WOODN GREENWOOD

BORN IN VENICE

2024

TECHNICAL BROCHURE

INT

woodngreenwood.com

WOODN GREENWOOD SRL

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INDEX

WOODN - VERSATILIS

- Sunscreen - louvers
- pergolas - fences

WOODN VERSATILIS: VERTICAL BEAUTY

LOUVERS: VARIOUS PROPOSALS FOR COUNTLESS SOLUTIONS. IT IS A SUNSCREEN FOR POSITIVE ENERGY BUILDINGS, GUARANTEEING REDUCED CONSUMPTION AND LIVING COMFORT.

ASSEMBLED WINDOWS AND SCREENS:
AS YOU LIKE, SEVERAL COMPOSITIONS AND DESIGNS.

FENCES AND PERGOLAS:
A READY-MADE SOLUTION, EASY TO ASSEMBLE AND SAFE.

WOODN - MODULATUS

- Outdoor/indoor cladding
- Outdoor/indoor ceilings

WOODN MODULATUS: TOTAL LOOK

CLADDING: A SIDING FOR EXTERIORS, WHICH QUALIFIES THE BUILDING IN TERMS OF BEAUTY AND FUNCTIONALITY. WITH ITS CERTIFIED PROPERTIES, SUCH AS RESISTANCE TO FIRE AND WIND STRENGTH, IT ENSURES HIGH SAFETY STANDARDS.

CEILING: A COMPLETE SYSTEM, EASY TO INSTALL AND MODULAR, WHICH ALLOWS THE COMPLETION AND RENEWAL OF RESIDENTIAL AND COMMERCIAL ENVIRONMENTS.

GREENWOOD - DECKING

- Greendeck-Outoor Decking
- Evodeck-Outoor Decking
- Slimdeck-Outoor Decking

GREENWOOD GREENDECK

AN ULTIMATE SOLUTION FOR OUTDOOR ENVIRONMENTS, IT LEAVES NO SPLINTERS.
IT IS CERTIFIED SLIP-RESISTANT, REQUIRES LESS MAINTENANCE THAN WOOD, AND IT IS DIMENSIONALLY STABLE.

ESOSTEP - DECKING

- Esostep Full-Outoor Decking

A NEW SOLUTION FOR OUTDOOR FLOORING, IN RESIDENTIAL AND COMMERCIAL ENVIRONMENTS, TERRACES AND POOLSIDES.

WOODN

PROJECT CMR Milan- Italy (JF18041)

FINISHES AND COLORS WOODN

Brushed (for Indoor and Outdoor applications)

01 Bianco Carrara

01-PW Avorio

02 Lagorai

28 Grigio Londra

14 Grigio Silverstone

48 Black

99 Cuba

13 Myanmar

10 Caffè Bogotà

33 Beige Sahara

77 CocoWalk

73 Sinai

80 Terracotta

Smooth (only for Indoor applications)

01 Bianco Carrara

01-PW Avorio

02 Lagorai

28 Grigio Londra

14 Grigio Silverstone

48 Black

99 Cuba

13 Myanmar

10 Caffè Bogotà

33 Beige Sahara

77 CocoWalk

73 Sinai

80 Terracotta

Colors and textures shown are purely indicative. Check every time a real sample for approval.
Considering the presence of natural wood fibers, colors may vary from batch to batch.

ACCELERATED AGING RESISTANCE TEST

COLOUR STABILITY

Colour stability has been tested in compliance with accelerated weathering tests (UNI EN ISO 4892-2:2009 and UNI EN ISO 2105-A02:1996); the result of the test is expressed by assigning a numerical value to colour variation according to the international greyscale, which is a useful method to measure colors differences.

PURPOSE OF THE TEST

Resistance to accelerated aging on Woodn profiles according to UNI norms EN ISO 4892-2:2009 and EN 20105-A02:1996.

sample	color	Greyscale degree* after 3600h of exposure against original samples	Greyscale degree** after 3600h of exposure compared to samples aged for 1200 h
1	Bianco Carrara	3	4/5
2	Lagorai	3	4/5
9	Cuba	3/4	4/5
10	Caffè Bogotà	4	4
13	Myanmar	4	4
14	Grigio Silverstone	4	4/5
28	Grigio Londra	3	4/5
33	Beige Sahara	3/4	5

(*) The international greyscale goes from Grade 1 (maximum colour difference) to Grade 5 (minimum colour difference).

COLOR

In the first months after the installation, the composite wood profiles are subject to a gradual change from the starting color, due to the occurrence of two phenomena. The surface yellowing is due to oxidation of the lignin contained in the wood fibers after exposure to UV rays, this phenomenon has a transient nature. The disappearance of the yellowish hue occurs within a few months after exposure to the elements and can be accelerated by performing frequent washing with plain water. The wood fiber also naturally tends to lighten. This process – slowed down with respect to what happens to wood because of the presence of the plastic component and of special additives – is influenced by the environmental conditions of the exposure. After the settling-in period, the tone achieved remains almost unchanged over time.
Like any other composite wood product, WoodN and Greenwood profiles may be subject to variations in color and surface finish from one production batch to another, and may indeed occur, although in lesser degree, even within the same production batch. It is therefore recommended, in order to reduce the differences naturally inherent in the natural component of the product and generated by the manual brushing process, to buy all the boards needed for installation in one lot, and extra boards at the same time in case of future repairs or replacements.

THERMAL PROPERTIES

Like any other building material, also Greenwood is heated by solar radiation, leading to surface temperatures that depend on the colour of the board and the intensity of the radiation itself.

SRI (Solar Reflectance Index)

The SRI index is a value that is attributed to some building materials and takes into account both the material's ability to reflect solar radiation and the ability to emit solar radiation absorbed as thermal radiation.

The steady-state temperature "Ts" and solar reflection index "SRI" were determined in accordance with standard ASTM E1980 - 11 (Approach 1) for three convective coefficients (rate of heat transfer) "h_c":

– h_c = 5 W/(m² * K) corresponding to low-wind conditions (0 to 2 m/s);
– h_c = 12 W/(m² * K) corresponding to medium-wind conditions (2 to 6 m/s);
– h_c = 30 W/(m² * K) corresponding to high-wind conditions (6 to 10 m/s);

samples	Solar reflection Index SRI		
	h_c = 5 W/(m²*K)	h_c = 12 W/(m²*K)	h_c = 30 W/(m²*K)
Woodn Beige Sahara - Spazzolato	36,6	36,9	36,9
Woodn Sinai - Spazzolato	47,9	48,0	47,8
Woodn Bianco Carrara - Spazzolato	80,1	80,4	80,5

SR (Solar Reflection value)

SR is the fraction measurement of the incident solar radiation that is reflected by an irradiated surface.
The value varies between 0 and 1, respectively a totally absorbing and a totally dispersing surface.
The closer the reflectance value is to 0, the less the material has the ability to reflect solar radiation.

campioni			
	Solar reflection factor "ρe"	Solar absorption factor "αe"	Thermal emissivity "ε"
Woodn Beige Sahara-Spazzolato	0.33	0.67	0.92
Woodn Sinai-Spazzolato	0.40	0.60	0.94
Woodn Bianco Carrara-Spazzolato	0.66	0.34	0.92

WOODN VERSATILIS

Sunscreen - Louvers- Perglas - Fences

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^2h)

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 immediatly after installation. Immediately remove major stains such as paint, concrete or tar residues.
- For cleaning and maintenance instructions refer to page 142. 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/m^2.

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:

floating point hole diameter = floating point slot length = 2 x L x 0.003 + Ø

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

For example:

L = 2000 mm, Ø = 4 mm
floating point hole diameter = floating point slot length = 2 x 2000 x 0.003 + 4 = 16 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

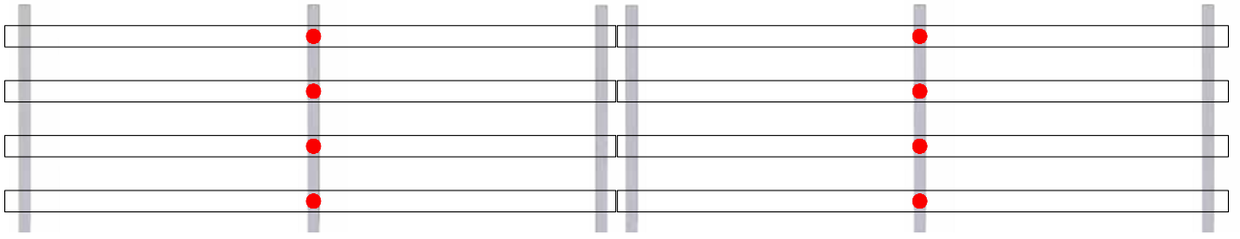
WoodN, due to material's composition's features and extrusion technology, undergoes after the first exposure an initial dimensional shrinkage less than 0.4% of the profile length (max value established according to EN 479: 1995) and presents a linear contraction / dilatation due to temperature variations.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

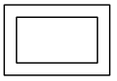
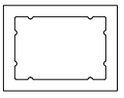
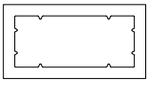
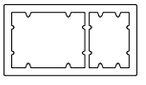
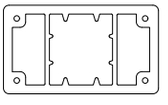
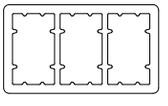
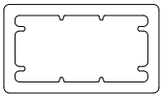
WARNING: the structures shown in the drawings in the following pages only represent rough construction guidelines and all their components must be adequately sized by the customer in accordance with current regulations. For any special needs, please contact our technical department: ufficiotecnico@woodn.com

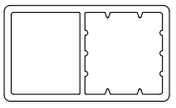
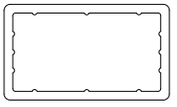
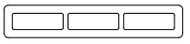
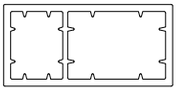
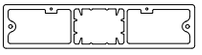
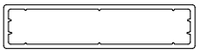
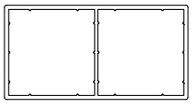
INTERNAL REINFORCEMENT

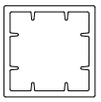
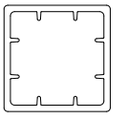
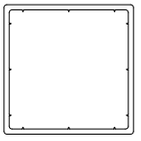
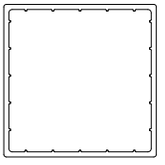
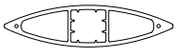
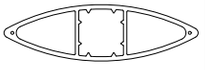
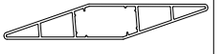
For all Versatilis applications, an internal metal (aluminum/steel) reinforcement MUST be inserted according to the features of each Woodn profile as described in the technical book.
The metal reinforcement profile must be 40 mm shorter than the WPC profile. When centered in the WPC profile, there must 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.

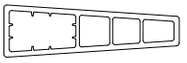
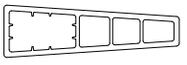
WARNING: the lack of using or unsuitable using the metal reinforcement inside the louver profiles causes the deformation of the material.

PROFILES SECTION

profile	cross-section	nominal dimensions [mm]	reinforcement standard dimensions [mm]	weight of the reinforced profile [kg/m]
LG3020 		section 30 x 20 standard length 2000	20 x 10 x 2	0.85
JF4030-30x20 		section 40 x 30 standard length 2000	30 x 20 x 2	1.16
JF5026-40x15 		section 50 x 26 standard length 2000	40 x 15 x 2	1.28
JF6032 		section 60 x 32 standard length 2000	20 x 20 x 2	1.59
JF7040-25x25 		section 70 x 40 standard length 2000	25 x 25 x 2	1.94
JF7040-30x15 		section 70 x 40 standard length 2000	30 x 15 x 2	1.71
JF7040-50x25 		section 70 x 40 standard length 2000	50 x 25 x 2	1.94

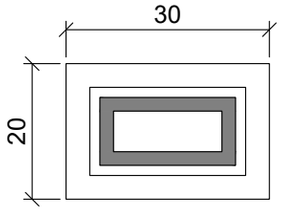
profile	cross-section	nominal dimensions [mm]	reinforcement standard dimensions [mm]	weight of the reinforced profile [kg/m]
TZ9555-R 		section 95 x 55 standard length 2000	40 x 40 x 2	2.62
TZ9555 		section 95 x 55 standard length 2000	80 x 40 x 2	3.30
JF11020 		section 110 x 20 standard length 2000	L profile 30 x 10 x 2	1.83
JF12058-A 		section 120 x 58 standard length 2000	30 x 40 x 2	2.89
			60 x 40 x 2	3.21
JF18041 		section 180 x 41 standard length 2000	30 x 30 x 2	3.43
			40 x 20 x 2	3.43
JF18041-165x30 		section 180 x 41 standard length 2000	165 x 30 x 2	4.39
JF222114 		section 222 x 114 standard length 2000	100 x 100 x 2	6.38

profile	cross-section	nominal dimensions [mm]	reinforcement standard dimensions [mm]	weight of the reinforced profile [kg/m]
TZ6060 		section 60 x 60 standard length 2000	40 x 40 x 2	2.02
JF7070 		section 70 x 70 standard length 2000	50 x 50 x 2	2.56
TZ113113 		section 113 x 113 standard length 2000	100 x 100 x 2	4.52
TZ180180 		section 180 x 180 standard length 2000	163 x 163 x 3	10.88
JF15238 		section 152 x 38 standard length 2000	25 x 25 x 2	2.32
JF20058 		section 200 x 58 standard length 2000	40 x 40 x 2	3.88
JF35068 		section 350 x 68 standard length 2000	100 x 40 x 4	7.22

profile	cross-section	nominal dimensions [mm]	reinforcement standard dimensions [mm]	weight of the reinforced profile [kg/m]
JF15045-25 		section 150 x 45 x 25 standard length 2000	50 x 25 x 2	3.07
JF305101-61 		section 305 x 101 x 61 standard length 2000	120 x 60 x 2	8.25

The external dimensions listed are nominal values. The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.
Refer to WoodN Technical Department or on website www.woodngreenwood.com for cad blocks and manufacturing tolerances.

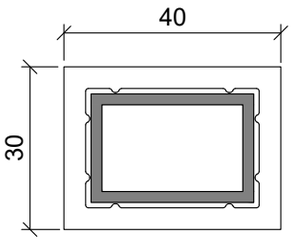
LG3020



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
LG3020	LG3020	20 x 10 x 2	30	1200	1500
			20	1000	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

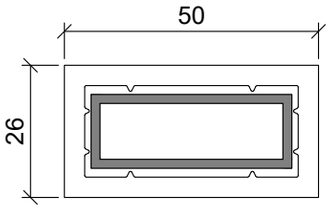
JF4030-30x20



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF4030	JF4030-30x20	30 x 20 x 2	40	1800	2200
			30	1600	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

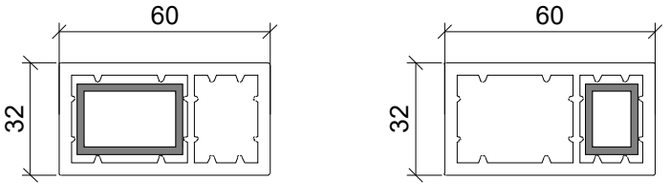
JF5026



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF5026	JF5026-40x15	40 x 15 x 2	50	1700	1900
			26	1400	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

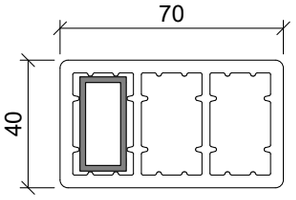
JF6032-A



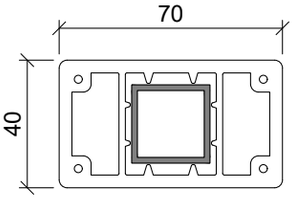
profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF6032-A	JF6032-A	30 x 20 x 2	60	1800	2200
			32	1600	
	JF6032-A	20 x 15 x 2	60	1400	1800
			32	1500	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

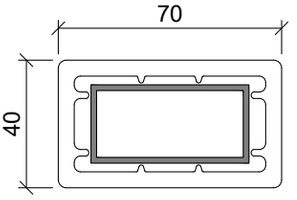
JF7040



JF7040-30x15



JF7040-25x25

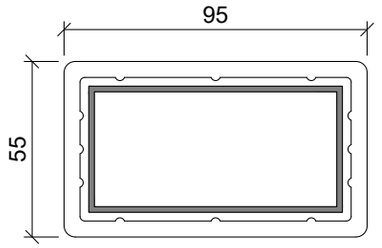


JF7040-50x25

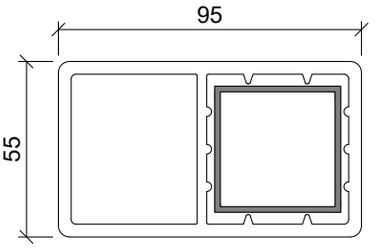
profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF7040	JF7040-30x15	30 x 15 x 2	70	1500	2100
			40	1700	
	JF7040-25x25	25 x 25 x 2	70	1800	2200
			40	1700	
	JF7040-50x25	50 x 25 x 2	70	2400	2600
			40	1900	

Maximum spans calculated considering:
- maximum permanent deformation due to own weight 2,5 mm
- maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
- aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

TZ9555



TZ9555

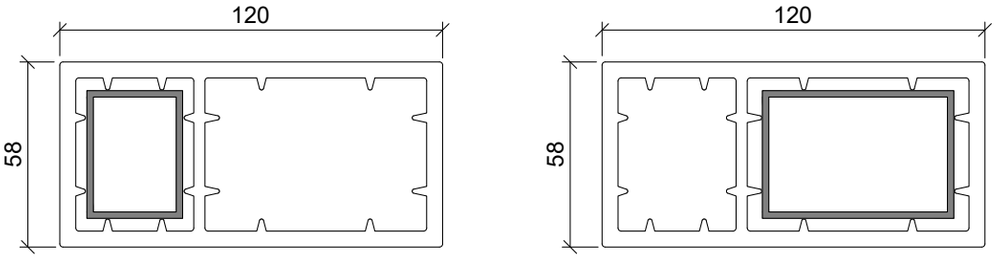


TZ9555-R

profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
TZ9555	TZ9555	80 x 40 x 2	95	3400	3400
			55	2600	
	TZ9555-R	40 x 40 x 2	95	2500	3000
			55	2400	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

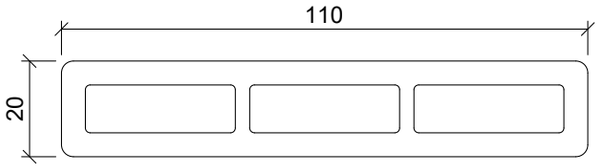
JF12058-A



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF12058	JF12058-A	30 x 40 x 2	120	1900	2700
			58	2100	
		60 x 40 x 2	120	2800	3100
			58	2400	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

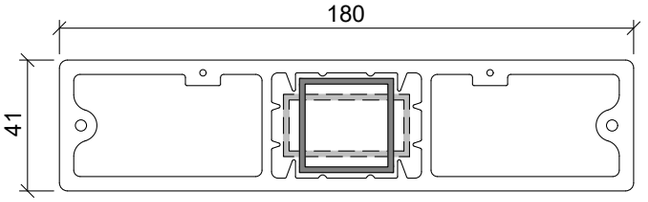
JF11020



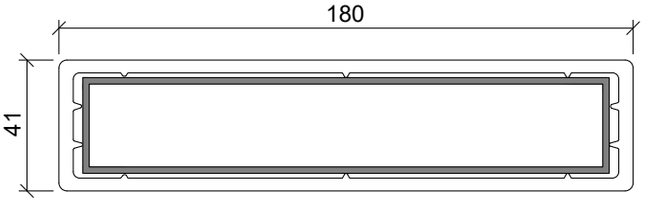
profile	code	reinforcement dim. [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
JF11020	JF11020	30 x 10 x 2	110	900	900

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

JF18041



JF18041

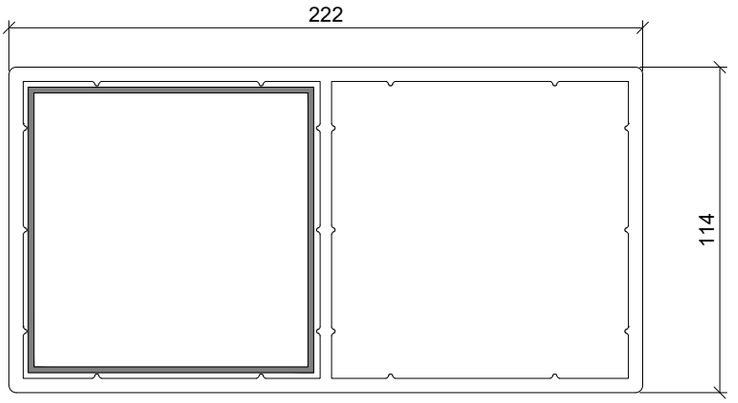


JF18041-165x30

profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF18041	JF18041	40 x 20 x 2	180	1700	1800
			41	1600	
		30 x 30 x 2	180	1900	2100
			41	1800	
	JF18041-165x30	165 x 30 x 2	180	3000	3000
			41	2300	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

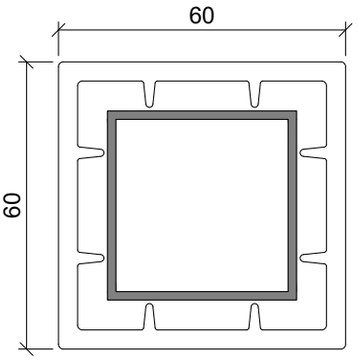
JF222114



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF222114	JF222114	100 x 100 x 2	222	4200	4900
			114	4200	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

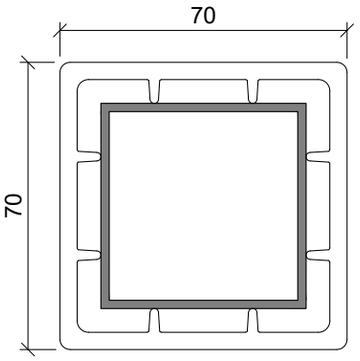
TZ6060



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
TZ6060	TZ6060	40 x 40 x 2	60	2400	3200

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

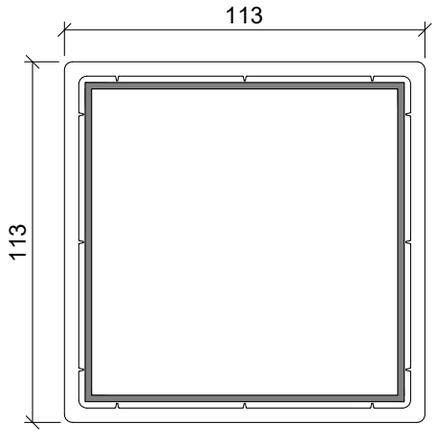
JF7070



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF7070	JF7070	50 x 50 x 2	70	2500	3500

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

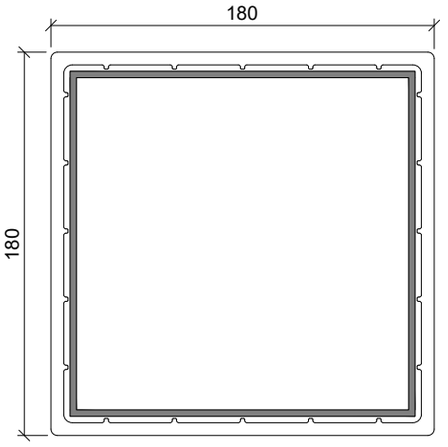
TZ113113



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
TZ113113	TZ113113	100 x 100 x 2	113	4100	5700

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

TZ180180

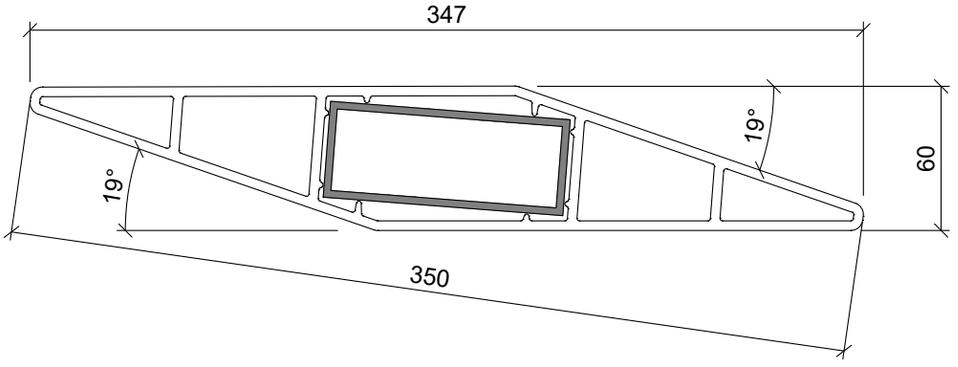


profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
TZ180180	TZ180180	163 x 163 x 3	180	5600	8200

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 3 mm, with greater thicknesses it is possible to reach greater spans

JF35068

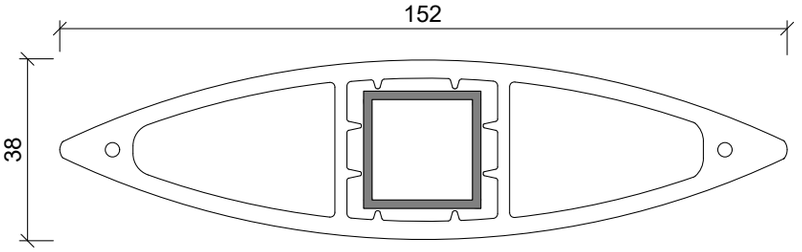
Design by Jacopo Della Fontana, David Hirsch - D2U



profile	code	reinforcement dimensions [mm]	side [mm]	maximum vertical span [mm]
				aluminum
JF35068	JF35068	100 x 40 x 4	350	3600

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 4 mm, with greater thicknesses it is possible to reach greater spans

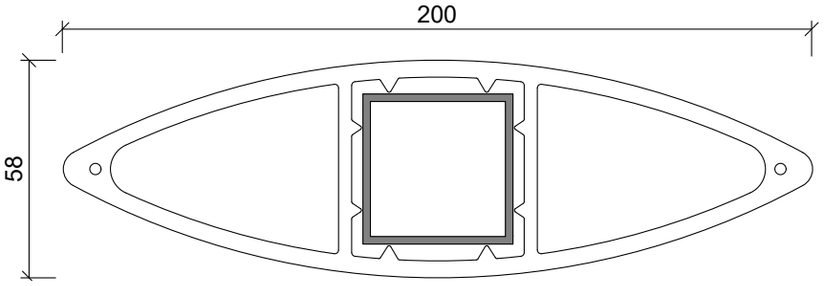
JF15238



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF15238	JF15238	25 x 25 x 2	152	1500	1800
			38	1600	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

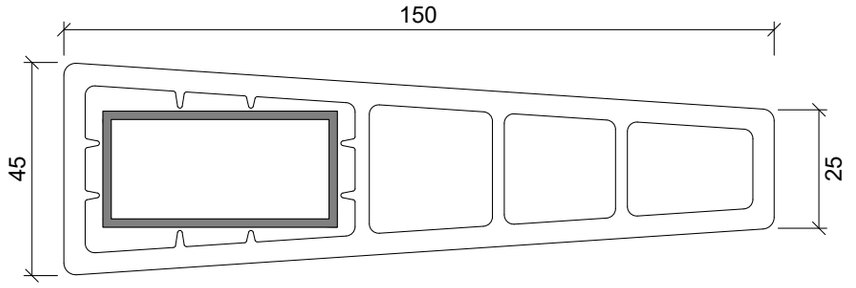
JF20058

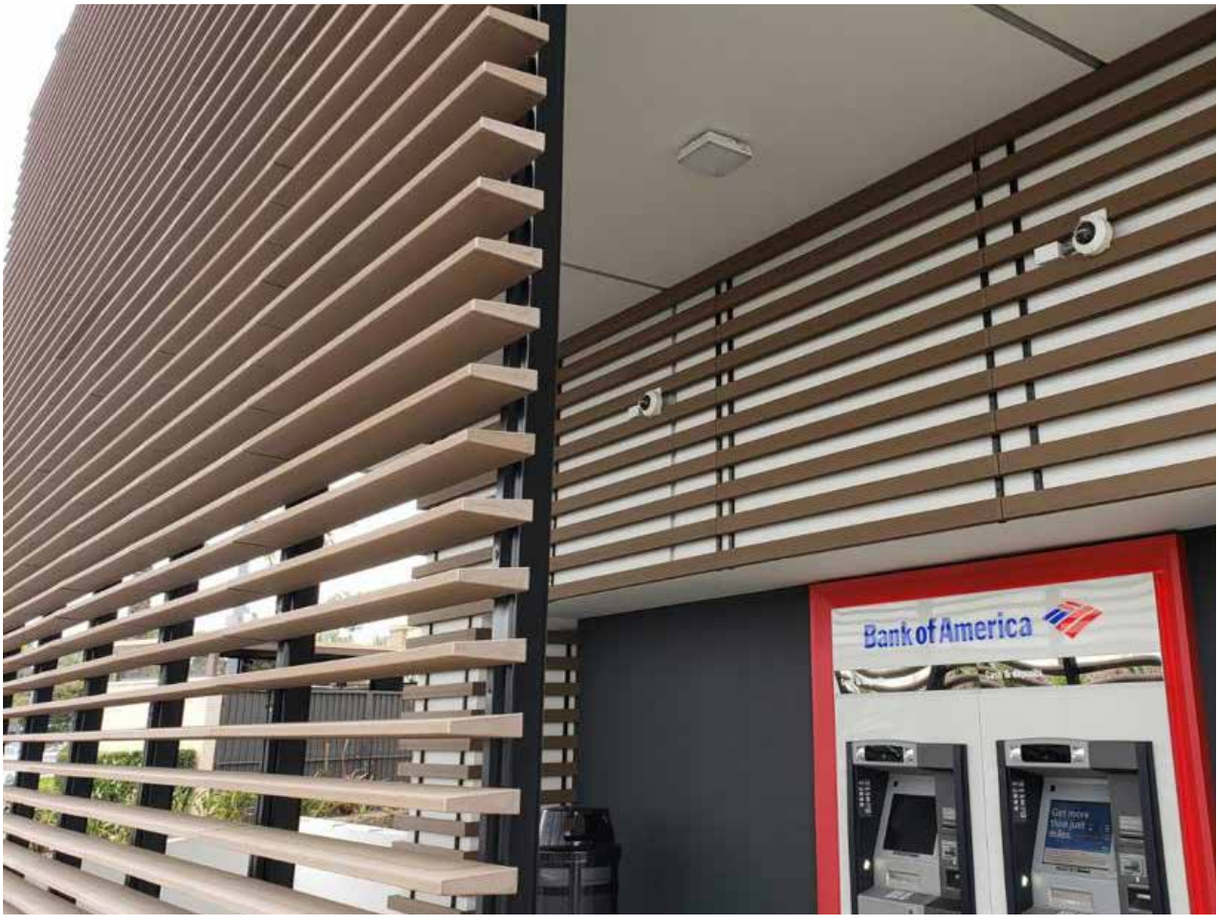


profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF20058	JF20058	40 x 40 x 2	200	2400	2500
			58	2200	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

JF15045-25

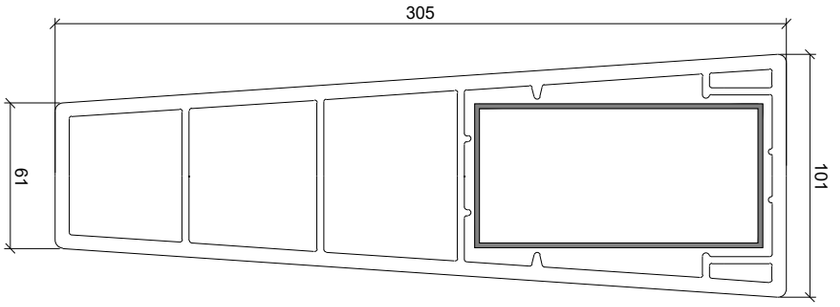




profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF15045	JF15045-25	50 x 25 x 2	150	1900	2200
			45	1800	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

JF305101-61



profile	code	reinforcement dimensions [mm]	side [mm]	maximum horizontal span [mm]	maximum vertical span [mm]
				aluminum	aluminum
JF305101-61	JF305101-61	120 x 60 x 2	305	3600	3600
			101	3500	

Maximum spans calculated considering:
• maximum permanent deformation due to own weight 2,5 mm
• maximum non-permanent deformation 30 mm considering a standard wind load of 150 kg/m²
• aluminum reinforcement standard thickness 2 mm, with greater thicknesses it is possible to reach greater spans

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.

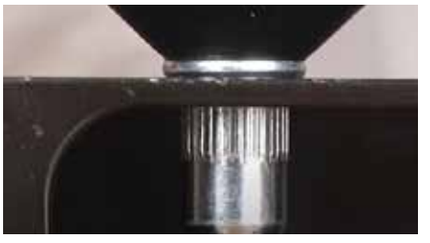
WARNING: THE FIXING BETWEEN THE SUBSTRUCTURE / BRACKETS TO THE MAIN STRUCTURE IS NEVER INCLUDED IN OUR SUPPLY AND MUST BE ASSESSED ACCORDING TO THE TYPE OF SUPPORT.

THREADED INSERTS

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

d Tipo	e mm	r max	d 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

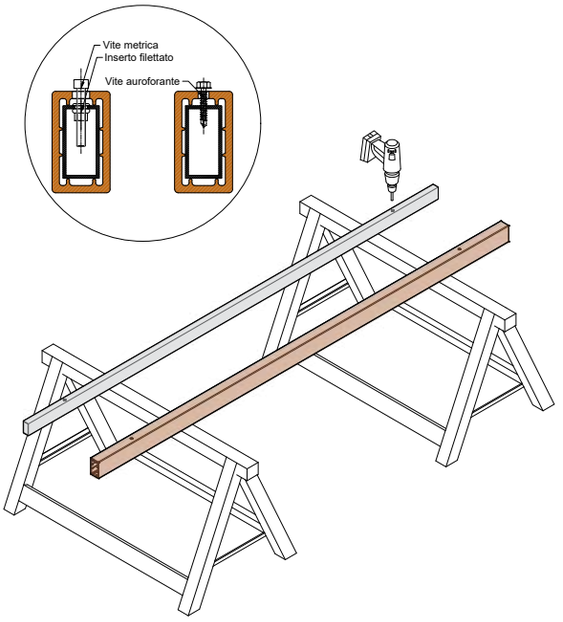
2. Set the threaded insert using a pneumatic/electric riveting tool with the proper end.



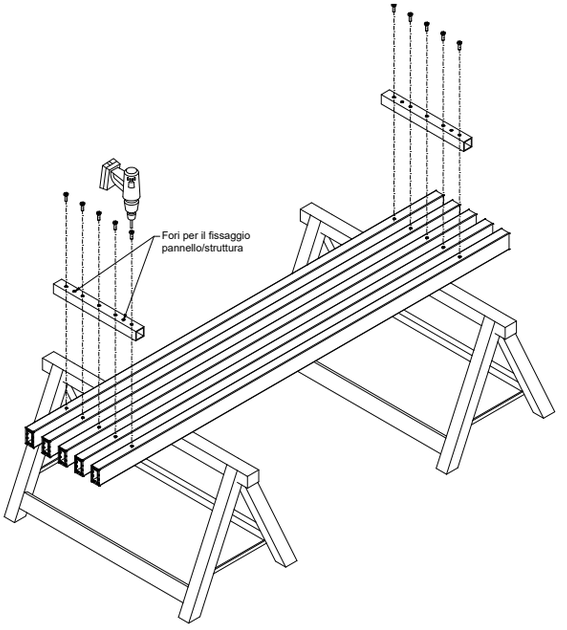
3. Pull the trigger to tight and secure the threaded insert.

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.

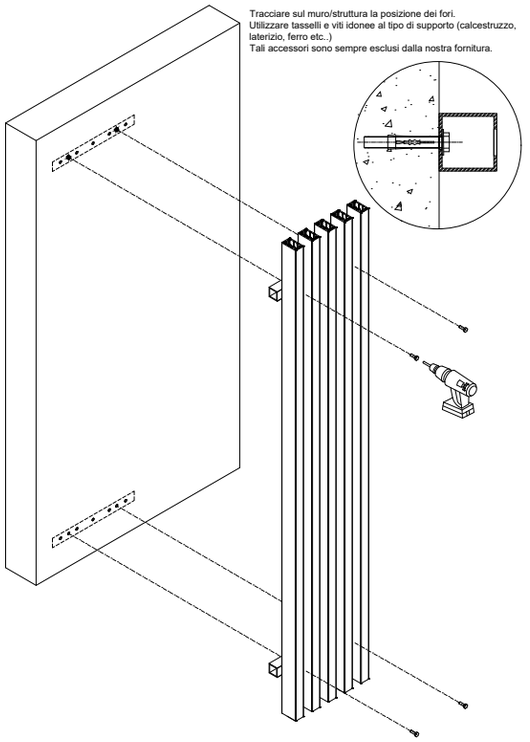
The fixing system of the sunshade profiles using panels involves the prefabrication of prefabricated metal substructures (aluminium/steel) on which to fix our previously worked profiles. This operation is usually carried out in a warehouse / controlled environment.
The following diagram is purely illustrative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



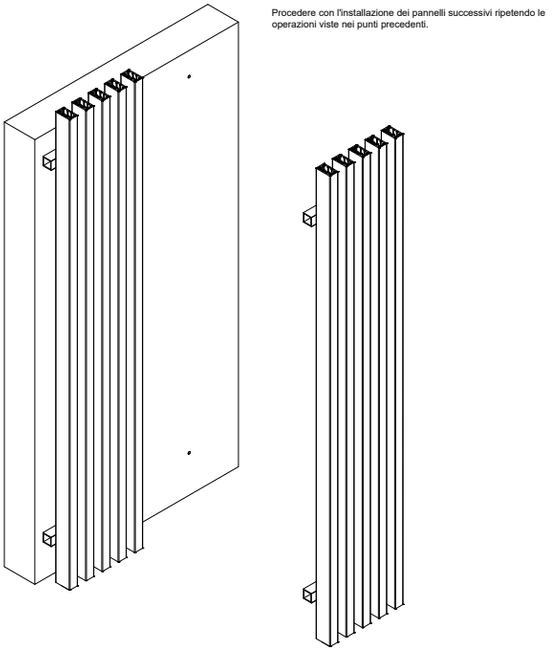
Arrange the elements on a work surface and proceed separately with the drilling of the WoodN profiles and the internal aluminum reinforcements.
The diameter of the holes in the reinforcements must be consistent with the screws and the fastening system chosen (self-drilling screw or screws + threaded 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.



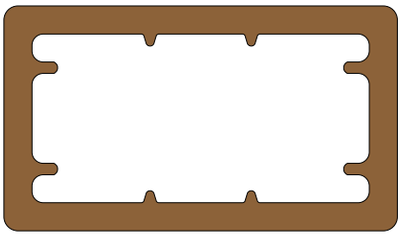
Once the reinforcements have been inserted inside the WoodN profiles, place them on the worktop with the visible side and
the correct spacing.
Lay the pre-drilled substructure profile above the profiles and insert the screws.
In the example shown here, the flat plate substructure already has the holes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



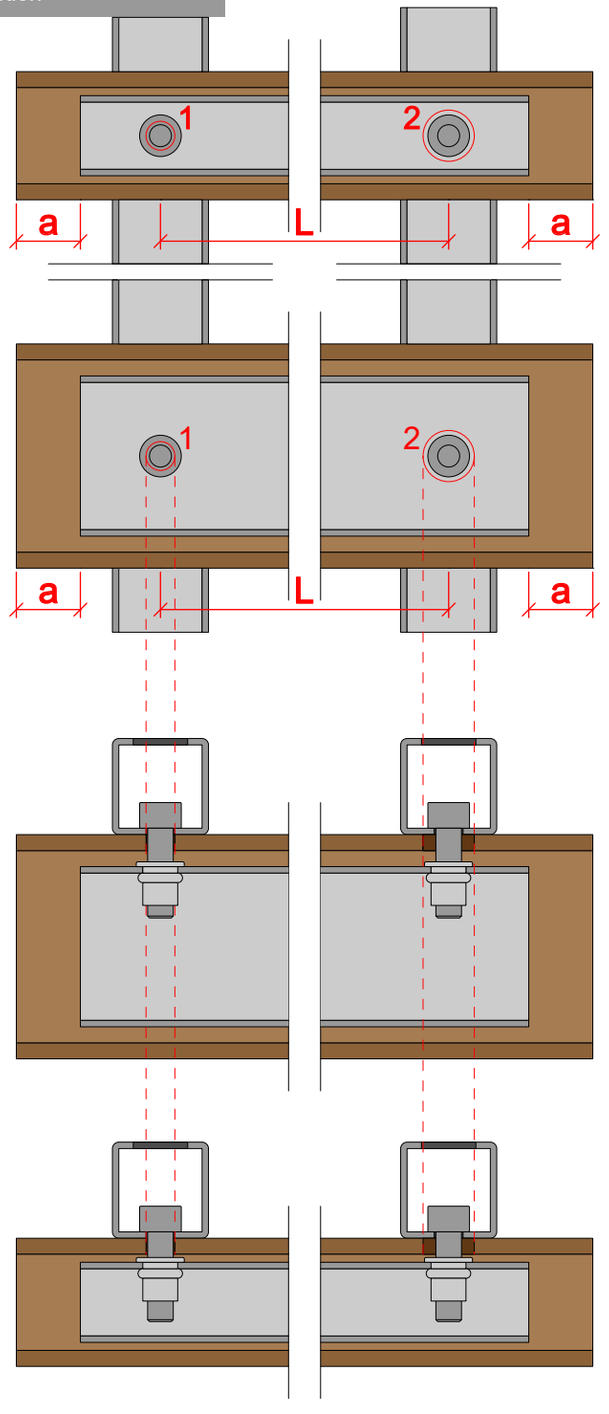
Trace the position of the holes on the structure.
Use anchors and screws suitable for steel. These hardwares are excluded from our supply.
Panel is fixed frontally, between the profiles.



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

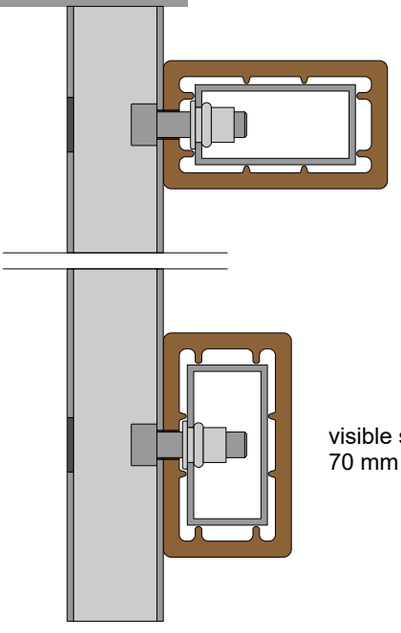


front section

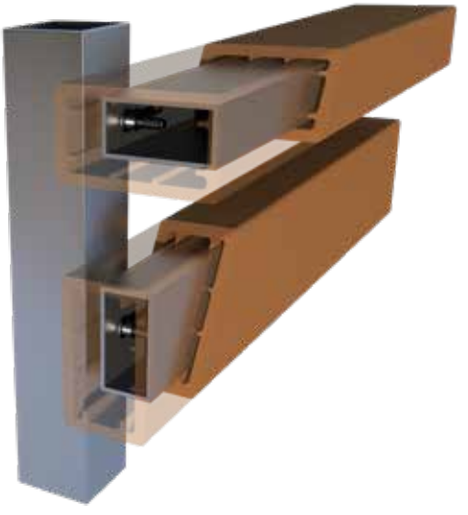


horizontal section

vertical section

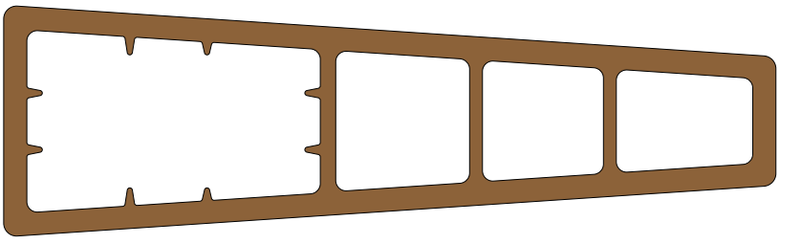


a = 20 mm
a = 45 mm in case of installation of the WAJF7040C_WM cap
1= FIXED POINT - Ø hole = Ø screw
2= FLOATING POINT - Ø hole = 2L x 0.003 + Ø screw [mm]



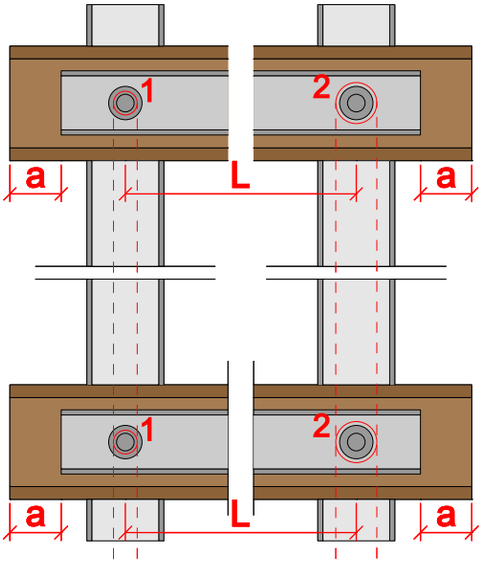
axonometric view

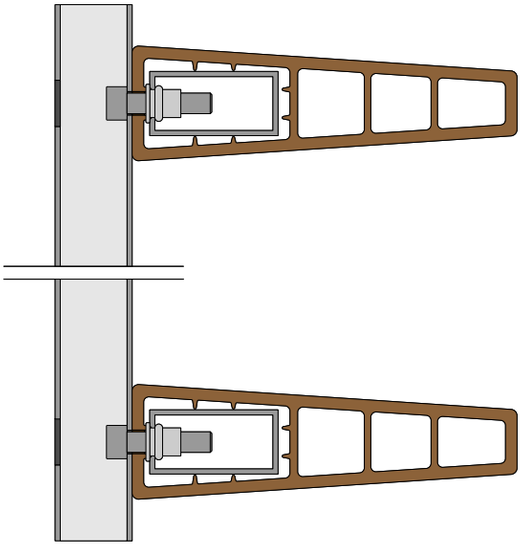
The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.



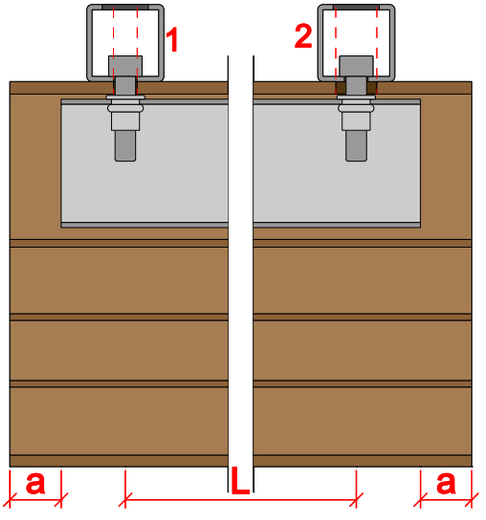
front section

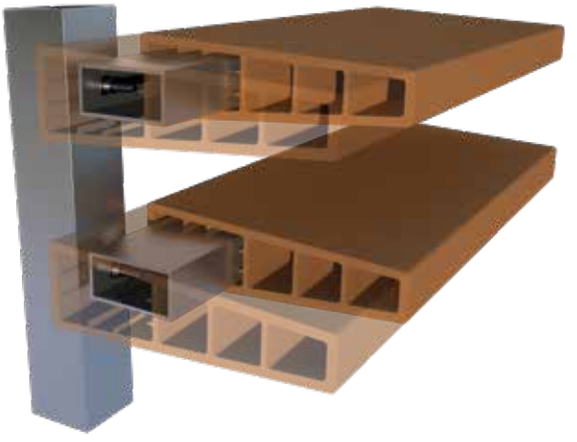
vertical section





a = 20 mm
a = 45 mm in case of installation of the WAJF15045C-WM cap
1= FIXED POINT - Ø hole = Ø screw
2= FLOATING POINT - Ø hole = 2L x 0.003 + Ø screw [mm]

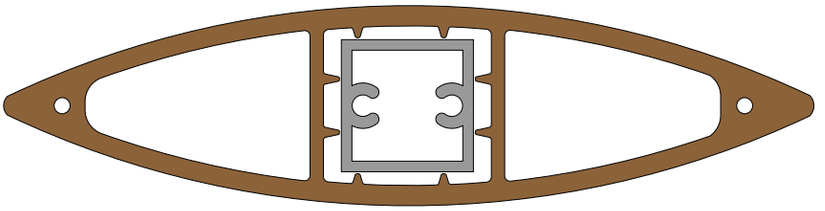




horizontal section

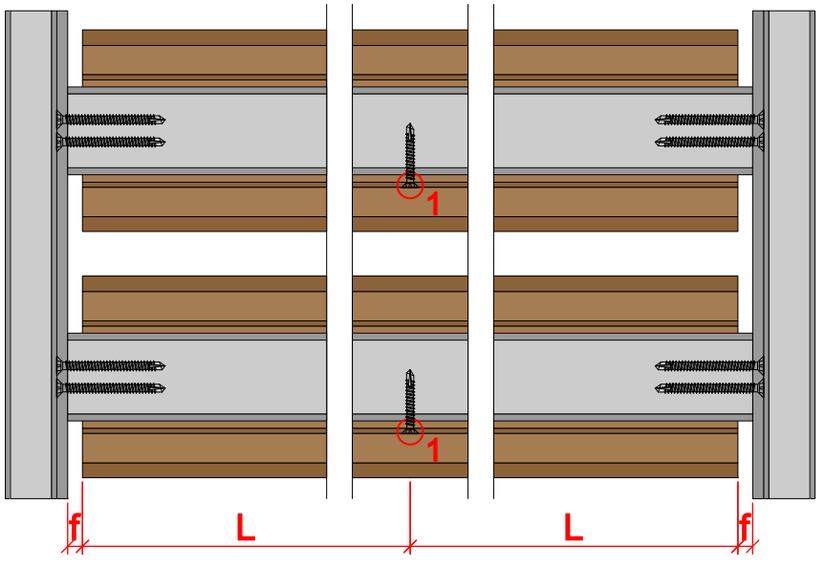
axonometric view

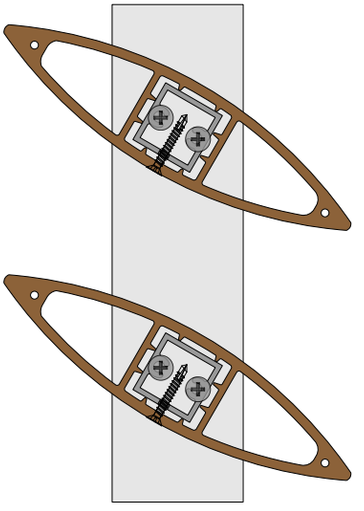
The systems shown are meant as a guide. The drawings show the key points for the design and mounting stages, such as metal reinforcements, fixed point and floating point. All components of the system must be adequately sized and verified by a qualified technician.



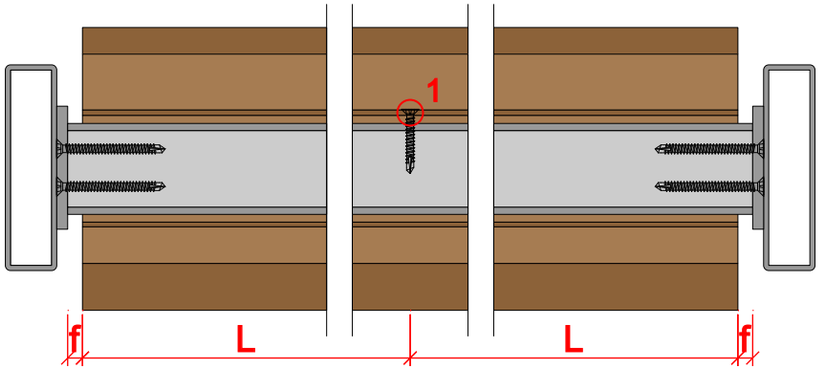
front section

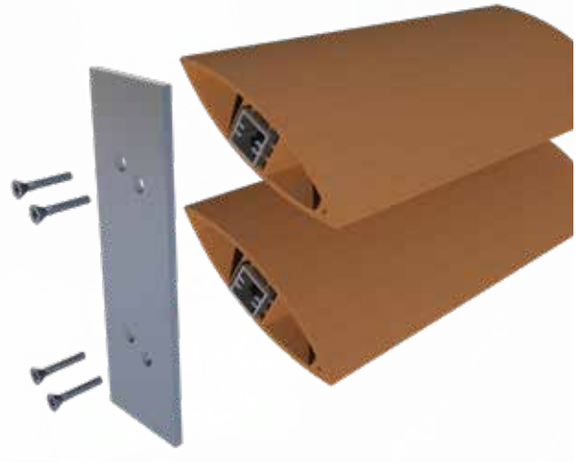
vertical section





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





horizontal section

axonometric view

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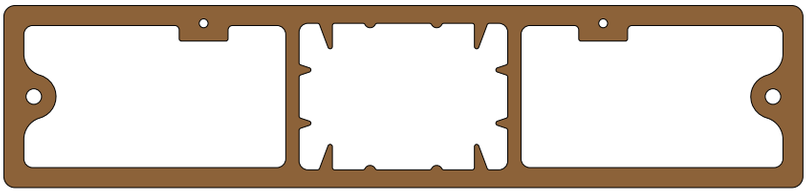
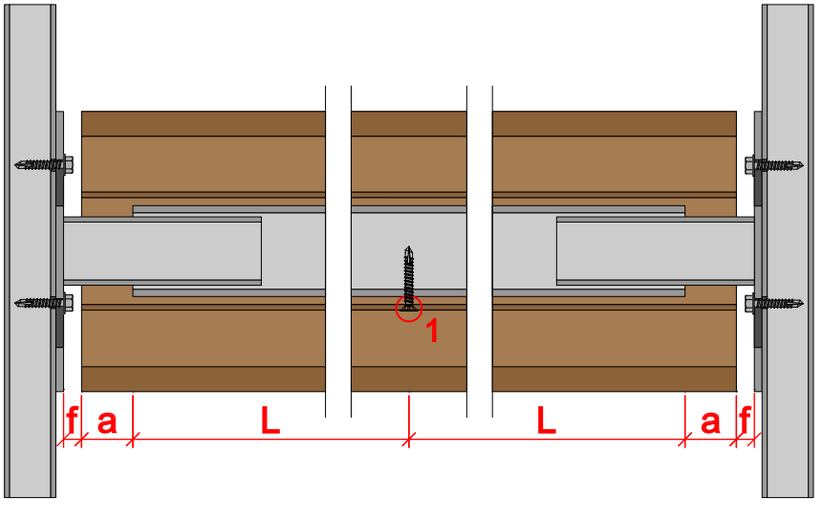
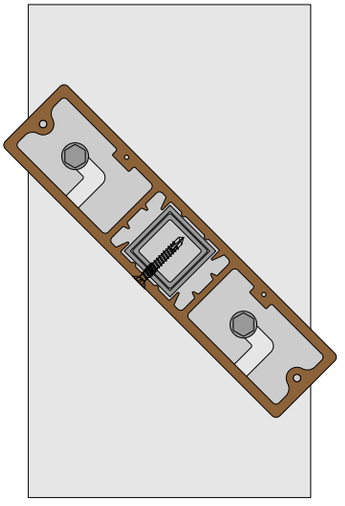


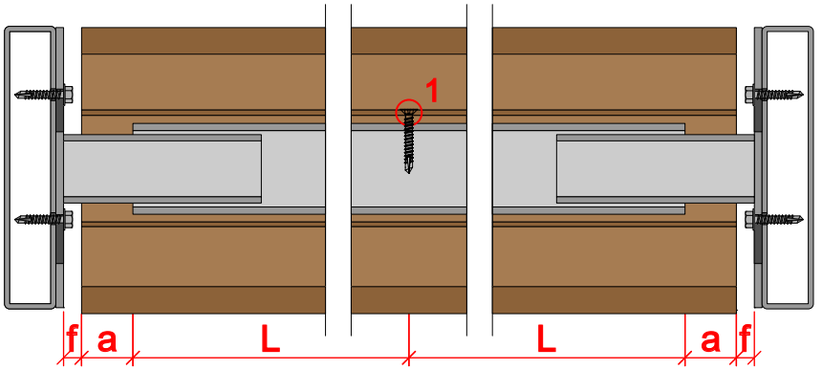
front section

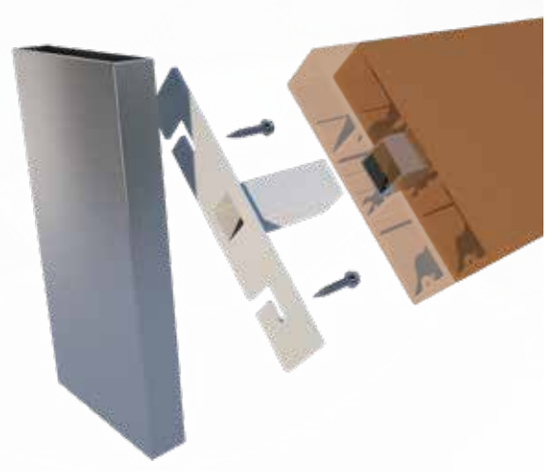
vertical section





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





*brackets available on request

horizontal section

axonometric view

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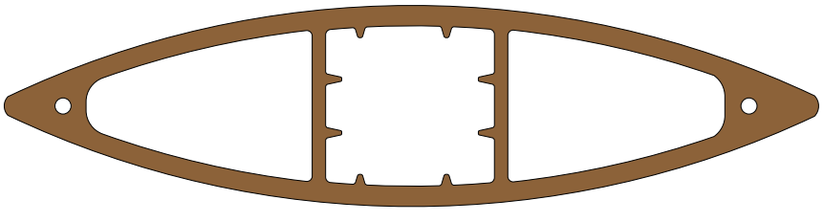
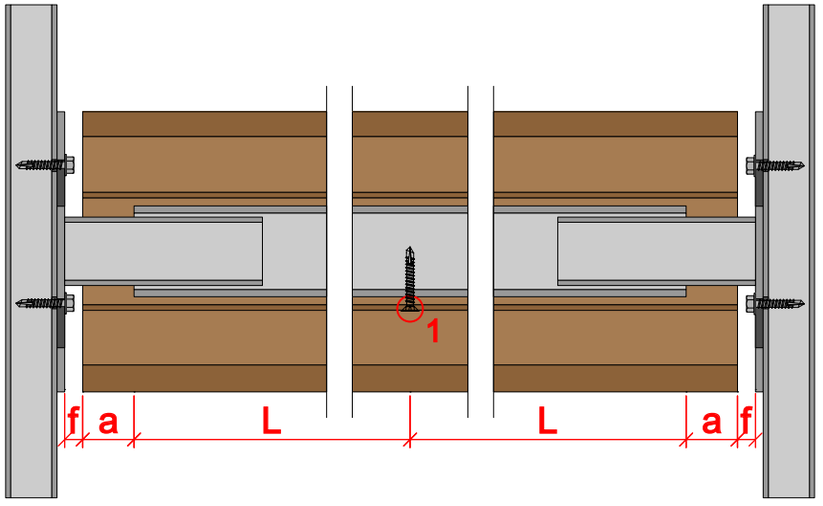
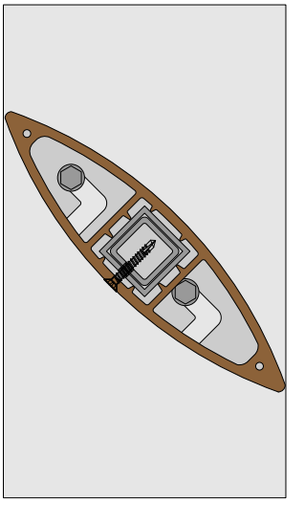


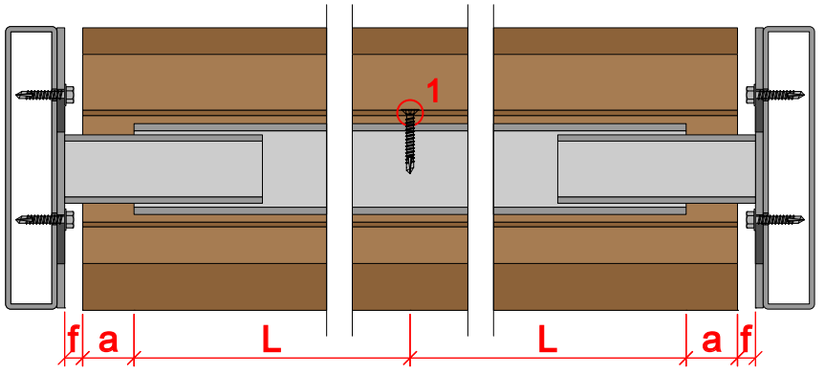
front section

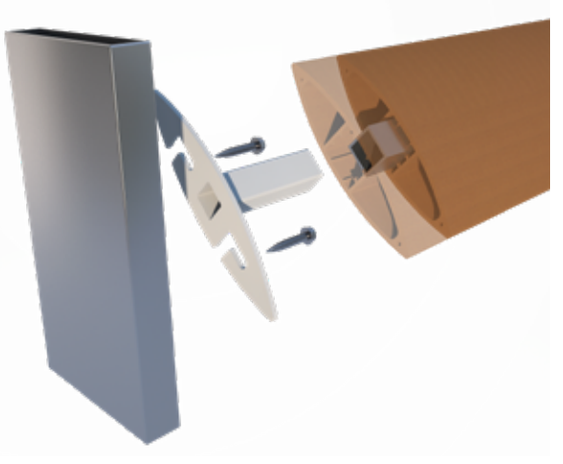
vertical section





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





*brackets available on request

horizontal section

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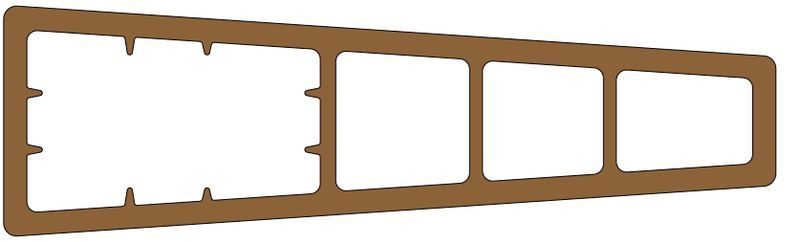
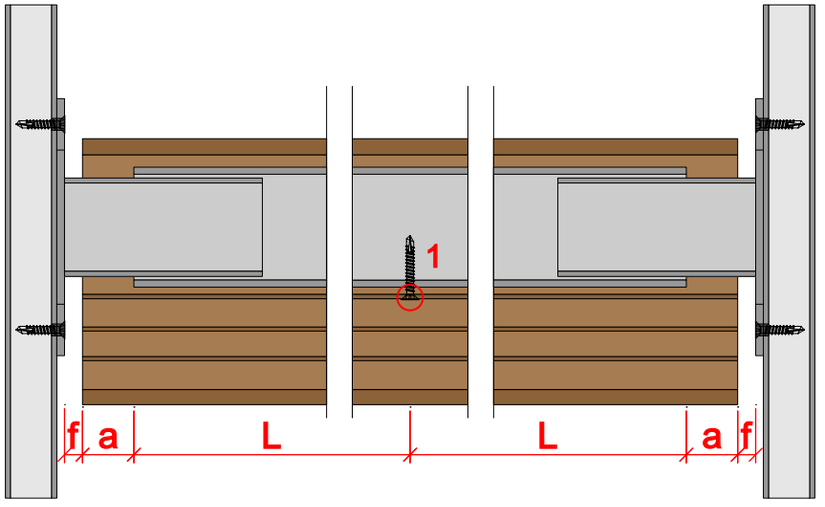
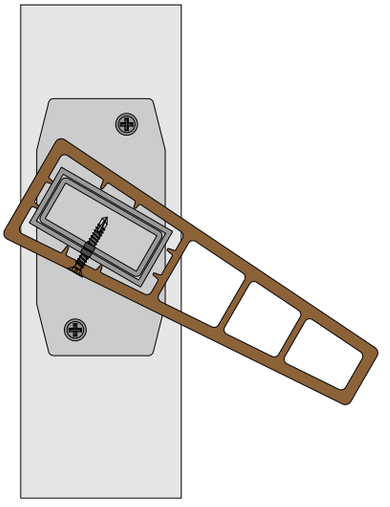


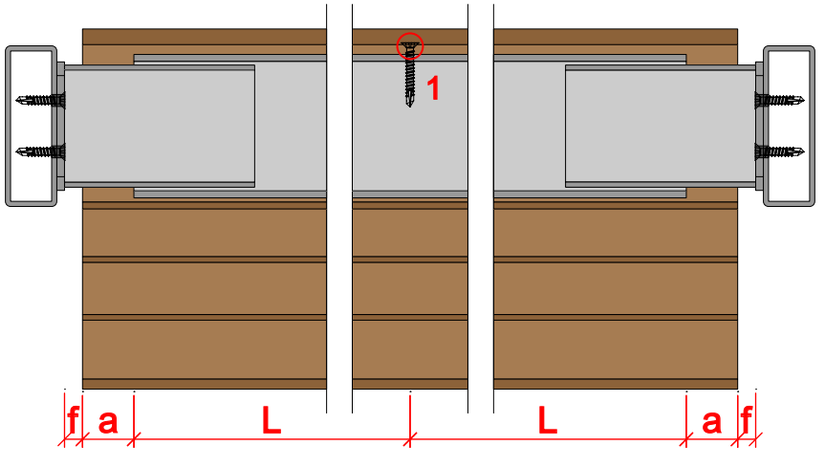
front section

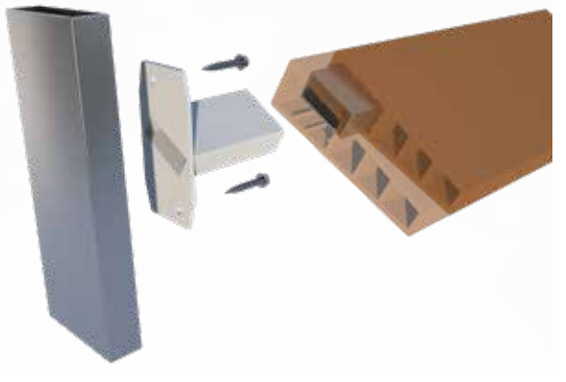
vertical section





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





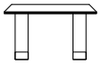
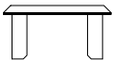
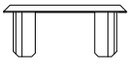
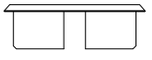
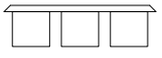
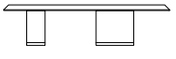
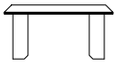
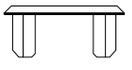
*brackets available on request

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.

CAPS

accessory code	design	compatible profiles	material	colour
WALG3020C-WM		LG3020	Woodn	All
WAJF4030C-WM		JF4030	Woodn	All
WAJF5026C-WM		JF5026	Woodn	All
WAJF6032C-WM		JF6032	Woodn	All
WAJF7040C-WM		JF7040-25x25 JF7040-30x15 JF7040-50x25	Woodn	All
WATZ9555C-WM		TZ9555 TZ9555-R	Woodn	All
WAJF11020C-WM		JF11020	Woodn	All
WAJF12058AC-WM		JF12058-A	Woodn	All
WAJF18041C-WM		JF18041	Woodn	All
WAJF18041-165C-WM		JF18041-165x30	Woodn	All
WATZ6060C-WM		TZ6060	Woodn	All
WAJF7070C-WM		JF7070	Woodn	All
WATZ113113C-WM		TZ113113	Woodn	All
WATZ180180C-WM		TZ180180	Woodn	All
WAJF15045C-WM		JF15045-25	Woodn	All

accessory code	design	nominal dimensions [mm]	material	colour
ROUND CAP RC20-25		Ø 20-25	Woodn	All
ROUND CAP RC25-30		Ø 25-30	Woodn	All
ROUND CAP RC30-35		Ø 30-35	Woodn	All
ROUND CAP RC35-40		Ø 35-40	Woodn	All
ROUND CAP RC40-45		Ø 40-45	Woodn	All
ROUND CAP RC45-50		Ø 45-50	Woodn	All

INSTALLATION OF THE END CAPS

Woodn interlocking caps (WAJF7040C-WM and similar)

All end caps made of Woodn (codes WA...) are supplied in sanded finish/surface, regardless the surface finish of the Versatilis profile surface. All round caps (codes RC...) are supplied in smooth/brushed finish.
Remove any residual material from the profile due to cutting and with a dry cloth remove any remaining dust. Remove the
protective film from the adhesive strips placed under the cap. Insert the cap into the profile, make sure it is centered. Apply light pressure with your hand to ensure the adhesive strips adhere well. If possibile, mechanically fasten the caps on both sides of the profile with staples. For a better fixing, we recommend the use of WEISS CHEMIE COSMO SL-660.130 glue.

Follow the reported instructions to install end caps with a structure similar to the ones reported here above.
If you have any doubts, please contact WoodN Industries' technical office at ufficiotecnico@woodn.com.

Viale Testi - Milano - Italy (JF35068)

WOODN MODULATUS

Outdoor/Indoor Cladding-Outood/Indoor Ceiling

First Baptist Church Arlington (Q20410)

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^2h)

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 immediatly after installation. Immediately remove major stains such as paint, concrete or tar residues.
- For cleaning and maintenance instructions refer to page 142. The WoodN warranty will be rendered null and void in the event of incorrect or improper handling, cleaning and maintenance.

EXPANSION GAP BETWEEN ADJACENT PROFILES AND WALLS

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. In outdoor applications, leave a gap at the end of the profile according to the relative size in the table below:

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

For example:

For laying conditions with a temperature around 30 °C and a plank length of 2000 mm, it should be left gaps measuring
2000 x 1 mm/m = 2 mm.

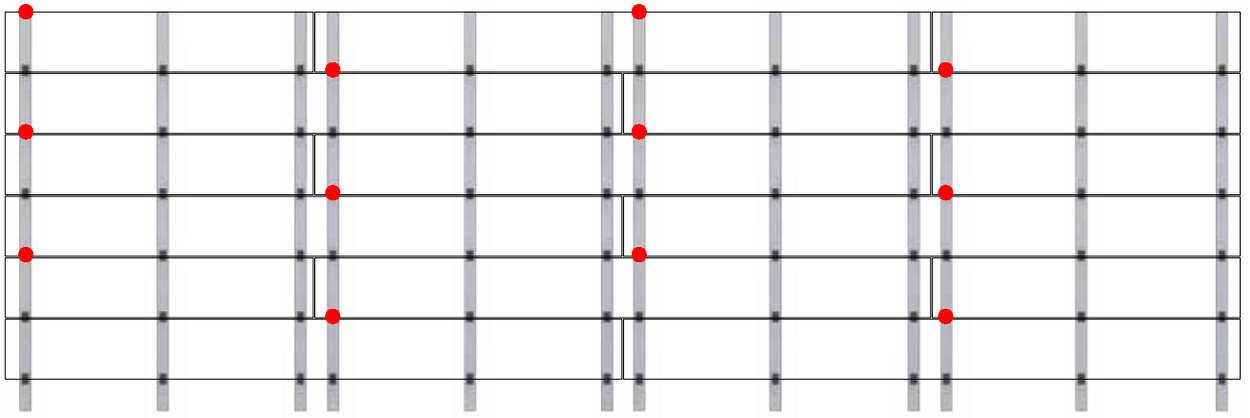
WARNING: it has to be noted that the failure to comply strictly with the criteria for the application of fixed points and floating points, causes the deformation of the materials and the misalignment of all the expansion joints.

FIXED POINT

To make sure that the expansion gap will remain over time, in outdoor applications a FIXED POINT should be made on each plank. We also recommend strictly adhering to the positioning pattern of the fixed point.

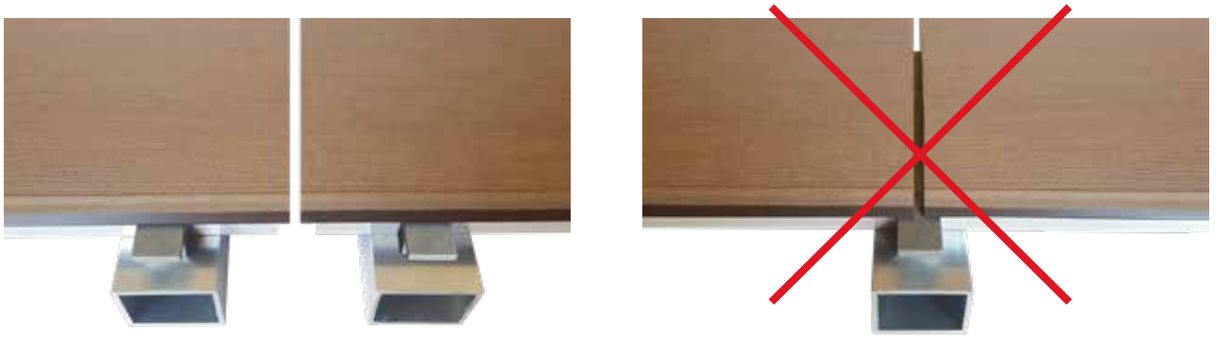
LAYING PATTERN - RUNNING BOND

fixed point for expansion



ALIGNMENTS

We recommend to align and plumb the substructure before you starting the installation.
We recommend leaving an expansion joint between the heads of the substructure profiles in correspondence with the floors slabs for possible settling of the building.



In correspondence of the heads of two consecutive planks, the aluminum joists must be doubled as shown in the photo.

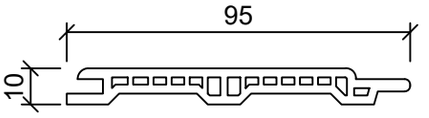
PROFILES SECTION

Outdoor cladding

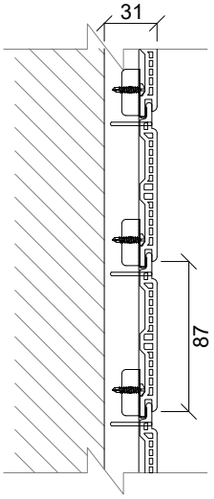
profile	cross-section	nominal dimensions [mm]	weight of the plank [kg/m]
Q9510 		section 95 x 10 standard length 2000	0.59
Q13010HD 		section 130 x 10 standard length 2000	1.18
Q14520 		section 145X20 standard length 2000	1.10
Q20410 		section 204X10 standard length 2000	2.32
TH14830HD-4 		section 148X30 standard length 2000	1.03
TH6050HD 		section 54X60 standard length 2000	0.80

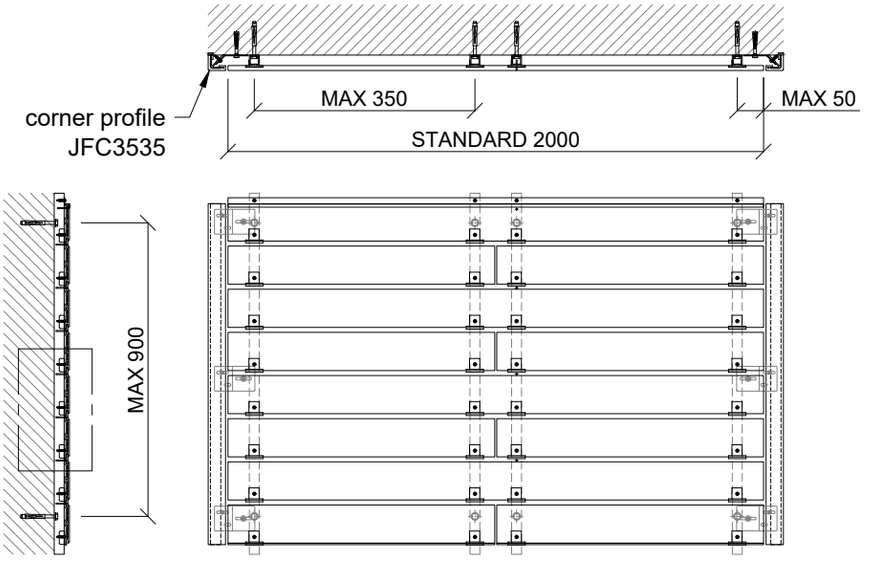
The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

Q9510 - outdoor cladding



MOUNTING SYSTEM



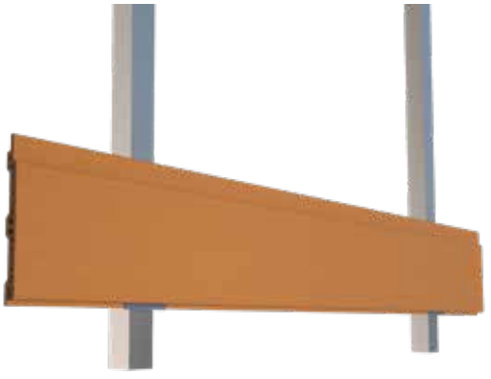


WEIGHT OF THE SYSTEM ≈ 8.50 kg/sqm
- Measures in millimeters
- Dimensions considering a standard wind load of 120 kg/m²

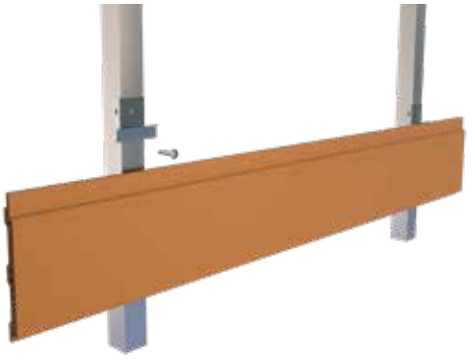
ASSEMBLY INSTRUCTIONS

1. Screw the aluminum joist profiles to support with suitable screws and wall plugs (*).

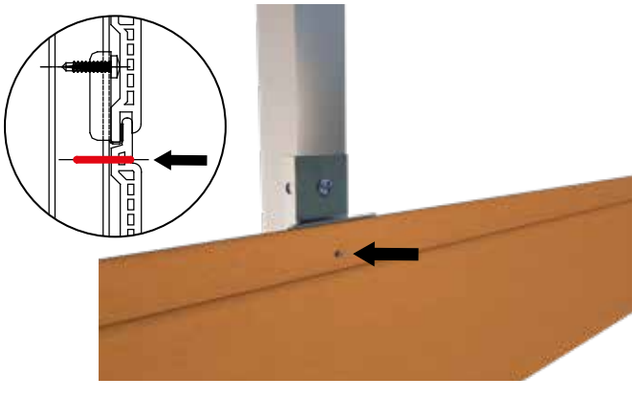
2. Apply the first row of ZCLW-KK2826 clips at the bottom with self-drilling screws.



3. Fit the plank in the respective clip slot.



4. Insert the second row of clips to lock the plank.



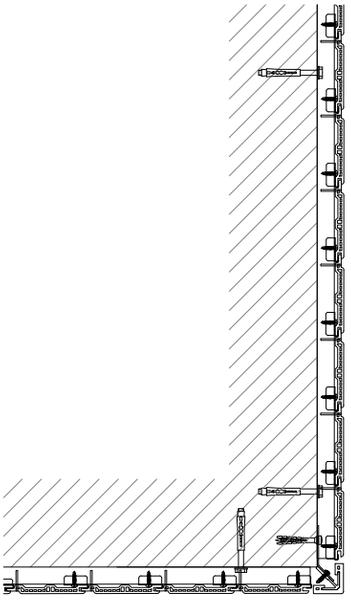
5. Install a cylindrical pin ZCPW-D2X24-A2 for the fixed point (make a pre-hole Ø 1.8 mm).

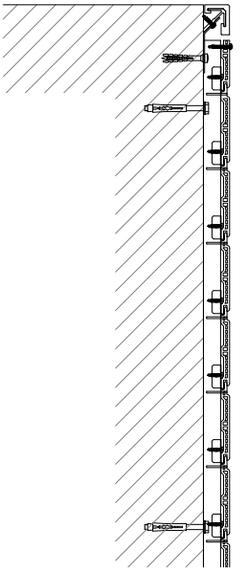
6. Repeat as described from step 3 up to the top to complete the cladding.

*Screws and wall plugs must be chosen according to the type of wall support

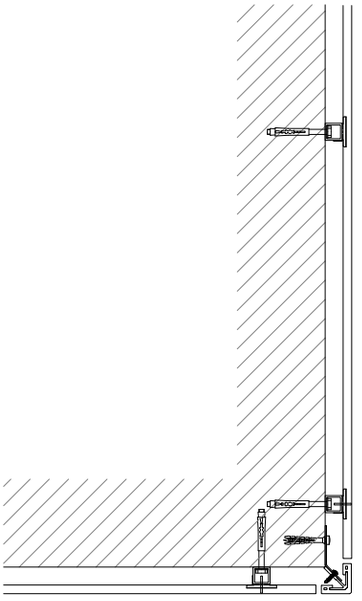
DETAILS FOR CORNERS

VERTICAL PLANKS

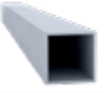




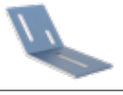
HORIZONTAL PLANKS



SYSTEM COMPONENTS

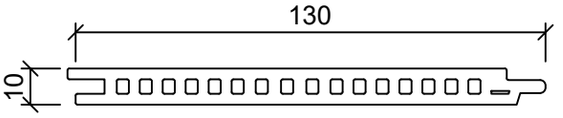
Profile Q9510		11.50 m/sqm	Substructure profile ZTQM-20X20X2-6060-T6		3.40 m/sqm (stacked bond) 3.90 m/sqm (running bond)
Fixing clip ZCLW-KK2826		40 pz/sqm (stacked bond) 45 pz/sqm (running bond)	Screw ZRHW-3.5X16-A2-7504N		40 pz/sqm (stacked bond) 45 pz/sqm (running bond)
Dowel pin ZCPW-D2X24-A2		6 pz/sqm (stacked bond) 6 pz/sqm (running bond)	Fixing clip ZCLW-KK2826-1		for substructure > 25 mm available upon request

CORNERS COMPONENTS

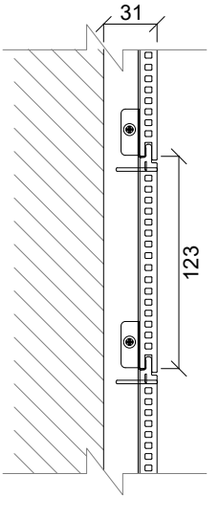
Profile JFC3535		Fixing bracket ZCLW-WAJFC3535_6050		Screw ZRHW-3.5X16-A2-7504N	

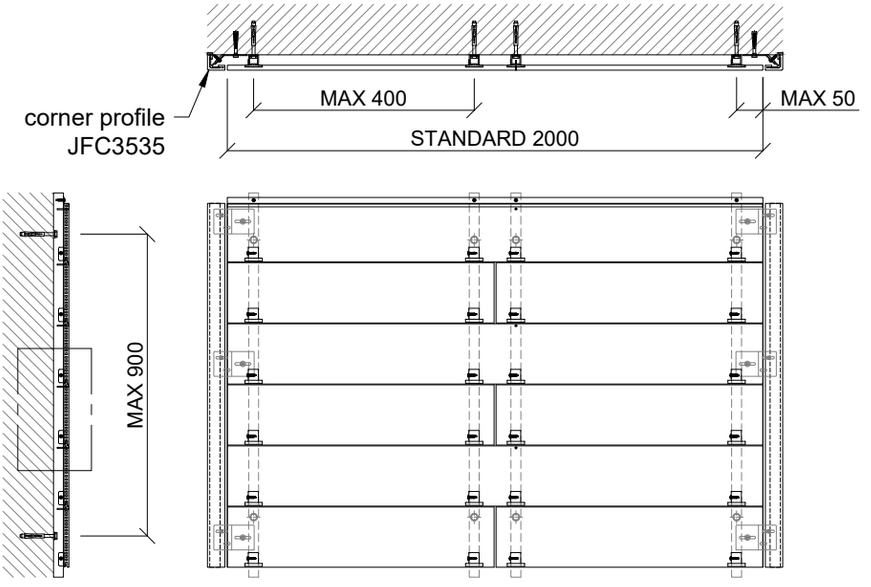
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 350 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

Q13010HD - outdoor cladding



MOUNTING SYSTEM



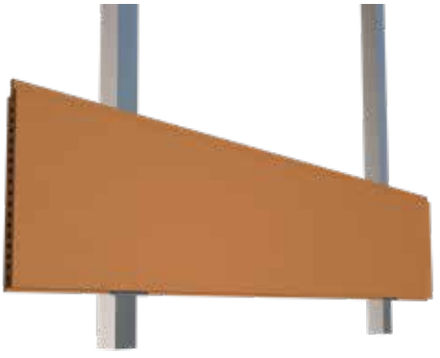


WEIGHT OF THE SYSTEM ≈ 11.00 kg/sqm
- Measures in millimeters
- Dimensions considering a standard wind load of 120 kg/m²

ASSEMBLY INSTRUCTIONS

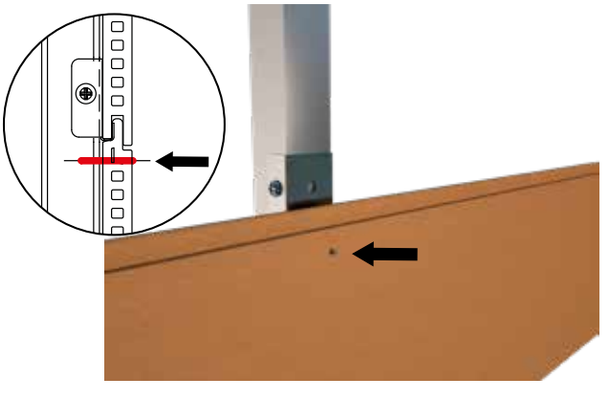
1. Screw the aluminum joist profiles to support with suitable screws and wall plugs (*).

2. Apply the first row of ZCLW-KK2826 clips at the bottom with self-drilling screws.



3. Fit the plank in the respective clip slot.

4. Insert the second row of clips to lock the plank.



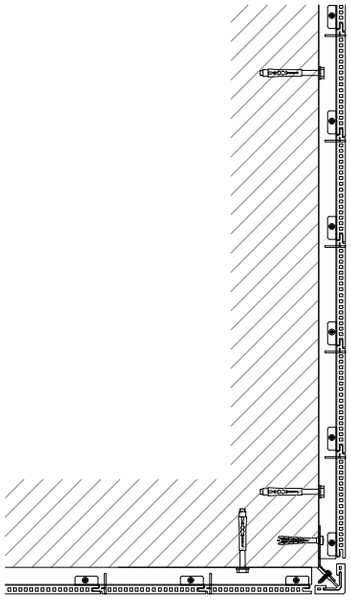
5. Install a cylindrical pin ZCPW-D2X24-A2 for the fixed point (make a pre-hole Ø 1.8 mm).

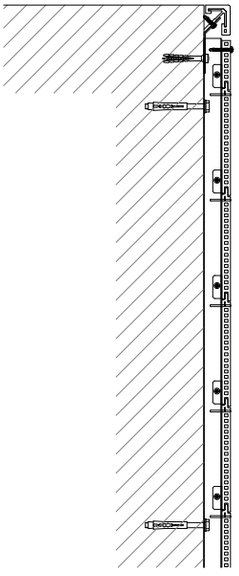
6. Repeat as described from step 3 up to the top to complete the cladding.

*Screws and wall plugs must be chosen according to the type of wall support

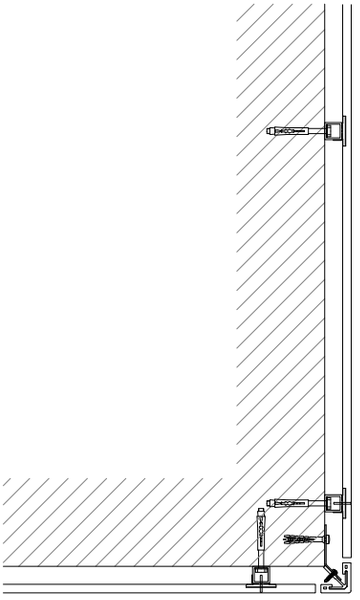
DETAILS FOR CORNERS

VERTICAL PLANKS

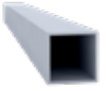




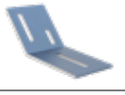
HORIZONTAL PLANKS



SYSTEM COMPONENTS

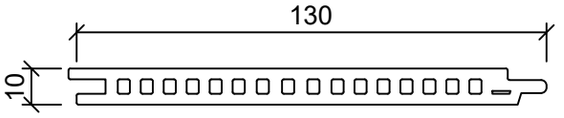
Profile Q13010HD		8.20 m/sqm	Substructure profile ZTQM-20X20X2-6060-T6		3.00 m/sqm (stacked bond) 3.50 m/sqm (running bond)
Fixing clip ZCLW-KK2826		25 pz/sqm (stacked bond) 29 pz/sqm (running bond)	Screw ZRHW-3.5X16-A2-7504N		25 pz/sqm (stacked bond) 29 pz/sqm (running bond)
Dowel pin ZCPW-D2X24-A2		5 pz/sqm (stacked bond) 5 pz/sqm (running bond)	Fixing clip ZCLW-KK2826-1		for substructure > 25 mm available upon request

CORNERS COMPONENTS

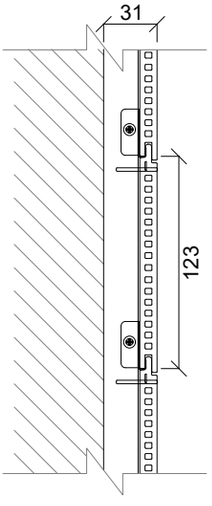
Profile JFC3535		Fixing bracket ZCLW-WAJFC3535_6050		Screw ZRHW-3.5X16-A2-7504N	

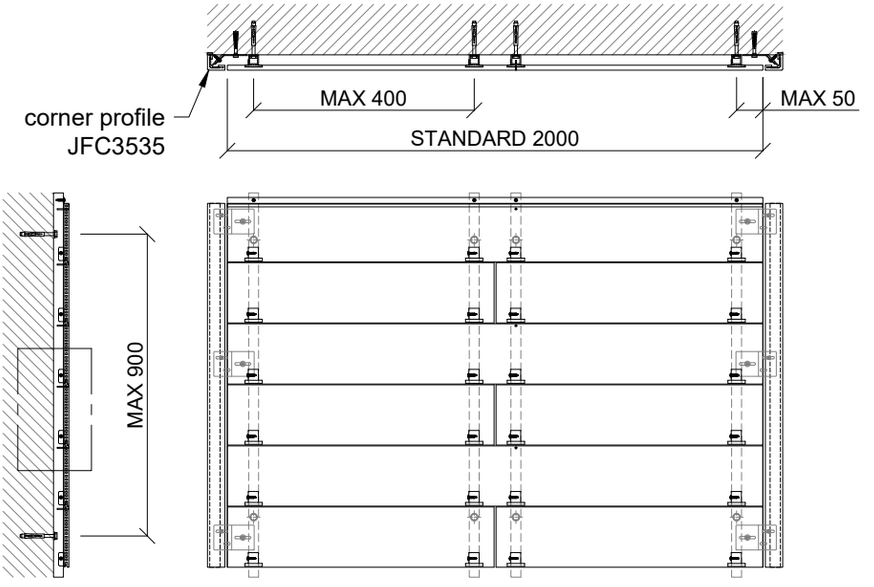
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 400 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

Q14520 - outdoor cladding



MOUNTING SYSTEM





WEIGHT OF THE SYSTEM ≈ 11.00 kg/sqm
- Measures in millimeters
- Dimensions considering a standard wind load of 120 kg/m²

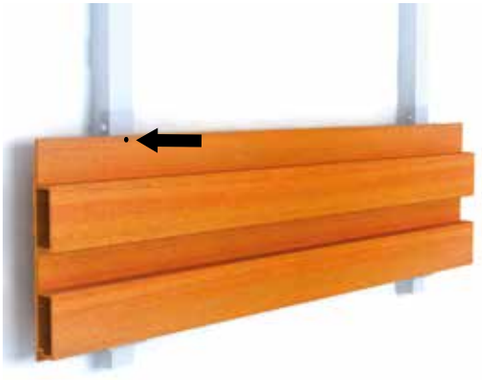
ASSEMBLY INSTRUCTIONS

1. Screw the aluminum joist profiles to support with suitable screws and wall plugs (*).

2. Apply the first row of ZCLW-KK2826 clips at the bottom with self-drilling screws.

3. Fit the plank in the respective clip slot.

4. Insert the second row of clips to lock the plank.



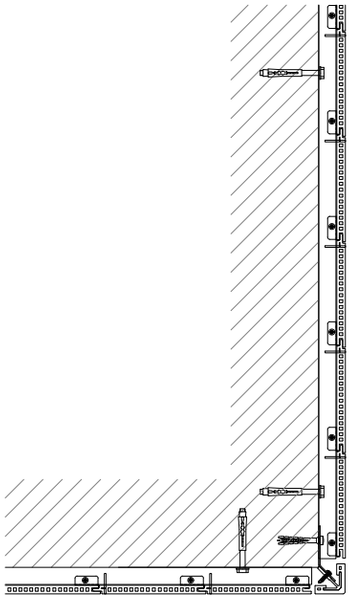
5. Install a cylindrical pin ZCPW-D2X24-A2 for the fixed point (make a pre-hole Ø 1.8 mm).

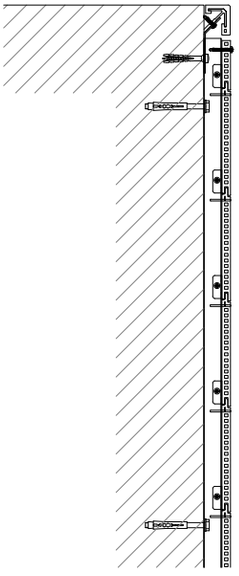
6. Repeat as described from step 3 up to the top to complete the cladding.

*Screws and wall plugs must be chosen according to the type of wall support

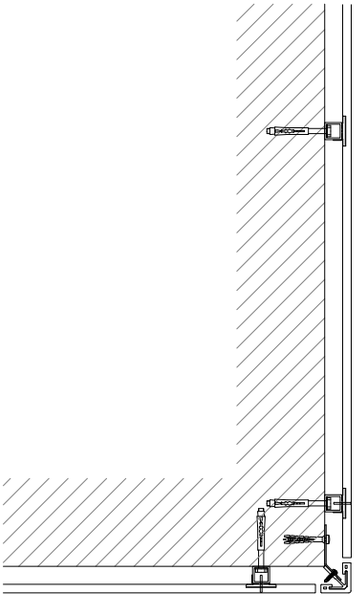
DETAILS FOR CORNERS

VERTICAL PLANKS

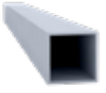




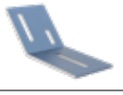
HORIZONTAL PLANKS



SYSTEM COMPONENTS

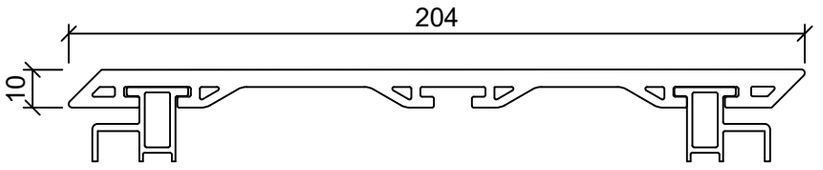
Profile Q14520HD		8.20 m/sqm	Substructure profile ZTQM-20X20X2-6060-T6		3.00 m/sqm (stacked bond) 3.50 m/sqm (running bond)
Fixing clip ZCLW-KK2826		25 pz/sqm (stacked bond) 29 pz/sqm (running bond)	Screw ZRHW-3.5X16-A2-7504N		25 pz/sqm (stacked bond) 29 pz/sqm (running bond)
Dowel pin ZCPW-D2X24-A2		5 pz/sqm (stacked bond) 5 pz/sqm (running bond)	Fixing clip ZCLW-KK2826-1		for substructure > 25 mm available upon request

CORNERS COMPONENTS

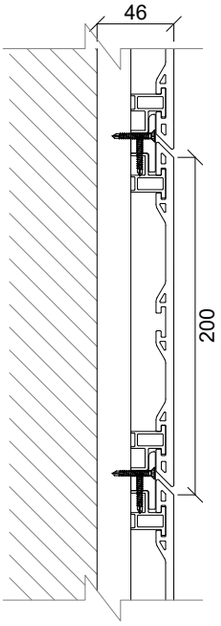
Profile JFC3535		Fixing bracket ZCLW-WAJFC3535_6050		Screw ZRHW-3.5X16-A2-7504N	

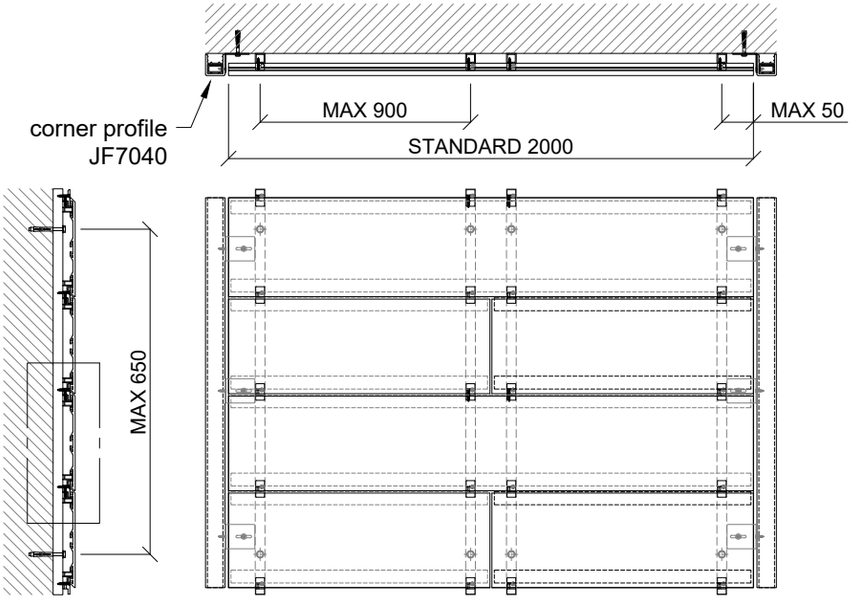
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 400 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

Q20410 - outdoor cladding



MOUNTING SYSTEM



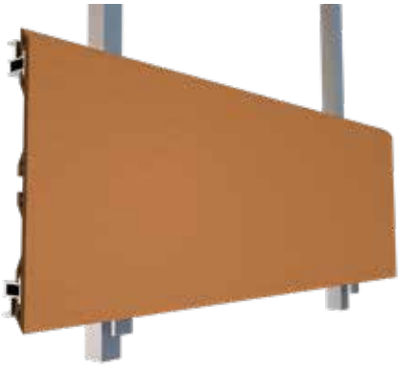


WEIGHT OF THE SYSTEM ≈ 12.40 kg/sqm
• Measures in millimeters
• Dimensions considering a standard wind load of 120 kg/m²

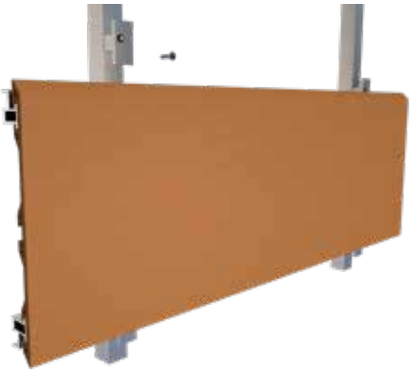
ASSEMBLY INSTRUCTIONS

1. Screw the aluminum joist profiles to support with suitable screws and wall plugs (*).

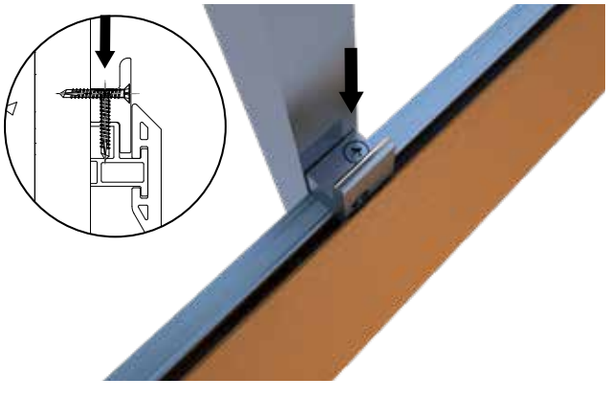
2. Apply the first row of ZCLW-KK3418 clips at the bottom with self-drilling screws.



3. Insert the first plank into the respective clip slot matching the aluminium reinforcements at the back.



4. Insert the second row of clips to lock the plank.



5. Install the screw to form the fixed point (make a pilot hole to make the step easier). Only apply 1 fixed point for each plank.

6. Repeat as described from step 3 up to the top to complete the cladding.

*Screws and wall plugs must be chosen according to the type of wall support.

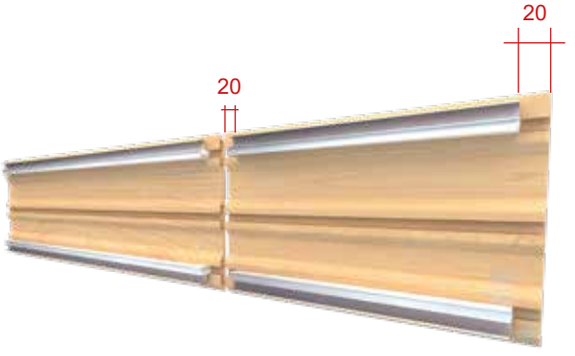
ALTRNATIVE - STARTING WITH “Z” PROFILE

1. Screw the aluminum joist profiles to support with suitable screws and wall plugs (*).

2. Install the Z starting profile in the lower part using self drilling screws. Continue with points 3 to 6 of the previous page.

CUTTING THE PROFILES

1. Remove the screws from the fixed points.



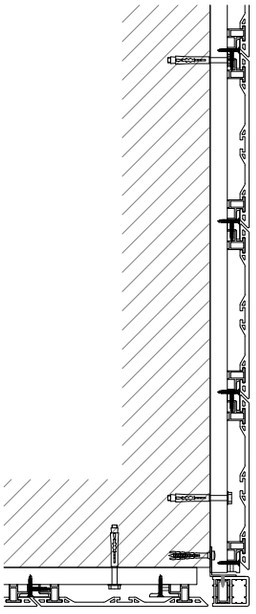
2. Cut the profiles to the required length. The aluminum profiles must be cut 40 mm shorter than the Woodn profile.

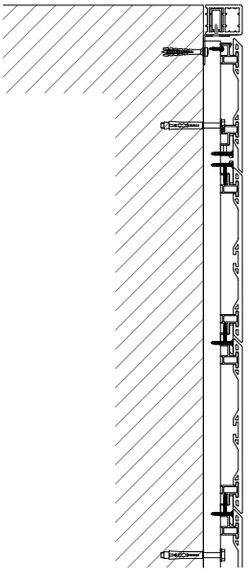
3. Insert the screws into the fixed points (ZRHW-3.5X13-A2-7504N).

NOTE: on each profile Q20410-WA 2 fixed point screws must be applied.

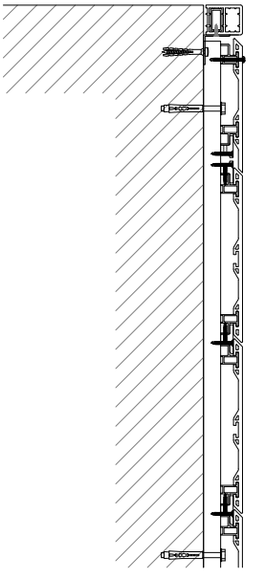
DETAILS FOR CORNERS

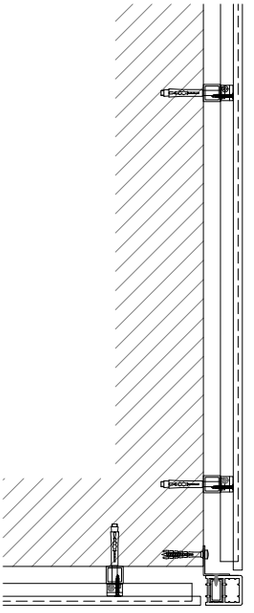
VERTICAL PLANKS



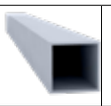


HORIZONTAL PLANKS

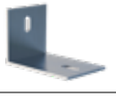




SYSTEM COMPONENTS

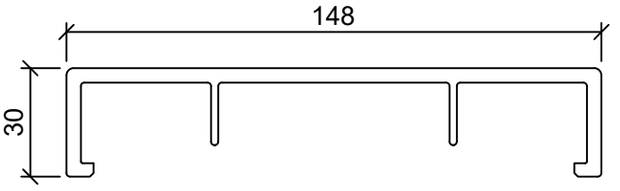
Profile Q20410		5.0 m/sqm	Substructure profile ZTQM-20X20X2-6060-T6		1.70 m/sqm (stacked bond) 2.20 m/sqm (running bond)
Fixing clip ZCLW-KK3418 (Alloy ZAMAK 3)		9 pz/sqm (stacked bond) 11 pz/sqm (running bond)	Screw ZFHC-3.5X25-A2-7504P		12 pz/sqm (stacked bond) 14 pz/sqm (running bond)
Fixing clip ZCLW-KK1515		available upon request	Z starting profile ZTQW-10X10X13X1.5-6060-T6		available upon request

CORNERS COMPONENTS

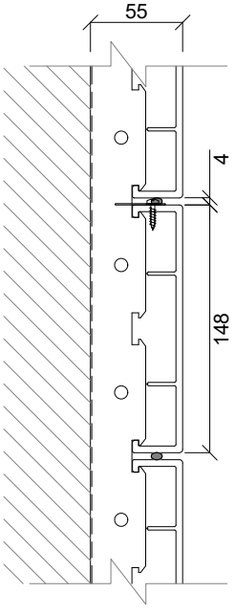
Profile JF7040-30x15		Fixing bracket ZCLW-WAQ20410_6040		Screw ZRHW-3.5X19-A2-7504N	

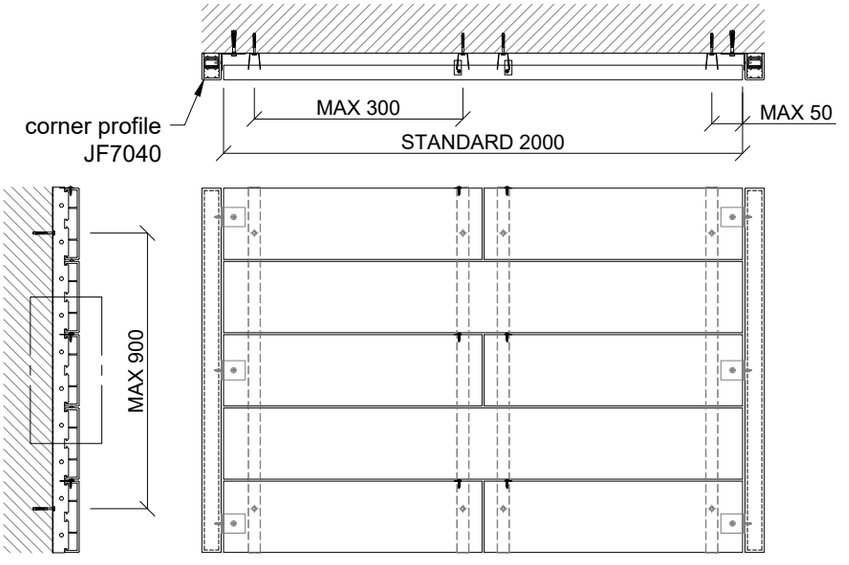
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 900 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

TH14830HD-4 - outdoor cladding



MOUNTING SYSTEM





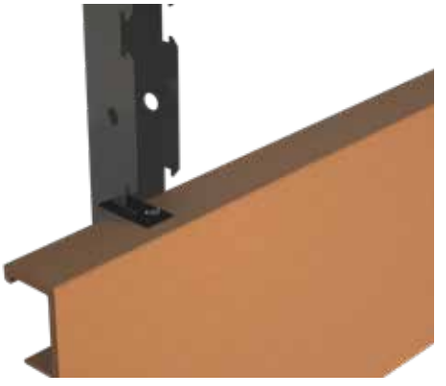
WEIGHT OF THE SYSTEM ≈ 9.60 kg/sqm
• Measures in millimeters
• Dimensions considering a standard wind load of 120 kg/m²

ASSEMBLY INSTRUCTIONS

1. Screw the ZSSW-LG3326V profiles to support with suitable screws and wall plugs (*).

2. Install the first TH14830HD-4 profile.

3. Apply the clip for the FIXED POINT with self-drilling screws to the profile.



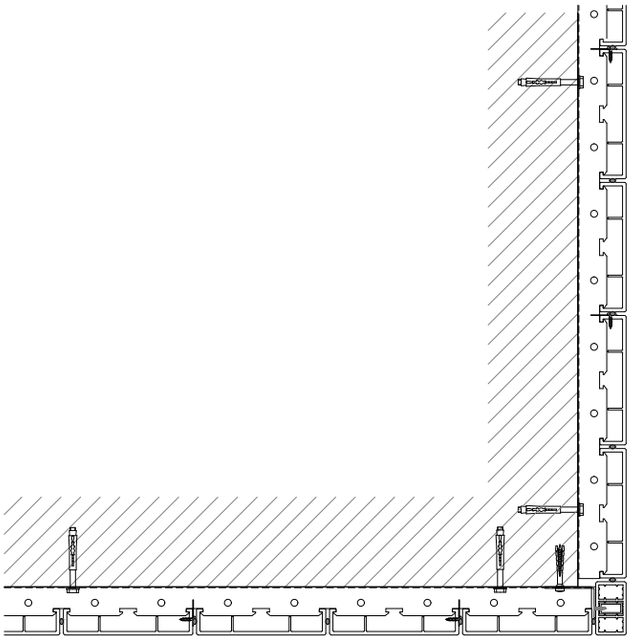
4. NOTE: the clip has to slot in the substructure.

5. Repeat as described from step 2 up to the top to complete the cladding.

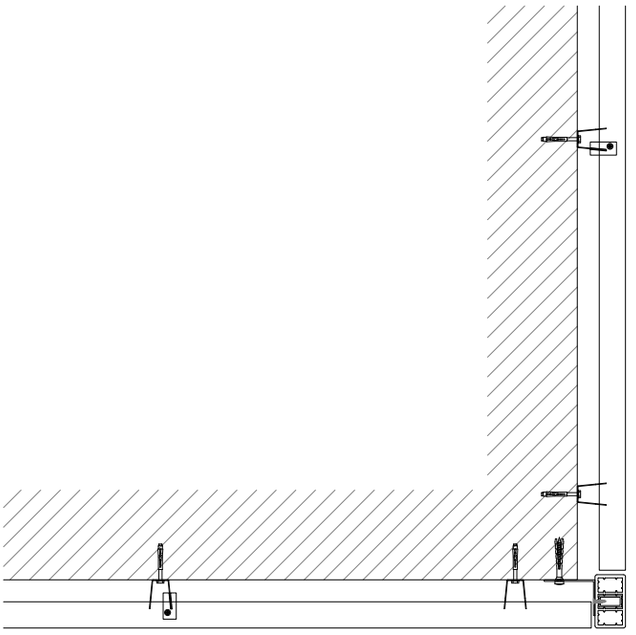
*Screws and wall plugs must be chosen according to the type of wall support.

DETAILS FOR CORNERS

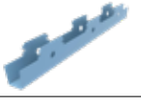
VERTICAL PLANKS



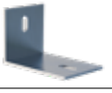
HORIZONTAL PLANKS



SYSTEM COMPONENTS

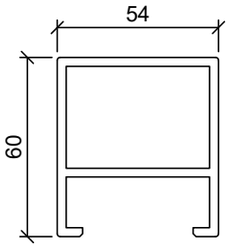
Profile TH14830HD-4		6.60 m/sqm	Substructure profile ZSSW-LG3326V joint 4 mm		5.00 m/sqm (stacked bond) 5.70 m/sqm (running bond)
Clip for fixed point ZCLW-KK3015		4 pz/sqm	Screw ZRHW-3.5X16-A2-7504N		4 pz/sqm

CORNERS COMPONENTS

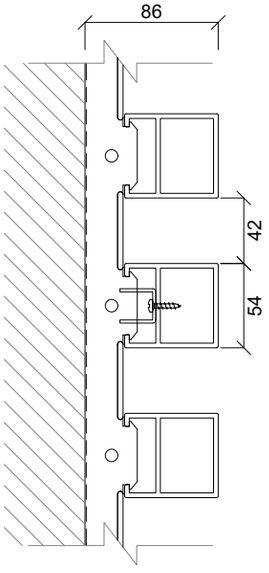
Profile JF7040-30x15		Fixing bracket ZCLW-WAQ20410_6040		Screw ZRHW-3.5X19-A2-7504N	

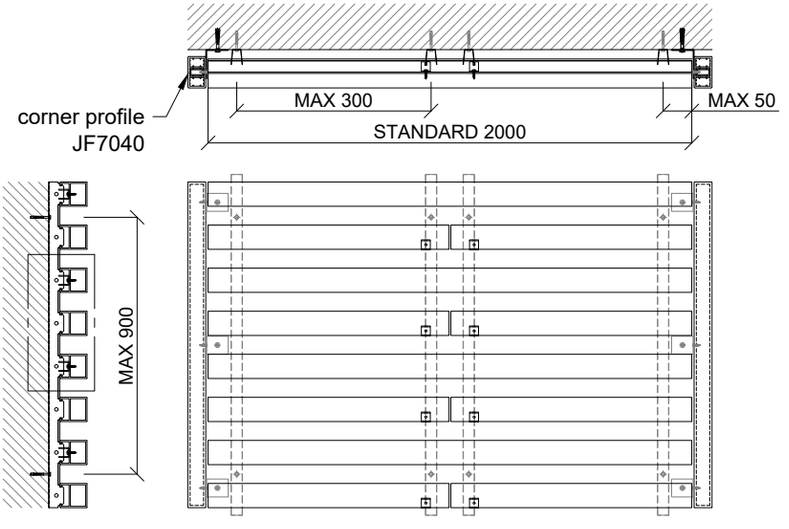
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 300 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

TH6050HD - outdoor cladding



MOUNTING SYSTEM

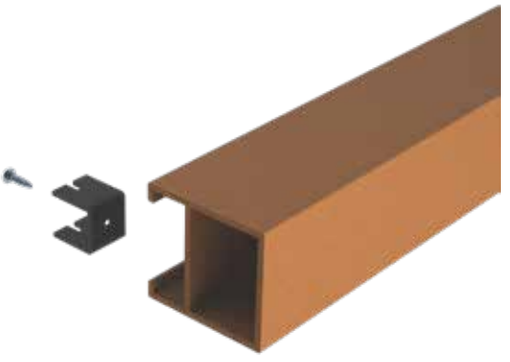




WEIGHT OF THE SYSTEM ≈ 14.30 kg/sqm
- Measures in millimeters
- Dimensions considering a standard wind load of 120 kg/m²

ASSEMBLY INSTRUCTIONS

1. Screw the ZSSW-LG9637V profiles to support with suitable screws and wall plugs (*).



2. Apply the clip for the FIXED POINT with self-drilling screws to the profile.

3. Install the first TH6050HD profile.

4. NOTE: the clip has to slot in the substructure.

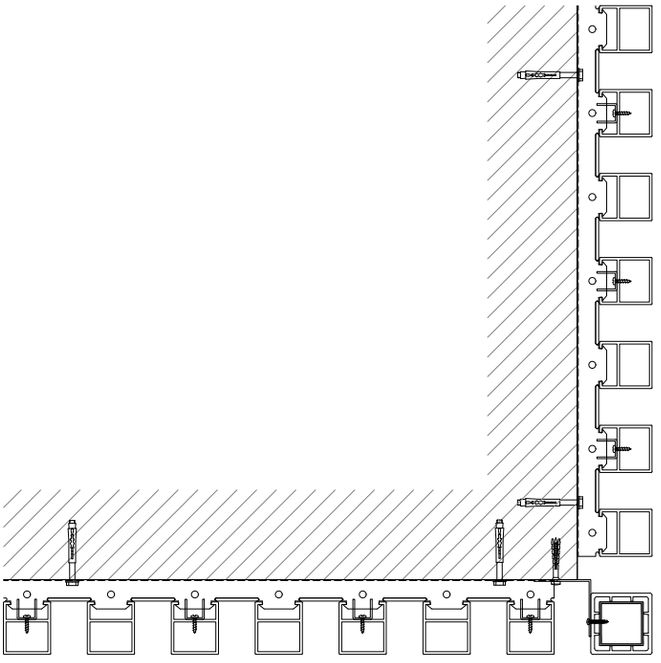
5. Install, if expected, the accessory THZ5004HD profile.

6. Repeat as described from step 2 up to the top to complete the cladding.

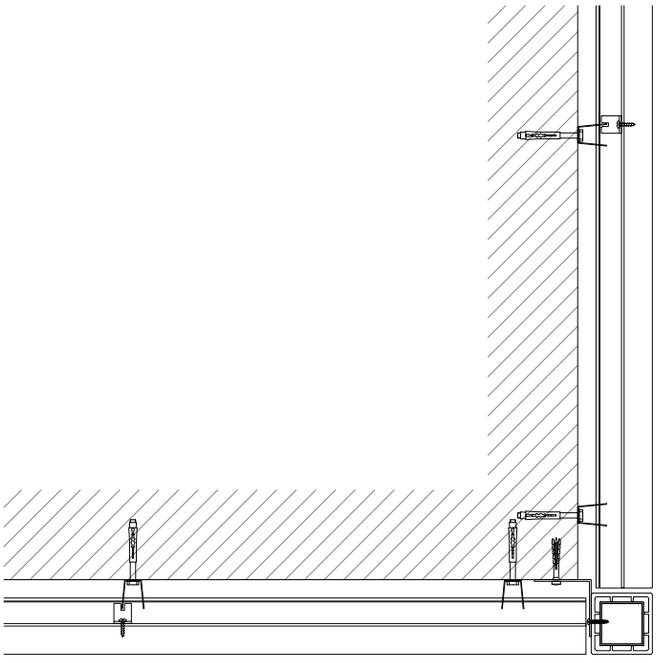
*Screws and wall plugs must be chosen according to the type of wall support.

DETAILS FOR CORNERS

VERTICAL PLANKS



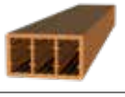
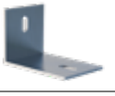
HORIZONTAL PLANKS



SYSTEM COMPONENTS

Profile TH6050HD		10.50 m/sqm	Substructure profile ZSSW-LG9637V		5.00 m/sqm (stacked bond) 5.70 m/sqm (running bond)
Clip for fixed point ZCLW-KK2722		6 pz/sqm	Screw ZRHW-3.5X16-A2-7504N		6 pz/sqm
Accessory closing piece THZ5004HD		10.50 m/sqm			

CORNERS COMPONENTS

Profile JF7040-30x15		Profile JF7070		Fixing bracket ZCLW-WAQ20410_6040		Screw ZRHW-3.5X19-A2-7504N	

WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c up to 300 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

PROFILES SECTION

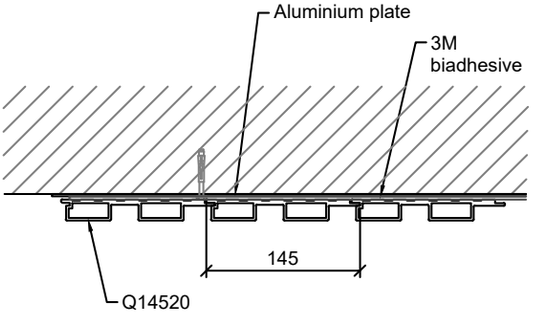
Indoor cladding

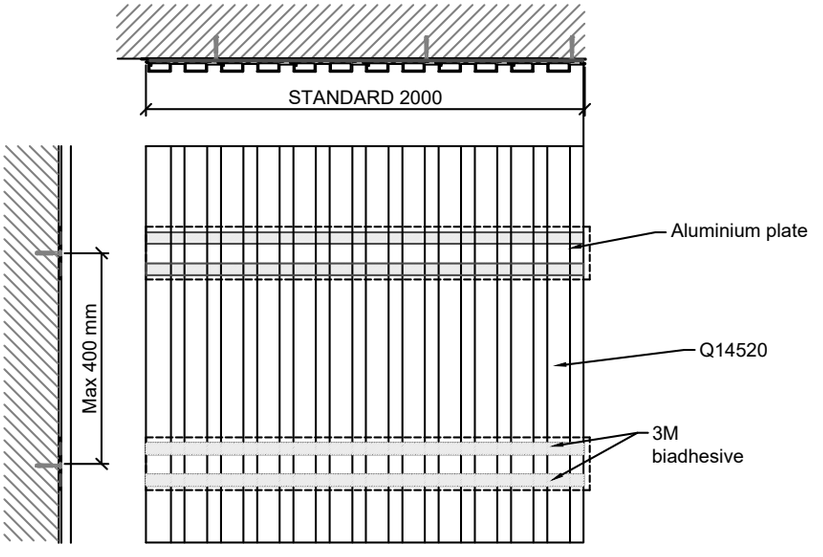
profile	cross-section	nominal dimensions [mm]	weight of the plank [kg/m]
Q14520 		section 145 x 20 standard length 2000	1.10
Q16010 		section 160x10 standard length 2000	0.82

The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

Q14520 - Indoor cladding

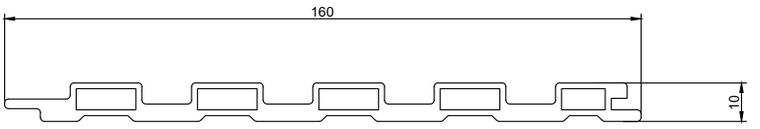
MOUNTING SYSTEM



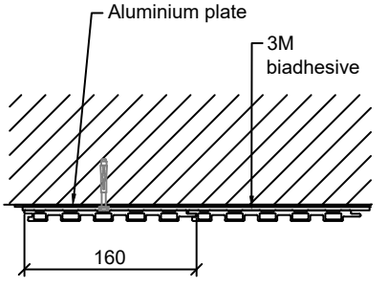


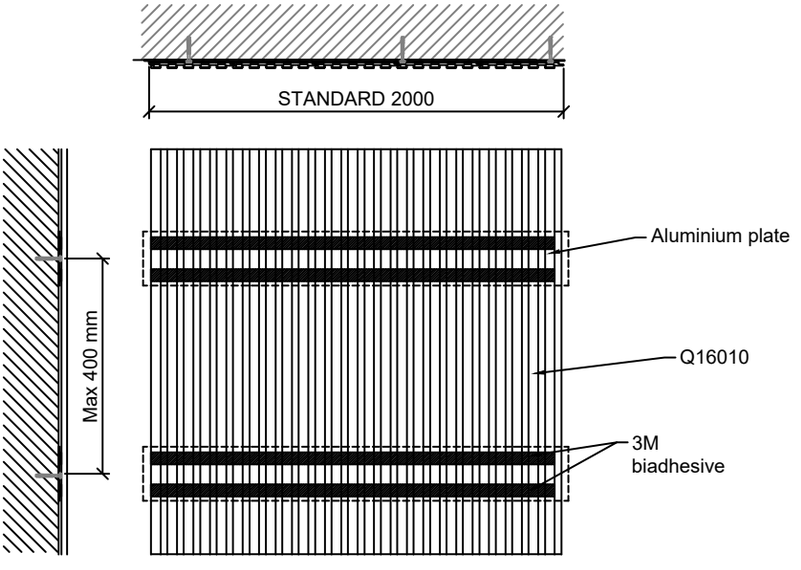
WEIGHT OF THE SYSTEM ≈ 5.99 kg/sqm
• The double-sided adhesive must be applied to a flat and clean surface
• Measures in millimeters

Q16010 - Indoor cladding



MOUNTING SYSTEM

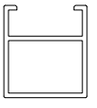
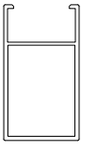




WEIGHT OF THE SYSTEM ≈ 5.42 kg/sqm
• The double-sided adhesive must be applied to a flat and clean surface
• Measures in millimeters

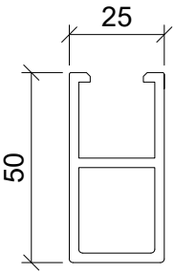
PROFILES SECTION

Indoor/ Outdoor ceiling

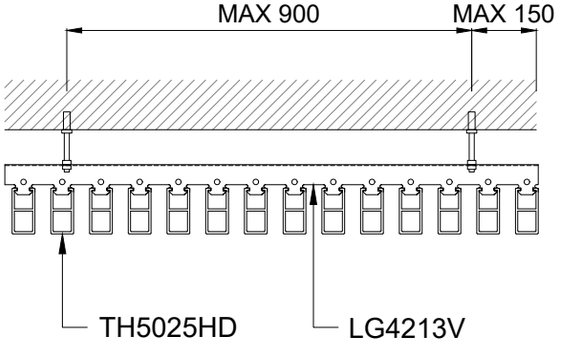
profile	cross-section	nominal dimensions [mm]	weight of the plank [kg/m]
TH5025HD 		section 25 x 50 standard length 2000	0.36
TH3050HD 		section 50 x 30 standard length 2000	0.46
TH6050HD 		section 54 x 60 standard length 2000	0.80
TH9050HD 		section 50 x 90 standard length 2000	0.83
TH14830HD-4 		section 148 x 30 standard length 2000	1.03

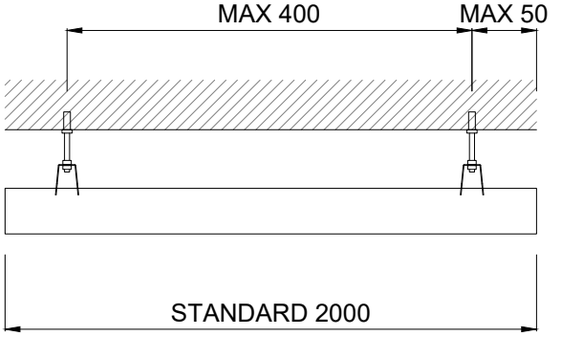
The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

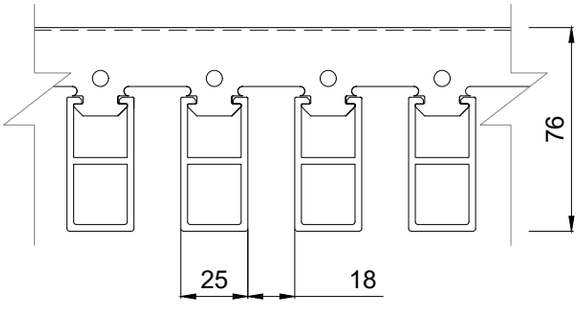
TH5025HD - indoor ceiling/outdoor soffit



MOUNTING SYSTEM

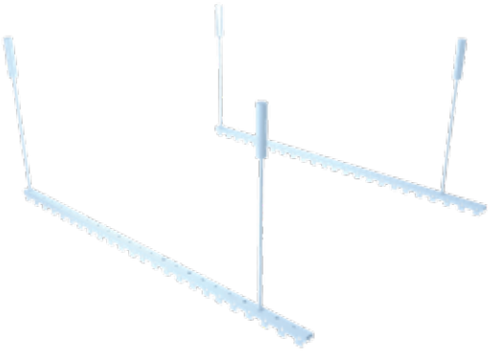




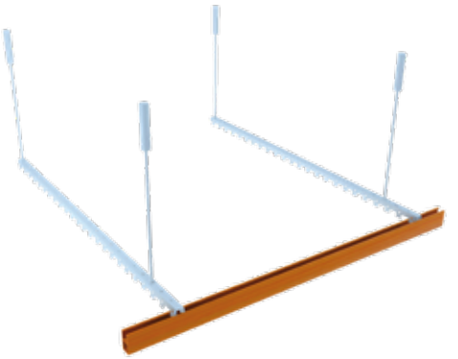


WEIGHT OF THE SYSTEM ≈ 10.55 kg/sqm
• Measures in millimeters

ASSEMBLY INSTRUCTIONS

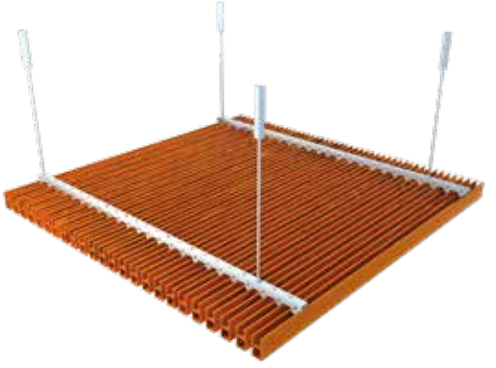


1. Fix the ZSSW-LG4213V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned



2. Install the first TH5025HD profile.

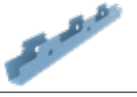
3. Attach the plank to the substructure.



4. Complete the work by repeating the steps described in 2 and 3.

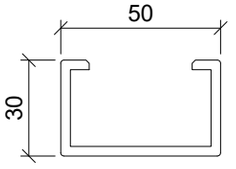
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

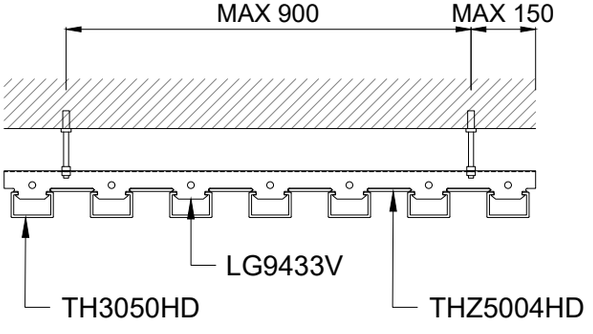
Profile TH5025HD		23.30 m/sqm	Substructure profile ZSSW-LG4213V		3.90 m/sqm (stacked bond) 4.60 m/sqm (running bond)

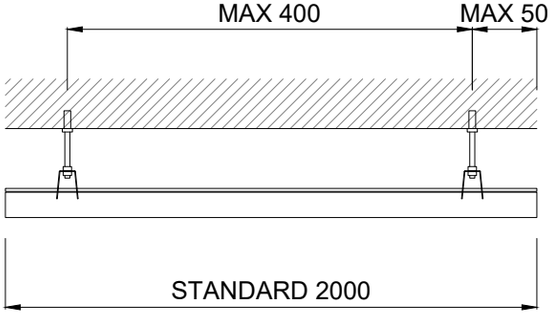
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 400 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

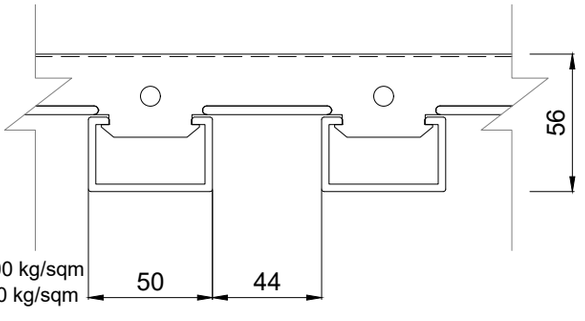
TH3050HD - indoor ceiling/outdoor soffit



MOUNTING SYSTEM

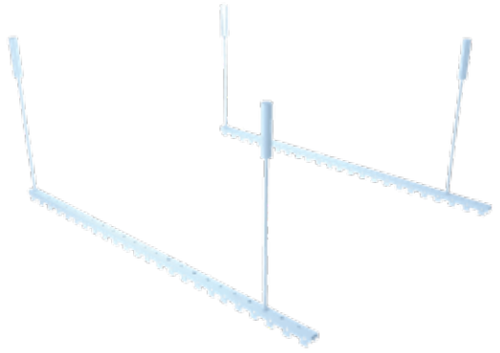




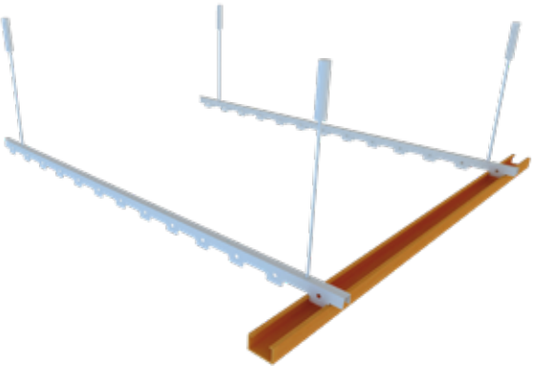


WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 7.00 kg/sqm
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 9.90 kg/sqm
• Measures in millimeters

ASSEMBLY INSTRUCTIONS

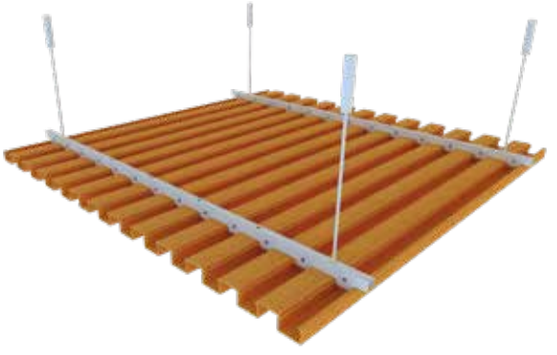


1. Fix the ZSSW-LG9433V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned



2. Install the first TH3050HD profile to the substructure.

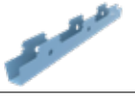
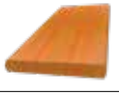
3. Install, if provided, the accessory profile THZ5004HD.



4. Complete the work by repeating the steps described in 2 and 3.

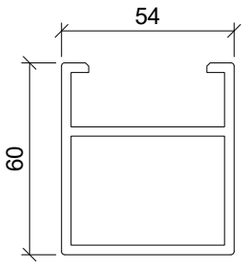
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

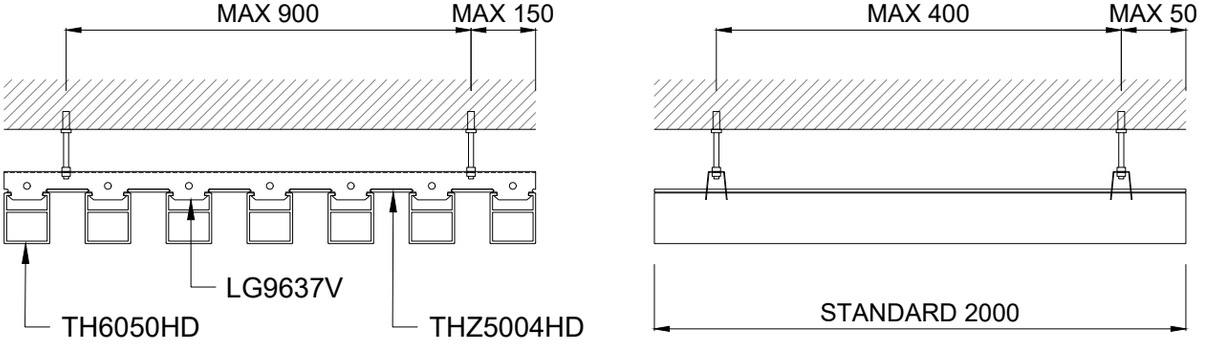
Profile TH3050HD		10.50 m/sqm	Substructure profile ZSSW-LG9433V		3.90 m/sqm (stacked bond) 4.60 m/sqm (running bond)
Accessory closing piece THZ5004HD		10.50 m/sqm optional element for closing the false ceiling			

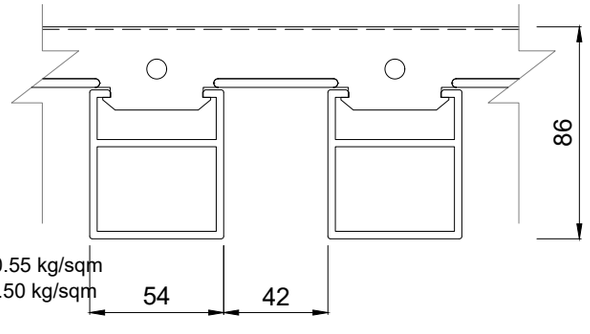
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 400 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

TH6050HD - indoor ceiling/outdoor soffit



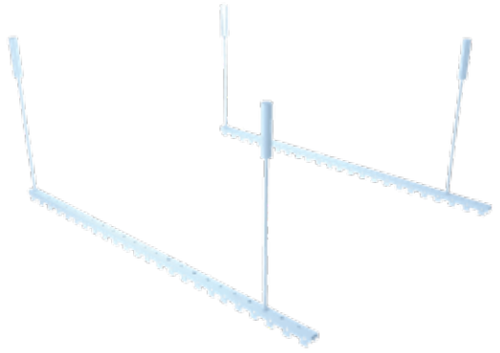
MOUNTING SYSTEM



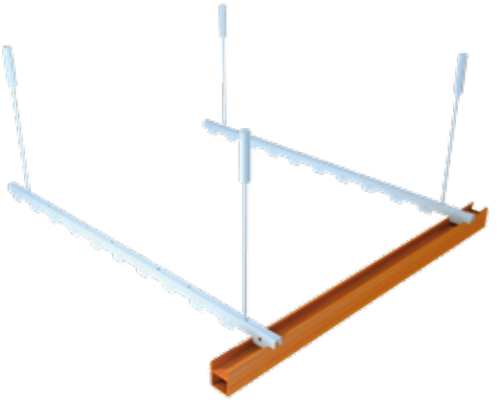


WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 10.55 kg/sqm
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 13.50 kg/sqm
• Measures in millimeters

ASSEMBLY INSTRUCTIONS

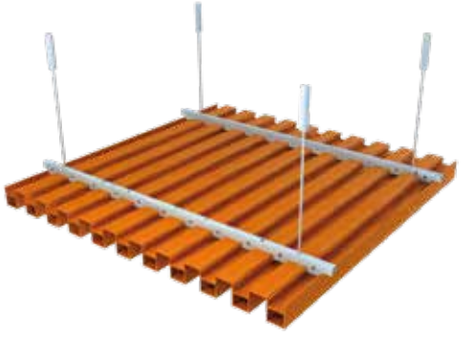


1. Fix the ZSSW-LG9637V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned



2. Install the first TH6050HD profile to the substructure.

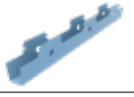
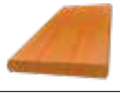
3. Install, if provided, the accessory profile THZ5004HD.



4. Complete the work by repeating the steps described in 2 and 3.

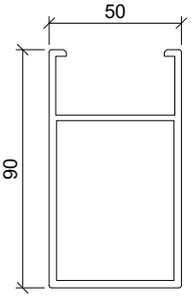
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

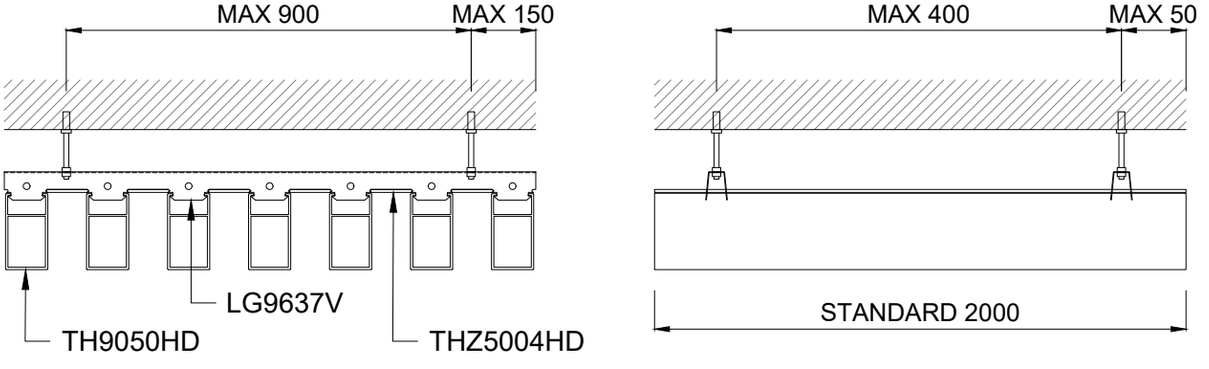
Profile TH6050HD		10.50 m/sqm	Substructure profile ZSSW-LG9637V		3.90 m/sqm (stacked bond) 4.60 m/sqm (running bond)
Accessory closing piece THZ5004HD		10.50 m/sqm optional element for closing the false ceiling			

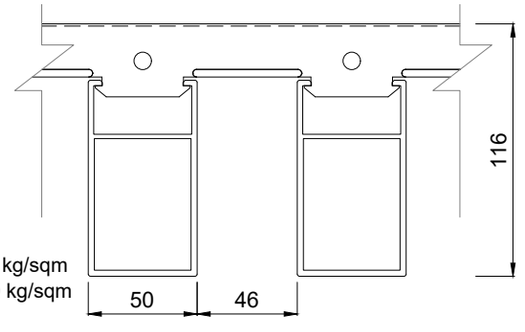
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 400 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

TH9050HD - indoor ceiling/outdoor soffit



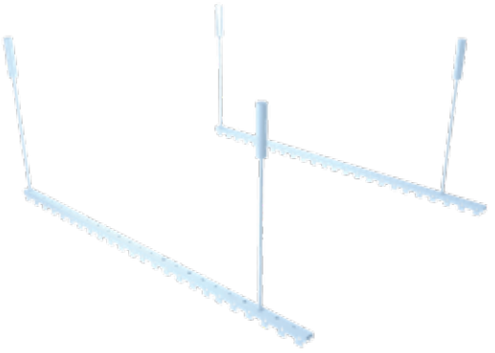
MOUNTING SYSTEM



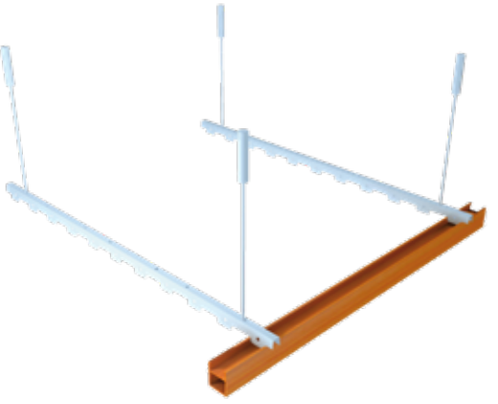


WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 10.90 kg/sqm
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 13.80 kg/sqm
• Measures in millimeters

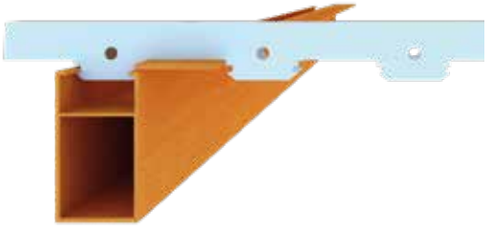
ASSEMBLY INSTRUCTIONS



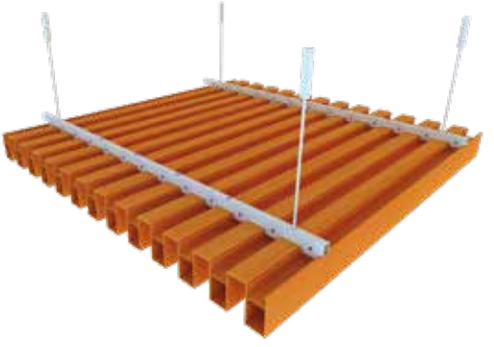
1. Fix the ZSSW-LG9637V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned



2. Install the first TH9050HD profile to the substructure.



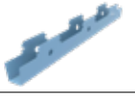
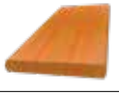
3. Install, if provided, the accessory profile THZ5004HD.



4. Complete the work by repeating the steps described in 2 and 3.

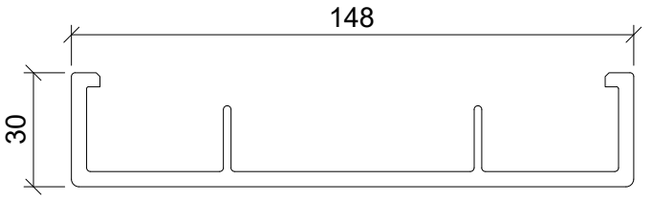
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

Profile TH9050HD		10.50 m/sqm	Substructure profile ZSSW-LG9637V		3.90 m/sqm (stacked bond) 4.60 m/sqm (running bond)
Accessory closing piece THZ5004HD		10.50 m/sqm optional element for closing the false ceiling			

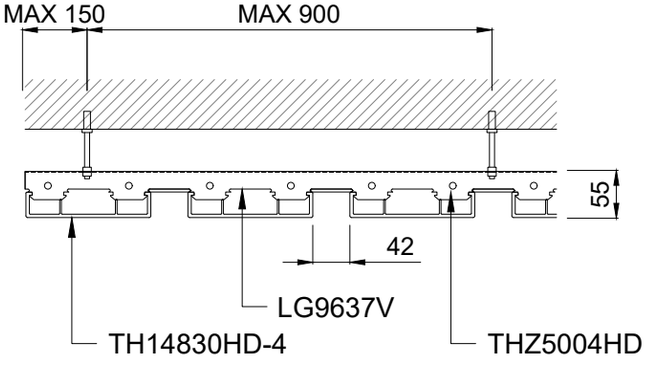
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 400 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

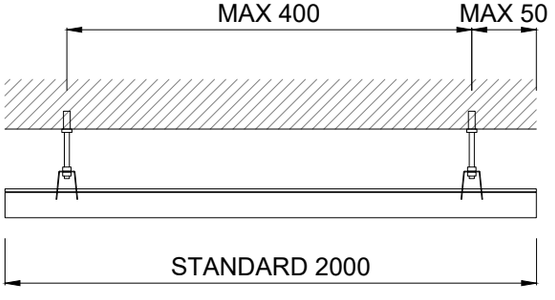
TH14830HD-4 - indoor ceiling/outdoor soffit



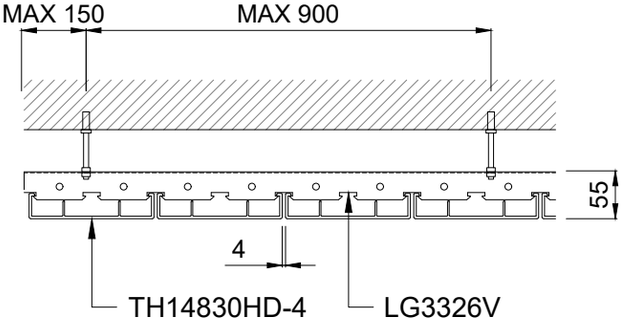
MOUNTING SYSTEM

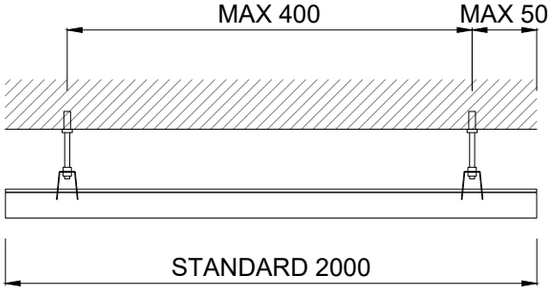
JOINT 40 mm





JOINT 4 mm



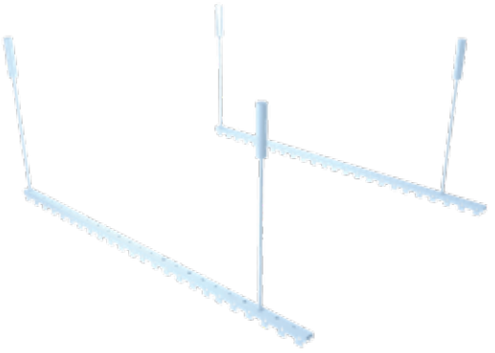


WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 7.70 kg/sqm
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 9.25 kg/sqm

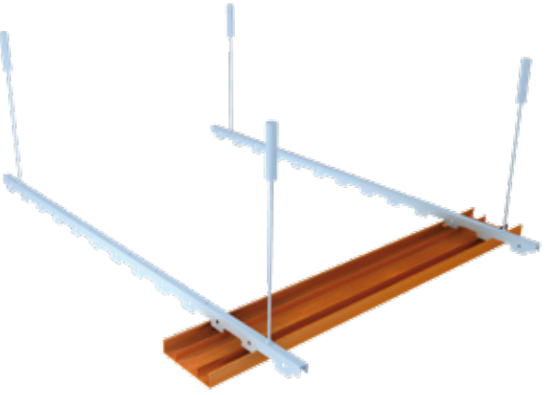
WEIGHT OF THE SYSTEM (joint 4 mm) ≈ 9.00 kg/sqm

• Measures in millimeters

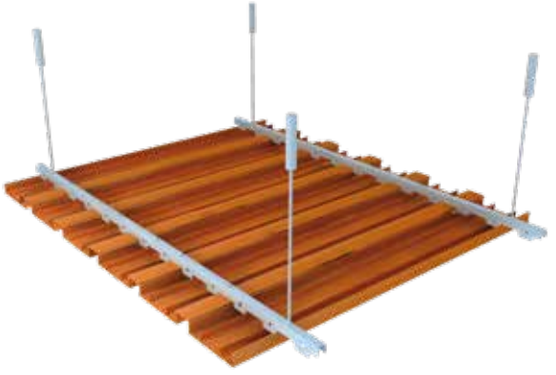
ASSEMBLY INSTRUCTIONS



1. Fix the ZSSW-LG9637V or ZSSW-LG3326V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned



2. Install the first TH14830HD-4 profile, fitting the planks
to the substructure, alternating them with the THZ5004HD profiles if applicable.

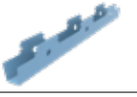
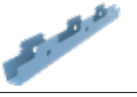


3. Complete the work by repeating the steps described in 2.

NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

Profile TH14830HD-4		5.40 m/sqm (joint 40 mm) 6.60 m/sqm (joint 4 mm)
Accessory closing piece THZ5004HD		5.40 m/sqm (joint 40 mm)

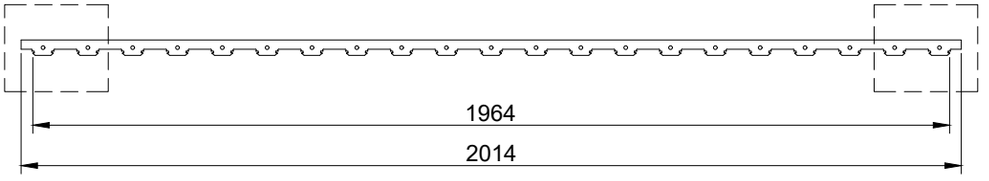
Substructure profile ZSSW-LG9637V joint 40 mm		3.90 m/sqm (stacked bond) 4.60 m/sqm (running bond)
Substructure profile ZSSW-LG3326V joint 4 mm		3.90 m/sqm (stacked bond) 4.60 m/sqm (running bond)

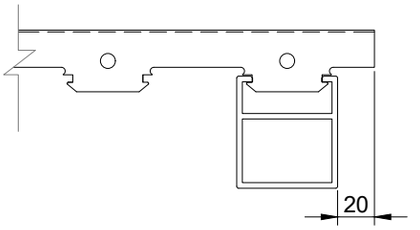
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 2000 mm long and slats/substructure with maximum distance o.c. up to 400 mm. For any installation that differs from the standard a cutting plan must be designed; it shall calculate precisely the number of points of intersection between the planks and the substructure, allowing the correct identification of the number of clips and screws required for each type of application.

Ceiling/soffit substructures

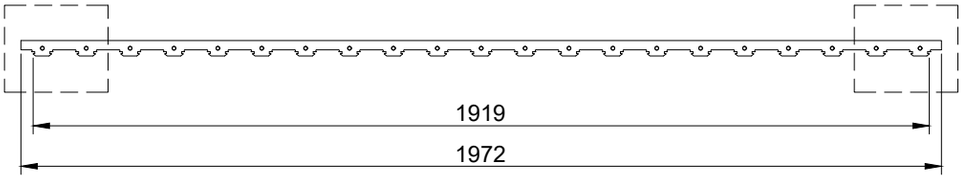
(lengths and details of the supplied items)

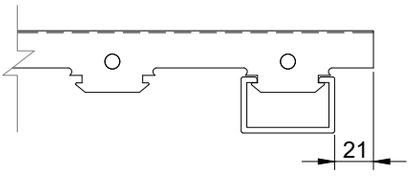
LG9637V *for TH6050HD, TH9050HD, TH14830HD-4 (joint 40 mm)*



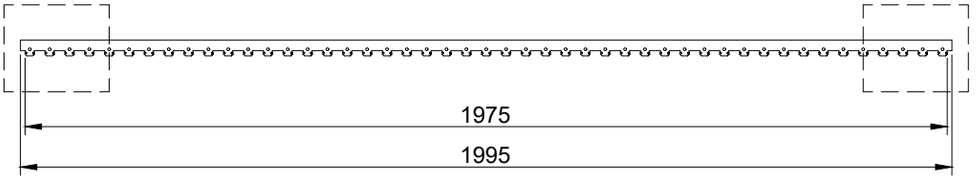


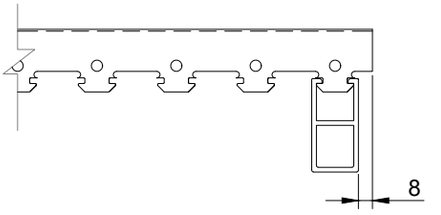
LG9433V *for TH3050HD*



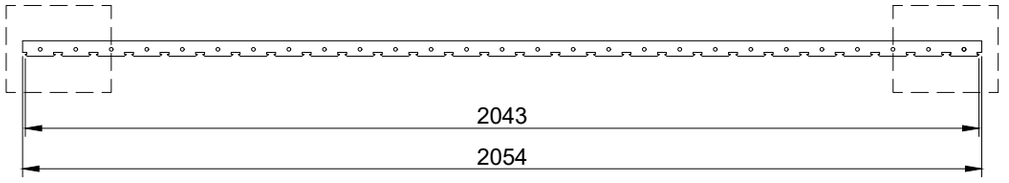


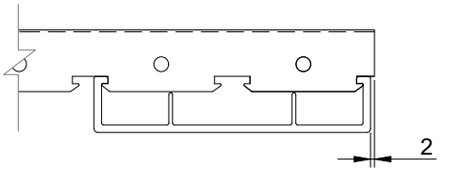
LG4213V *for TH5025HD*





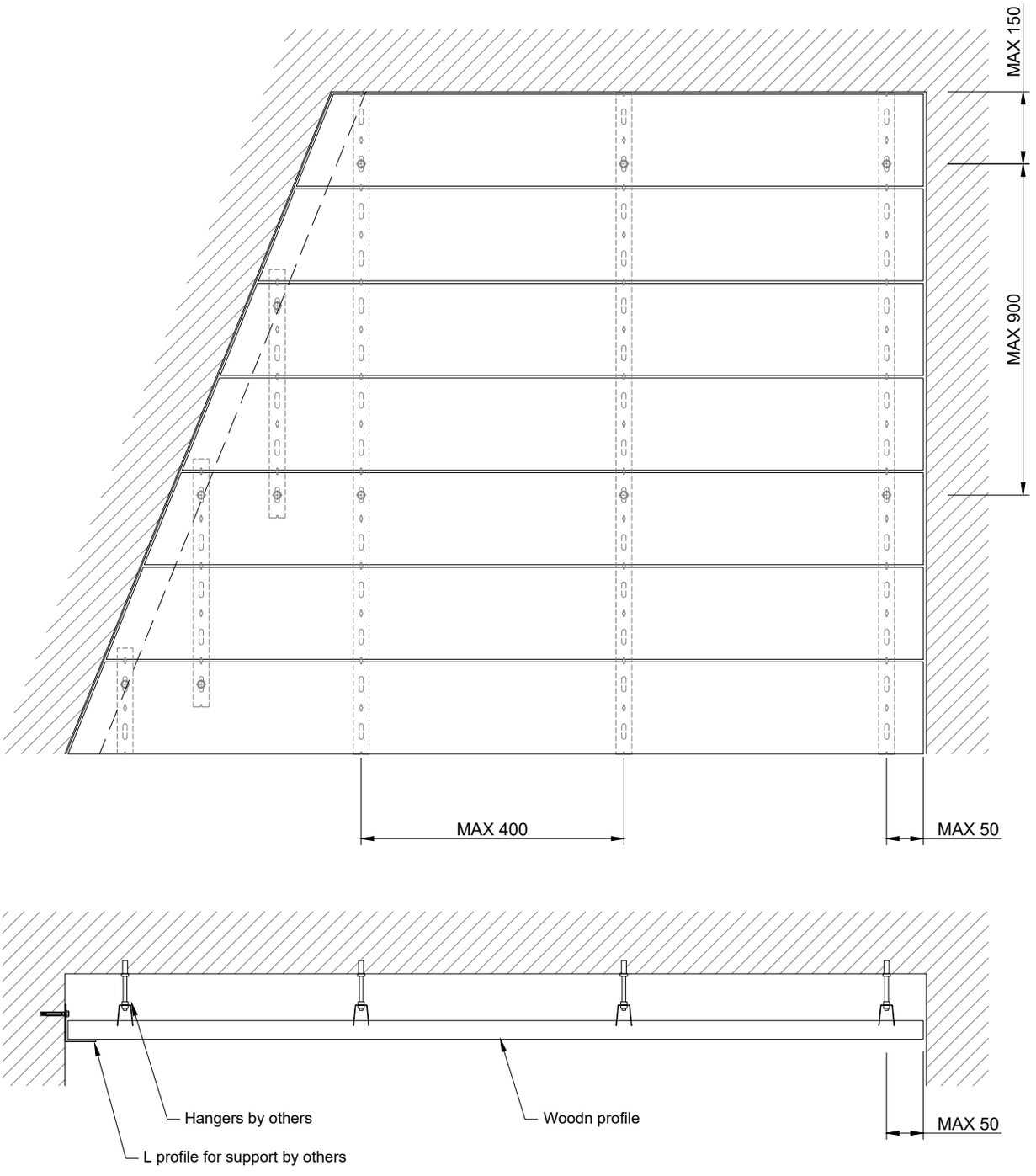
LG3326V *for TH14830HD-4 (joint 4 mm)*

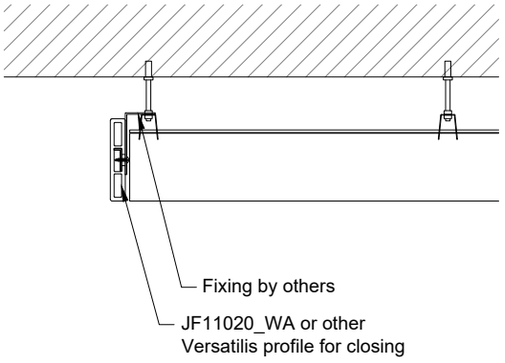


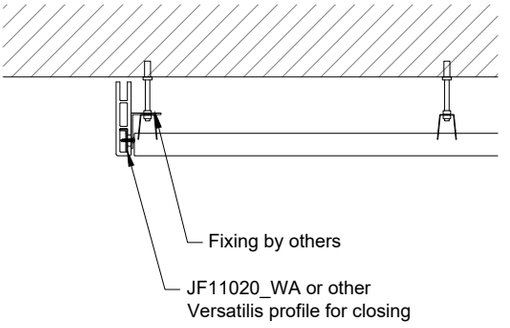


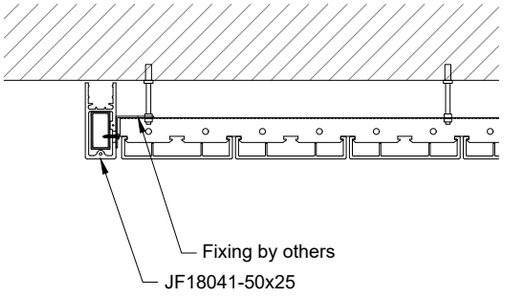
The dimensions listed are nominal values.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

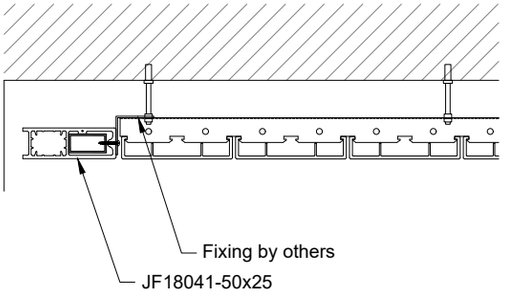
Solutions for the ceiling/soffit perimeter closure

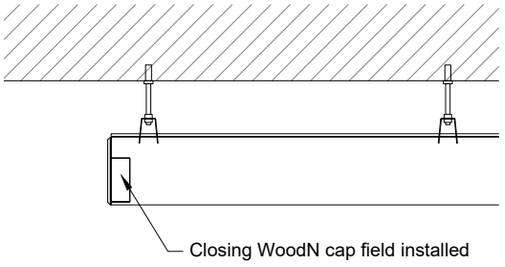


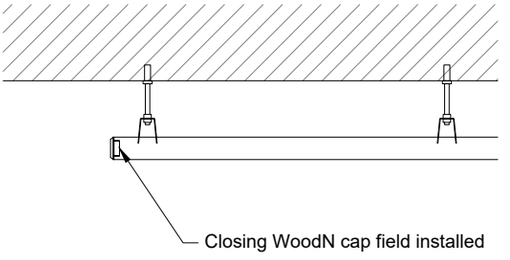

Fixing by others
JF11020_WA or other
Versatilis profile for closing


Fixing by others
JF11020_WA or other
Versatilis profile for closing

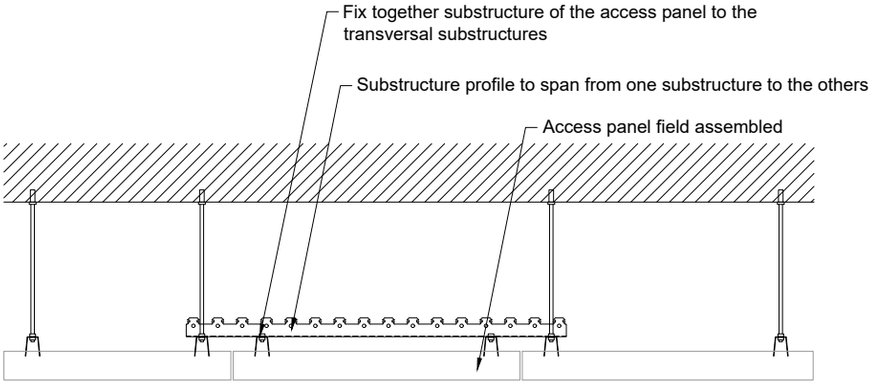

Fixing by others
JF18041-50x25

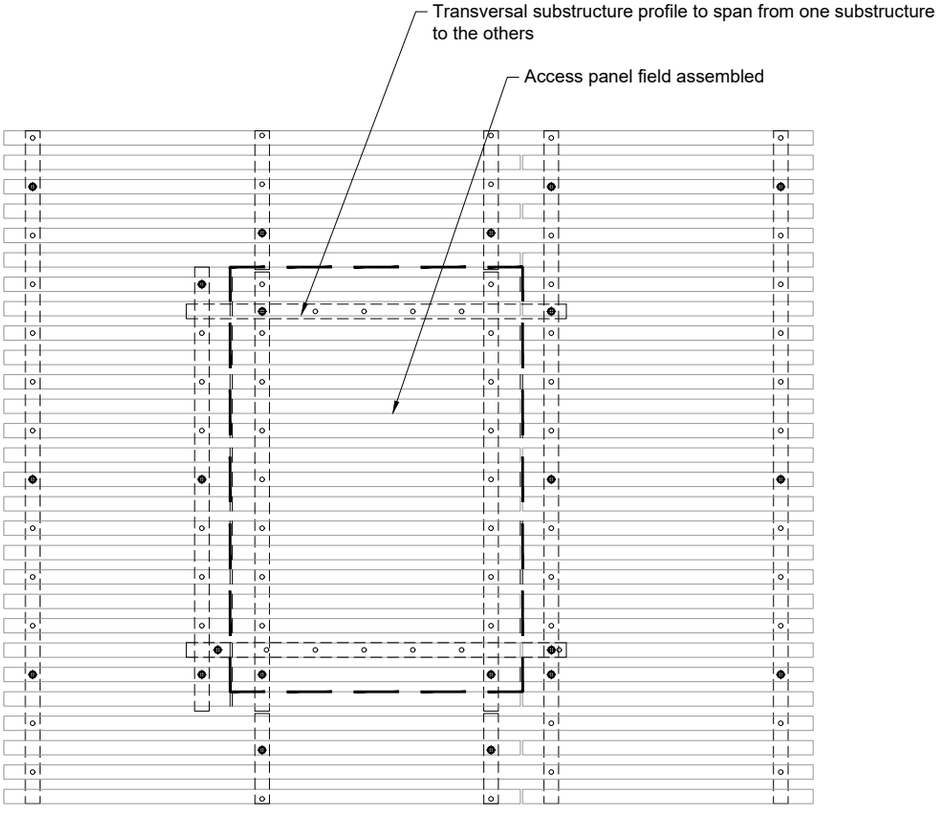

Fixing by others
JF18041-50x25

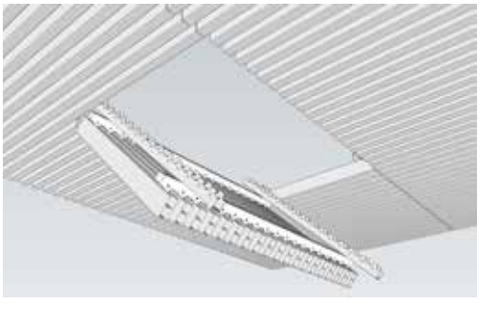

Closing WoodN cap field installed


Closing WoodN cap field installed

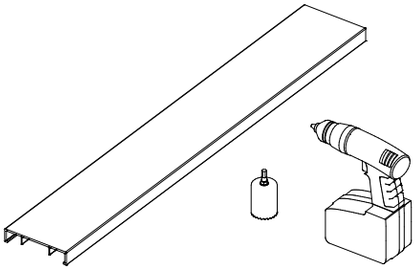
Ceiling access panel

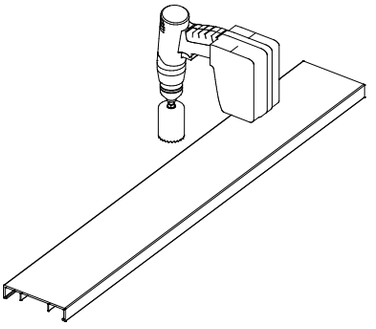


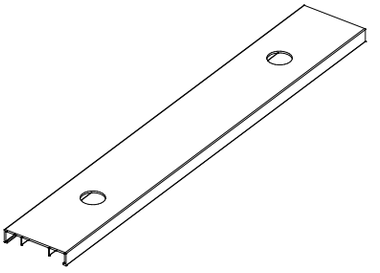




Drill to position lights and other recessed elements





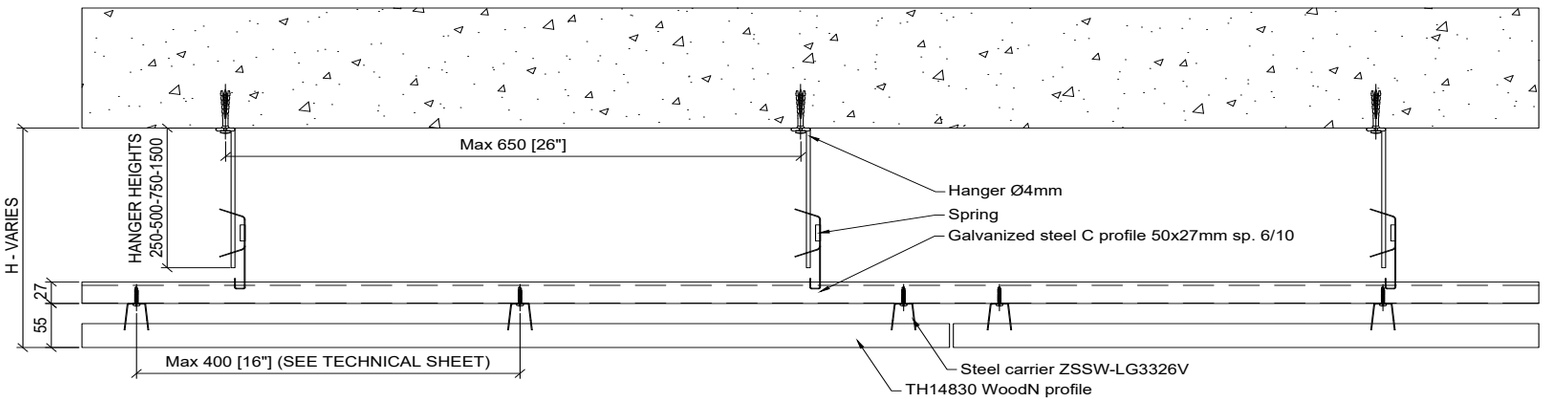


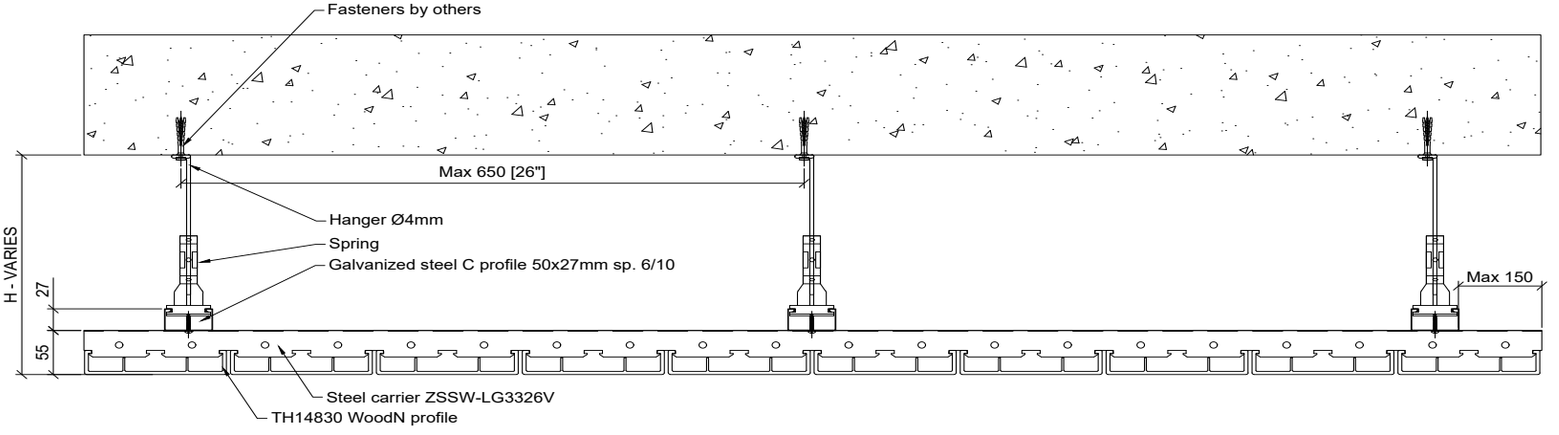
WARNING: any lights and other recessed elements must be fixed to a support structure and not directly on the plank.

Suspended Ceiling Details

The WoodN Greenwood kit is applicable to all our false ceiling systems.
The standard kit consists of from:

- Steel hangers diam.4mm available in different lengths. 250mm, 500mm, 750mm, 1500mm
- Adjustment springs for C profile 50x27mm
- C profile in galvanized iron, dim. 50x27mm thickness. 6/10. Standard length 3000mm





ACUSTIC TEST-NRC

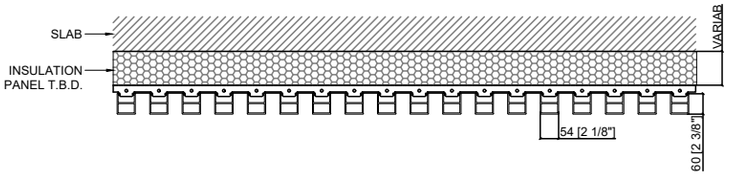
Chart showing indicative NRC values of ceiling systems tested as per ASTM C423 - 17 :

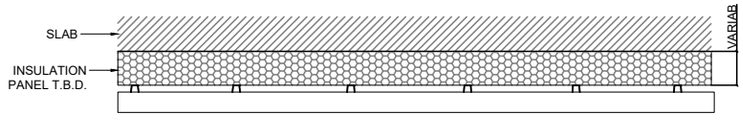
SERIES	APPLICATION	MODEL	MOUNTING TYPE	INSULATION PANEL	NRC	SAA
Woodn Greenwood Modulatus	Ceiling/Soffit	ACUSTIC TH5025	**E-400**	Knauf Naturboard B100	0,85	0,87
		ACUSTIC TH14830_40	**E-400**		0,70	0,68
		ACUSTIC TH6050	**E-400**	MBI Theater Board 1" x 6# Core 1000Tb-1060-O	0,85	0,83
				MBI Theater Board 1" x 3# Core 1000Tb-1030-O	0,80	0,81
		ACUSTIC TH6050	**Type A**	MBI Theater Board 1" x 6# Core 1000Tb-1060-O	0,75	0,73
				MBI Theater Board 1" x 3# Core 1000Tb-1030-O	0,75	0,77
		ACUSTIC TH14830_4	**E-400**	NO Insulation	0,10	0,12

Values reported vary depending on the type and thickness of the acoustic panel.

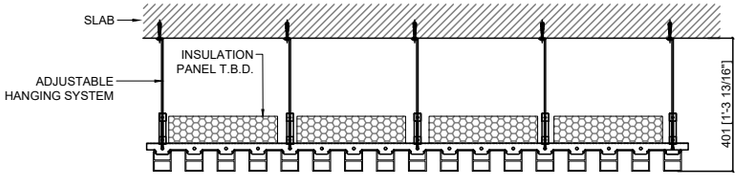
Tipical drawings wit TH6050 system:

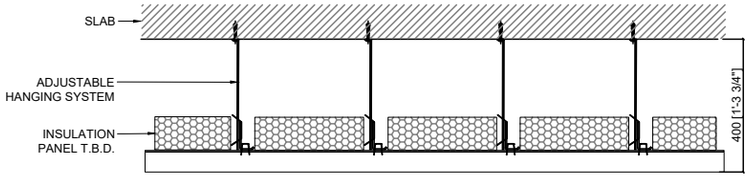
TYPE -A





TYPE -E-400





GREENWOOD

Outdoor Decking

Alpiana Resort Merano (GREENDECK)

CARATTERISTICHE DEL MATERIALE- *MATERIAL'S FEATURES*

CARATTERISTICA ***FEATURE***	**NORMA** ***REFERENCE***	**GREENDECK** **RISULTATO - *RESULT***	**EVODECK** **RISULTATO - *RESULT***	**SLIMDECK** **RISULTATO - *RESULT***
Tipologia di prodotto *Product Type*		Profilo in WPC (Wood Polymer Composite) a sezione piena composto da: 60% ca. fibra di legno, 30% ca. di polipropilene (PP), 10% ca. additivi. *Full section WPC (Wood Polymer Composite) profile composed by: 60% wood fiber, 30% polypropylene (PP), 10% additives.*		
Applicazione *Application*		Pavimento per esterni non strutturale *Non-structural outdoor decking*		
Dimensione e peso indicativo del prodotto *Dimensions and approximate weight of the profile*		161 ±1 x 22mm - 3,90 kg/m	161 ±1 x 22mm - 2,90 kg/m	88 ±1 x 17mm - 1,40 kg/m
Densità *Density*	EN ISO 1183	1,17 g/cm³		

RISULTATI DEI TEST- *TEST'S RESULTS*

TIPOLOGIA TEST ***TEST TYPE***	**NORMA** ***REFERENCE***	**GREENDECK** **RISULTATO - *RESULT***	**EVODECK** **RISULTATO - *RESULT***	**SLIMDECK** **RISULTATO - *RESULT***
Proprietà meccaniche *Mechanical properties*	PROCEDURA CATAS	Resistenza a flessione: 36,1 Mpa *Bending resistance* Modulo di elasticità: 4972 Mpa *Tensile Module* Carico massimo: 3502 N (L=500mm) *Max load*	Resistenza a flessione: 17,7 Mpa *Bending resistance* Modulo di elasticità: 2493 Mpa *Tensile Module* Carico massimo: 4491 N (L=400mm) *Max load*	Resistenza a flessione: 25,4 Mpa *Bending resistance* Modulo di elasticità: 3499 Mpa *Tensile Module* Carico massimo: 1124 N (L=350mm) *Max load*
Rigonfiamento e assorbimento di acqua (24 h) *Swelling and water absorption (24 h)*	PROCEDURA CATAS	Lunghezza *Length*: 0,1% Larghezza *Width*: 0,0% Spessore *Thickness*: 0,3% Peso *Weight*: 0,4%	Lunghezza *Length*: 0,1% Larghezza *Width*: 0,1% Spessore *Thickness*: 0,7% Peso *Weight*: 0,6%	Lunghezza *Length*: 0,1% Larghezza *Width*: 0,1% Spessore *Thickness*: 0,9% Peso *Weight*: 0,9%
Rigonfiamento e assorbimento di acqua (28 gg) *Swelling and water absorption (28 days)*	PROCEDURA CATAS	Lunghezza *Length*: 0,2% Larghezza *Width*: 0,2% Spessore *Thickness*: 1,6% Peso *Weight*: 2,5%	Lunghezza *Length*: 0,2% Larghezza *Width*: 0,4% Spessore *Thickness*: 3,2% Peso *Weight*: 3,8%	Lunghezza *Length*: 0,2% Larghezza *Width*: 0,7% Spessore *Thickness*: 3,3% Peso *Weight*: 5,0%
Coefficiente di espansione termica lineare (da -10° a +45°C) *Coefficient of linear theral expansion (from -10°C to +45°C)*	ASTM E831/05	Longitudinale / *Longitudinal*: 33,3 x10^{-6} m/(m°C) Trasversale / *Transversal*: 87,4 x10^{-6} m/(m°C)		
Resistenza allo scivolamento *Slipping resistance*	DIN 51130	Rating R 11		
Indice di riflessione solare (SRI) - hc=5 W/(m²K), hc=12 W/(m² K), hc=30 W/(m²K) *Solar Reflex Index (SRI) - hc=5 W/(m²K), hc=12 W/(m² K), hc=30 W/(m²K)*	ASTM E1980	14L - Bianco Loft - SRI > 74,0 16L - Taupe Loft - SRI > 35,9 12L - Miele Loft - SRI > 32,2		
Reazione al fuoco *Fire resistance*	EN 13501-1	Classe Efl		
Resistenza alla crescita fungina *Resistance to fungal growth*	ISO 846 ASTM G21.96	Classe 0: Nessuna comparsa *Class 0: No appearance*		
Resistenza alle termiti *Termite resistance*	ASTM D3345.22	Classe A *Class A*		
Rilascio di formaldeide *Formaldeyde Emission*	EN ISO 12460-3.20	mgHCHO/(m²h) < 0,1		

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

FINISHES AND COLORS GREENWOOD

Solarium (for Indoor and Outdoor applications)

14S Bianco

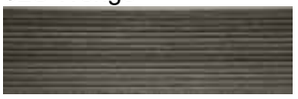
12S Miele

21S Tabacco

23S Terra di Siena

31S Ebano

32S Wengè



16S Taupe

33S Aubergine

10S Caffè Bogotà

13S Myanmar

Loft (for Indoor and Outdoor applications)

14L Bianco

12L Miele

21L Tabacco

23L Terra di Siena

31L Ebano

32L Wengè

16L Taupe

33L Aubergine

10L Caffè Bogotà

13L Myanmar

Colors and textures shown are purely indicative. Check every time a real sample for approval.
Considering the presence of natural wood fibers, colors may vary from batch to batch.

SRI (Solar Reflectance Index)

The SRI index is a value that is attributed to some building materials and takes into account both the material's ability to reflect solar radiation and the ability to emit solar radiation absorbed as thermal radiation.

The steady-state temperature "Ts" and solar reflection index "SRI" were determined in accordance with standard ASTM E1980 - 11 (Approach 1) for three convective coefficients (rate of heat transfer) "h_c":

– h_c = 5 W/(m² * K) corresponding to low-wind conditions (0 to 2 m/s);
– h_c = 12 W/(m² * K) corresponding to medium-wind conditions (2 to 6 m/s);
– h_c = 30 W/(m² * K) corresponding to high-wind conditions (6 to 10 m/s);

samples	Solar reflection index SRI		
	h_c = 5 W/(m²*K)	h_c = 12 W/(m²*K)	h_c = 30 W/(m²*K)
Greendeck Bianco Loft	82,4	82,5	82,5
Greendeck Miele Loft	32,6	32,4	32,1
Greendeck Miele Solarium	16,4	15,7	14,9
Greendeck Taupe Loft	35,9	36,5	36,7

SR (Solar Reflection value)

SR is the fraction measurement of the incident solar radiation that is reflected by an irradiated surface.
The value varies between 0 and 1, respectively a totally absorbing and a totally dispersing surface.
The closer the reflectance value is to 0, the less the material has the ability to reflect solar radiation.

samples			
	Solar reflectance factor "ρe"	Solar absorption factor "αe"	Thermal emissivity "ε"
Greendeck Bianco Loft	0.61	0.38	0.91
Greendeck Miele Loft	0.28	0.71	0.42
Greendeck Miele Solarium	0.15	0.84	0.94
Greendeck Taupe Loft	0.33	0.67	0.91

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 Greenwood 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 Greenwood 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 immediatly after installation. Immediately remove major stains such as paint, concrete or tar residues.
- For cleaning and maintenance instructions refer to page 142. The WoodN Industries warranty will be rendered null and void in the event of incorrect or improper handling, cleaning and maintenance.

EXPANSION GAP BETWEEN ADJACENT PROFILES AND WALLS

The composite wood being subject to limited expansion, due to temperature changes and limited water absorption, there must be maintained a lateral distance of around 5 mm between individual boards. This distance is provided automatically by the use of the clip which at the same time carries out the functions of template and spacer during fixing operations.

The heads of the boards must always rest on a substructure. The clips should be positioned in line with the substructure profile to fix both ends of the boards.
Maintain distances of 20-30 mm from the rigid structures present in the vicinity of the decking. In the head joints there must be a distance between the boards of 6-7 mm (for 2000 mm long pieces) which must be increased as the length of the boards increases.
A distance of 11 mm must also be maintained for direction changes.

WARNING: For correct installation, every piece of board (including those shorter than 500 mm) must always be supported and fixed to the substructure in at least 3 points. This is to ensure durability over time.

TOOLS REQUIRED FOR INSTALLATION:

- Impact drill
- Electric screwer
- Electric saw
- Rubber mallet
- Various materials for tracing purpose

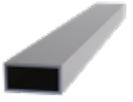
PROFILES SECTION

Outdoor decking

profile	cross-section	nominal dimensions [mm]	weight of the plank [kg/m]
GREENDECK - TV01 		section 161 x 22 standard length 2000 mm	~3.90
EVODECK - TV05 		section 161 X 22 standard length 2000 mm	~2.90
SLIMDECK - TV06 		section 88 X 17 standard length 2100 mm	~1.40

The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

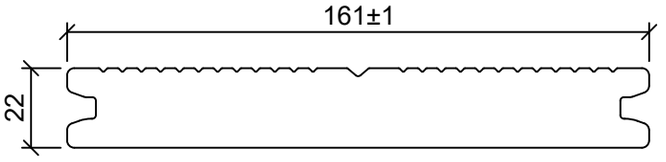
ACCESSORIES FOR DOUBLE FRAME

Aluminum Joist AZTRW-45X25.4X1.5-6060-T6 45 x 25.4 (L x H)	
Raised floor supports ZPSC-AC010#SPESS / ZPSC-AC010#H15 ZPSC-AC010#2235 / ZPSC-AC010#3555 ZPSC-AC010#5595 / ZPSC-AC010#95165 ZPSC-AC010#165235 / ZPSC-AC010#PROL	

FINISHING ACCESSORIES

Screw hole dowel AC008	
Smooth board for bullnose GW001	
Preassembled step GW002	

GREENDECK - outdoor decking



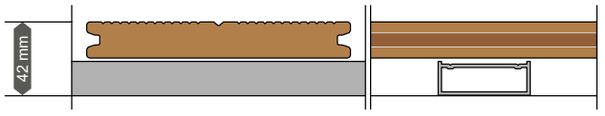
PLANKS DIMENSION AND LOGISTIC

Code	TV01
Dimensions of the plank	161 x 22 x 2000 mm
Incidence	6,10 m/m^2
Weight of a plank	~ 3,90 kg/m

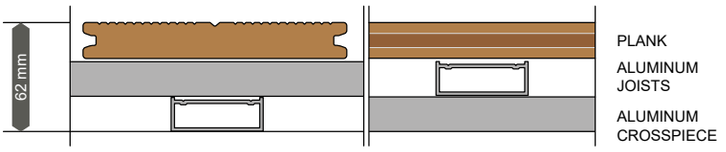
The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

System height

LAYING ON ALUMINUM JOISTS 55 x 20 mm (W x H)



LAYING ON ALUMINUM JOISTS AND CROSSPIECES 55 x 20 mm (W x H)
WITH SUPERIMPOSED FRAME

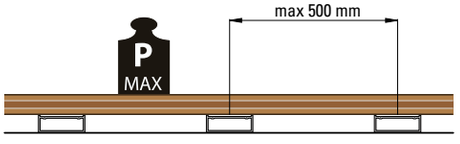


Size of the joints

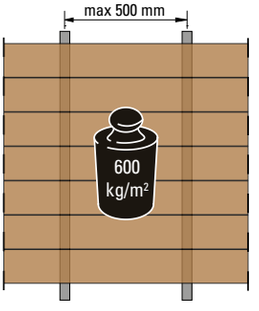
Clip model	Joint size [mm]
Stainless steel clip (code ZCLG-AC017)	Approximately 5 *

*IMPORTANT: The dimensions shown are approximate and may vary depending on the accuracy, tolerance and method of installation.

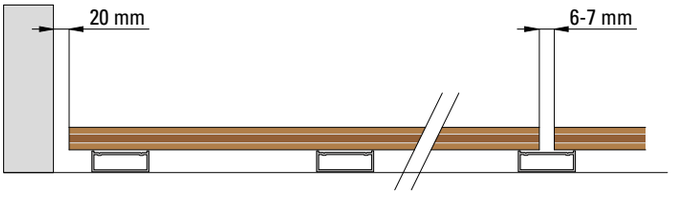
Laying instructions



The Greendeck floor is suitable for foot traffic, but not vehicle traffic.

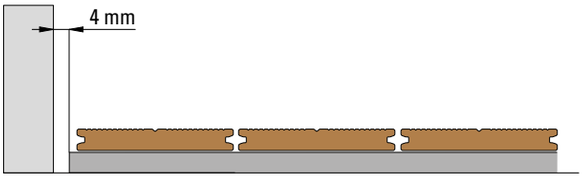


Load distributed over 1 m^2



The minimum distance between the ends of the plank and the wall must be at least 20 mm.

The minimum distance between the ends of two consecutive planks must be 6-7 mm (for planks 2000 mm long)



The distance between the joist and the wall must be at least 4 mm regardless of the width of the surface.

Position the joist no more than 30 mm from the end of the plank.

For correct installation, every piece of board (including those shorter than 500 mm) must always be supported and fixed to the substructure in at least 3 points.

WARNING: it has to be noted that the failure to comply strictly with the criteria for a correct installation, causes the deformation of the materials and the misalignment of all the expansion joints.

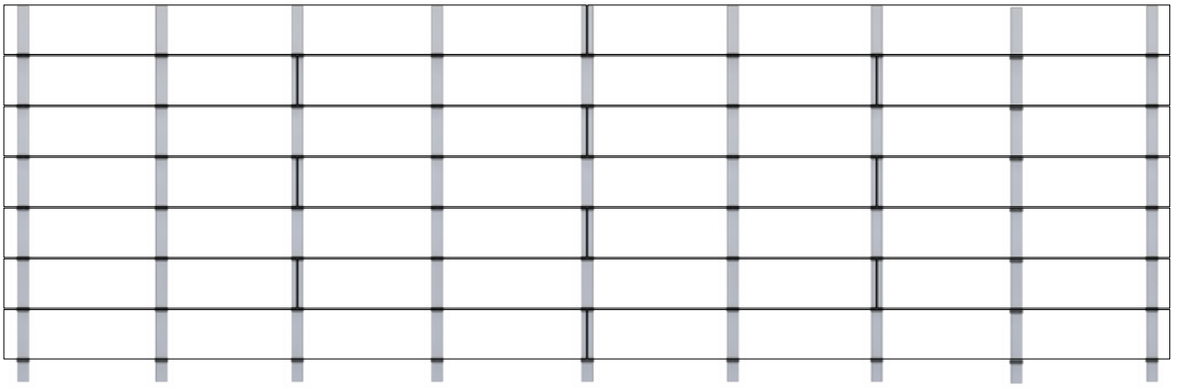
LAYING METHOD 1 - SINGLE FRAME

LAYING ON STABLE GROUND

Installation on aluminum joists involves mechanical fixing them to the ground and is suitable for installation on stable and drillable floors such as: concrete sub-bases, existing stone floors and industrial decking.
In the presence of concrete screeds laid to protect waterproofing membrane, check the actual available thickness to choose the size of the plug to fix the joists, so as not to damage the underlying membrane.

For installation in circumstances and on grounds that differ from the above, please refer to “LAYING METHOD 2 - DOUBLE FRAME”

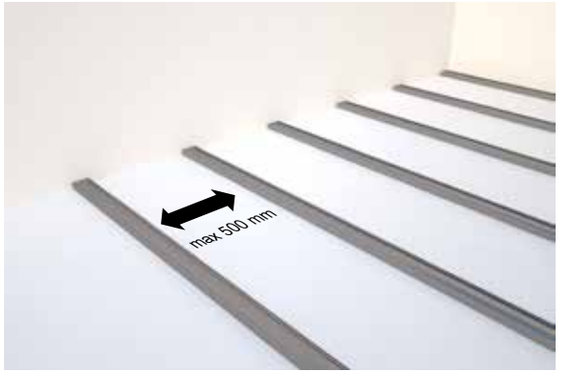
LAYING PATTERN - RUNNING BOND



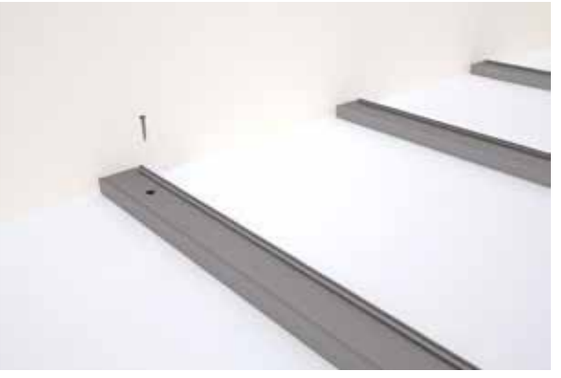
Greendeck plank brushed PTV05	
Aluminum joist 55 x 20 mm (L x H) AZTRW-45X25.4X1.5-6060-T6	
Burnished staniless steel clip ZCLG-AC017	
Stainless steel clip (starting clip) ZCLG-AC003	
Screw hole dowel AC008	
Screws for clips and dowel attachment ZFHC-3.5X19-A2-7504O ZFHC-4.8X25-A2-7504P	

LAYING AND FIXING OF ALUMINUM JOISTS (standard 55 x 20 mm)

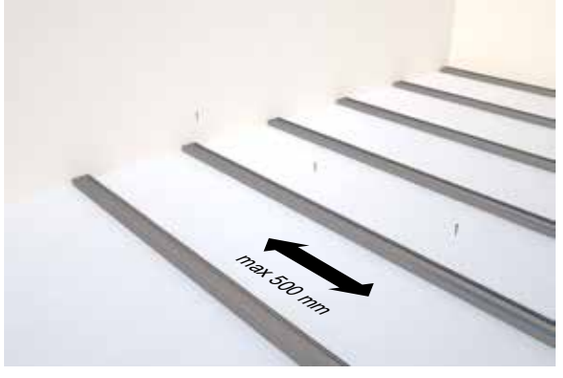
Arrange the joists on the ground in a position perpendicular to the plank laying direction, with a maximum centre-to-centre distance equal to 500 mm from each other. The positioning of the joists is closely connected to the laying surface of the planks. We recommend laying out the planks on the ground to locate the exact positions of the joists, their centre-to-centre distance may vary depending on the laying surface and the cut of the floor planks.



1. Arrange the joists on the ground with a maximum centre-to-centre distance of 500 mm, and take into account the floor laying pattern.

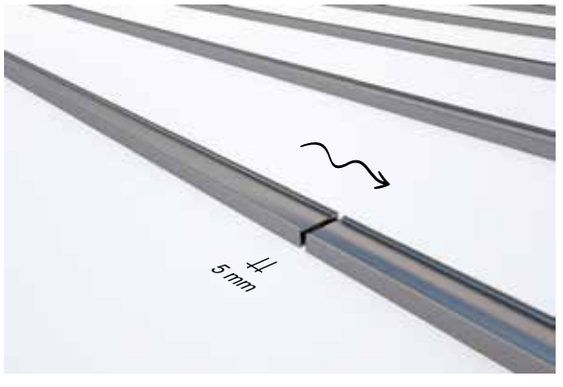


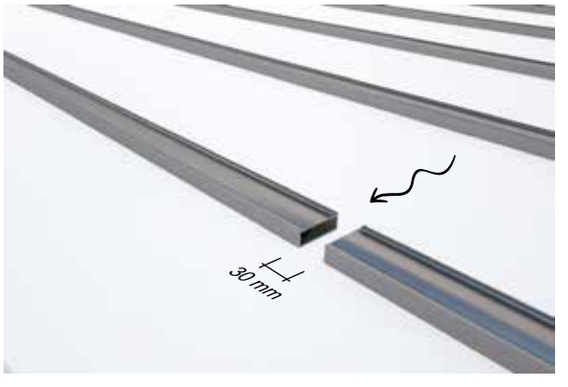
2. Drill a through hole with a diameter 1-2 mm greater than the diameter of the screw shank and another of a diameter greater than the diameter of the screw head on with the upper surface of the joist.



3. Attach the joists to the ground using suitable screw plugs, the centre-to-centre distance of the fixing points must not exceed 500 mm.

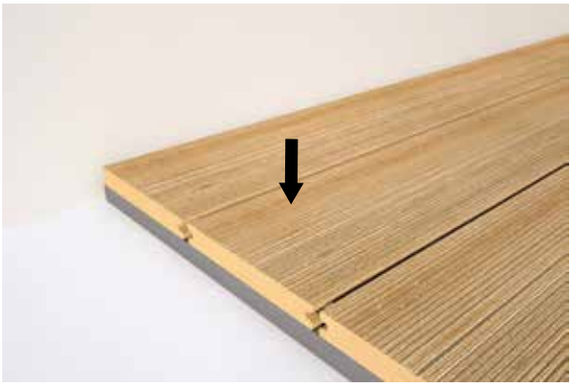
4. If the ground is uneven, and shimming is therefore required, ensure support to the aluminium joists at least every 500 mm.





5. The distance between the ends of adjacent joists must be at least 5 mm in the case of installation of the joists along the sloping side of the floor and 30 mm in case of installation perpendicular to the slope to allow for the outflow of rainwater.

INSTALLATION OF THE PLANKS

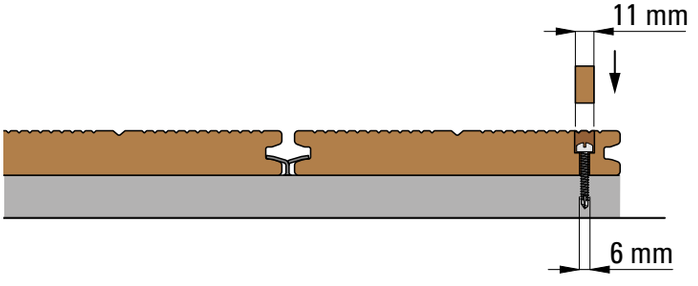


1. The brushed side (Loft or Solarium) must be installed facing upwards as it is treated to give it the characteristic aesthetic effect desired.

2. Apply starting clip ZCLG-AC003, by screwing it to the joist and make sure the clips are all aligned.

3. Insert the clip ZCLG-AC017 in the appropriate on the joist and fix it with self-drilling screws 3.5x19 mm.

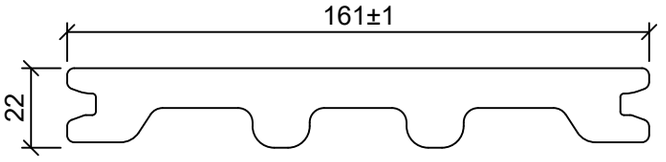
4. Repeat the above steps until completion of the decking.

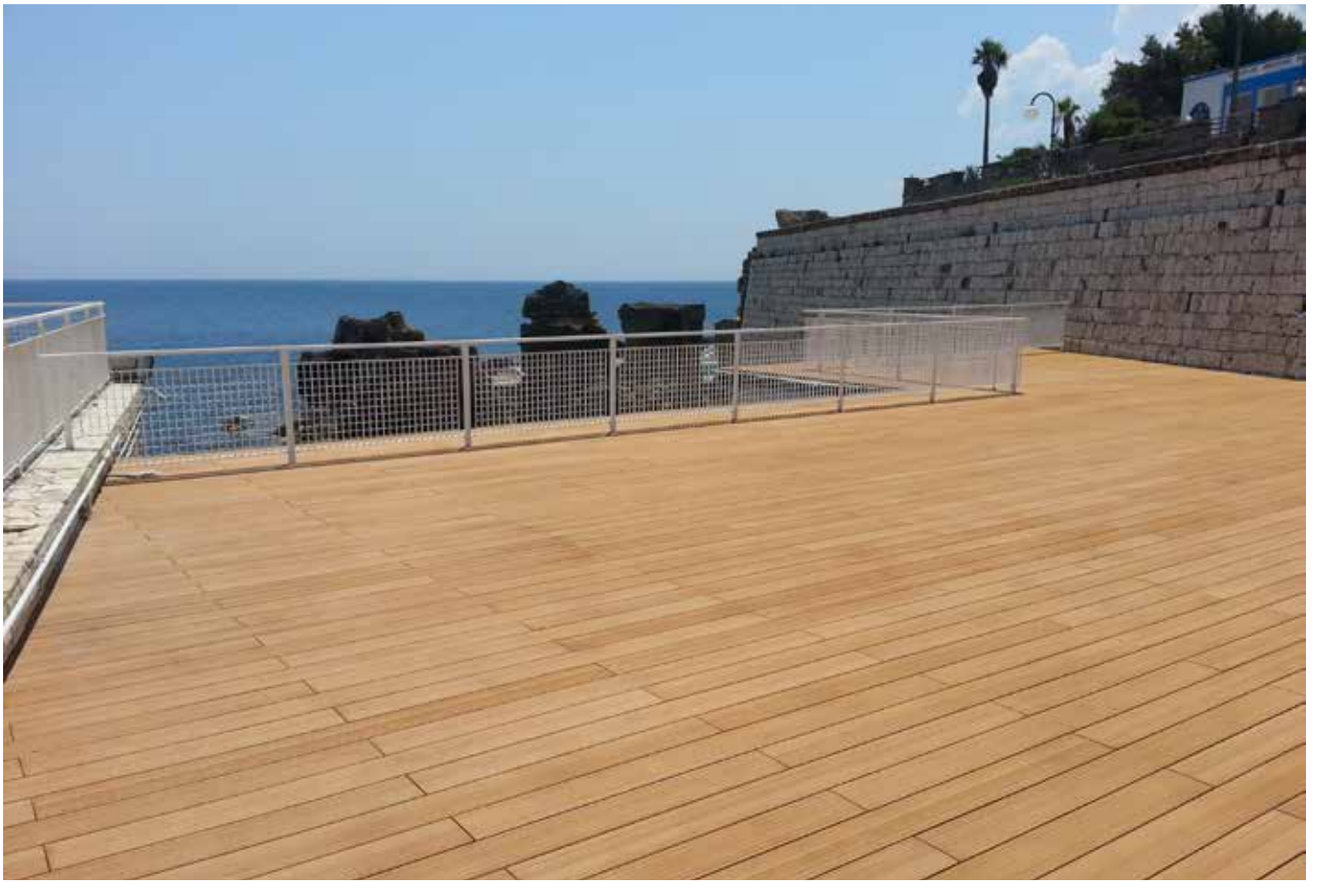


5. Where boards have to be fixed using screws, the fixing can be done with a recessed screw and the special dowel provided.
• Make a Ø 6 mm hole on the board in order to create the site for the screw 4.8x25 mm.
Increasing the diameter is necessary to allow the natural movement of the board.
• Enlarge the hole in the upper 2/3 of the board to Ø 11 mm.
• Fix the board to the pilot hole in the aluminium with the screw 4.8x25 mm.
• Plug the hole with the dowel and sand the surface so as to recreate the finish of the board.

Casa dei Tre Oci - Venezia - Italy (Greendeck)

EVODECK - outdoor decking





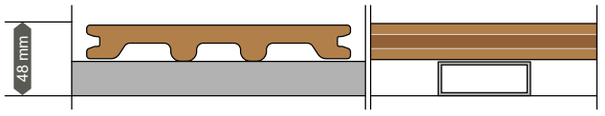
PLANKS DIMENSION AND LOGISTIC

Code	TV05
Dimensions of the plank	161 x 22 x 2000 mm
Incidence	6,10 m/m^2
Weight of a plank	~ 2,80 kg/m

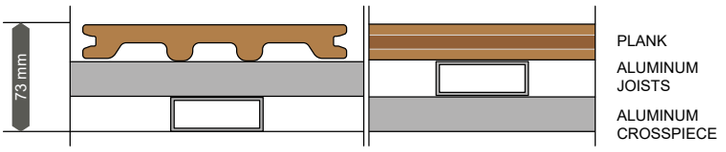
The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

System height

LAYING ON ALUMINUM JOISTS 45 x 25.4 mm (W x H)



LAYING ON ALUMINUM JOISTS AND CROSSPIECES 45 x 25.4 mm (W x H)
WITH SUPERIMPOSED FRAME

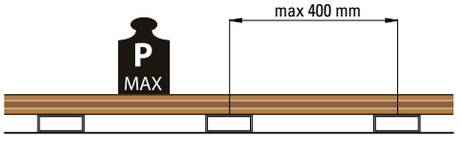


Size of the joints

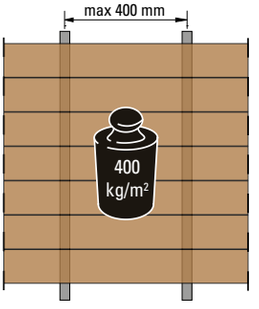
Clip model	Joint size [mm]
Stainless steel clip (code ZCLG-AC017)	Approximately 5 *

*IMPORTANT: The dimensions shown are approximate and may vary depending on the accuracy, tolerance and method of installation.

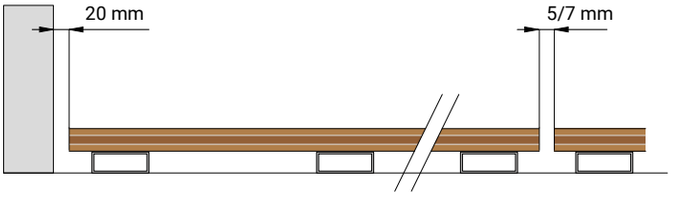
Laying instructions



The Evodeck floor is suitable for foot traffic, but not vehicle traffic.

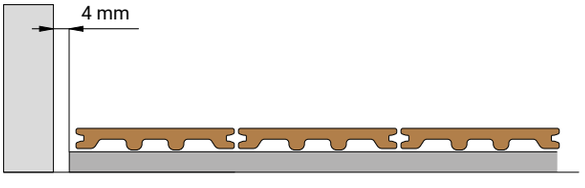


Load distributed over 1 m^2



The minimum distance between the ends of the plank and the wall must be at least 20 mm.

The minimum distance between the ends of two consecutive planks must be 6-7 mm (for planks 2000 mm long)



The distance between the joist and the wall must be at least 4 mm regardless of the width of the surface.

Position the joist no more than 30 mm from the end of the plank.

For correct installation, every piece of board (including those shorter than 500 mm) must always be supported and fixed to the substructure in at least 3 points.

WARNING: it has to be noted that the failure to comply strictly with the criteria for a correct installation, causes the deformation of the materials and the misalignment of all the expansion joints.

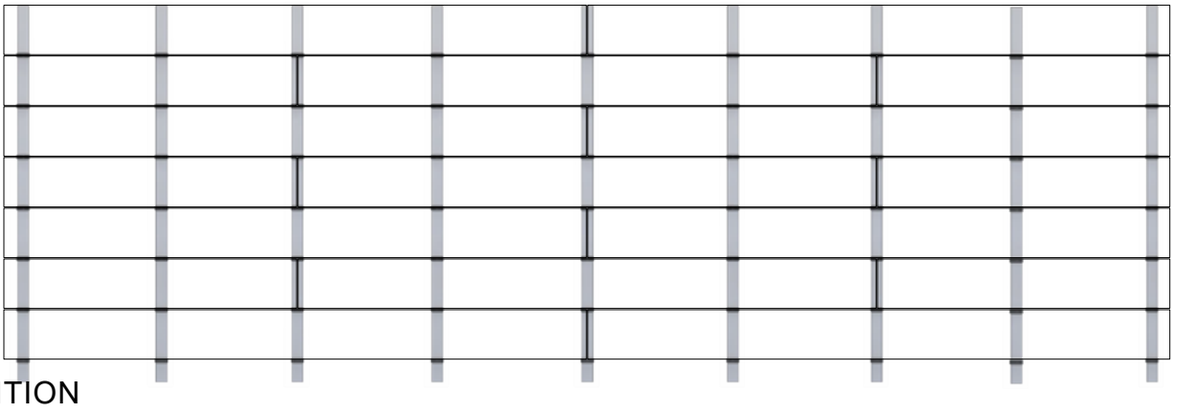
LAYING METHOD 1 - SINGLE FRAME

LAYING ON STABLE GROUND

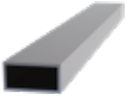
Installation on aluminum joists involves mechanical fixing them to the ground and is suitable for installation on stable and drillable floors such as: concrete sub-bases, existing stone floors and industrial decking.
In the presence of concrete screeds laid to protect waterproofing membrane, check the actual available thickness to choose the size of the plug to fix the joists, so as not to damage the underlying membrane.

For installation in circumstances and on grounds that differ from the above, please refer to “LAYING METHOD 2 - DOUBLE FRAME”

LAYING PATTERN - RUNNING BOND

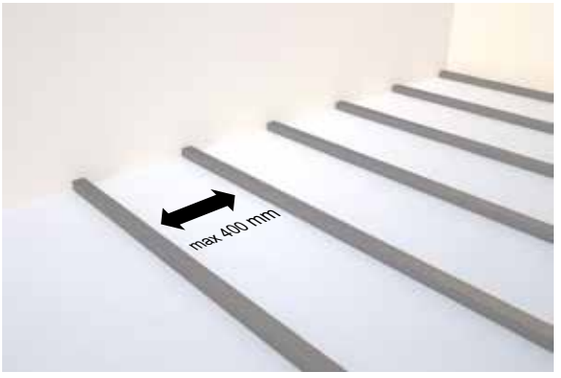


KIT COMPOSITION

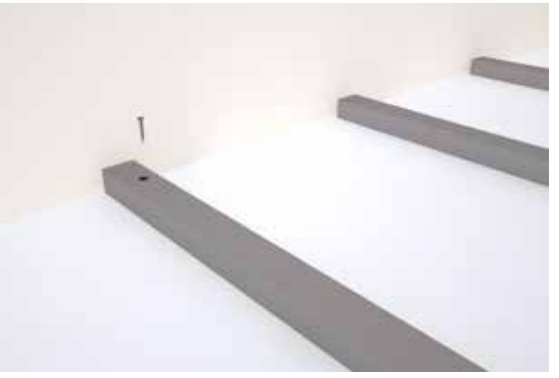
Evodeck plank brushed PTV05	
Aluminum joist 45 x 25.4mm (L x H) AZTRW-45X25.4X1.5-6060-T6	
Burnished staniless steel clip ZCLG-AC017	
Stainless steel clip (starting clip) ZCLG-AC003	
Screw hole dowel AC008	
Screws for clips and dowel attachment ZFHC-3.5X19-A2-7504O ZFHC-4.8X25-A2-7504P	

LAYING AND FIXING OF ALUMINUM JOISTS (standard 45 x 25.4 mm)

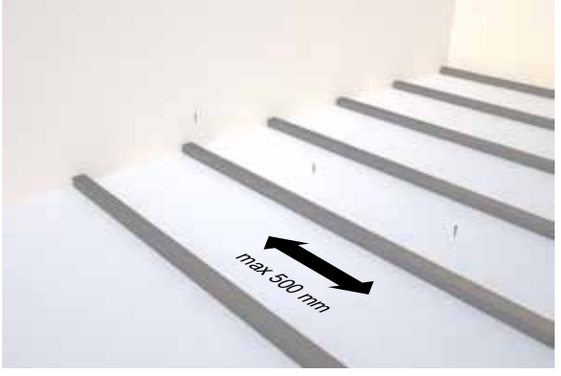
Arrange the joists on the ground in a position perpendicular to the plank laying direction, with a maximum centre-to-centre distance equal to 400 mm from each other. The positioning of the joists is closely connected to the laying surface of the planks. We recommend laying out the planks on the ground to locate the exact positions of the joists, their centre-to-centre distance may vary depending on the laying surface and the cut of the floor planks.



1. Arrange the joists on the ground with a maximum centre-to-centre distance of 400 mm, and take into account the floor laying pattern.

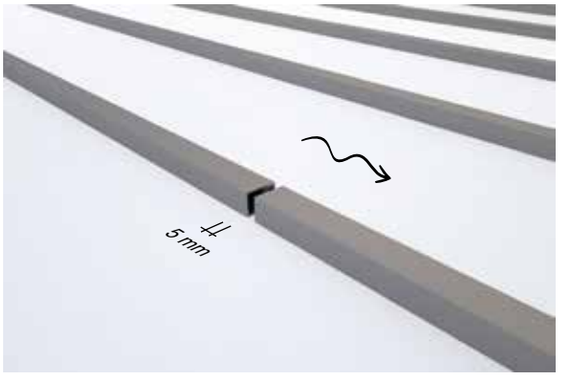


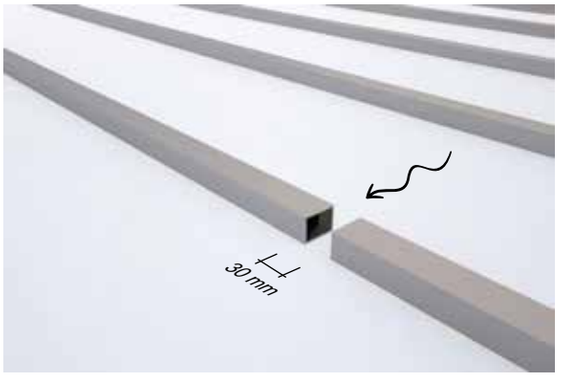
2. Drill a through hole with a diameter 1-2 mm greater than the diameter of the screw shank and another of a diameter greater than the diameter of the screw head on with the upper surface of the joist.



3. Attach the joists to the ground using suitable screw plugs, the centre-to-centre distance of the fixing points must not exceed 500 mm.

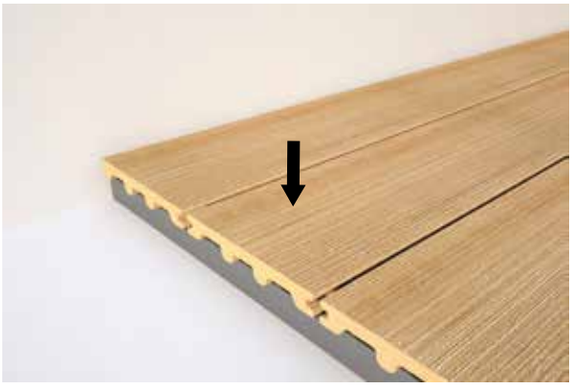
4. If the ground is uneven, and shimming is therefore required, ensure support to the aluminium joists at least every 500 mm.





5. The distance between the ends of adjacent joists must be at least 5 mm in the case of installation of the joists along the sloping side of the floor and 30 mm in case of installation perpendicular to the slope to allow for the outflow of rainwater.

INSTALLATION OF THE PLANKS

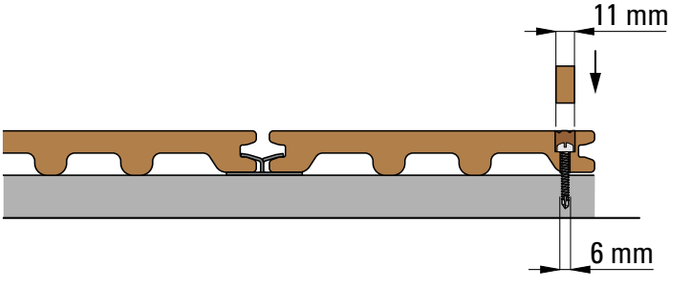


1. The brushed side must be installed facing upwards as it is treated to give it the characteristic aesthetic effect desired.

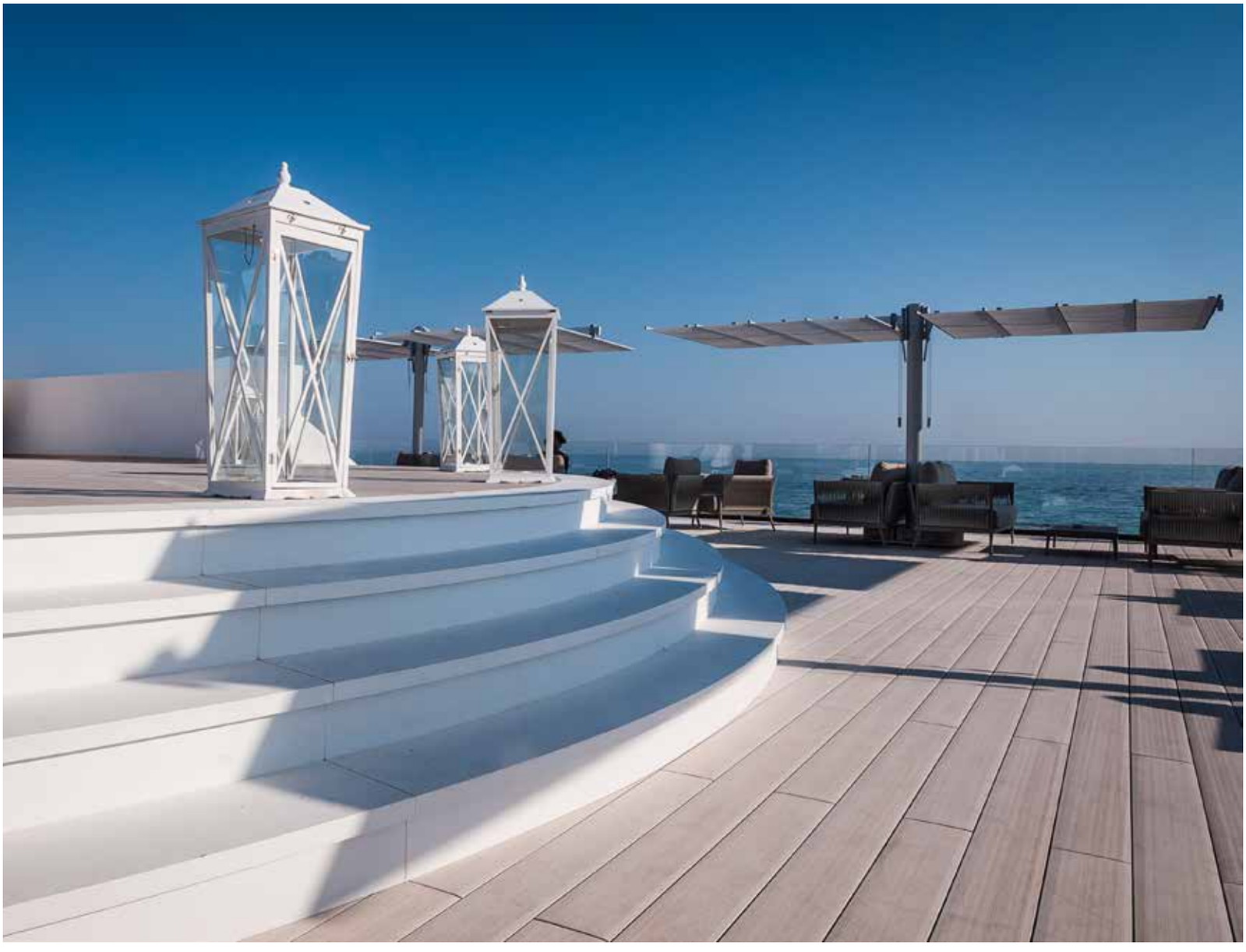
2. Apply starting clip ZCLG-AC003, by screwing it to the joist and make sure the clips are all aligned.

3. Insert the clip ZCLG-AC017 in the appropriate on the joist and fix it with self-drilling screws 3.5x19 mm.

4. Repeat the above steps until completion of the decking.

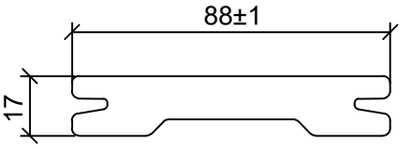


5. Where boards have to be fixed using screws, the fixing can be done with a recessed screw and the special dowel provided.
• Make a Ø 6 mm hole on the board in order to create the site for the screw 4.8x25 mm.
Increasing the diameter is necessary to allow the natural movement of the board.
• Enlarge the hole in the upper 2/3 of the board to Ø 11 mm.
• Fix the board to the pilot hole in the aluminium with the screw 4.8x25 mm.
• Plug the hole with the dowel and sand the surface so as to recreate the finish of the board.



La Cozza Ristorante | Pizzeria dal 1960 - Posto Vecchio, Lecce - Italy (Evodeck)

SLIMDECK - outdoor decking



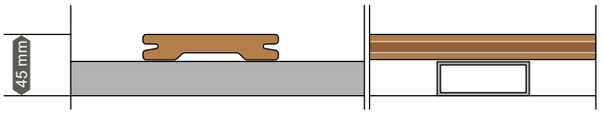
PLANKS DIMENSION AND LOGISTIC

Code	TV06
Dimensions of the plank	88 x 17 x 2100 mm
Incidence	11 m/m^2
Weight of a plank	~ 1,6 kg/m

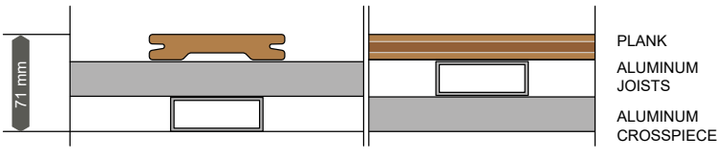
The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

System height

LAYING ON ALUMINUM JOISTS 45 x 25.4 mm (W x H)



LAYING ON ALUMINUM JOISTS AND CROSSPIECES 45 x 25.4 mm (W x H)
WITH SUPERIMPOSED FRAME

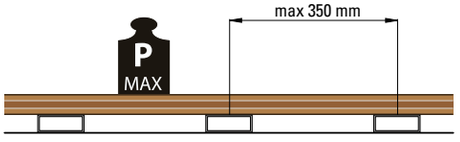


Size of the joints

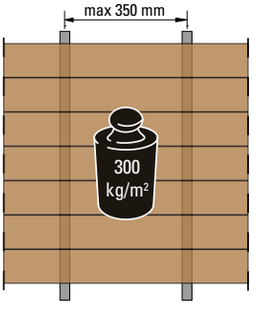
Clip model	Joint size [mm]
Stainless steel clip (code ZCLG-AC017)	Approximately 5 *

*IMPORTANT: The dimensions shown are approximate and may vary depending on the accuracy, tolerance and method of installation.

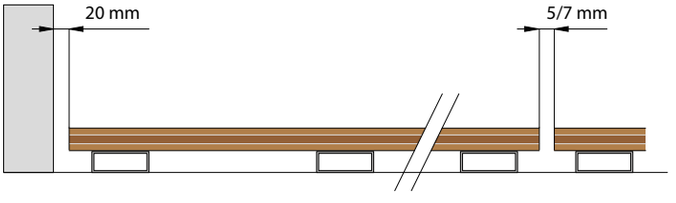
Laying instructions



The Slimdeck floor is suitable for foot traffic, but not vehicle traffic.

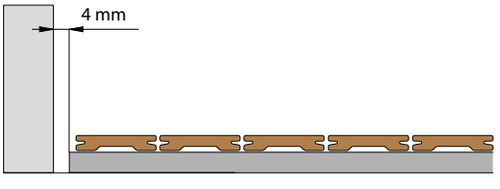


Load distributed over 1 m^2

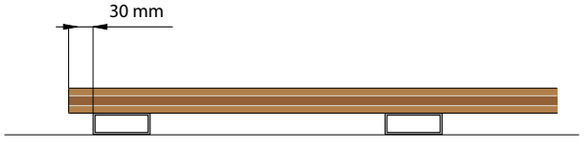


The minimum distance between the ends of the plank and the wall must be at least 20 mm.

The minimum distance between the ends of two consecutive planks must be 6-7 mm (for planks 2100mm long)



The distance between the joist and the wall must be at least 4 mm regardless of the width of the surface.



Position the joist no more than 30 mm from the end of the plank.

For correct installation, every piece of board (including those shorter than 500 mm) must always be supported and fixed to the substructure in at least 3 points.

WARNING: it has to be noted that the failure to comply strictly with the criteria for a correct installation, causes the deformation of the materials and the misalignment of all the expansion joints.

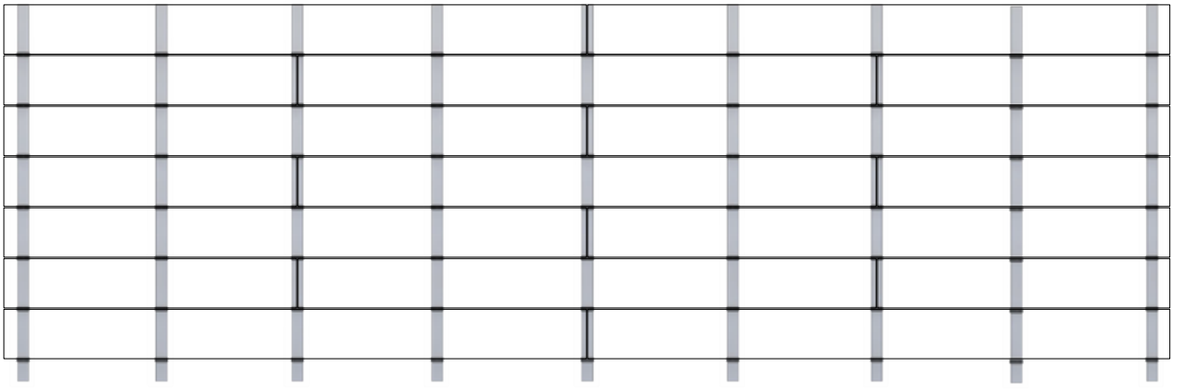
LAYING METHOD 1 - SINGLE FRAME

LAYING ON STABLE GROUND

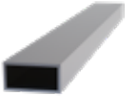
Installation on aluminum joists involves mechanical fixing them to the ground and is suitable for installation on stable and drillable floors such as: concrete sub-bases, existing stone floors and industrial decking.
In the presence of concrete screeds laid to protect waterproofing membrane, check the actual available thickness to choose the size of the plug to fix the joists, so as not to damage the underlying membrane.

For installation in circumstances and on grounds that differ from the above, please refer to “LAYING METHOD 2 - DOUBLE FRAME” at sheet 116.

LAYING PATTERN - RUNNING BOND

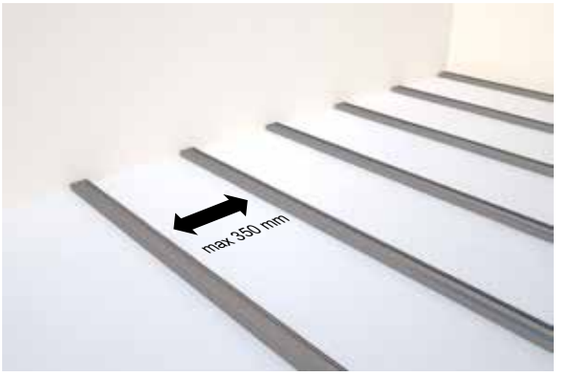


KIT COMPOSITION

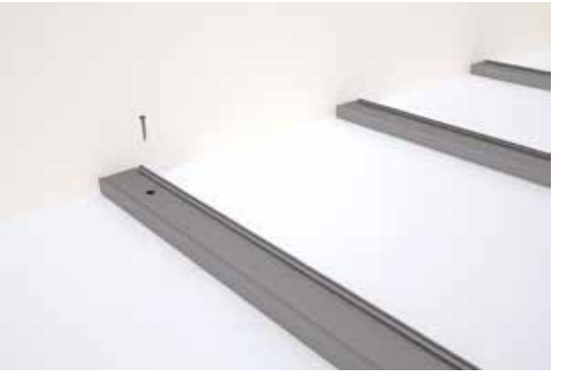
Slimdeck plank brushed PTV06	
Aluminum joist 45 x 25.4mm (L x H) AZTRW-45X25.4X1.5-6060-T6	
Burnished staniless steel clip ZCLG-AC017	
Stainless steel clip (starting clip) ZCLG-AC003	
Screw hole dowel AC008	
Screws for clips and dowel attachment ZFHC-3.5X19-A2-7504O ZFHC-4.8X25-A2-7504P	

LAYING AND FIXING OF ALUMINUM JOISTS (standard 45 x 25.4 mm)

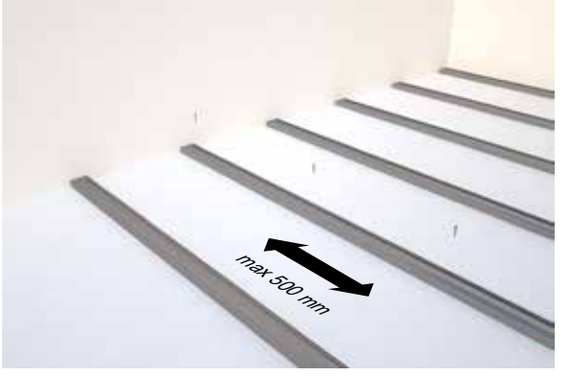
Arrange the joists on the ground in a position perpendicular to the plank laying direction, with a maximum centre-to-centre distance equal to 350 mm from each other. The positioning of the joists is closely connected to the laying surface of the planks. We recommend laying out the planks on the ground to locate the exact positions of the joists, their centre-to-centre distance may vary depending on the laying surface and the cut of the floor planks.



1. Arrange the joists on the ground with a maximum centre-to-centre distance of 350 mm, and take into account the floor laying pattern.

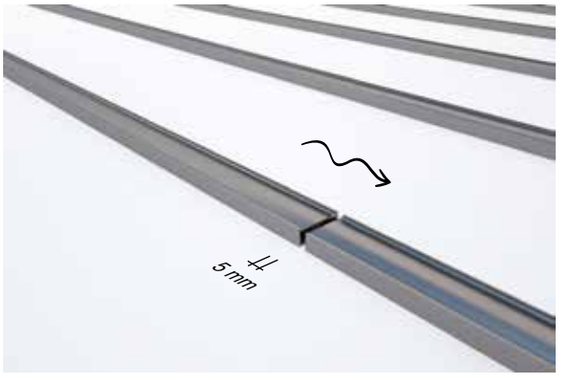


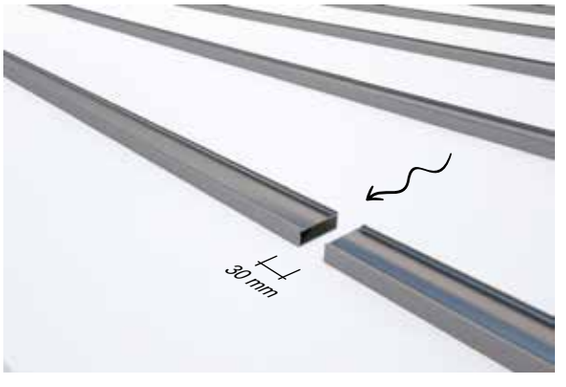
2. Drill a through hole with a diameter 1-2 mm greater than the diameter of the screw shank and another of a diameter greater than the diameter of the screw head on with the upper surface of the joist.



3. Attach the joists to the ground using suitable screw plugs, the centre-to-centre distance of the fixing points must not exceed 500 mm.

4. If the ground is uneven, and shimming is therefore required, ensure support to the aluminium joists at least every 500 mm.





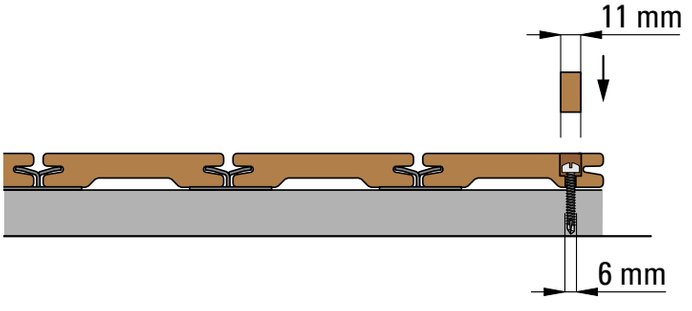
5. The distance between the ends of adjacent joists must be at least 5 mm in the case of installation of the joists along the sloping side of the floor and 30 mm in case of installation perpendicular to the slope to allow for the outflow of rainwater.

INSTALLATION OF THE PLANKS

1. Apply starting clip ZCLG-AC003, by screwing it to the joist and make sure the clips are all aligned.

2. Insert the clip ZCLG-AC017 in the appropriate on the joist and fix it with self-drilling screws 3.5x19 mm..

3. Repeat the above steps until completion of the decking.



5. Where boards have to be fixed using screws, the fixing can be done with a recessed screw and the special dowel provided.
• Make a Ø 6 mm hole on the board in order to create the site for the screw 4.8x25 mm.
Increasing the diameter is necessary to allow the natural movement of the board.
• Enlarge the hole in the upper 2/3 of the board to Ø 11 mm.
• Fix the board to the pilot hole in the aluminium with the screw 4.8x25 mm.
• Plug the hole with the dowel and sand the surface so as to recreate the finish of the board.

Private villa with Pool - Italy (Slimdeck)

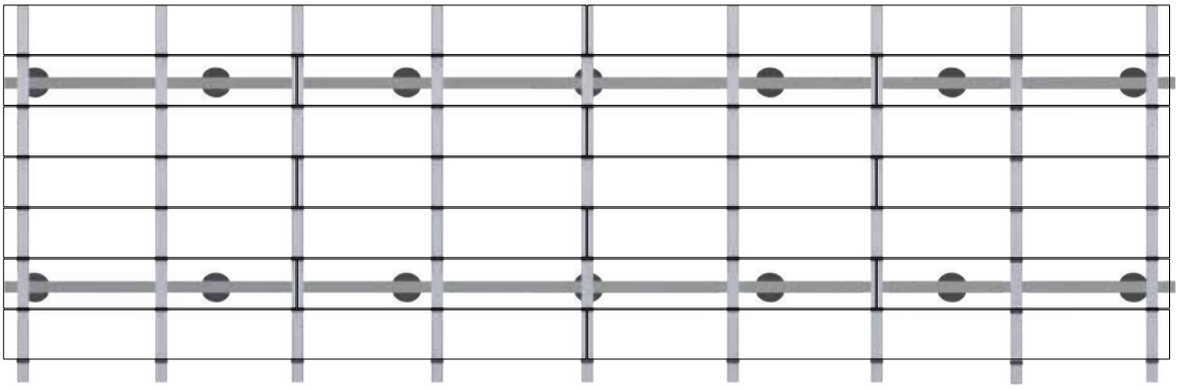
LAYING METHOD 2 - DOUBLE FRAME

LAYING ON UNSTABLE OR ELEVATED GROUND

The laying system involves the creation of a frame consisting of aluminum joists and crosspieces and does not require fixing to the ground; it is suitable for laying on unstable or not drillable grounds such as: soil with vegetation, stabilized gravel, sand, waterproofed floors with a sheath or in general for raised floors.

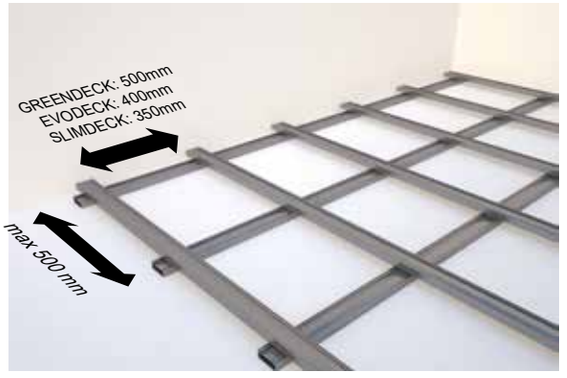
For installation in circumstances and on grounds that differ from the above, contact the Woodn Industries' technical department at the following e-mail address: ufficiotecnico@woodn.com

LAYING PATTERN - RUNNING BOND



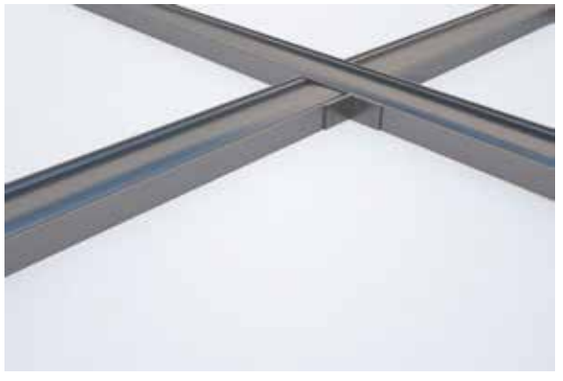
CREATING THE ALUMINIUM FRAME and LAYING OF RAISING SUPPORTS (standard 45 x 25.4 mm)

Place on crosspieces and joists in accordance with the chosen laying pattern, maintaining a maximum centre-to-centre distance between the joists as per technical sheet and 500 mm between the crosspieces. In the case of raised floors, place the supports in accordance with the laying pattern. In any case, the distance between the supports must be maximum 500 mm in the direction parallel to the length of the planks and 500 mm in the direction perpendicular to the length of the planks.



1. Place crosspieces and joists as shown in the figure.The joists must be firmy fixed to the crosspieces.

2. In the case of a superimposed frame, drill through holes with a Ø 5 mm on the joist and widen them to Ø 12 mm on the upper surface. Then, fix it with the self-drilling screw.



3. In the case of a coplanar frame, for a proper system rigidity the stringers should be fitted whole, interrupting the spars instead at the intersections. Common L-brackets, which can be found in any hardware store, can be used for fixing.

4. In the case of raised floors, place the supports as shown in the figure.

5. Then create the frame as indicated in the steps 1 and 2. Mechanically fix crosspieces and joists to the supports. Other forms of fix are not allowed (for example chemical, cement, etc.)

ALUMINIUM CAPACITY (centre-to-centre distance crosspieces)

Joists	I_{max}
45 x 25.4 mm (W x H)	500 mm

INSTALLATION OF THE PLANKS

Proceed with the installation of the planks as described in paragraph “Laying method 2”.

HEIGHT OF THE ELEVATED SYSTEM

The total height of the decking system is obtained by adding the overall size of the joist, crosspiece, plank and support. Here are the possible combinations:

Woodn™ Greendeck

Support code	Support height	Height of the finished surface*	Frame configuration
ZPSC-AC010#2235	22 - 35 mm	84 - 97 mm	Overlapped
ZPSC-AC010#3555	35 - 55 mm	97 - 117 mm	Overlapped
ZPSC-AC010#5595	55 - 95 mm	117 - 157 mm	Overlapped
ZPSC-AC010#95165	95 - 165 mm	157 - 227 mm	Overlapped
ZPSC-AC010#165235	165 - 235 mm	227 - 297 mm	Overlapped

The heights reported above are calculated considering aluminum joists and crosspieces45 x 25.4mm (W x H)

To the ZPSC-AC010#95165 and ZPSC-AC010#165235 supports (and only to them) the extension code ZPSC-AC010#PROL can be applied, up to a maximum of 3 extensions. Each extension applied increases the height of the system by 100 mm.

For example:
System composed of: ZPSC-AC010#95165 overlapped frame + 2 extensions finished floor height = (157 - 227) + (2 x 100) = 357 - 427 mm (357 mm minimum height, 427 mm maximum height).

THEORETICAL SUPPORT INCIDENCES FOR RAISED DECKING

	stacked bond	running bond
Woodn™ Greendeck	5 pcs/sqm	5 pcs/sqm

The actual calculation of the number of supports needed must be defined based on the chosen laying surface.

Zingonia Sports Center (GREENDECK)

Zingonia Sports Center (GREENDECK)

ESOSTEP

Outdoor Decking

MATERIAL'S FEATURES

Mechanical properties

Flexural elastic modulus	EN 15534-1:2014	37,4 Mpa
Impact resistance	ISO80-2000/Adm:2013	NO CRACK
Coefficient of linear thermal expansion longitudinal (from -10 °C to 45 °C)	EN 15534-1:2014	34,2 $x10^{-6}$ K^{-1}
Slip resistance	DIN EN 16165:2021	R10

Reaction to fire

Reaction to fire	EN 13501 - 1:2007 + A1:2009	Cfl - S1

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

FINISHES AND COLORS ESOSTEP
Esostep Full Colors

Caramello

Biscotto

Cioccolato

SRI (Solar Reflectance Index)

The SRI index is a value that is attributed to some building materials and takes into account both the material's ability to reflect solar radiation and the ability to emit solar radiation absorbed as thermal radiation.

The steady-state temperature "Ts" and solar reflection index "SRI" were determined in accordance with standard ASTM E1980 - 11 (2019) (Approach 1) for three convective coefficients (rate of heat transfer) "h_c":

– h_c = 5 W/(m² * K) corresponding to low-wind conditions (0 to 2 m/s);
– h_c = 12 W/(m² * K) corresponding to medium-wind conditions (2 to 6 m/s);
– h_c = 30 W/(m² * K) corresponding to high-wind conditions (6 to 10 m/s);

sample	Solar reflection index SRI		
	h_c = 5 W/(m²*K)	h_c = 12 W/(m²*K)	h_c = 30 W/(m²*K)
Esostep-colore carmello	27	27	26

SR (Solar Reflection value)

SR is the fraction measurement of the incident solar radiation that is reflected by an irradiated surface.
The value varies between 0 and 1, respectively a totally absorbing and a totally dispersing surface.
The closer the reflectance value is to 0, the less the material has the ability to reflect solar radiation.

sample			
	Solar reflectance factor "ρe"	Solar absorption factor "αe"	Thermal emissivity "ε"
Esostep-colore carmello	0.24	0.76	0.94

Colors and textures shown are purely indicative. Check every time a real sample for approval.
Considering the presence of natural wood fibers, colors may vary from batch to batch.

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 Greenwood 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 Greenwood 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 immediatly after installation. Immediately remove major stains such as paint, concrete or tar residues.
- For cleaning and maintenance instructions refer to page 142. The WoodN Industries warranty will be rendered null and void in the event of incorrect or improper handling, cleaning and maintenance.

EXPANSION GAP BETWEEN ADJACENT PROFILES AND WALLS

The composite wood being subject to limited expansion, due to temperature changes and limited water absorption, there must be maintained a lateral distance of around 5 mm between individual boards. This distance is provided automatically by the use of the clip which at the same time carries out the functions of template and spacer during fixing operations.

The heads of the boards must always rest on a substructure. The clips should be positioned in line with the substructure profile to fix both ends of the boards.
Maintain distances of 20-30 mm from the rigid structures present in the vicinity of the decking. In the head joints there must be a distance between the boards of 8-12 mm (for 2200 mm long pieces) which must be increased as the length of the boards increases.
A distance of 11 mm must also be maintained for direction changes.

WARNING: For correct installation, every piece of board (including those shorter than 500 mm) must always be supported and fixed to the substructure in at least 3 points. This is to ensure durability over time.

TOOLS REQUIRED FOR INSTALLATION:

- Impact drill
- Electric screwer
- Electric saw
- Rubber mallet
- Various materials for tracing purpose

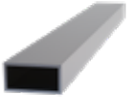
PROFILES SECTION

Outdoor decking

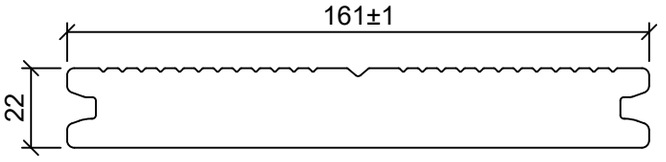
profile	cross-section	nominal dimensions [mm]	weight of the plank [kg/m]
ESOSTEP FULL 		section 138 x 22 standard length 2000	3,90

The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

ACCESSORIES FOR DOUBLE FRAME LAYOUT

Aluminum joists 45 x 25.4 (L x H) AZTRW-45X25.4X1.5-6060-T6	
Pedestals ZPSC-AC010#SPESS / ZPSC-AC010#H15 ZPSC-AC010#2235 / ZPSC-AC010#3555 ZPSC-AC010#5595 / ZPSC-AC010#95165 ZPSC-AC010#165235 / ZPSC-AC010#PROL	

ESOSTEP FULL - outdoor decking



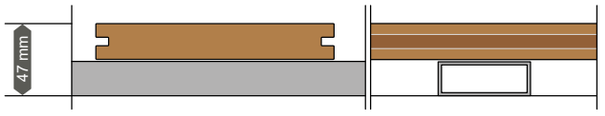
PLANKS DIMENSION AND LOGISTIC

Code	ESO - FULL
Dimensions of the plank	140 x 21 x 2200 mm
Incidence	7,00 m/m^2
Weight of a plank	~ 3,90 kg/m

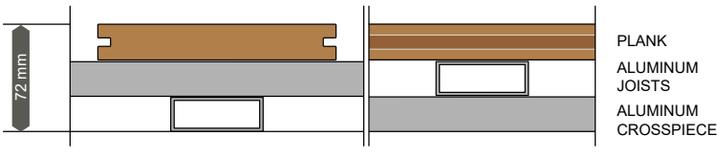
The external dimensions listed are nominal values.
The weights of the planks indicated in the tables are indicative and not binding.
Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

System height

LAYING ON ALUMINUM JOISTS 45 x 25.4 mm (W x H)



LAYING ON ALUMINUM JOISTS AND CROSSPIECES 45 x 25.4 mm (W x H)
WITH SUPERIMPOSED FRAME

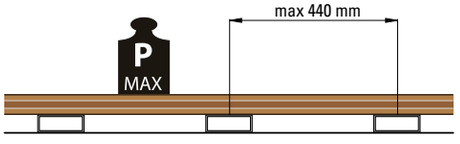


Size of the joints

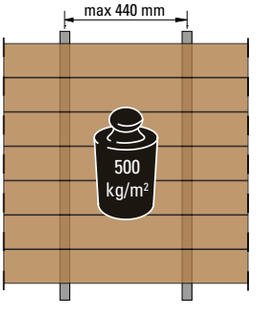
Clip model	Joint size [mm]
Stainless steel clip (code ZCLE-L-IN)	Approximately 5 *

*IMPORTANT: The dimensions shown are approximate and may vary depending on the accuracy, tolerance and method of installation.

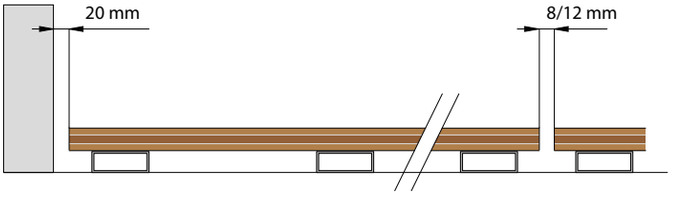
Laying instructions



The Esostep floor is suitable for foot traffic, but not vehicle traffic.

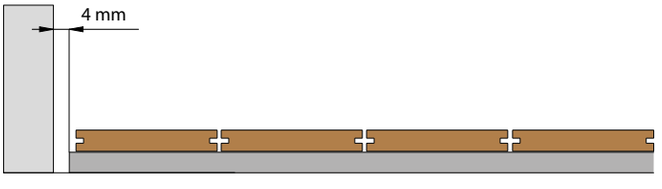


Load distributed over 1 m^2

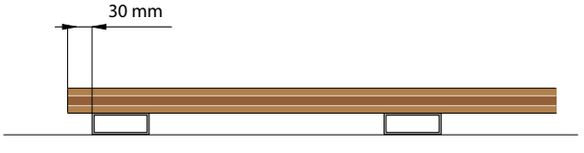


The minimum distance between the ends of the plank and the wall must be at least 20 mm.

The minimum distance between the ends of two consecutive planks must be 8-12 mm (for planks 2200 mm long)



The distance between the joist and the wall must be at least 4 mm regardless of the width of the surface.



Position the joist no more than 30 mm from the end of the plank.

For correct installation, every piece of board (including those shorter than 500 mm) must always be supported and fixed to the substructure in at least 3 points.

WARNING: it has to be noted that the failure to comply strictly with the criteria for a correct installation, causes the deformation of the materials and the misalignment of all the expansion joints.

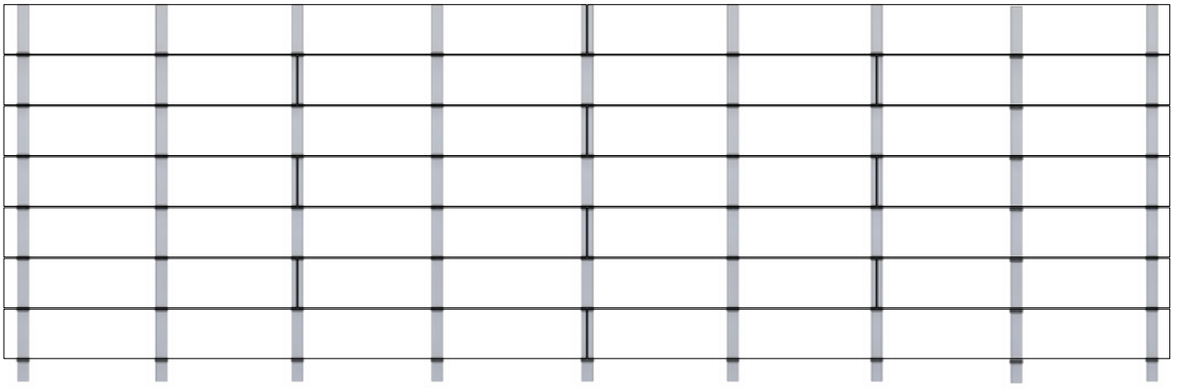
LAYING METHOD 1 - SINGLE FRAME

LAYING ON STABLE GROUND

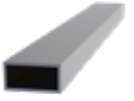
Installation on aluminum joists involves mechanical fixing them to the ground and is suitable for installation on stable and drillable floors such as: concrete sub-bases, existing stone floors and industrial decking.
In the presence of concrete screeds laid to protect waterproofing membrane, check the actual available thickness to choose the size of the plug to fix the joists, so as not to damage the underlying membrane.

For installation in circumstances and on grounds that differ from the above, please refer to “LAYING METHOD 2 - DOUBLE FRAME” at sheet 131.

LAYING PATTERN - RUNNING BOND

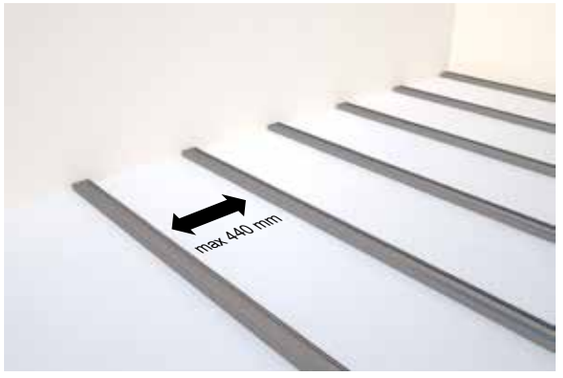


STANDARD KIT ACCESSORIES

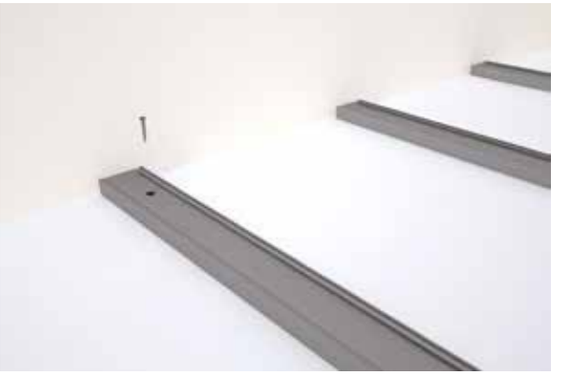
Esostep full board ESO-FULL	
Aluminum joists 45 x 25.4mm (L x H) AZTRW-45X25.4X1.5-6060-T6	
Stainless steel intermediate clip ZCLE-F-IN	
Stainless steel starting clip ZCLE-L-PA	
Screws ZFHC-3.5X19-A2-7504O	

LAYING AND FIXING OF ALUMINUM JOISTS (standard 45 x 25.4 mm)

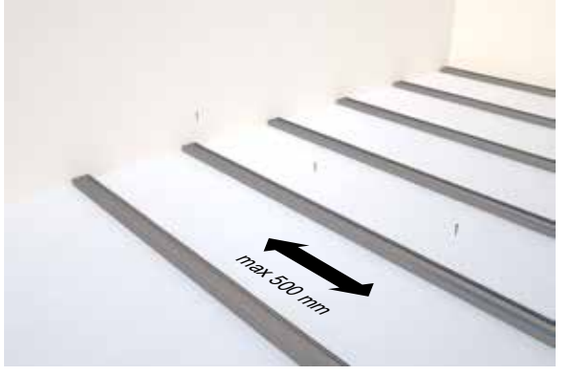
Arrange the joists on the ground in a position perpendicular to the plank laying direction, with a maximum centre-to-centre distance equal to 440 mm from each other. The positioning of the joists is closely connected to the laying surface of the planks. We recommend laying out the planks on the ground to locate the exact positions of the joists, their centre-to-centre distance may vary depending on the laying surface and the cut of the floor planks.



1. Arrange the joists on the ground with a maximum centre-to-centre distance of 500 mm, and take into account the floor laying pattern.

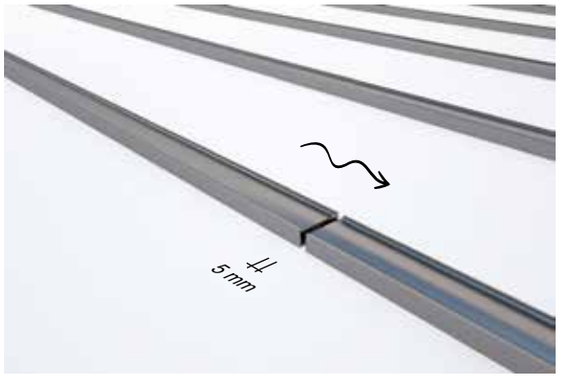


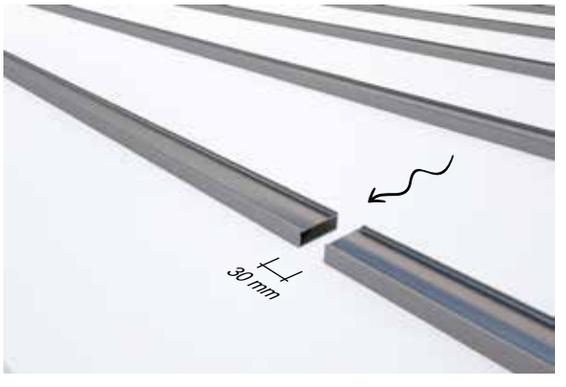
2. Drill a through hole with a diameter 1-2 mm greater than the diameter of the screw shank and another of a diameter greater than the diameter of the screw head on with the upper surface of the joist.



3. Attach the joists to the ground using suitable screw plugs, the centre-to-centre distance of the fixing points must not exceed 500 mm.

4. If the ground is uneven, and shimming is therefore required, ensure support to the aluminium joists at least every 500 mm.





5. The distance between the ends of adjacent joists must be at least 5 mm in the case of installation of the joists along the sloping side of the floor and 30 mm in case of installation perpendicular to the slope to allow for the outflow of rainwater.

INSTALLATION OF THE PLANKS

1. Apply starting clip ZCLE-F-PA, by screwing it to the joist and make sure the clips are all aligned.

2. Insert the clip ZCLE-F-IN in the appropriate on the joist and fix it with self-drilling screws 3.5x19 mm.

3. Repeat the above steps until completion of the decking.

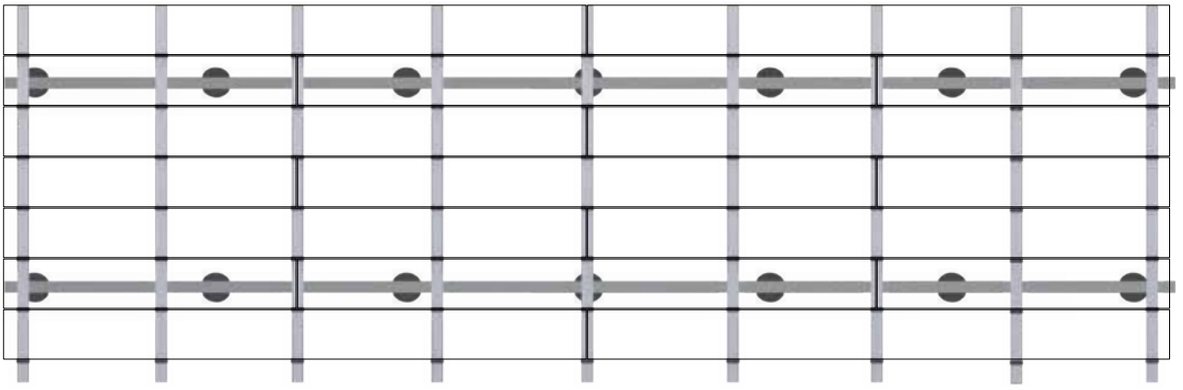
LAYING METHOD 2 - DOUBLE FRAME

LAYING ON UNSTABLE OR ELEVATED GROUND

The laying system involves the creation of a frame consisting of aluminum joists and crosspieces and does not require fixing to the ground; it is suitable for laying on unstable or not drillable grounds such as: soil with vegetation, stabilized gravel, sand, waterproofed floors with a sheath or in general for raised floors.

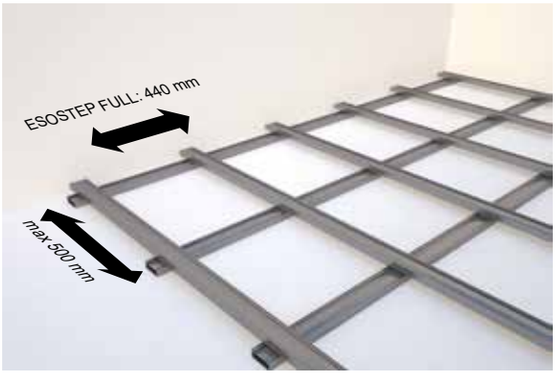
For installation in circumstances and on grounds that differ from the above, contact the Woodn Industries' technical department at the following e-mail address: ufficiotecnico@woodn.com

LAYING PATTERN - RUNNING BOND

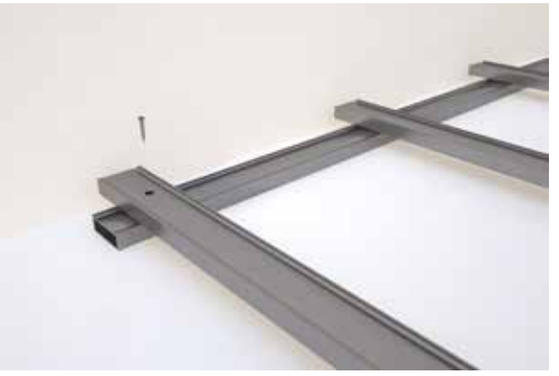


CREATING THE ALUMINIUM FRAME and LAYING OF RAISING SUPPORTS (standard 45 x 25.4 mm)

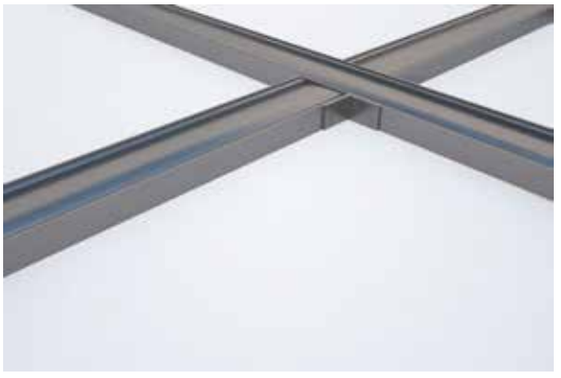
Place on crosspieces and joists in accordance with the chosen laying pattern, maintaining a maximum centre-to-centre distance between the joists as per techincal sheet and 500 mm between the crosspieces. In the case of raised floors, place the supports in accordance with the laying pattern. In any case, the distance between the supports must be maximum 500 mm in the direction parallel to the length of the planks and 500 mm in the direction perpendicular to the length of the planks.



1. Place crosspieces and joists as shown in the figure. The joists must be firmy fixed to the crosspieces.



2. In the case of a superimposed frame, drill through holes with a Ø 5 mm on the joist and widen them to Ø 12 mm on the upper surface. Then, fix it with the self-drilling screw.



3. In the case of a coplanar frame, for a proper system rigidity the stringers should be fitted whole, interrupting the spars instead at the intersections. Common L-brackets, which can be found in any hardware store, can be used for fixing.

4. In the case of raised floors, place the supports as shown in the figure.

5. Then create the frame as indicated in the steps 1 and 2. Mechanically fix crosspieces and joists to the supports. Other forms of fix are not allowed (for example chemical, cement, etc.)

ALUMINIUM CAPACITY (centre-to-centre distance crosspieces)

Joists	I_{max}
45 x 25.4 mm (W x H)	500 mm

HEIGHT OF THE ELEVATED SYSTEM

The total height of the decking system is obtained by adding the overall size of the joist, crosspiece, plank and support. Here are the possible combinations:

Esostep

Support code	Support height	Height of the finished surface*	Frame configuration
ZPSC-AC010#2235	22 - 35 mm	84 - 97 mm	Overlapped
ZPSC-AC010#3555	35 - 55 mm	97 - 117 mm	Overlapped
ZPSC-AC010#5595	55 - 95 mm	117 - 157 mm	Overlapped
ZPSC-AC010#95165	95 - 165 mm	157 - 227 mm	Overlapped
ZPSC-AC010#165235	165 - 235 mm	227 - 297 mm	Overlapped

To the ZPSC-AC010#95165 and ZPSC-AC010#165235 supports (and only to them) the extension code ZPSC-AC010#PROL can be applied, up to a maximum of 3 extensions. Each extension applied increases the height of the system by 100 mm.

For example:
System composed of: ZPSC-AC010#95165 overlapped frame + 2 extensions finished floor height = (157 - 227) + (2 x 100) = 357 - 427 mm (357 mm minimum height, 427 mm maximum height).

THEORETICAL SUPPORT INCIDENCES FOR RAISED DECKING

	stacked bond	running bond
Esostep full	5 pcs/sqm	5 pcs/sqm

The actual calculation of the number of supports needed must be defined based on the chosen laying surface.

The heights reported above are calculated considering aluminum joists and crosspieces 45 x 25.4mm (W x H)

HANDLING, CLEANING AND MANTEINANCE

HANDLING, CLEANING AND MAINTENANCE

This document is intended to provide general recommendations only.

HANDLING AND STORAGE

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 (especially if it's a metal product). During the installation/assembly phase do not apply any label or sticker; if already applied, please remove immediatly after installation. Immediately remove major stains such as paint, concrete or tar residues.
- At the end of the installation, a general cleaning with high pressure water is recommended (avoiding pressures over 80 bar).

CLEANING AND MAINTENANCE

Maintenance

Although WoodN and Greenwood require minimum maintenance, as all the exterior building materials it's recommended to clean the material upon completion of installation, then regularly under normal conditions of use. Dirt can easily be removed with pressure water (avoiding pressures over 80 bar), following the direction of the grooves on the board and using a relatively wide nozzle. Apply neutral detergent and brush the interested area using a soft nylon brush (or cloth). Rinse plentifully with water paying attention to remove all the residues of detergent from the surface. The frequency may vary depending on the area, type of application and the care taken with processing and assembly.

Staining

The appearance and the consequent effect of dirty on WoodN and Greenwood material may vary depending on the cause.
For examples, rain or moisture drops flowing on a surface may concentrate a more visible deposit of dust and dirt. Such residues shall be quickly removed, as they may cause non-homogeneous discoloration of the material.
In outdoor applications, brushed products may present surface rings after being exposed to rainfall and humidity. This phenomenon, caused by a rising on the surface of tannin, a natural component of any wood fiber, is to be considered normal and will disappear after a few washes with water or after rain. In case of staining, it is advised to remove the stain as soon as possible using water and a neutral detergent (absolutely avoid using abrasive products or solvents, especially acetone).
Like similar wood composite products, Greenwood and WoodN materials can be stained by substances in normal use, especially by oily -fat substances. This does not constitute a defect or lack of conformity. Although the composite material is more resistant to the action of various substances and chemical agents compared to an untreated wooden product, it is necessary to remove stains promptly, preventing them being absorbed and dried by sunlight. The evidence of the stains and the difficulty of removing them, increases the longer the longer they are in contact with the substance. However, they naturally tend to fade over time after exposure to atmospheric agents.

As mentioned, the sensitivity of the product to the various substances and the visibility of the stains depend not only on the nature of the substance but also on the surface finishing and the color of the board. It is therefore recommended to consider ambient environmental conditions when choosing color and finish of the product.
Do not use cleaning agents with abrasive or polishing components. Only use sponges, nylon brushes or cloths. If a more thorough cleaning is needed, important is to identify the problem before trying to solve it. If using new products (or products not recommended by WoodN Industries) it is necessary to test these detergents in advance on a small portion of material, carefully consulting the instructions for use and the warnings provided by the detergent manufacturer. Particular attention should also be paid to the complete removal of residues of these cleaners from the slots of the boards by thoroughly rinsing the flooring after use. Residues may also cause uneven discoloration of the surface.
Particularly persistent stains, scratches or cuts can be minimized by rubbing with very fine sand paper, acting along the direction of the finishing of the boards. After this process, we recommended to clean the treated area in order to remove dust and residues due to the process. The treated area will initially take on a slightly different color tone than the untreated one since the process leads to the surface material that has never been exposed to UV rays. This effect, however, will disappear gradually by the time and the boards will assume and maintain a uniform color.

Water marks

Given the presence of the wooden component, watermarks are considered a natural phenomenon of a transient nature. The water marks can appear and disappear in cycles, depending on the frequency and quantity of water, rain or artificial (from pool, shower or cleaning), to which the planking is subject, the speed at which it dries itself and the presence of debris not removed from the surface. The disappearance of the halos, the presence of which will in any case be temporary and transitory, can be accelerated by carrying out some ordinary cleaning operations; their presence will however tend to thin out with increasing exposure time of the flooring to the weathering.

Surface treatment applications

The composite material doesn't normally require any surface treatment. Given the nature of the material, treatment products for wood may not adhere to the surface of the Greenwood product or may not be absorbed by it. If you wish to carry out surface treatments, contact the WoodN Industries technical department. WoodN Industries declines any responsibility for the application of unrecognised and unauthorised treatments.

The product will retain the properties described only if:
- Installed with the special manufacturer's complete installation kit provided to the buyer
- Installed and maintained properly in accordance with the instructions provided

Responsibility for defects is not accepted if caused by:
- Improper handling and incorrect storage of the product.
- Exceptional natural events (floods, earthquakes, etc.) and acts of vandalism.
- Installations not carried out in accordance with the indications provided in conformity with the manufacturer's instructions or by local safety regulations and building regulations. The company is the only one that can authorize any exceptions to the official instructions (excluding any other external subject such as installers or commercial agents).
- Use of the product for a structural function.
- Subsidence and deformation of the existing substructure.
- Failure to observe the manufacturer's operating and maintenance instructions, abuse or neglect by the purchaser or a third person.
- Presence of moulds, sludge, water marks, food, organic material and spots of paint or other substances.
- Use of abrasive materials and/or tools that damage the surface.
- Application of treatments and products that are not approved on the surface of the product.
- Normal use and consumption

WoodN's warranty do not apply in case of improper or incorrect cleaning or handling.

DISCLAIMER - GENERAL NOTES

The information provided by WoodN Industries in this document are solely indicative, they are based on the present state of knowledge and must be considered only as a description of our products and their possible application. Such information must not be interpreted as a guarantee of specific features, performances or warranties of the product. Material's colors and finishes represented in this document are the result of printing techniques so they may slightly differ from the original colors. Original samples are available upon request and constitute only a general indication of the dimensions and the aesthetic appearance of Woodn™ profiles. WoodN Industries may change the information included in this document at any time and without further notice. WoodN Industries does not warrant the accuracy and completeness of the information in this document and furthermore their suitability for the purpose which it is consulted for by the other parties. WoodN's customers or third parties must ascertain they have the most recent version of this document, avaiable at www.woodngreenwood.com. It is advised that customers and third parties have a professional adviser to inform them about the suitability of the products for all desired applications and about applicable laws and regulations. WoodN Industries reserves the right to modify products and concerning features without prior notice. WoodN Industries is not liable for any damage arising from, or related to, the use of this document. Woodn™ material does not have structural characteristics and therefore WoodN Industries declines all responsibilities for improper use of the material. For more information please contact WoodN Industries.

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