefficient (from -10 °C to 70 °C)	TMA ASTM E 831/2006	longitudinal 46,9 x10 ⁻⁶ m/(m°C) trasversal 48 x10 ⁻⁶ m/(m°C)
Tensile strenght and tensile strenght after accelerated weathering (exposure to xenon lights)	ASTM D638-10 (tensile test) ASTM G155-050	difference after 2 months of exposure ~5,21% difference after 3 months of exposure ~6,9% (meet the requirements to comply with Miami Dade and Florida Building Code 2014)

Reaction to fire

Flammability	UL94 AS 3959-2009	V-0 Class BAL-29
Flame spread index Smoke developed index	ASTM E84	Class A
Ignition temperature	ASTM D1929	476 °C
Average critical radiant flux of floor	AS ISO 9239 ASTM E648	≥ 11 kW/m ² > 1,03 W/cm ² (class I as per NFPA 101)
Ignitability, flame propagation, heat release and smoke release	AS/NZS 1530.3:1999	Ignitability (0-20) = 8 Spread of Flame (0-10) = 0 Heat Evolved (0-10) = 0 Smoke Developed (0-10) = 7

Chemical and biological features

Evaluation of the action of microorganisms (scale from 0 to 5)	EN ISO 846:97	Test result: 1
Heavy metal content (Pb, Ge, Cr, Hg)	GB18584-2001 GB18580-2001	< 0,5 ppm
Formaldehyde emission	EN 717-2:1994	0,1 mg HCHO/(m ² h)



The values shown are indicative and not binding. Test reports available upon request.

The natural aging of the material and temperature variations may cause deviations from the values indicated above.

The product is protected by a warranty in line with legal requirements: for more information see the SPECS on www.woodngreenwood.com

GENERAL INSTALLATION INSTRUCTIONS

Key points to be followed before and during the installation process:

- Store the material on a flat surface providing for a stable support on the whole surface, in a dry, clean area, protected from frost and direct sun light.
- Before starting the installation, carefully check the material and notify immediately of any manufacturing issues. Complaints will not be accepted after installation.
- Before starting the installation, check project's drawings (or shop drawings if provided) and the correspondence of the received material against the packing list.
- Acclimate the material in stock to the temperature of the jobsite for at least 48 hours prior to installation.
- The installation temperature must be higher than 0 °C.
- Do not cover the product with sheets made with non-breathable material (nylon, polyethylene and similar materials). For this purpose it is advisable to use breathable material such as painter felt sheets.
- The accumulation of electrostatic charges is a natural phenomenon commonly found in plastic materials, and under exceptional environmental conditions this may also occur in Woodn™'s products.
- Profiles shall be handled with care in order to prevent damages. It is recommended to lift the profiles on the whole length during displacement and not make them slide on top of each other. Always use clean fabric gloves when handling profiles.
- Prevent the formation of dirt on and between profiles; in particular, make sure that mechanical processes carried out on other materials, near Woodn products, do not determine the accumulation of chips or dust of any kinds. During the installation/assembly phase do not apply any label or sticker; if already applied, please remove immediately after installation. Immediately remove major stains such as paint, concrete or tar residues.
- For cleaning and maintenance instructions refer to page 121. The WoodN warranty will be rendered null and void in the event of incorrect or improper handling, cleaning and maintenance.

ASSEMBLY CENTRE-TO-CENTRE DISTANCE

The assembly centre-to-centre distance must be adequately sized to meet the loads specified in current regulations. The following pages show the maximum centre-to-centre application distance for each Versatilis profile, according to the visible side, the horizontal or vertical installation of the profiles and the type of metal reinforcement used. The values in the tables have been calculated considering a wind load of 150 kg/m².

The profiles must be mounted using mechanical systems that join the substructure to the metal reinforcement.

IN ORDER TO ALLOW A NORMAL EXPANSION, NO FIXING MUST BE DONE DIRECTLY ON THE WPC PROFILE.

FIXED POINT AND FLOATING POINT

When applying the profiles and fixing them to the substructure, consider making a FIXED POINT, which blocks the profile in a precise position during expansion due to thermal variations.

In all the other fixing points, FLOATING POINTS must be created to let the profile expand freely. The floating points can be made by drilling suitably sized holes or slots depending on the distance between the fixed point and the floating points based on the calculation below:

$$\text{floating point hole diameter} = \text{floating point slot length} = 2 \times L \times 0.003 + \emptyset$$

where L = centre-to-centre distance between the fixed point and the floating point
and \emptyset = diameter of the fixing screw

For example:

$$L = 2000 \text{ mm}, \emptyset = 4 \text{ mm}$$

$$\text{floating point hole diameter} = \text{floating point slot length} = 2 \times 2000 \times 0.003 + 4 = 16 \text{ mm}$$

WARNING: it has to be noted that the failure to comply strictly with the criteria for the application of fixed points and floating points, causes the deformation of the materials and the misalignment of all the expansion joints.

EXPANSION GAP BETWEEN ADJACENT PROFILES

WoodN, due to material's composition's features and extrusion technology, undergoes after the first exposure an initial dimensional shrinkage less than 0.4% of the profile length (max value established according to EN 479: 1995) and presents a linear contraction / dilatation due to temperature variations.

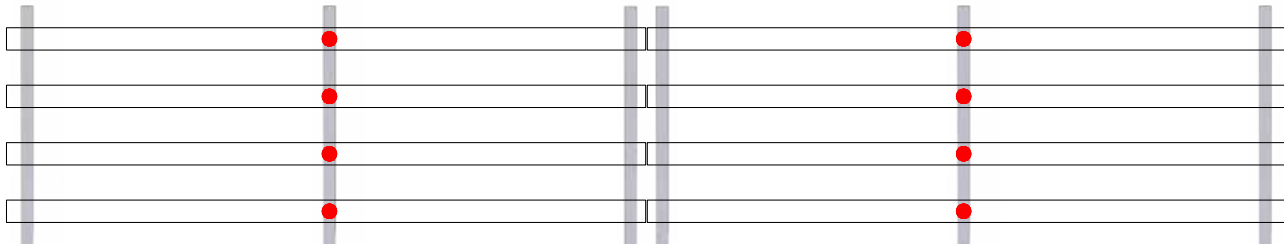
At the end of the profile, leave a gap according to the relative size in the table below:

Laying temperature	Expansion gap
< 20 °C	2 mm/m
> 20 °C	1 mm/m

To make sure that the expansion spaces will remain over time, we recommend strictly adhering to the FIXED POINT positioning diagram.

LAYING PATTERN - PARALLEL

● fixed point for expansion



WARNING: if the application requires corners with planks cut at 45°, the fixed point must be in the corner.

WARNING: when mounting planks vertically, we recommend making the fixed point at the top end.

WARNING CONCERNING INSTALLATION: due to the peculiarities of the materials supplied, Woodn Industries expressly declines any liability related to its products if laying and installation are not carried out by specialized personnel, in accordance with the specific instructions, including those related to adhesives and accessories reported in the technical data sheets that come with the products.

WARNING: the structures shown in the drawings in the following pages only represent rough construction guidelines and all their components must be adequately sized by the customer in accordance with current regulations. For any special needs, please contact our technical department: ufficiotecnico@woodn.com

INTERNAL REINFORCEMENT

For all Versatilis applications, an internal metal (aluminum/steel) reinforcement **MUST** be inserted according to the features of each Woodn profile as described in the technical book.

The metal reinforcement profile must be 40 mm shorter than the WPC profile. When centered in the WPC profile, there must be 20 mm at each end. In the specific case of profiles which have the WoodN closing cap, the reinforcement profile must be 90 mm shorter, leaving 45 mm at the ends of the WPC profile.

WARNING: the lack of using or unsuitable using the metal reinforcement inside the louver profiles causes the deformation of the material.

TYPES OF FIXING

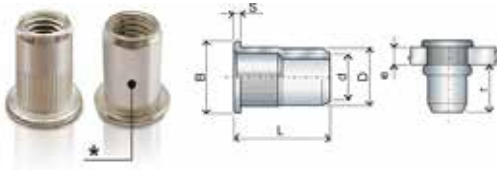
FIXING SCREWS

For fixing between the aluminum reinforcement and the metal substructure we recommend using metric screws and threaded inserts, when the size of the reinforcement allows it. Where this is not possible, proceed with fixing using suitable self-drilling screws.

WARNING: THE FIXING BETWEEN THE SUBSTRUCTURE / BRACKETS TO THE MAIN STRUCTURE IS NEVER INCLUDED IN OUR SUPPLY AND MUST BE ASSESSED ACCORDING TO THE TYPE OF SUPPORT.

THREADED INSERTS

1. Drill the hole where the insert will be installed (subframe or aluminum reinforcement) considering a \varnothing as per specs (dimensions are in mm)

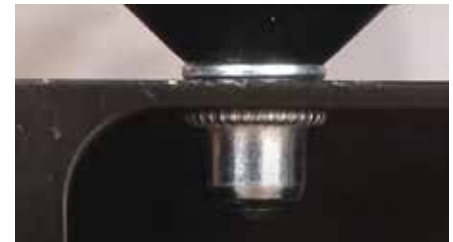


d Tipo	$\frac{e}{mm}$	r max	$\frac{e}{mm}$	D	B	S	L	Codice
M3FTT/C *	0,3 ÷ 1,0	6,7	5	4,9	7	0,8	8,5	61303102
M3FTT/L *	2,0 ÷ 3,0						10,5	61303302
M4FTT/C	0,3 ÷ 2,5	7,5	6	5,9	9	1,0	11	61304102
M4FTT/L	2,5 ÷ 4,0						13	61304302
M5FTT/C	0,5 ÷ 3,0	9,1	7	6,9	10	1,2	13	61305102
M5FTT/L	3,0 ÷ 5,0						15,5	61305302
M6FTT/C	0,5 ÷ 3,0	10,2	9	8,9	12	1,5	14,5	61306102
M6FTT/L	3,0 ÷ 5,5						17,5	61306302
M8FTT/C	0,8 ÷ 3,5	11,5	11	10,9	15	1,5	17,5	61308102
M8FTT/L	3,5 ÷ 6,0						20	61308302
M10FTT/C	1,0 ÷ 3,5	14,5	13	12,9	17	1,7	21	61310102
M10FTT/L	3,5 ÷ 6,0						24	61310302

2. Set the threaded insert using a pneumatic/electric riveting tool with the proper end.



3. Pull the trigger to tight and secure the threaded insert.

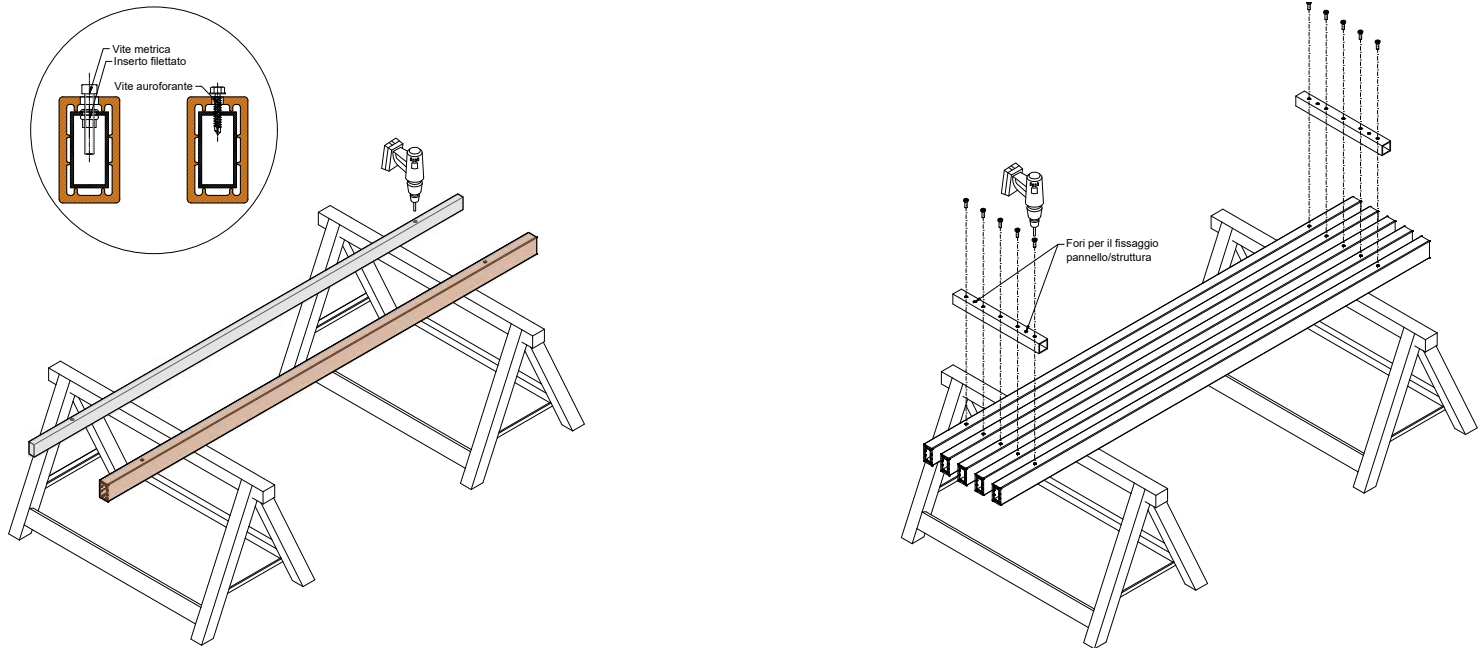


4. Now the threaded insert is fixed, just screw the bolt. Features and diameter of the bolt has to be compliant with the diameter of the threaded insert.



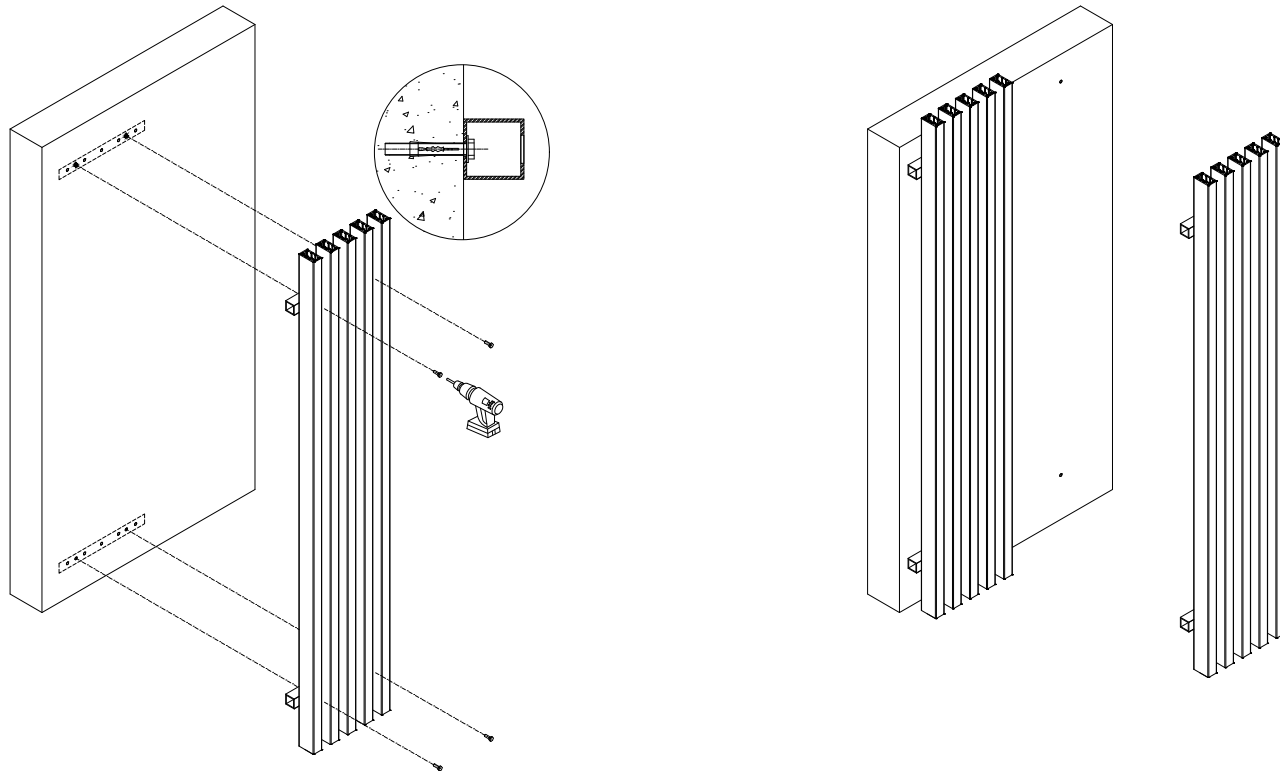
PANEL SYSTEM

The fixing system of the sunshade profiles using panels involves the prefabrication of prefabricated metal substructures (aluminium/steel) on which to fix our previously worked profiles. This operation is usually carried out in a warehouse / controlled environment. The following diagram is purely illustrative and refers to a typical panel.



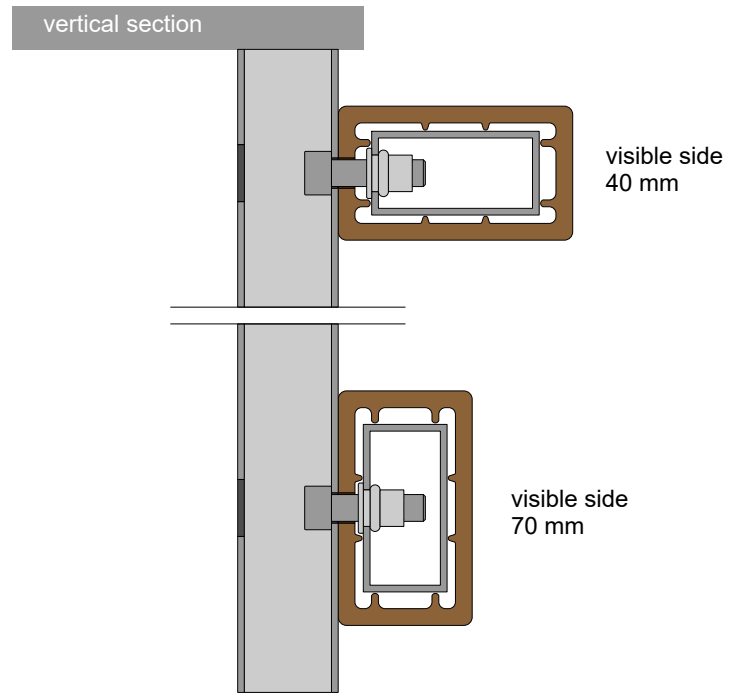
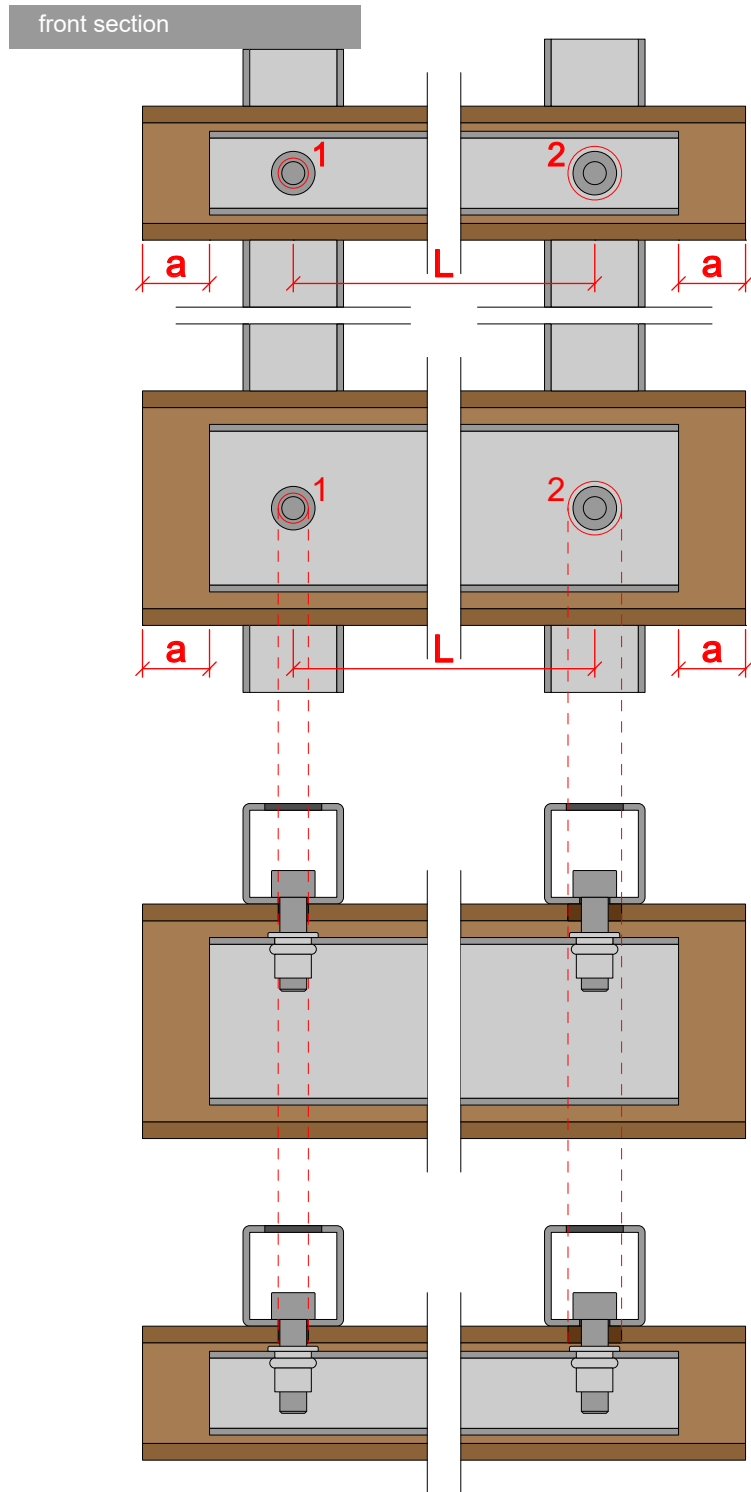
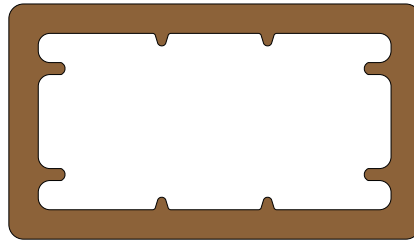
Arrange the elements on a work surface and proceed separately with the drilling of the WoodN profiles and the internal aluminum reinforcements.
 The diameter of the holes in the reinforcements must be consistent with the screws and the fastening system chosen (self-drilling screw or screws + threaded insert).
 If using the system with threaded inserts, please refer to sheet 03.
 The diameter of the holes in the WoodN profiles must comply with the indications in the technical catalog concerning the fixed and floating points, in order to guarantee the correct expansion/contraction of the material.

Once the reinforcements have been inserted inside the WoodN profiles, place them on the worktop with the visible side and the correct spacing.
 Lay the pre-drilled substructure profile above the profiles and insert the screws.
 In the example shown here, the flat plate substructure already has the holes for fixing the panel to the wall/structure.

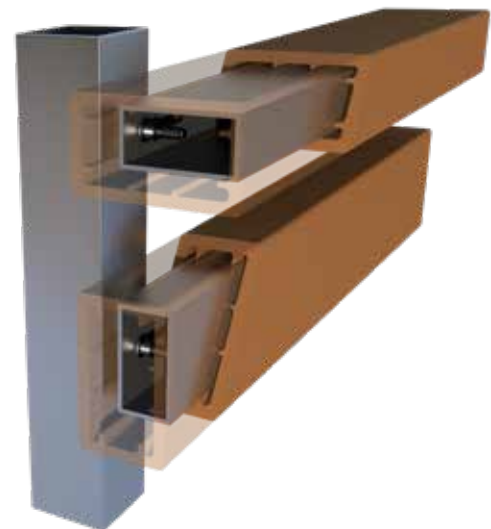


Trace the position of the holes on the structure.
 Use anchors and screws suitable for steel. These hardware are excluded from our supply.
 Panel is fixed frontally, between the profiles.

Proceed with the installation of the following panels by repeating the operations seen in the previous steps.

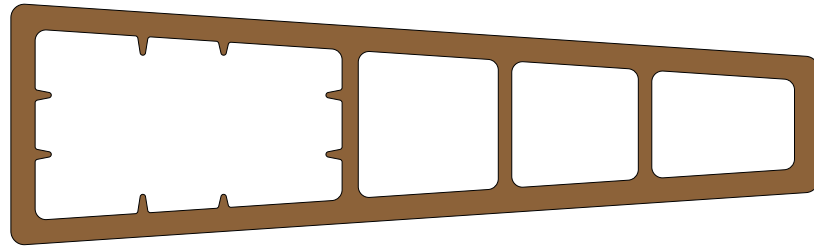


$a = 20 \text{ mm}$
 $a = 45 \text{ mm}$ in case of installation of the WAJF7040C_WM cap
 1= FIXED POINT - \varnothing hole = \varnothing screw
 2= FLOATING POINT - \varnothing hole = $2L \times 0.003 + \varnothing$ screw [mm]



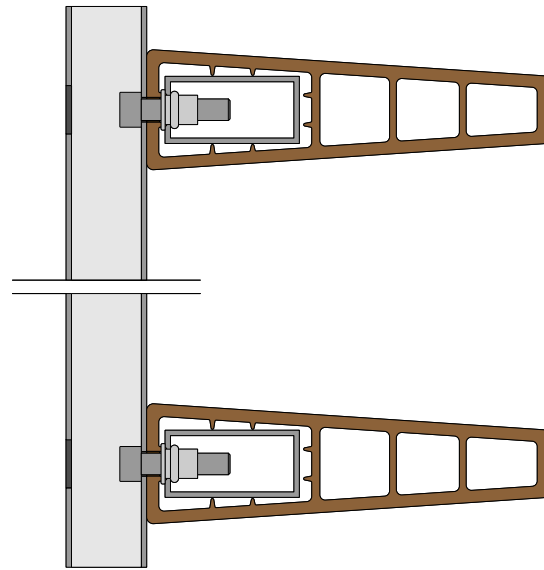
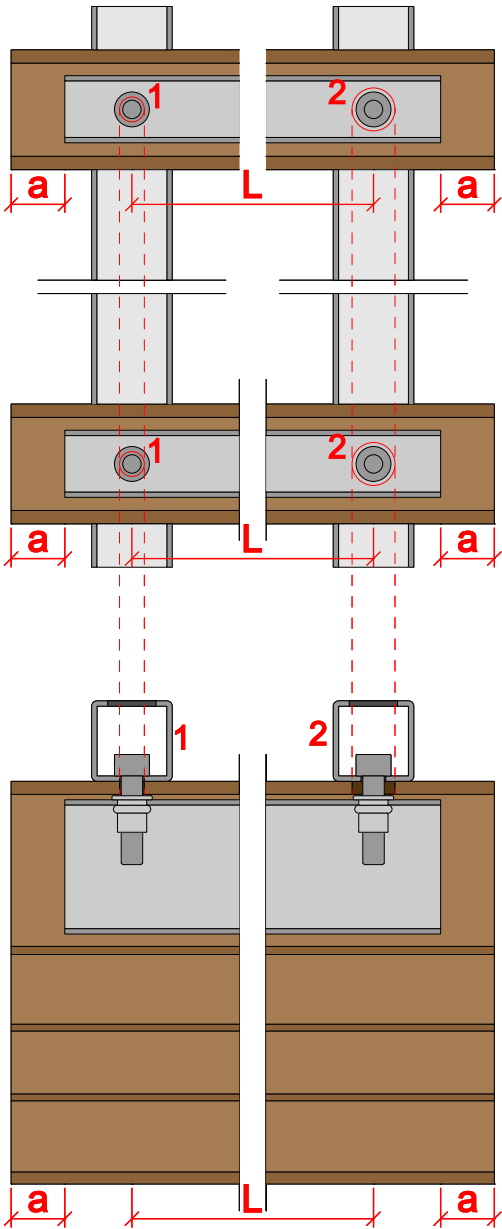
axonometric view

The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.

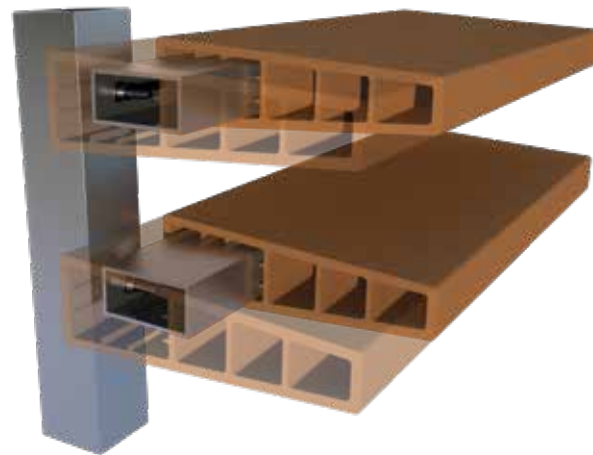


front section

vertical section



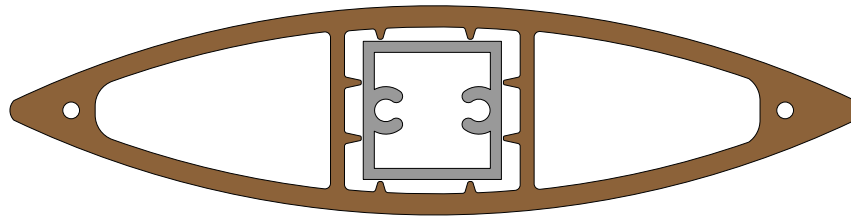
$a = 20 \text{ mm}$
 $a = 45 \text{ mm}$ in case of installation of the WAJF15045C-WM cap
 1= FIXED POINT - \varnothing hole = \varnothing screw
 2= FLOATING POINT - \varnothing hole = $2L \times 0.003 + \varnothing$ screw [mm]



horizontal section

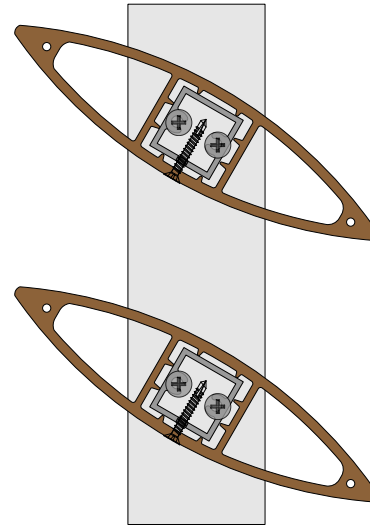
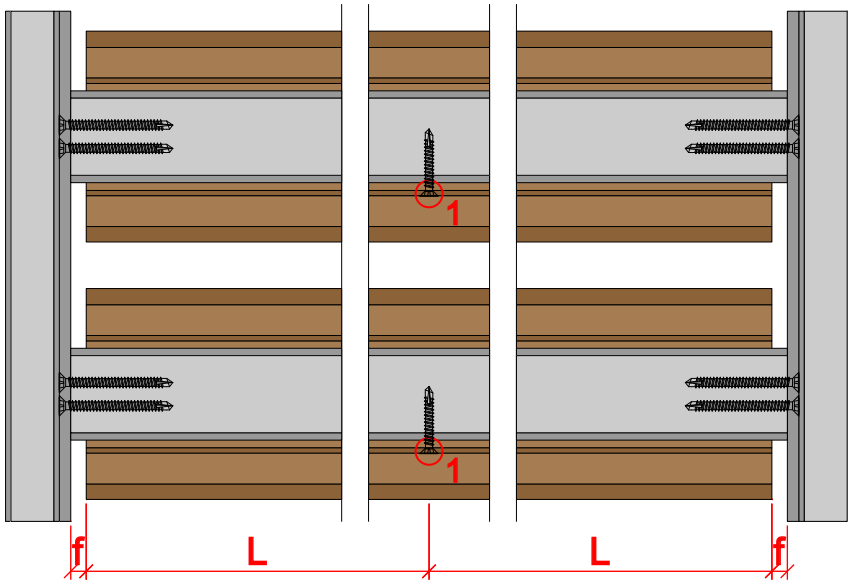
axonometric view

The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.

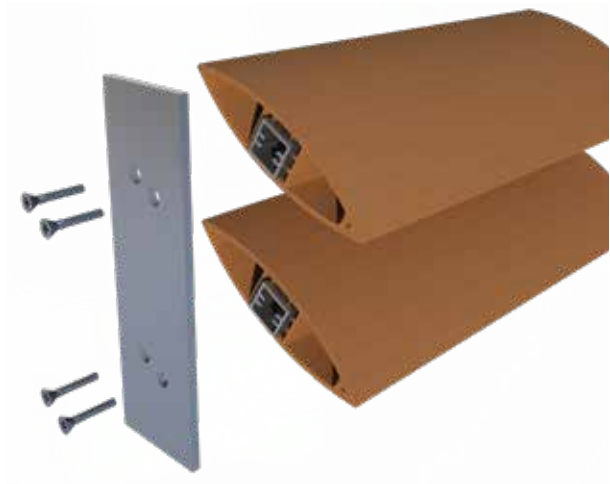
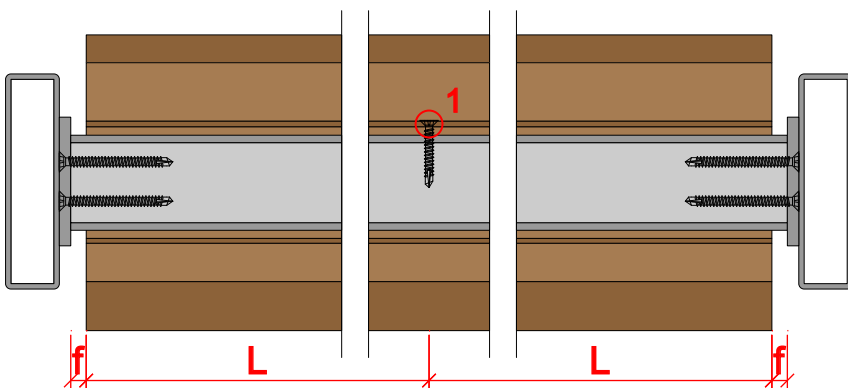


front section

vertical section



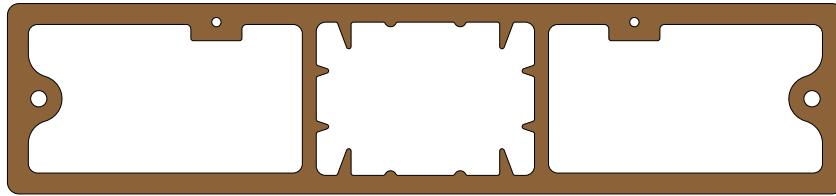
1= FIXED POINT - Ø hole = Ø screw
 $f = L \times 0.003$ [mm]



horizontal section

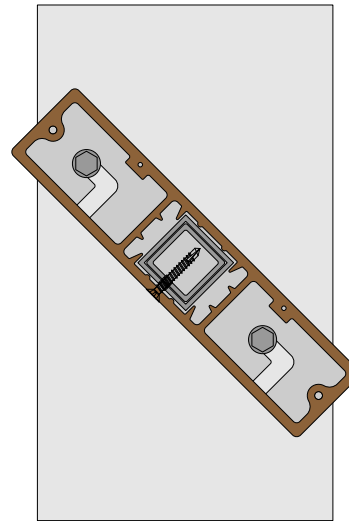
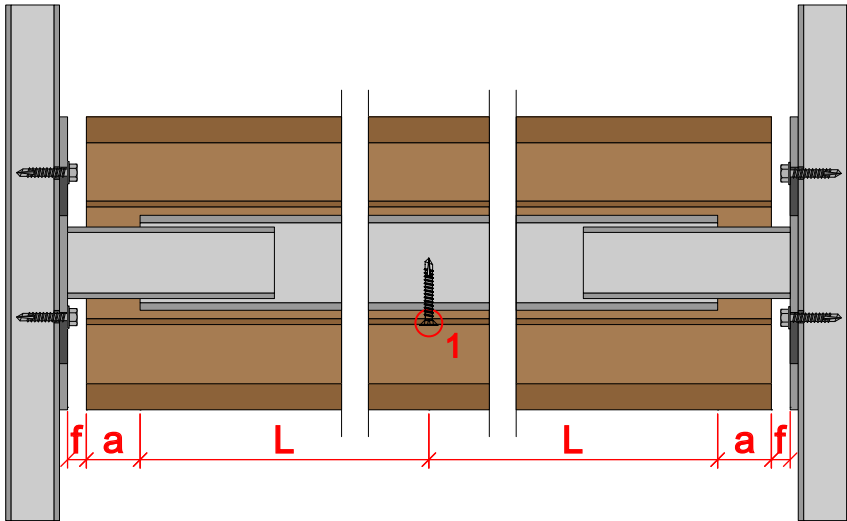
axonometric view

The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.

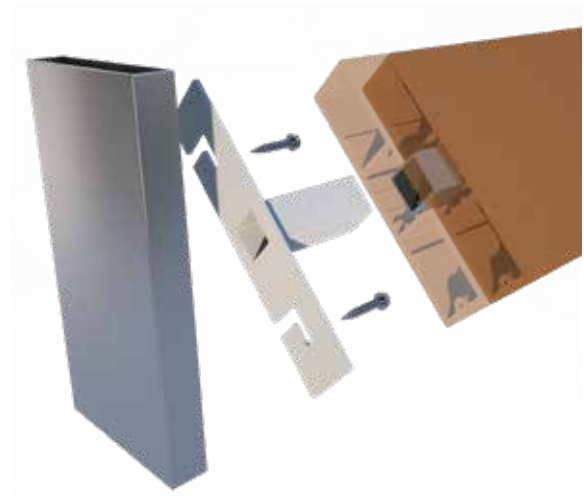
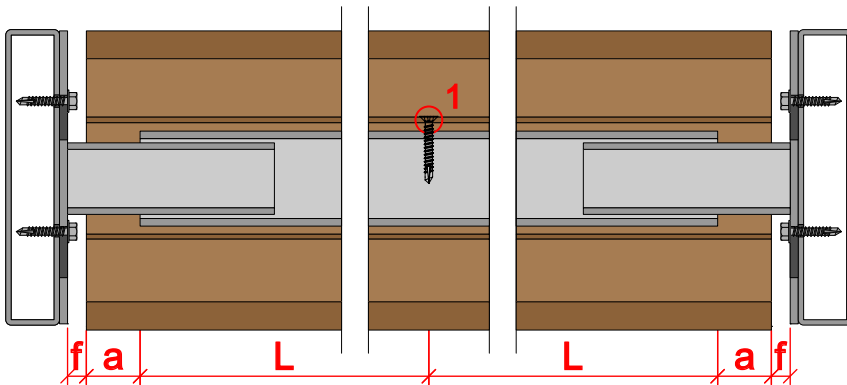


front section

vertical section



a = 20 mm
 1= FIXED POINT - Ø hole = Ø screw
 f = L x 0.003 [mm]

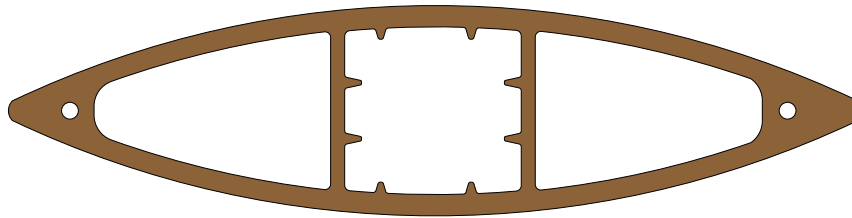


*brackets available on request

horizontal section

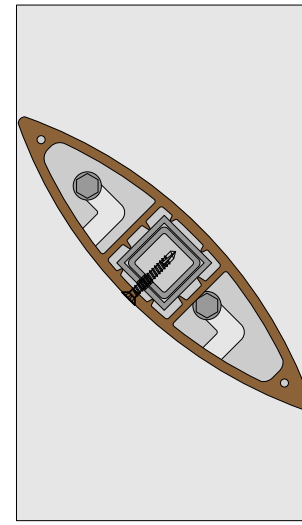
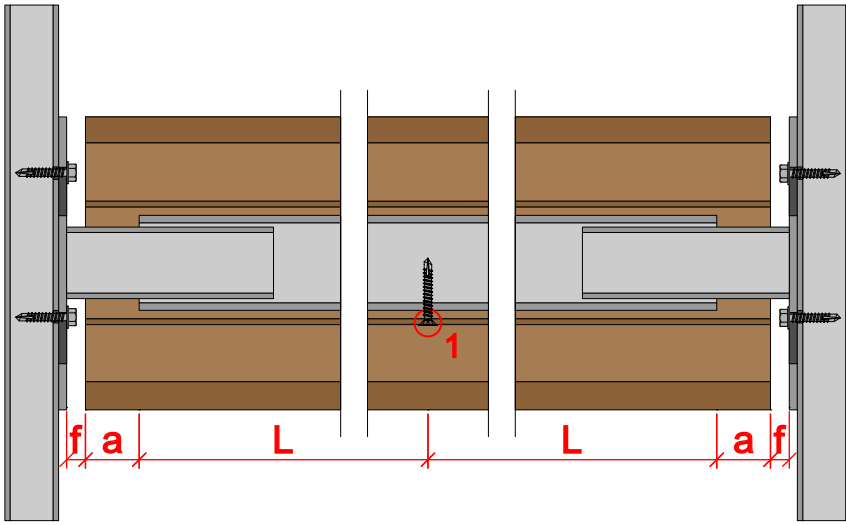
axonometric view

The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.

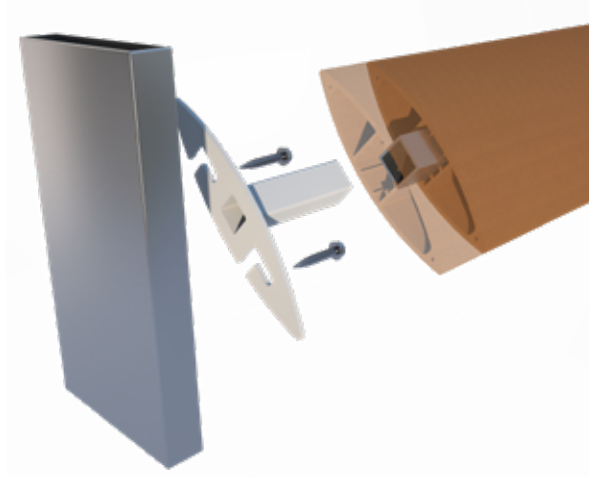
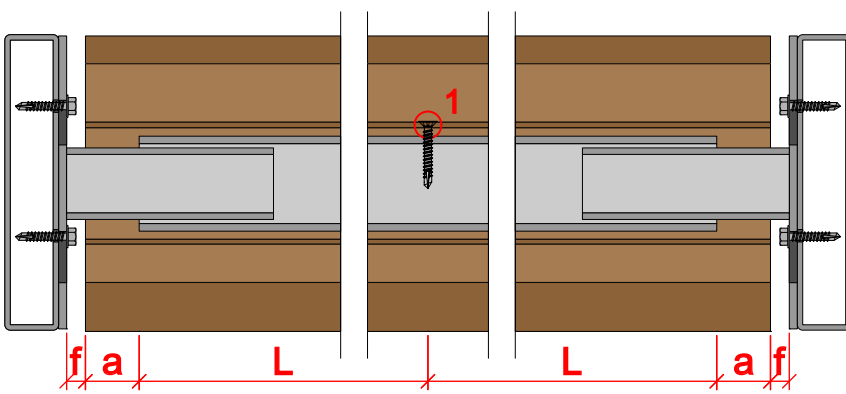


front section

vertical section



a = 20 mm
 1= FIXED POINT - Ø hole = Ø screw
 $f = L \times 0.003$ [mm]

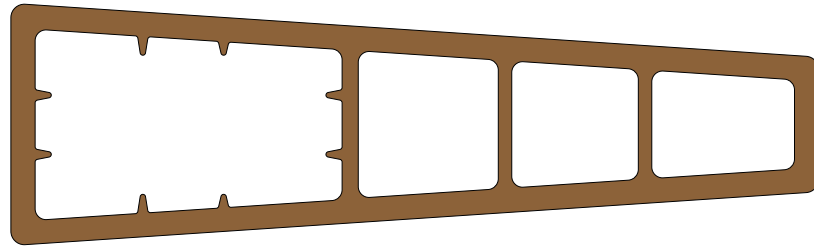


*brackets available on request

horizontal section

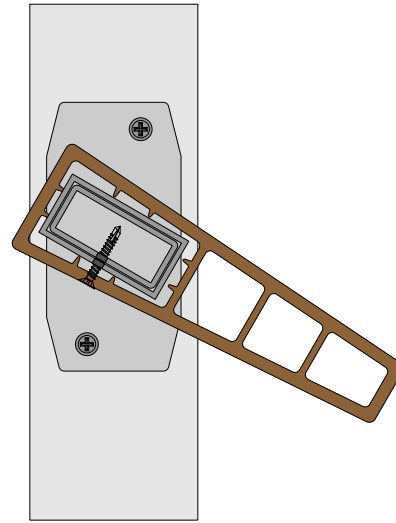
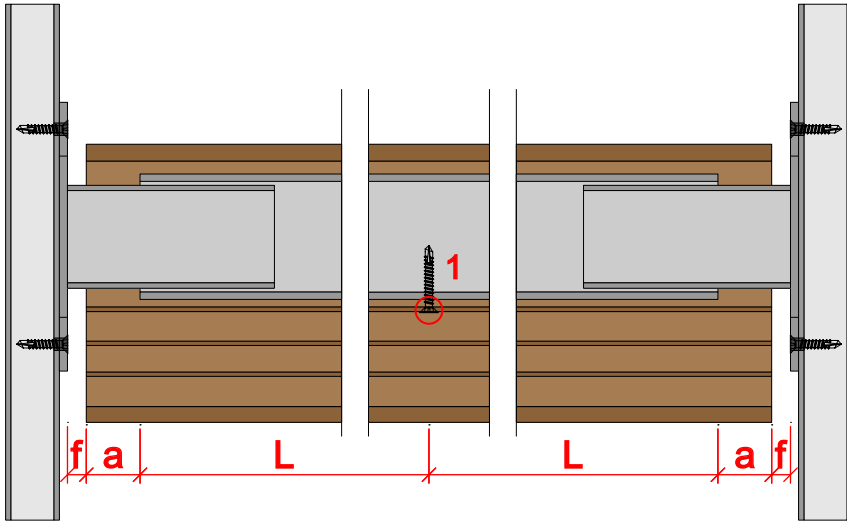
axonometric view

The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.

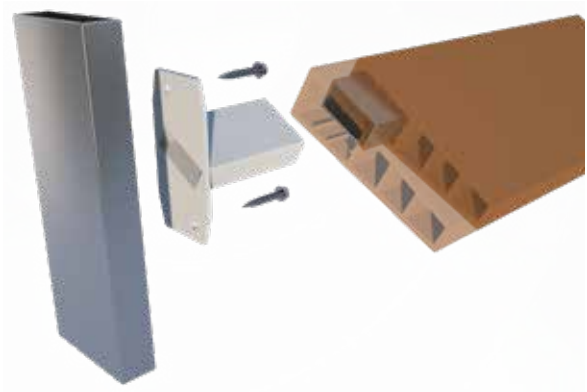
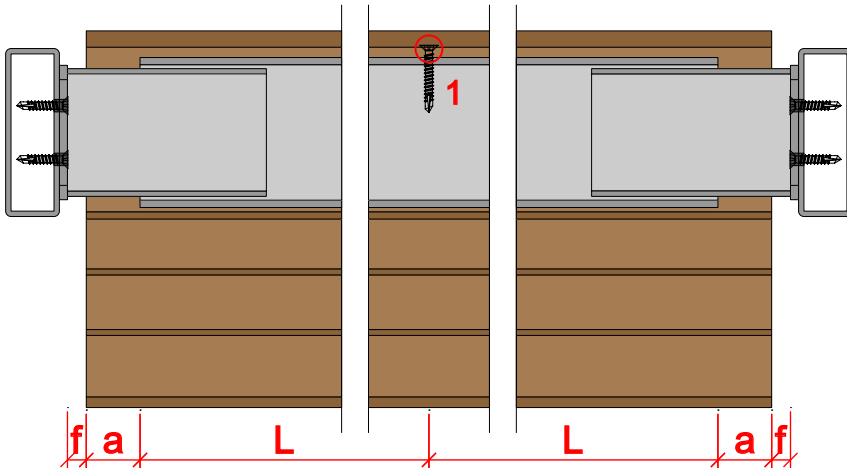


front section

vertical section



a = 20 mm
 1 = FIXED POINT - Ø hole = Ø screw
 f = L x 0.003 [mm]



*brackets available on request

horizontal section

axonometric view

The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.

WOODN GREENWOOD SRL

Registered office:

Sestiere San Marco, 3829 - 30124 Venezia (VE), ITALY

Headquarter:

Via Ippolito Caffi, 17 - 32100 Belluno (BL), ITALY

tel: +39 049 89.60.706

sales@woodn.com

Production site:

Strada Scudetto, 9 - 31100 - Treviso (TV), ITALY

Copyright

© WOODN GREENWOOD SRL

All rights reserved

Printed by da
Europrint

ganuary 2024