

WOODN MODULATUS



First Baptist Church Arlington (Q20410)

DISCLAIMER - GENERAL NOTES

Due to conversion from metric sizes and measurements, the US values provided are approximate.

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, available at www.woodn.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. No sections of this publication can be reproduced, stored in database, or transmitted in any form or by any other mean without the explicit approval of WoodN Industries. For more information please contact WoodN Industries.

MATERIAL'S FEATURES

Mechanical properties

Elasticity (bending)	UNI EN ISO 178	2070 Mpa (@73 °F) 660 Mpa (@149 °F)
Yield strenght (flexural)	UNI EN ISO 178	31 Mpa (@73 °F)
Water absorbption and humidity	ASTM D1037	absorption 0,07%
Dynamic- Mechanical analysis of transition temperature	ASTM D4065/95	173.8 °F
Linear thermal expansion coefficient (from 14 °F to 158 °F)	TMA ASTM E 831/2006	longitudinal $46,9 \times 10^{-6} \text{ m}/(\text{m}^{\circ}\text{C})$ trasversal $48 \times 10^{-6} \text{ m}/(\text{m}^{\circ}\text{C})$
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	890 °F
Average critical radiant flux of floor	AS ISO 9239 ASTM E648	$\geq 11 \text{ kW}/\text{m}^2$ $> 1,03 \text{ W}/\text{cm}^2$ (class I as per NFPA 101)
Ignitability, flame propagation, heat release and smoke release	AS/NZS 1530.3:1999	Ignitability (0-20) = 8 Spread of Flame (0-10) = 0 Heat Evolved (0-10) = 0 Smoke Developed (0-10) = 7

Chemical and biological features

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



The values shown are indicative and not binding. Test reports available upon request.
The natural aging of the material and temperature variations may cause deviations from the values indicated above.
The product is protected by a warranty in line with legal requirements: for more information see the SPECS on www.woodn.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 32 °F.
- Do not cover the product with sheets made with non-breathable material (nylon, polyethylene and similar materials). For this purpose it is advisable to use breathable material such as painter felt sheets.
- The accumulation of electrostatic charges is a natural phenomenon commonly found in plastic materials, and under exceptional environmental conditions this may also occur in Woodn™'s products.
- Profiles shall be handled with care in order to prevent damages. It is recommended to lift the profiles on the whole length during displacement and not make them slide on top of each other. Always use clean fabric gloves when handling profiles.
- Prevent the formation of dirt on and between profiles; in particular, make sure that mechanical processes carried out on other materials, near Woodn products, do not determine the accumulation of chips or dust of any kinds. During the installation/assembly phase do not apply any label or sticker; if already applied, please remove immediately after installation. Immediately remove major stains such as paint, concrete or tar residues.
- For cleaning and maintenance instructions refer to page 129. 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 [in/ft]
< 68 °F	1/40" (2 mm/m)
> 68 °F	1/80" (1 mm/m)

For example:

For laying conditions with a temperature around 86 °F and a plank length of 6', it should be left gaps measuring 6' x 1/80" in/ft = 5/64".

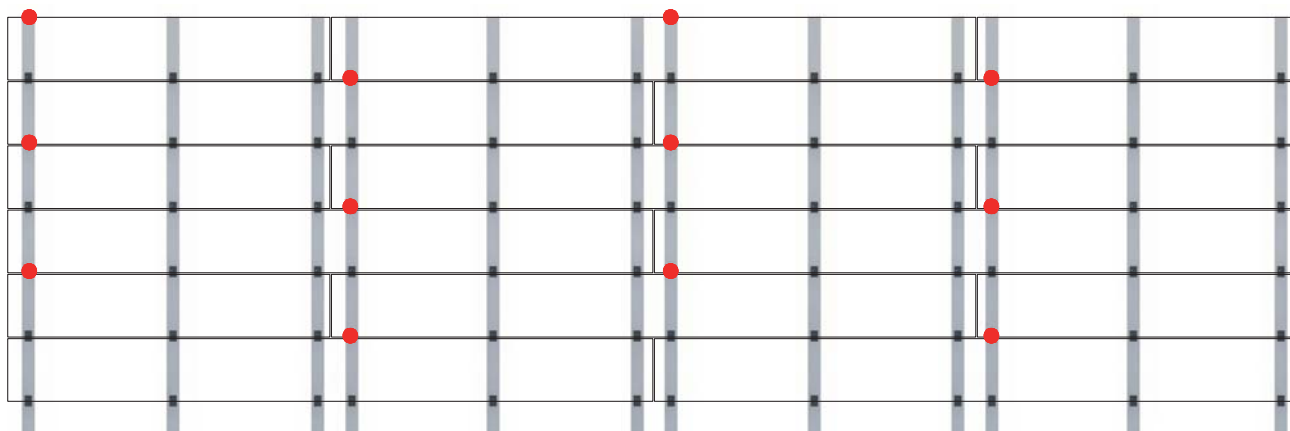
WARNING: it has to be noted that the failure to comply strictly with the criteria for the application of fixed points and floating points, causes the deformation of the materials and the misalignment of all the expansion joints.

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






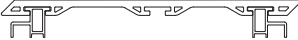




We recommend to align and plumb the substructure before you starting the installation. We recommend leaving an expansion joint between the heads of the substructure profiles in correspondence with the floors slabs for possible settling of the building.



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

PROFILES SECTION

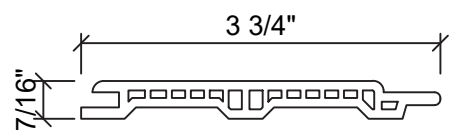
outdoor cladding

profile	cross-section	nominal dimensions [ft, in]	weight of the plank [lb/ft]
Q9510 		section 95 x 10 mm (≈ 3 3/4 x 7/16") standard length 1830 mm (≈ 6')	0.40
Q13010HD 		section 130 x 10 mm (≈ 5 1/8 x 7/16") standard length 1830 mm (≈ 6')	0.79
Q20410 		section 204 x 10 mm (≈ 8 1/16 x 7/16") standard length 1830 mm (≈ 6')	1.56
TH14830HD-4 		section 148 x 30 mm (≈ 5 13/16 x 1 3/16") standard length 1830 mm (≈ 6')	0.69
TH6050HD 		section 54 x 60 mm (≈ 2 3/16 x 2 3/8") standard length 1830 mm (≈ 6')	0.54

Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

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.

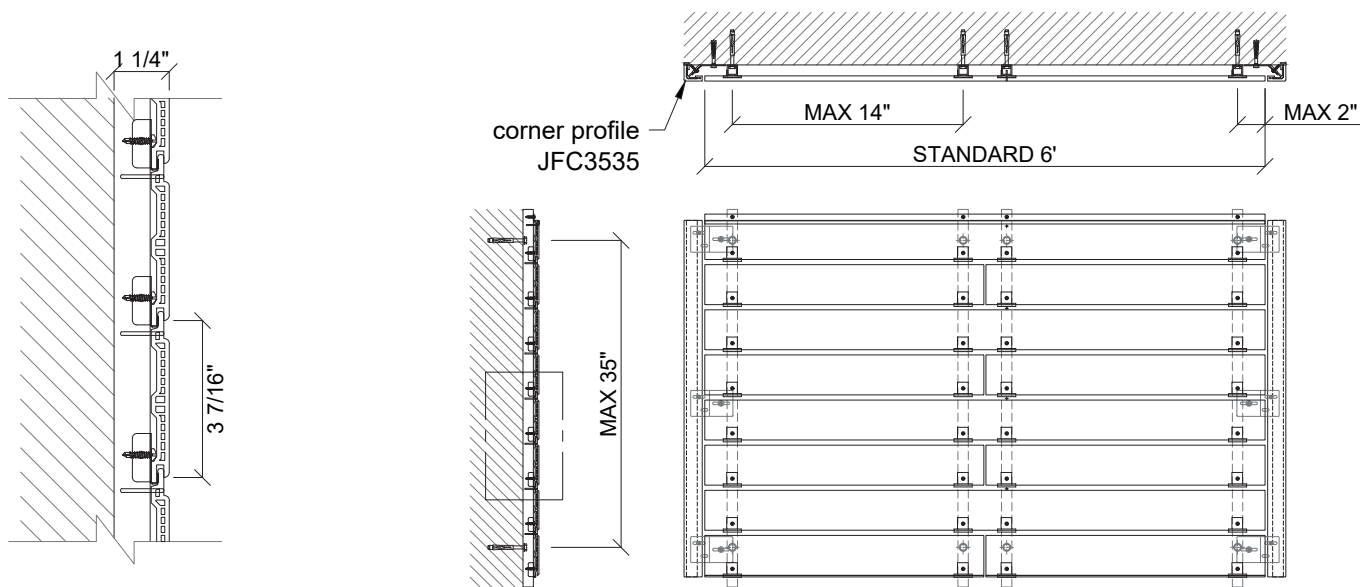
Q9510 - outdoor cladding



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).



MOUNTING SYSTEM



WEIGHT OF THE SYSTEM ≈ 1.74 lb/sqft
WEIGHT OF THE SYSTEM (without substructure) ≈ 1.46 lb/sqft
• Dimensions considering a standard wind load of 24.59 pound/sqft

ASSEMBLY INSTRUCTIONS



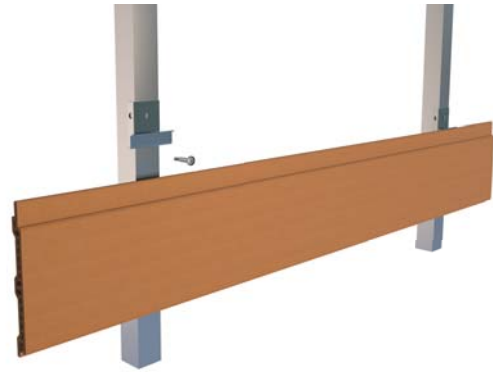
1. Screw the aluminum joist profiles to support with suitable screws and wall plugs (*).



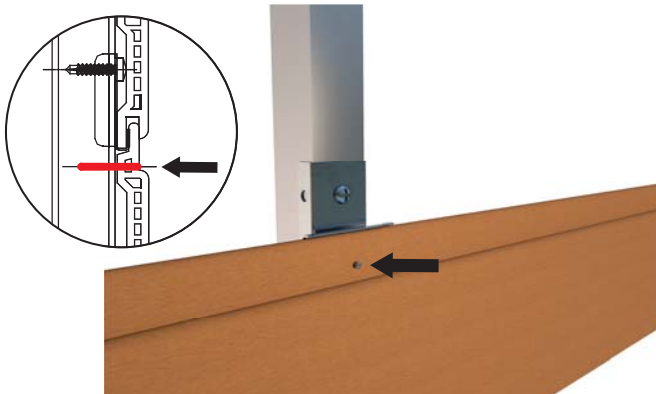
2. Apply the first row of ZCLW-KK2826 clips at the bottom with self-drilling screws.



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 $\varnothing \approx 1/16''$).



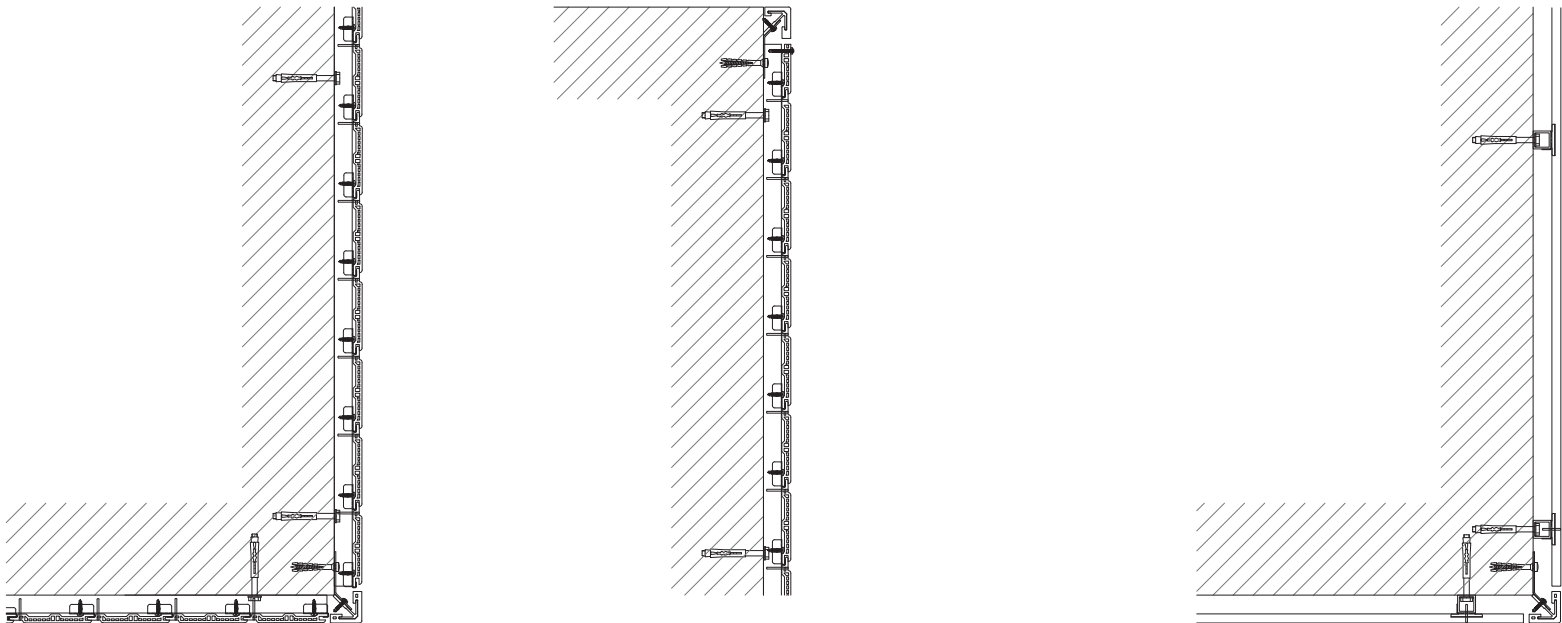
6. Repeat as described from step 3 up to the top to complete the cladding.

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


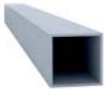




DETAILS FOR CORNERS

VERTICAL PLANKS



HORIZONTAL PLANKS



SYSTEM COMPONENTS

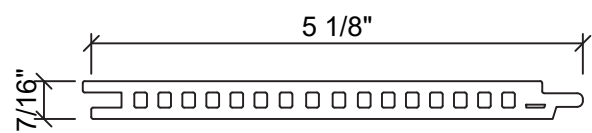
Profile Q9510		3.51 ft/sqft	Substructure profile ZTQM-20X20X2-6060-T6		1.04 ft/sqft (stacked bond) 1.19 ft/sqft (running bond)
Fixing clip ZCLW-KK2826		3.72 pcs/sqft (stacked bond) 4.18 pcs/sqft (running bond)	Screw ZRHW-3.5X16-A2-7504N		3.72 pcs/sqft (stacked bond) 4.18 pcs/sqft (running bond)
Dowel pin ZCPW-D2X24-A2		0.55 pcs/sqft	Fixing clip ZCLW-KK2826-1		for substructure > 1" available upon request

CORNERS COMPONENTS

Profile JFC3535		Fixing bracket ZCLW-WAJFC3535_6050		Screw ZRHW-3.5X16-A2-7504N	
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WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c. up to 14". 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.

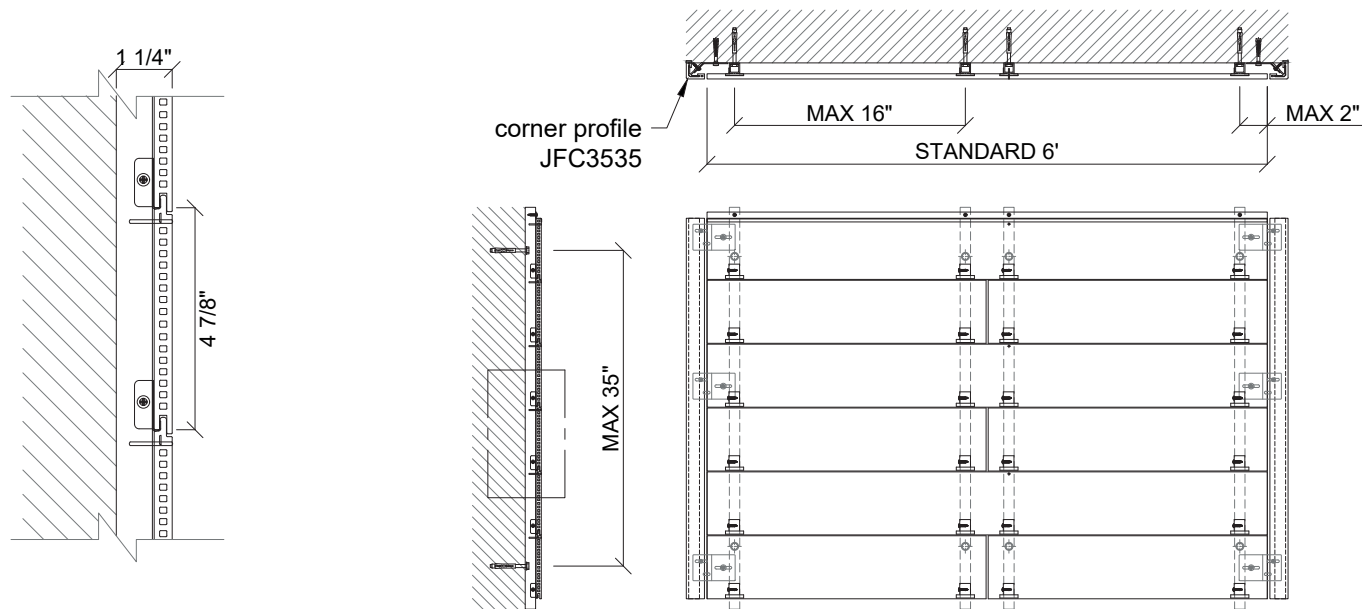
Q13010HD - outdoor cladding



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).



MOUNTING SYSTEM



WEIGHT OF THE SYSTEM ≈ 2.25 lb/sqft
WEIGHT OF THE SYSTEM (without substructure) ≈ 2.01 lb/sqft
• Dimensions considering a standard wind load of 24.59 pound/sqft

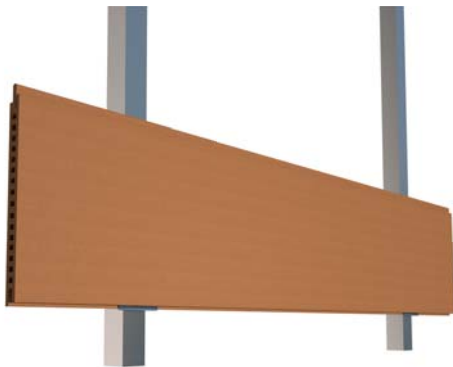
ASSEMBLY INSTRUCTIONS



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



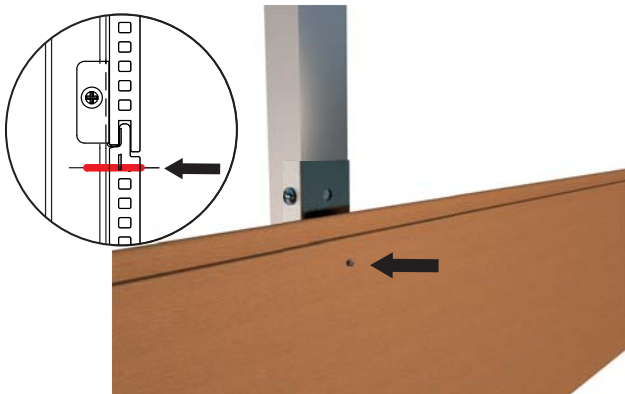
2. Apply the first row of ZCLW-KK2826 clips at the bottom with self-drilling screws.



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 $\varnothing \approx 1/16''$).

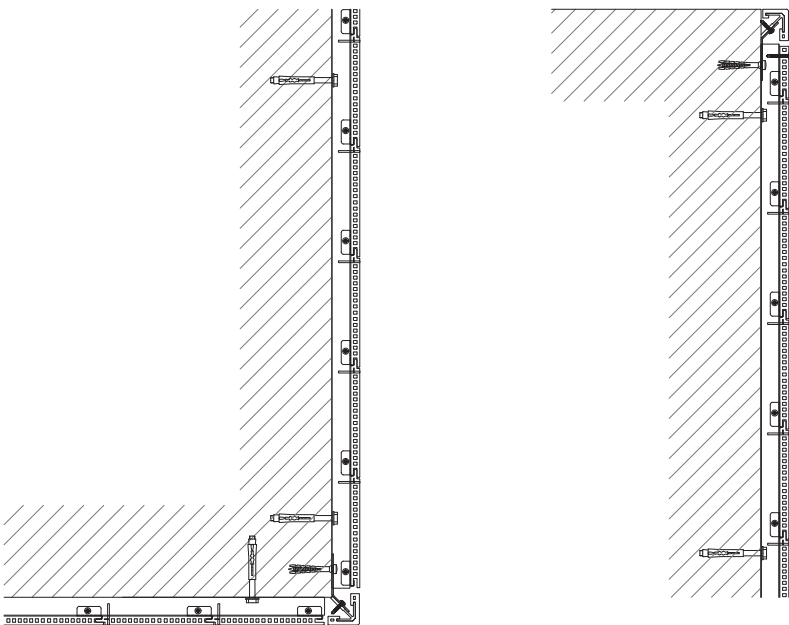


6. Repeat as described from step 3 up to the top to complete the cladding.

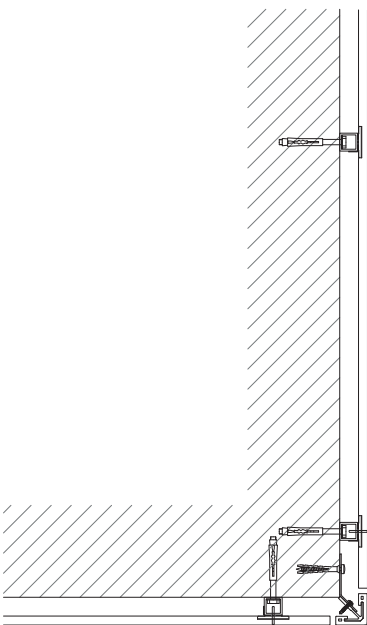
*Screws and wall plugs must be chosen according to the type of wall support

DETAILS FOR CORNERS







VERTICAL PLANKS



HORIZONTAL PLANKS



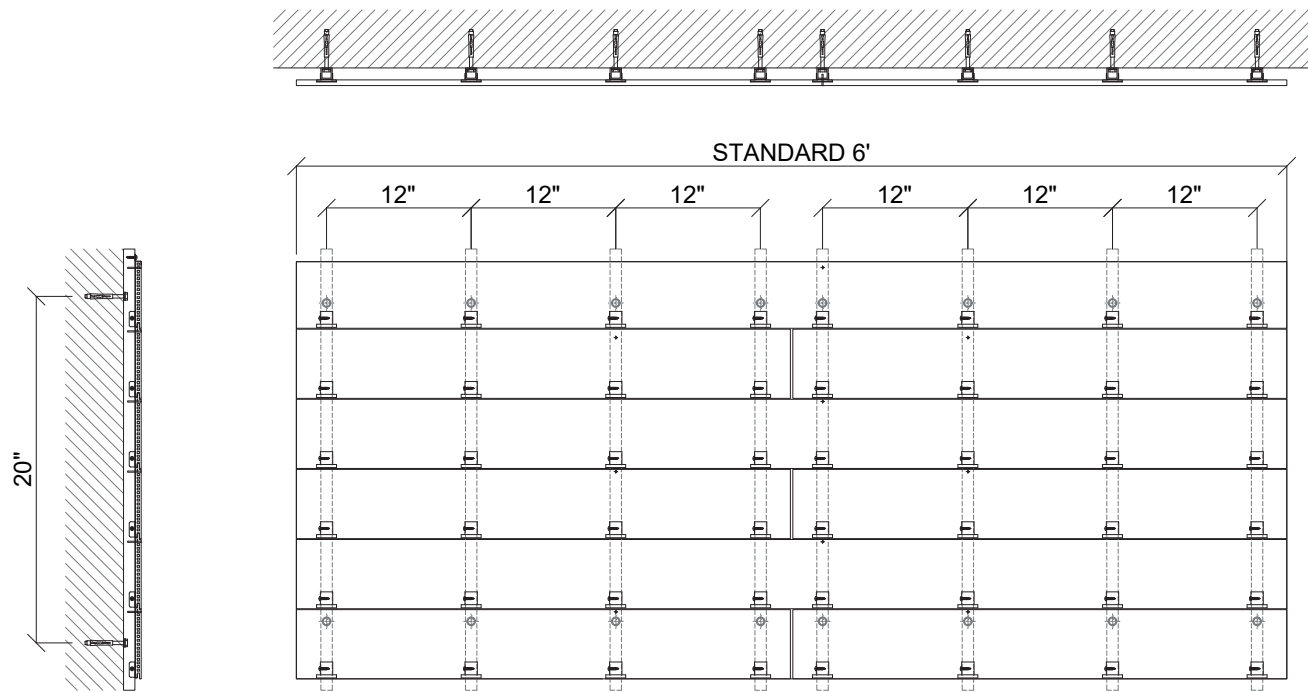
SYSTEM COMPONENTS

Profile Q13010HD		2.50 ft/sqft	Substructure profile ZTQM-20X20X2-6060-T6		0.92 ft/sqft (stacked bond) 1.07 ft/sqft (running bond)
Fixing clip ZCLW-KK2826		2.32 pcs/sqft (stacked bond) 2.69 pcs/sqft (running bond)	Screw ZRHW-3.5X16-A2-7504N		2.32 pcs/sqft (stacked bond) 2.69 pcs/sqft (running bond)
Dowel pin ZCPW-D2X24-A2		0.46 pcs/sqft	Fixing clip ZCLW-KK2826-1		for substructure > 1" available upon request

CORNERS COMPONENTS

Profile JFC3535		Fixing bracket ZCLW-WAJFC3535_6050		Screw ZRHW-3.5X16-A2-7504N	
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WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c. up to 16". 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.



7341 Westport Pl Suite 1A, West Palm Beach, FL 33413
Phone: 561-508-2390 E-mail: Eng@pdp@blackwater-testing.com
REPORT NO: BT-FCS-16-003 MIAMI-DADE CERTIFICATION #15-1026-02
Test Dates: 07/07/2016 to 07/08/2016

7/15/2016

**TESTING FOR UNIFORM STATIC AIR PRESSURE
TAS 202-94 POSITIVE AND NEGATIVE CYCLIC
LOADS TAS 203-94 OF "Q13010HD WOODN PANEL"**

Client:
WOODN INDUSTRIES SRL.
Via Ippolito Caffi, 17
32 00 Belluno (BL), Italy
Office Phone: (+39) 049 89.60.706

Specimen 1-2-3

Specimen 4-5-6

Product Description of Unit: Sp. 1-2-3 Q13010HD WOODN PROFILE with Aluminum Hat Channel Backing
Sp. 4-5-6 Q13010HD WOODN PROFILE with Aluminum Tube Backing

Overall Size: Sp. 1-2-3 41"X44-1/2"
Sp. 4-5-6 42-1/4"X44-1/16"

Test Buck Size: Sp. 1-2-3 41-1/2"X45"
Sp. 4-5-6 42-3/4"X44-9/16"

Test Protocol: Sp. 1-2-3 TAS 202-94@+/-150psfDP—TAS 203-94@+/-150psfDP
Sp. 4-5-6 TAS 202-94@+/-150psfDP—TAS 203-94@+/-150psfDP

Disclaimer
This is a general statement and does not supersede the specific product descriptions in this report. The specimens are in conformance with attached Drawings. These drawings have been marked to indicate the appropriate portions descriptive of this test series. Blackwater Testing Inc. does not take responsibility of product performance and whose only purpose is to test and gather pertinent data under test report format for the client.

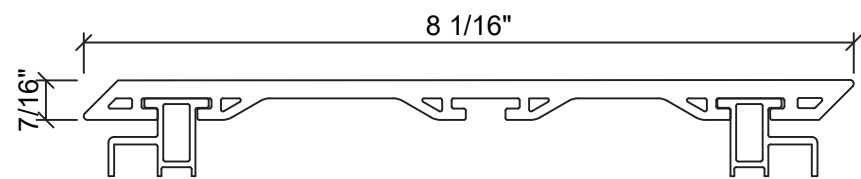
Witness to Test:
Dennis Duffy, BT CEO
Erik Coppola, BT Lab Technician
Constantin Bortes, PE, Test Engineer

7-13-2016

CONSTANTIN BORTES
LICENSED
No. 77915
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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BT-FCS-16-003 7/15/2016 Page 1

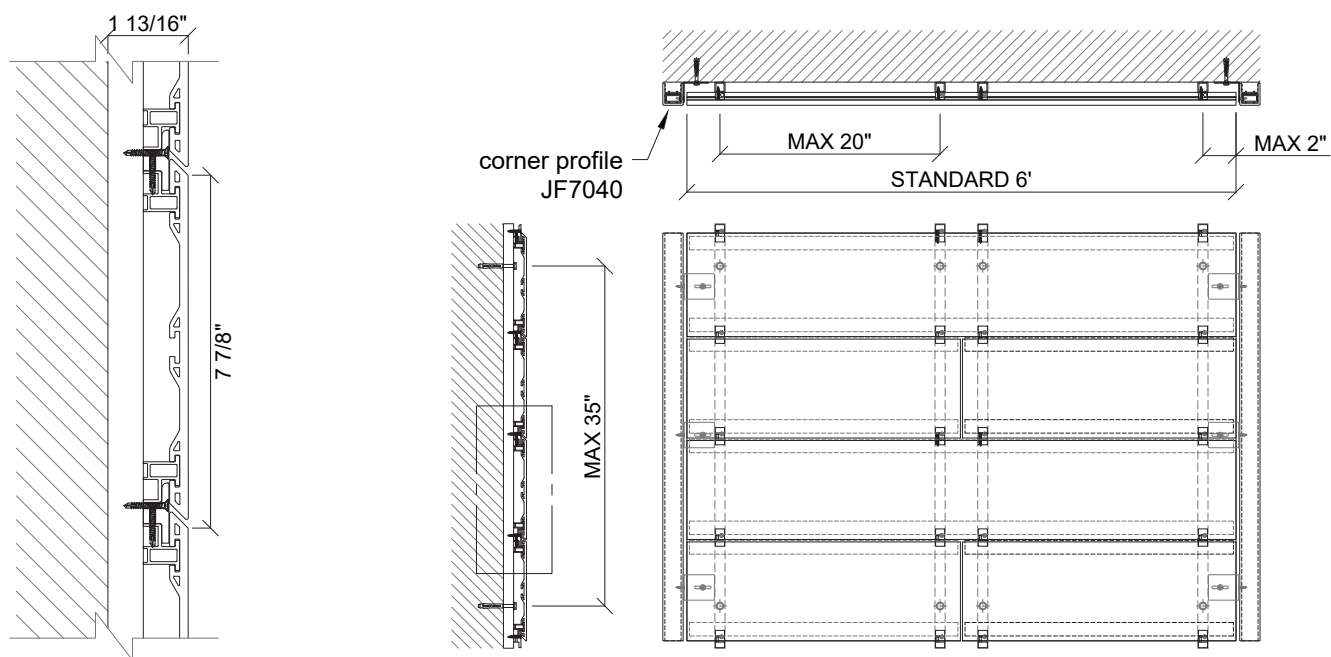
Q20410 - outdoor cladding



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).



MOUNTING SYSTEM



WEIGHT OF THE SYSTEM ≈ 3.40 lb/sqft
WEIGHT OF THE SYSTEM (without substructure) ≈ 3.20 lb/sqft
• Dimensions considering a standard wind load of 24.59 pound/sqft

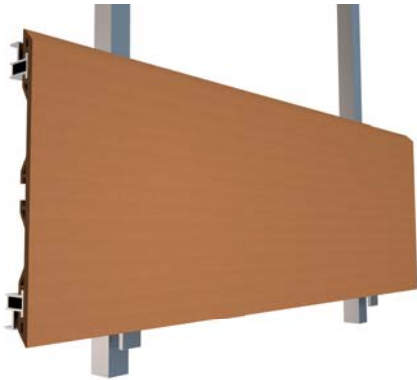
ASSEMBLY INSTRUCTIONS



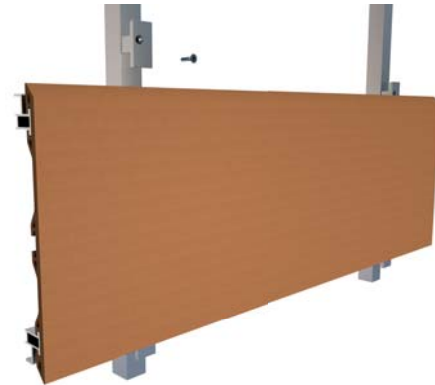
1. Screw the aluminum joist profiles to support with suitable screws and wall plugs (*).



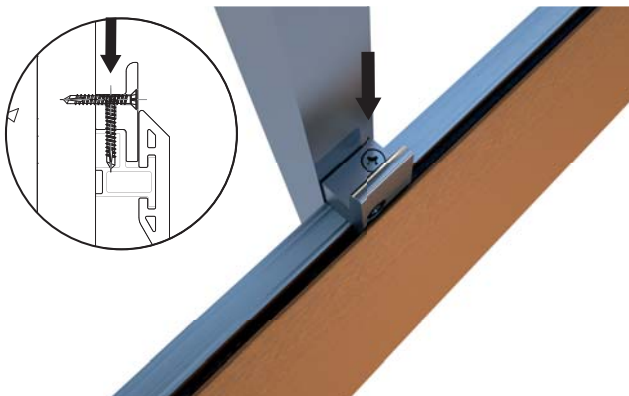
2. Apply the first row of ZCLW-KK3418 clips at the bottom with self-drilling screws.



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 (*).

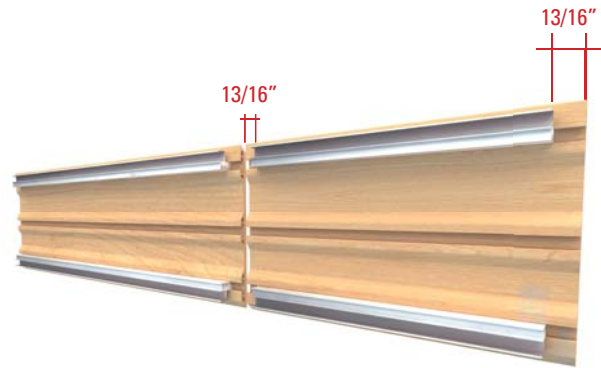


2. Install the Z starting profile in the lower part using self drilling screws. Continue with points 3 to 6 of the previous page.

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 ($\approx 1\frac{9}{16}$) shorter than the Woodn profile.

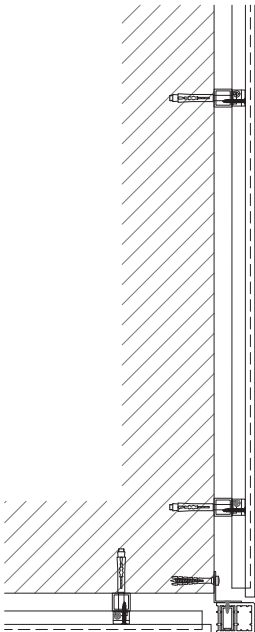
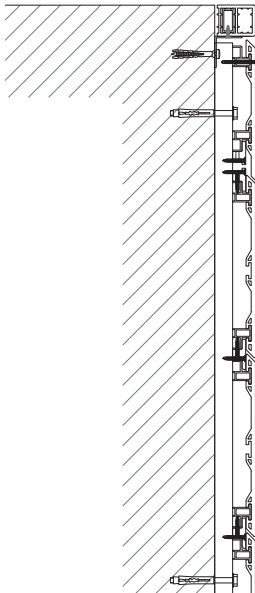
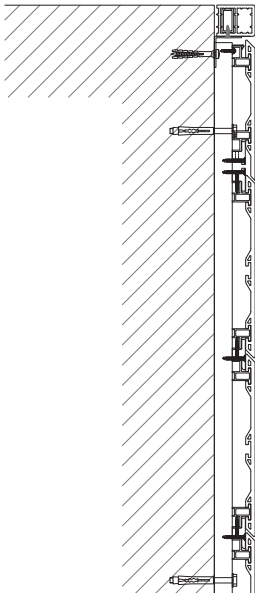
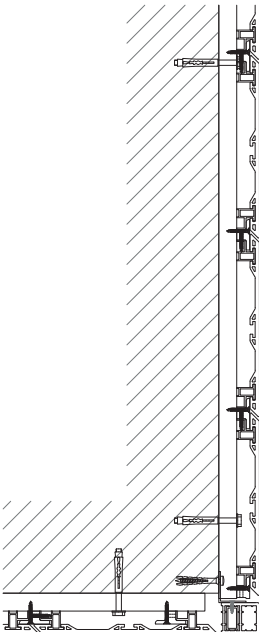


3. Insert the screws into the fixed points (ZRHV-3.5X13-A2-7504N).

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







DETAILS FOR CORNERS

VERTICAL PLANKS



HORIZONTAL PLANKS

SYSTEM COMPONENTS

Profile Q20410		1.52 ft/sqft	Substructure profile ZTQM-20X20X2-6060-T6		0.76 ft/sqft (stacked bond) 0.91 ft/sqft (running bond)
Fixing clip ZCLW-KK3418 (Alloy ZAMAK 3)		1.20 pcs/sqft (stacked bond) 1.40 pcs/sqft (running bond)	Screw ZFHC-3.5X25-A2-7504P		1.48 pcs/sqft (stacked bond) 1.68 pcs/sqft (running bond)
Fixing clip ZCLW-KK1515		available upon request	Z starting profile ZTQW-10X10X13X1.5-6060-T6		available upon request

CORNERS COMPONENTS

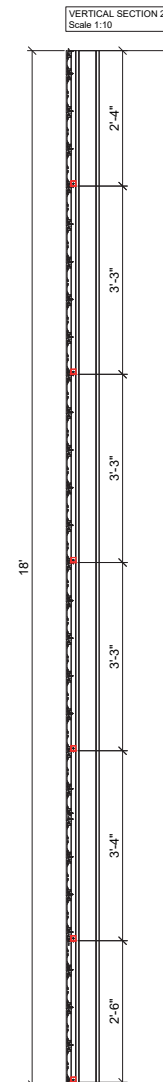
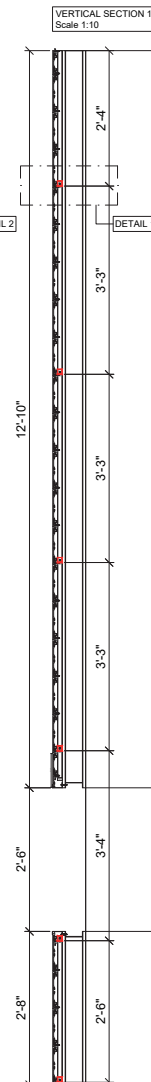
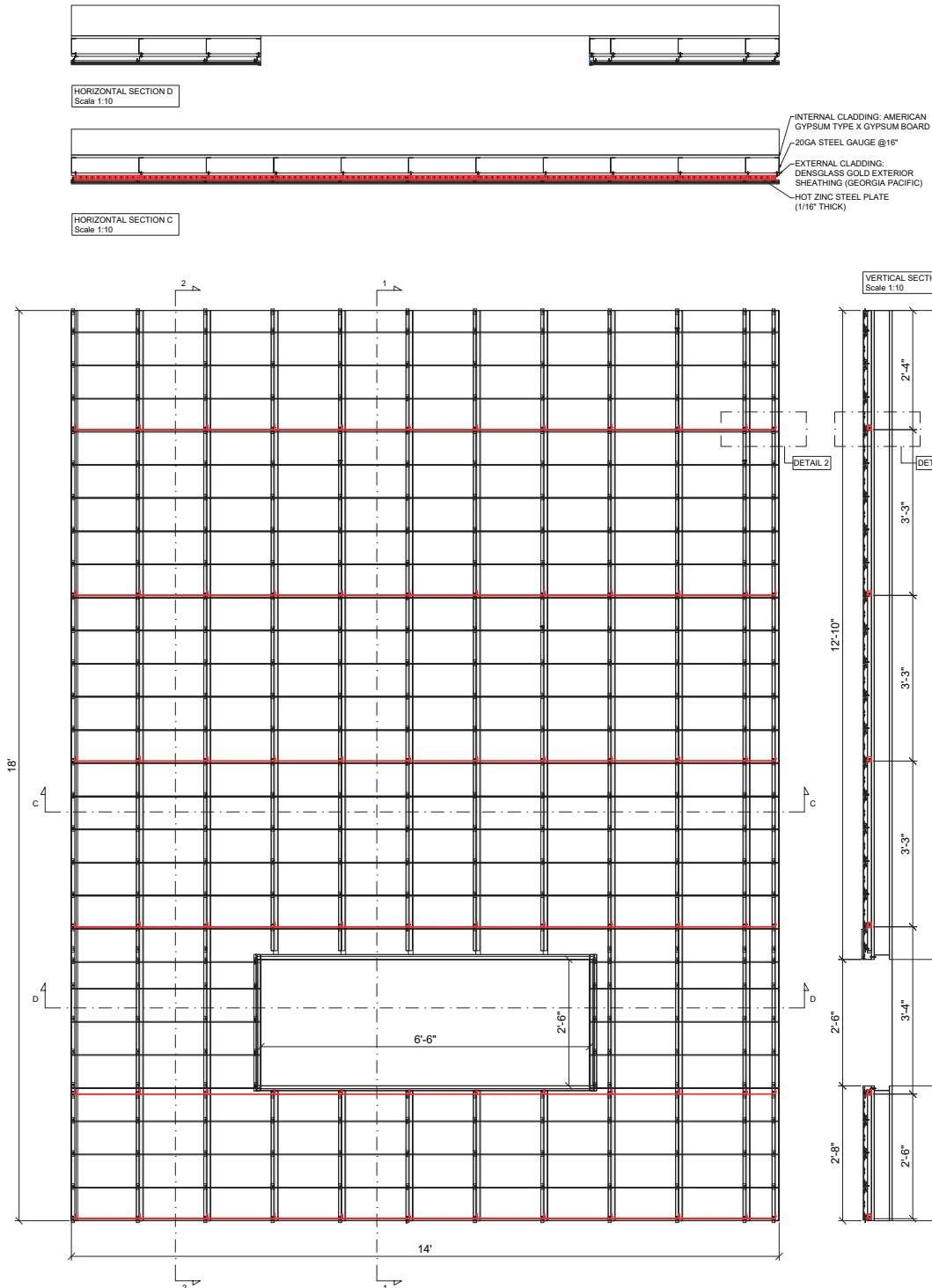
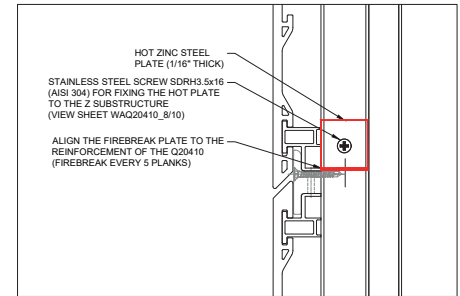
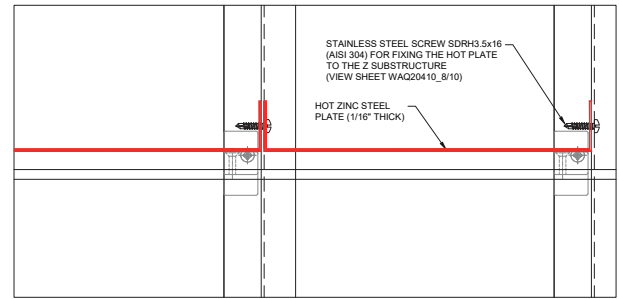
Profile JF7040-30x15		Fixing bracket ZCLW-WAQ20410_6040		Screw ZRHW-3.5X16-A2-7504N	
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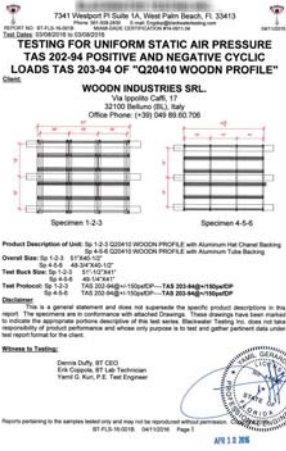
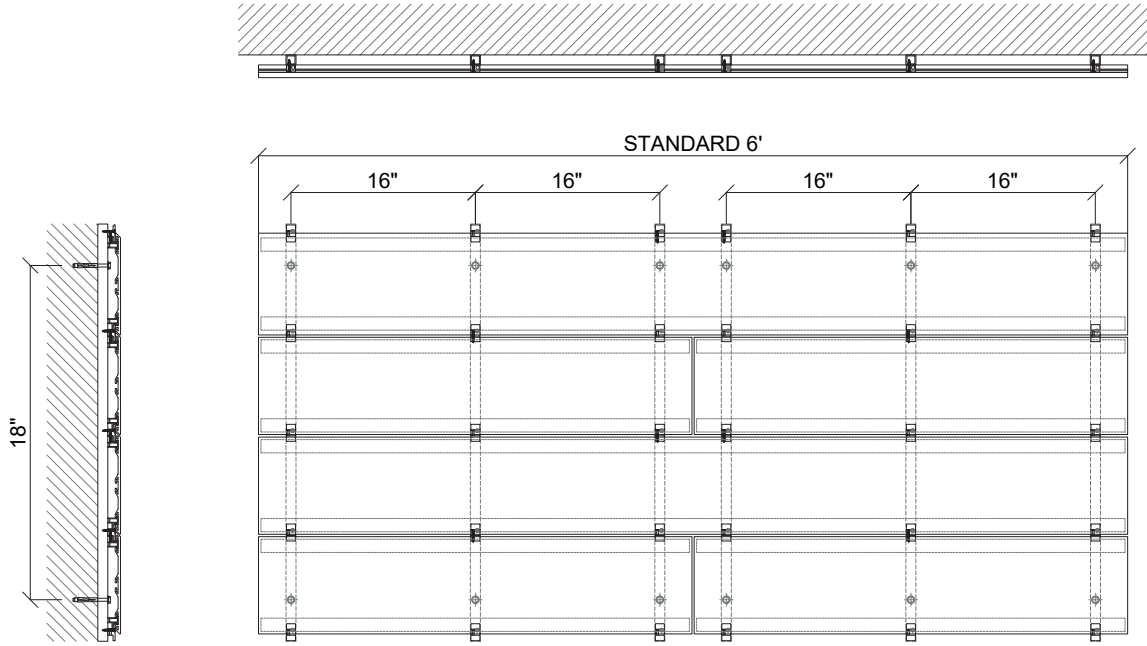
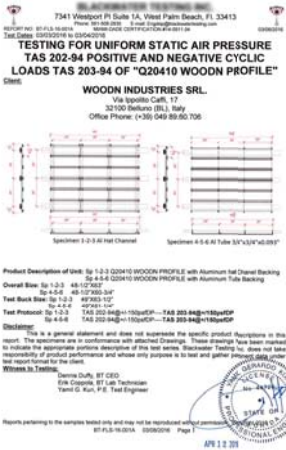
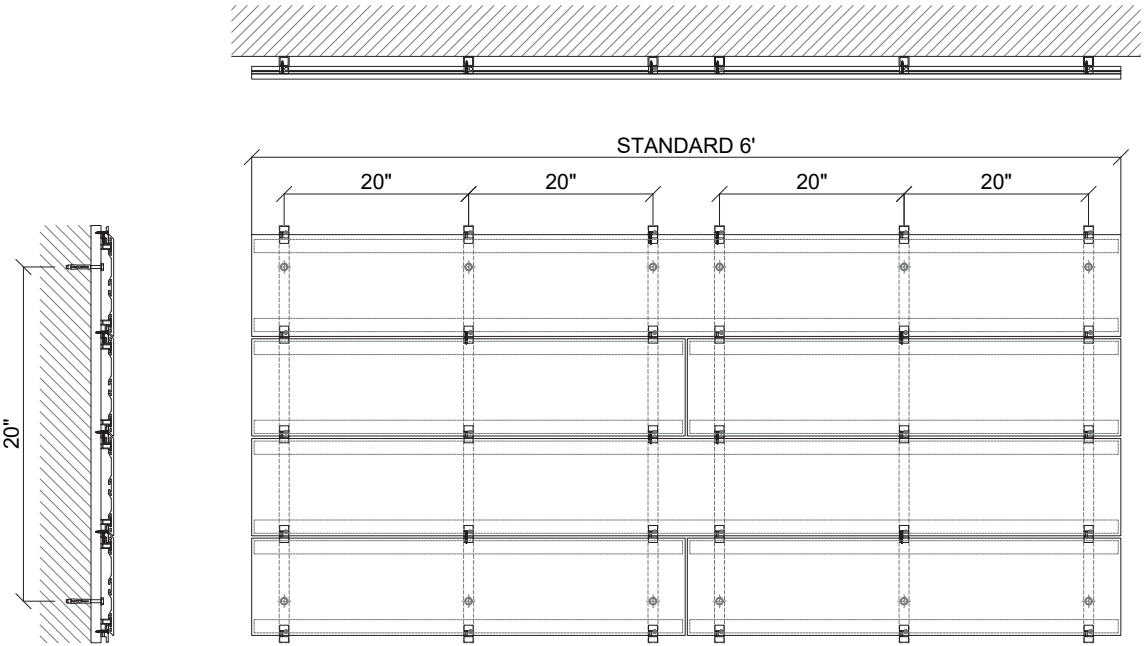
WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c. up to 20". For any installation that differs from the standard a cutting plan must be designed; it shall 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.

ALUMINUM Z SUBSTRUCTURE

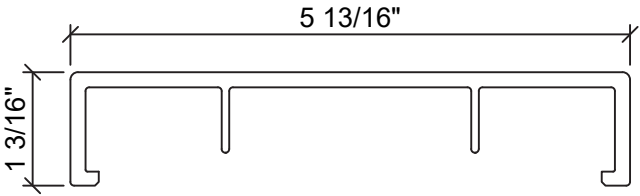


FIREBREAK PROFILE





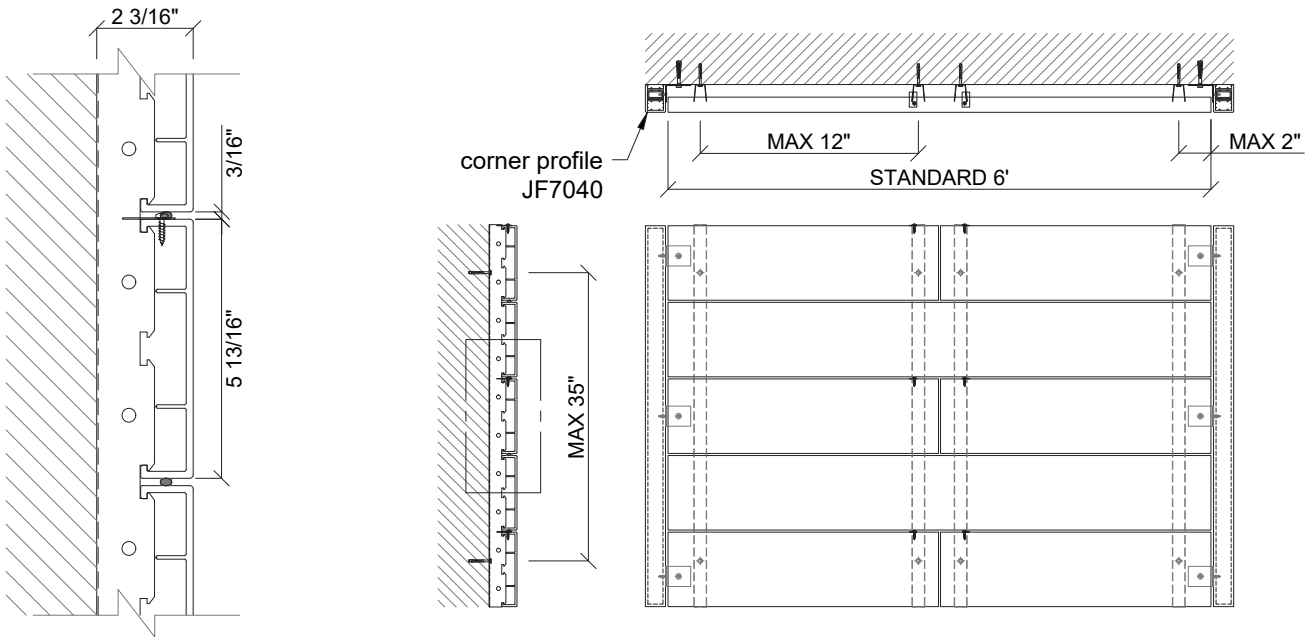
TH14830HD-4 - outdoor cladding



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).



MOUNTING SYSTEM



WEIGHT OF THE SYSTEM ≈ 1.97 lb/sqft
• Dimensions considering a standard wind load of 24.59 pound/sqft

ASSEMBLY INSTRUCTIONS



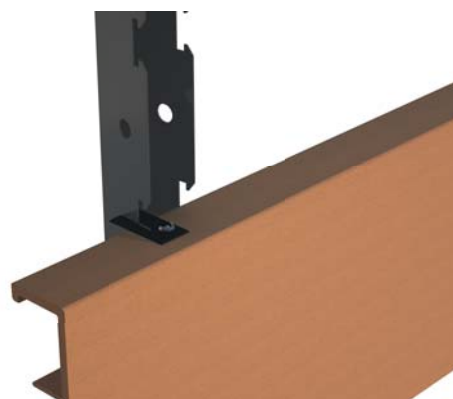
1. Screw the ZSSW-LG3326V profiles to support with suitable screws and wall plugs (*).



2. Install the first TH14830HD-4 profile.



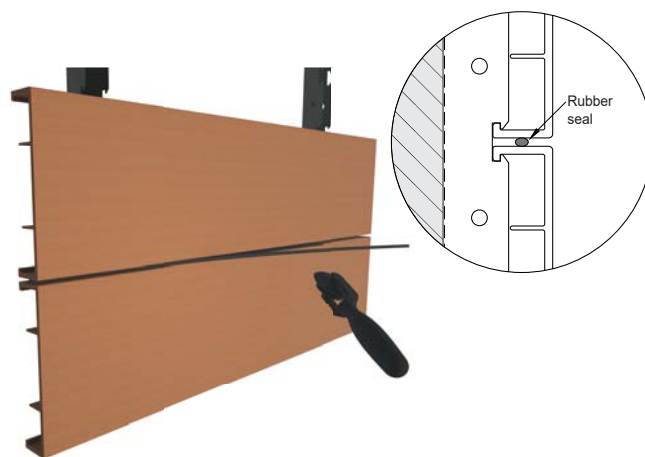
3. Apply the clip for the FIXED POINT with self-drilling screws to the profile.



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.

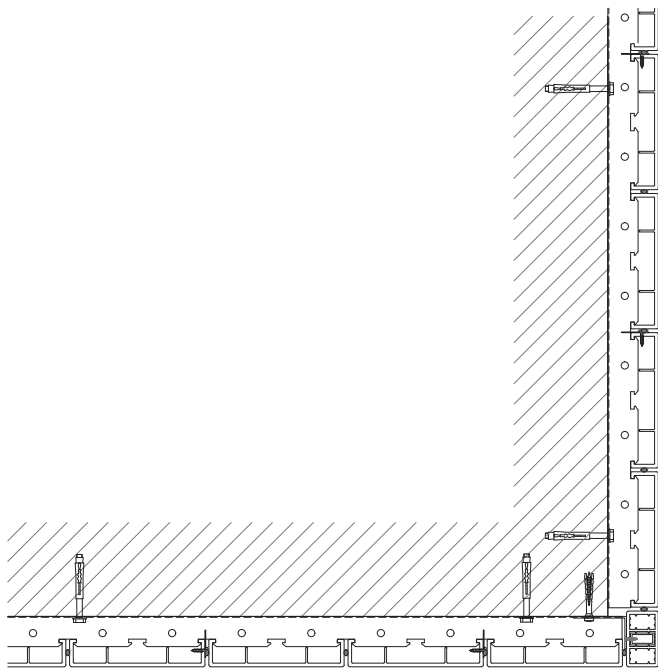


6. Insert the rubber seal into the joint using the accessory tool.

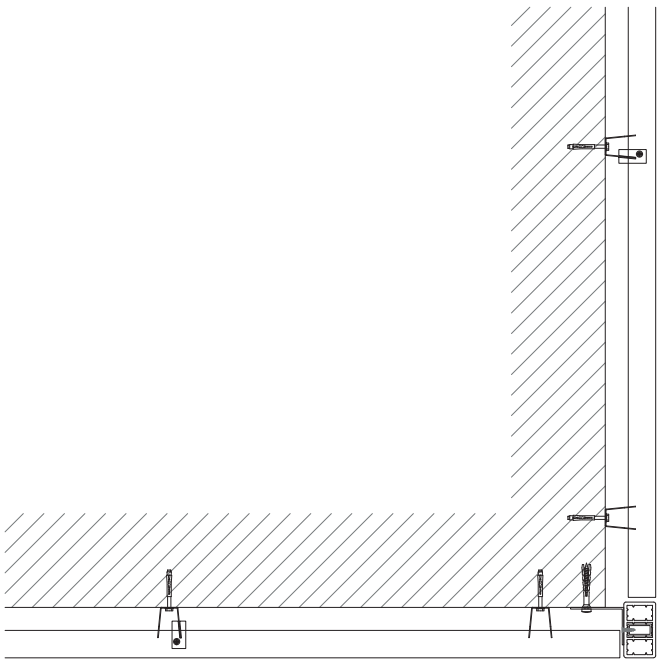
*Screws and wall plugs must be chosen according to the type of wall support.

DETAILS FOR CORNERS

VERTICAL PLANKS



HORIZONTAL PLANKS



SYSTEM COMPONENTS

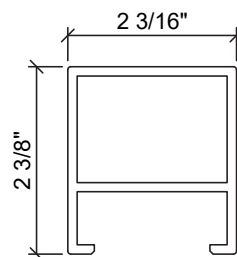
Profile TH14830HD-4		2.01 ft/sqft	Substructure profile ZSSW-LG3326V joint 4 mm		1.52 ft/sqft (stacked bond) 1.74 ft/sqft (running bond)
Clip for fixed point ZCLW-KK3015		0.37 pcs/sqft	Screw ZRHW-3.5X16-A2-7504N		0.37 pcs/sqft
Rubber seal ZAMW-RS-TH14830		2.01 ft/sqft	Insertion tool ZAMW-IT-TH14830		1.00 pcs

CORNERS COMPONENTS

Profile JF7040-30x15	
--------------------------------	--

WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c. up to 12". 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.

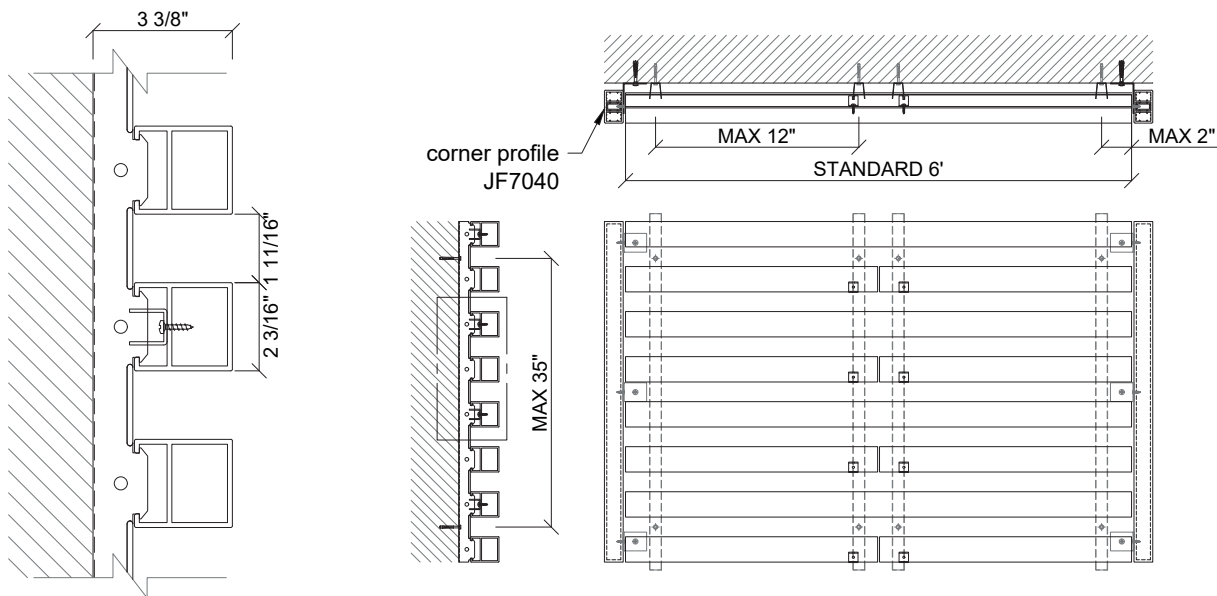
TH6050HD - outdoor cladding



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).



MOUNTING SYSTEM

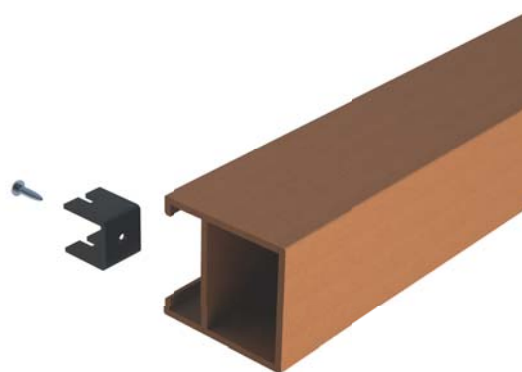


WEIGHT OF THE SYSTEM ≈ 2.93 lb/sqft
• Dimensions considering a standard wind load of 24.59 pound/sqft

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.

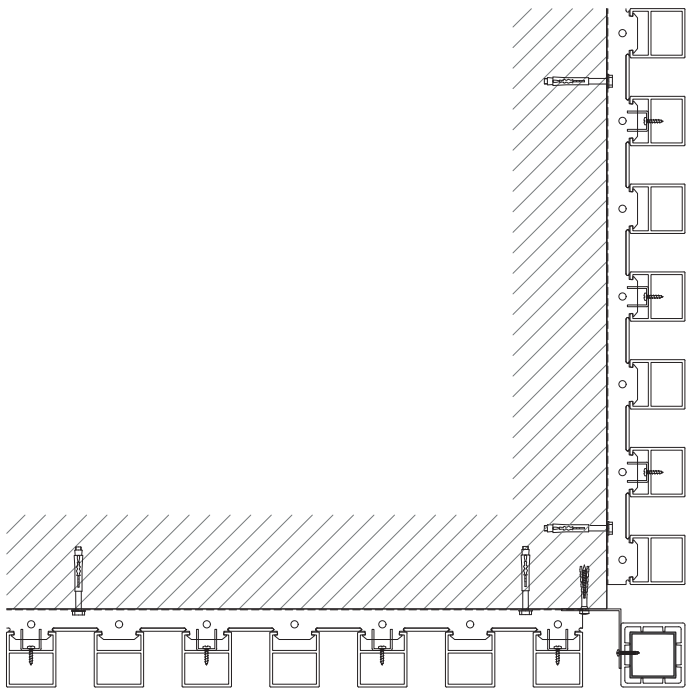


6. Repeat as described from step 2 up to the top to complete the cladding.

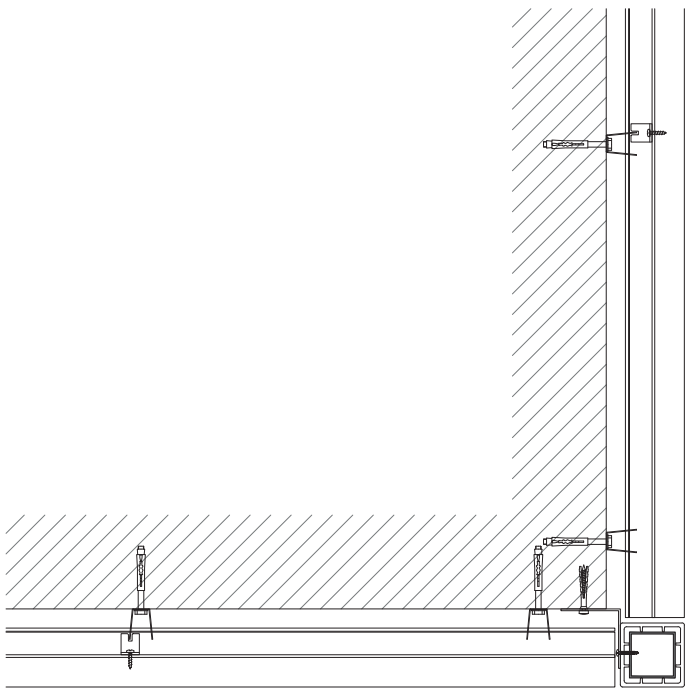
*Screws and wall plugs must be chosen according to the type of wall support.

DETAILS FOR CORNERS






VERTICAL PLANKS



HORIZONTAL PLANKS



SYSTEM COMPONENTS

Profile TH6050HD		3.20 ft/sqft	Substructure profile ZSSW-LG9637V		1.52 ft/sqft (stacked bond) 1.74 ft/sqft (running bond)
Clip for fixed point ZCLW-KK2722		0.56 pcs/sqft	Screw ZRHW-3.5X16-A2-7504N		0.56 pcs/sqft
Accessory closing piece THZ5004HD		3.20 ft/sqft			






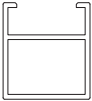

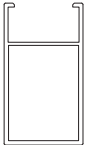


CORNERS COMPONENTS

Profile JF7040-30x15		Profile JF7070	
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WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c up to 12". 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

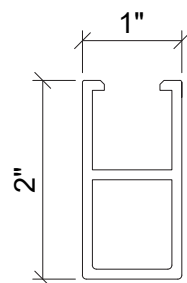
indoor ceiling/outdoor soffit

profile	cross-section	nominal dimensions [ft, in]	weight of the plank [lb/ft]
TH5025HD 		section 25 x 50 mm (≈ 1" x 2") standard length 1830 mm (≈ 6')	0.24
TH3050HD 		section 50 x 30 mm (≈ 2" x 1"3/16) standard length 1830 mm (≈ 6')	0.31
TH6050HD 		section 54 x 60 mm (≈ 2"3/16 x 2"3/8) standard length 1830 mm (≈ 6')	0.54
TH9050HD 		section 50 x 90 mm (≈ 2" x 3"9/16) standard length 1830 mm (≈ 6')	0.56
TH14830HD-4 		section 148 x 30 mm (≈ 5"13/16 x 1"3/16) standard length 1830 mm (≈ 6')	0.69

Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

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.

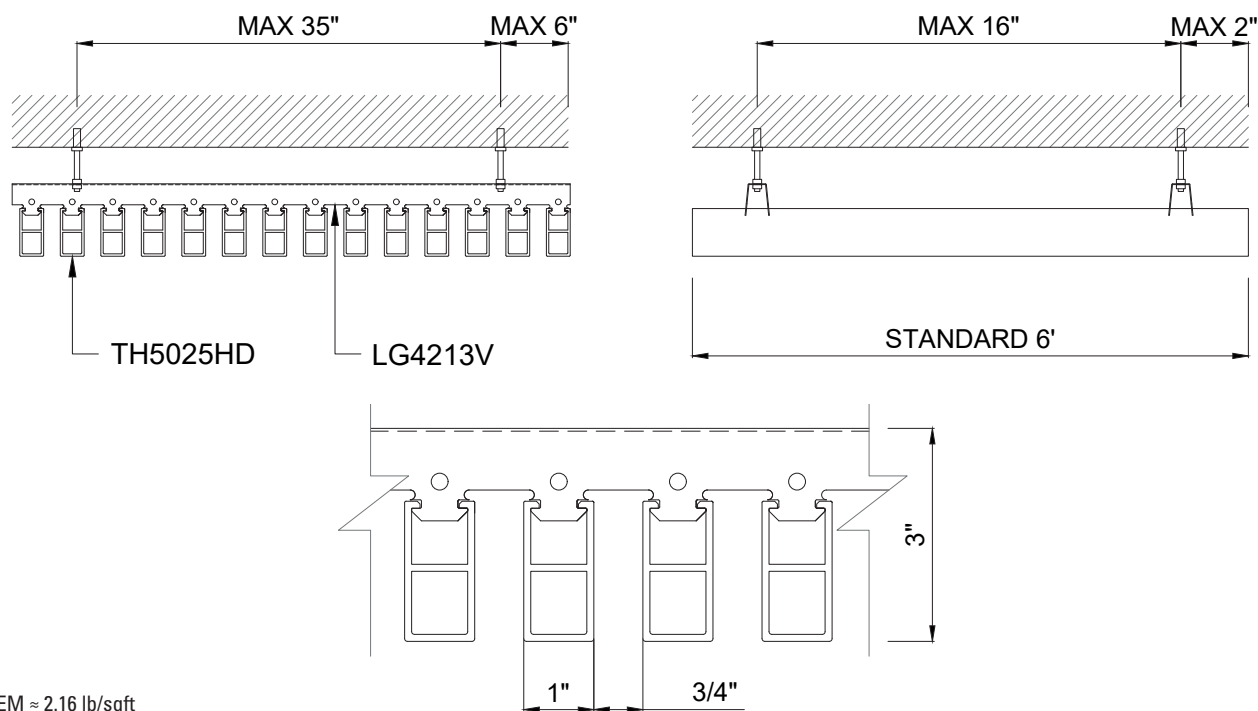
TH5025HD - indoor ceiling/outdoor soffit



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

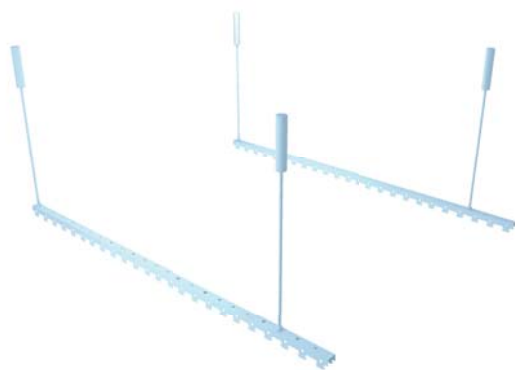


MOUNTING SYSTEM

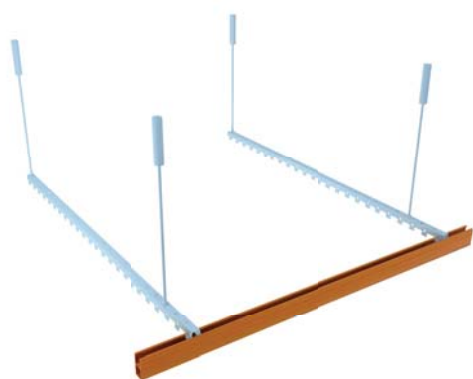


WEIGHT OF THE SYSTEM ≈ 2.16 lb/sqft

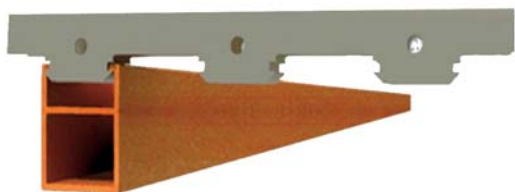
ASSEMBLY INSTRUCTIONS



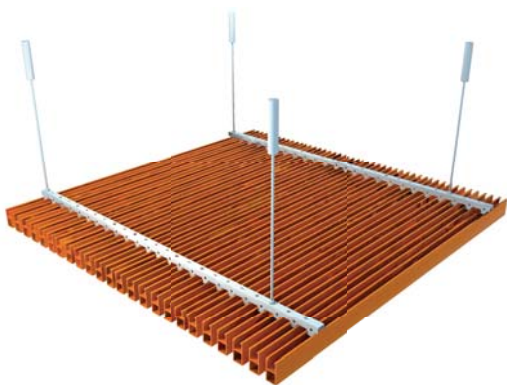
1. Fix the ZSSW-LG4213V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned.



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.

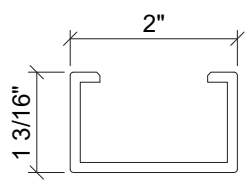
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

Profile TH5025HD		7.11 ft/sqft	Substructure profile ZSSW-LG4213V		1.19 ft/sqft (stacked bond) 1.40 ft/sqft (running bond)
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WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c. up to 16". 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.

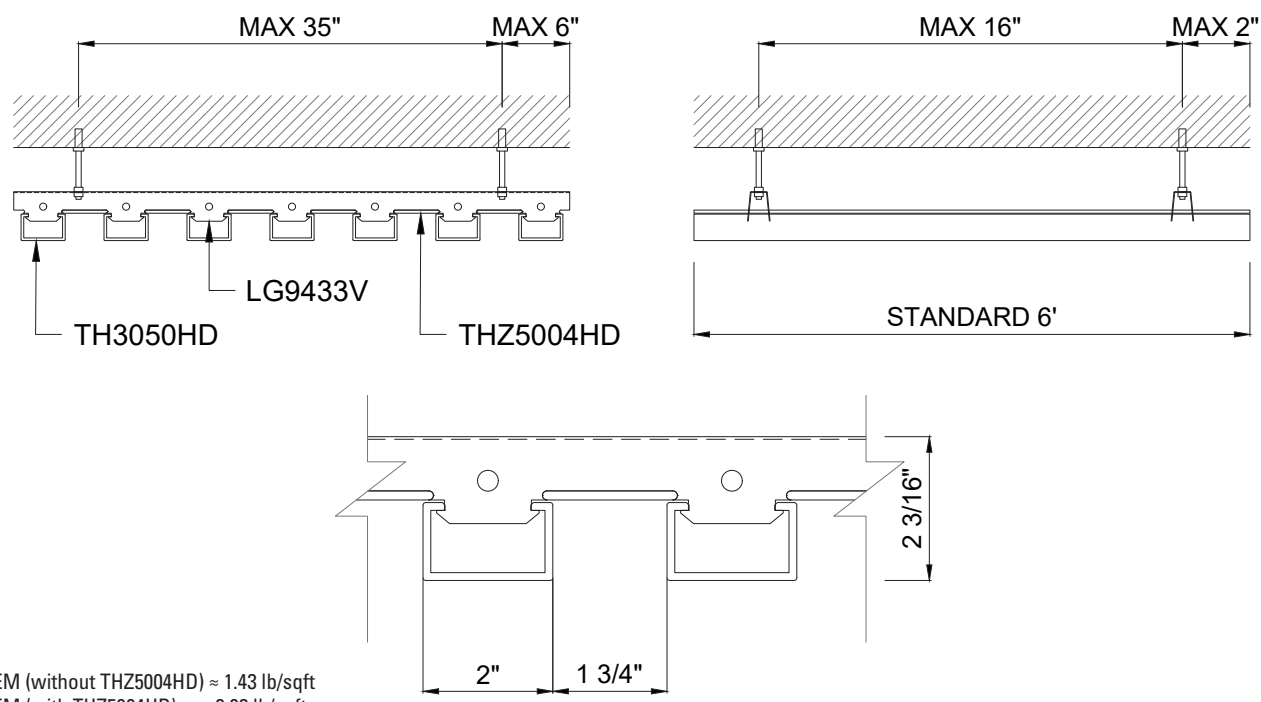
TH3050HD - indoor ceiling/outdoor soffit



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

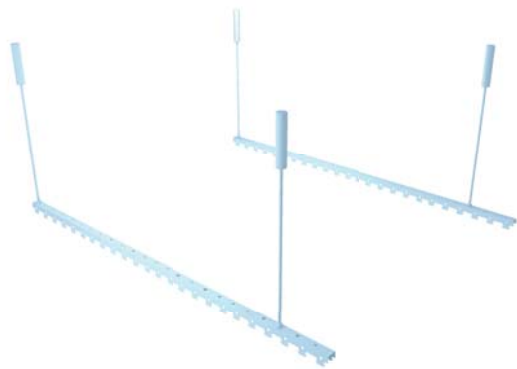


MOUNTING SYSTEM

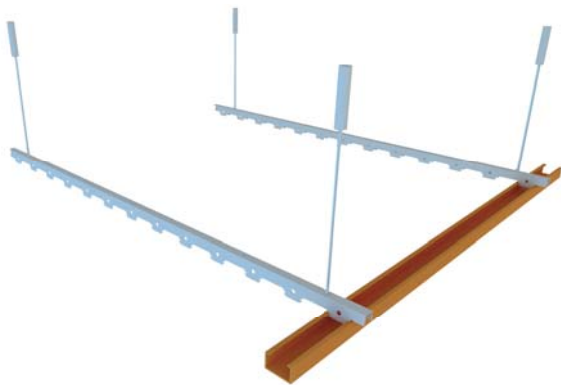


WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 1.43 lb/sqft
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 2.03 lb/sqft

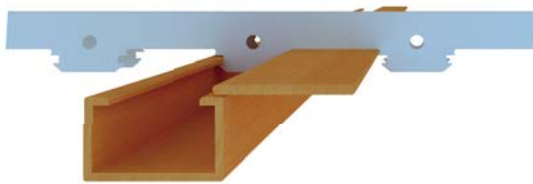
ASSEMBLY INSTRUCTIONS



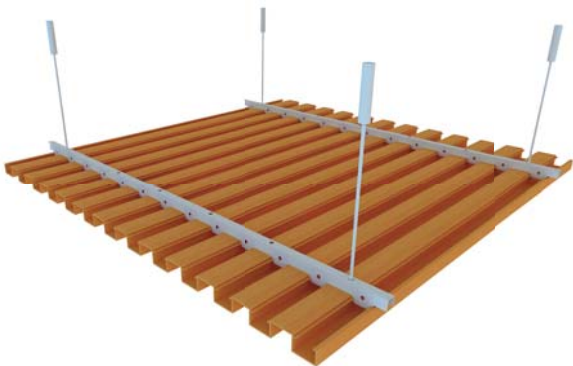
1. Fix the ZSSW-LG9433V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned.



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.

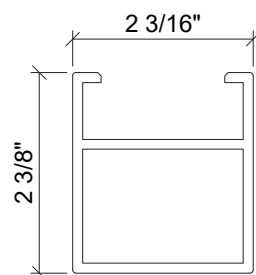
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

Profile TH3050HD		3.20 ft/sqft	Substructure profile ZSSW-LG9433V		1.19 ft/sqft (stacked bond) 1.40 ft/sqft (running bond)
Accessory closing piece THZ5004HD		3.20 ft/sqft 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 6' long and slats/substructure with maximum distance o.c. up to 16". 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.

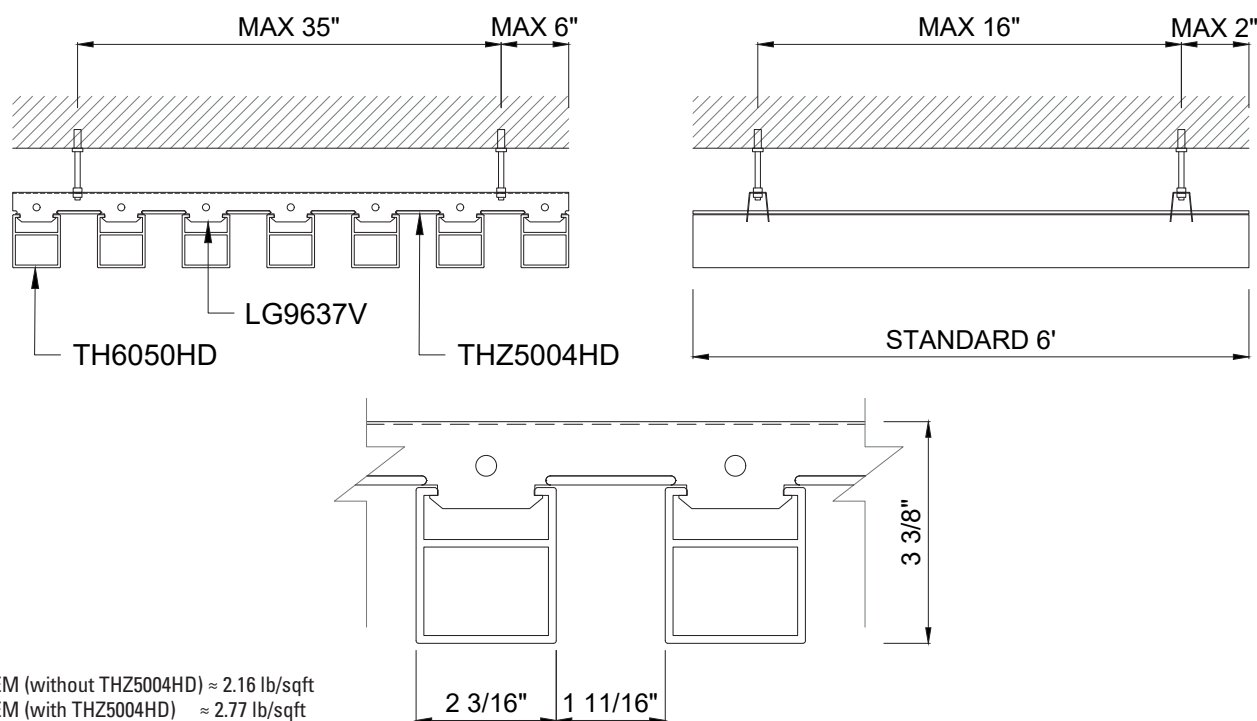
TH6050HD - indoor ceiling/outdoor soffit



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

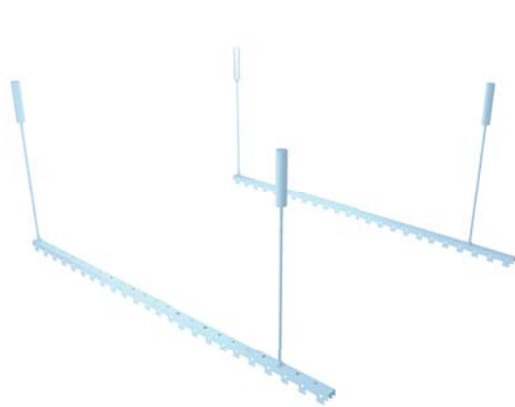


MOUNTING SYSTEM



WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 2.16 lb/sqft
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 2.77 lb/sqft

ASSEMBLY INSTRUCTIONS



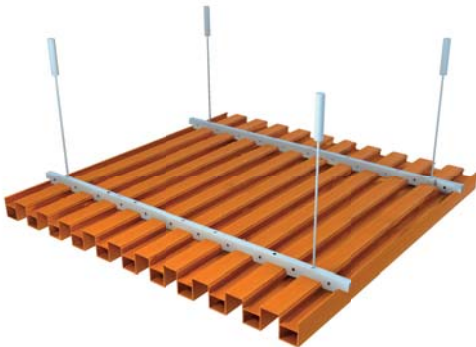
1. Fix the ZSSW-LG9637V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned.



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.

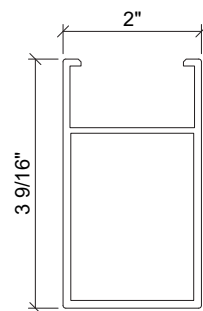
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

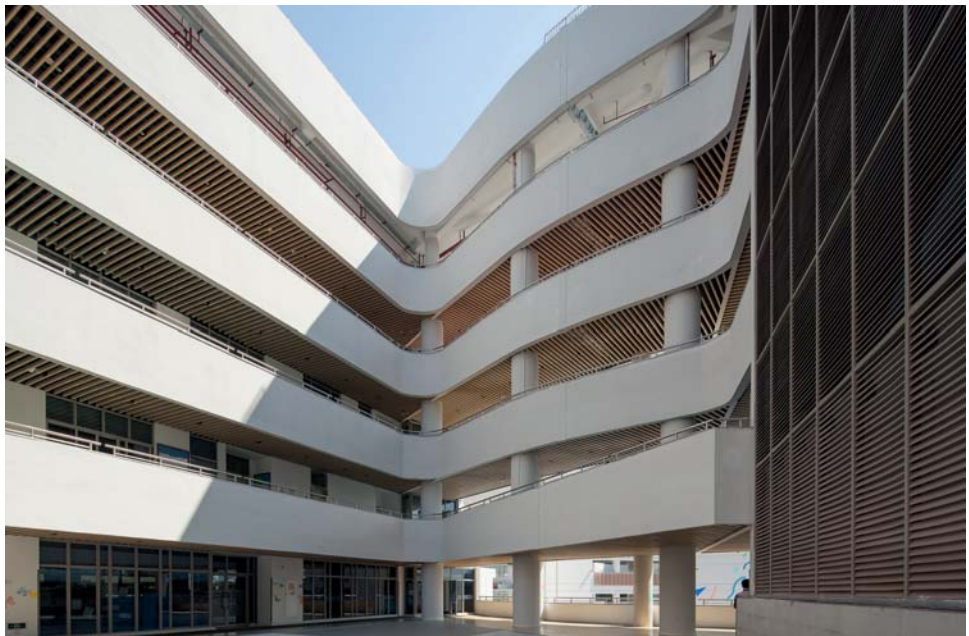
Profile TH6050HD		3.20 ft/sqft	Substructure profile ZSSW-LG9637V		1.19 ft/sqft (stacked bond) 1.40 ft/sqft (running bond)
Accessory closing piece THZ5004HD		3.20 ft/sqft optional element for closing the false ceiling			

WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c. up to 16". 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.

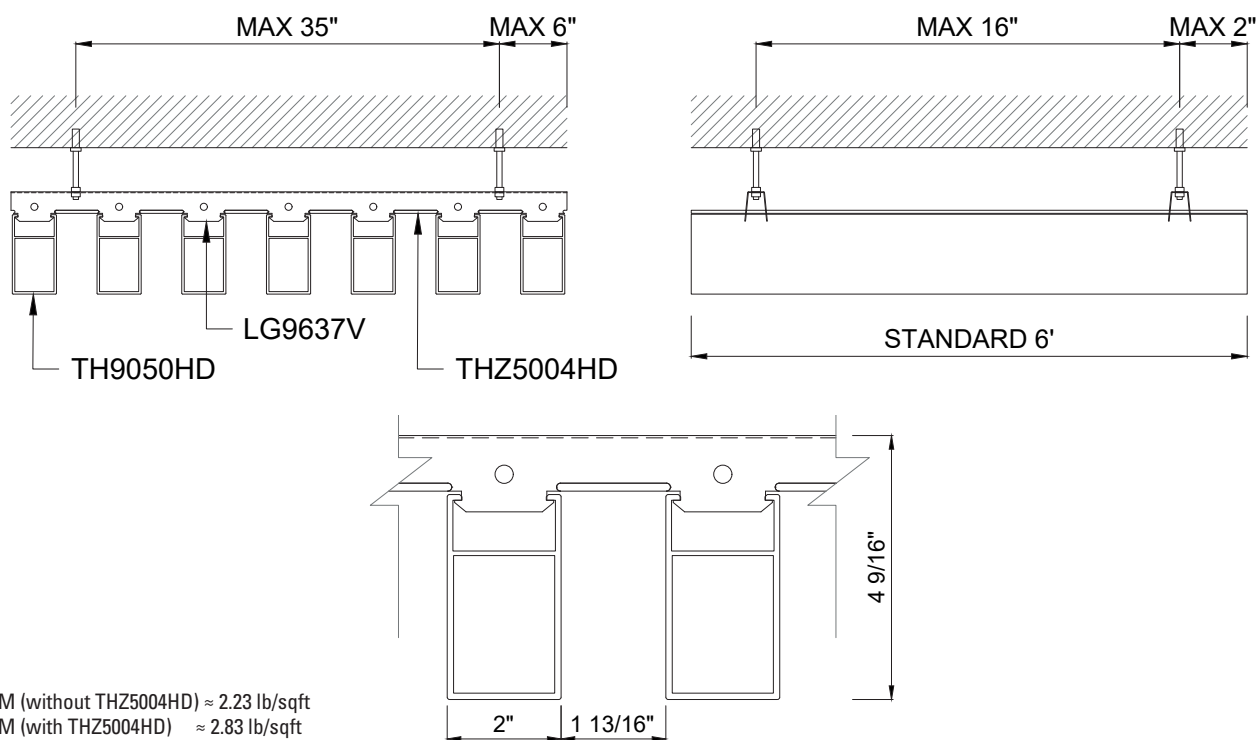
TH9050HD - indoor ceiling/outdoor soffit



Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

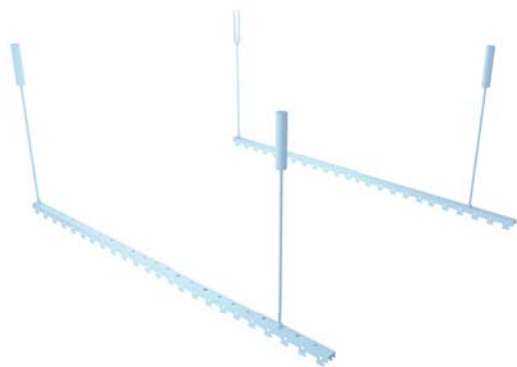


MOUNTING SYSTEM

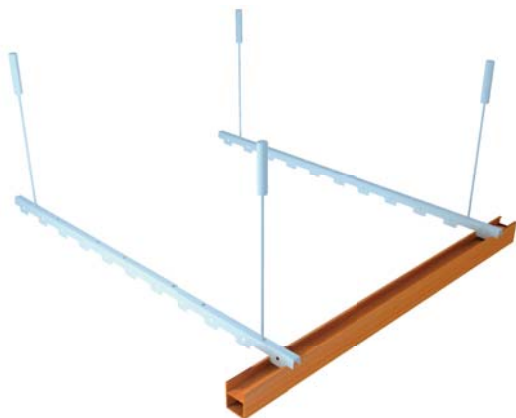


WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 2.23 lb/sqft
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 2.83 lb/sqft

ASSEMBLY INSTRUCTIONS



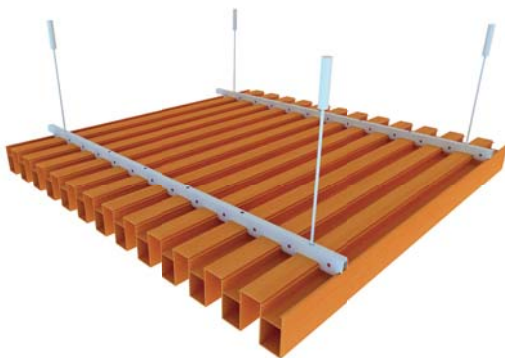
1. Fix the ZSSW-LG9637V bars directly to the ceiling using screws and wall plugs suitable for the type of support, or lower the structure with suitable hangers. The structure must be perfectly aligned.



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.

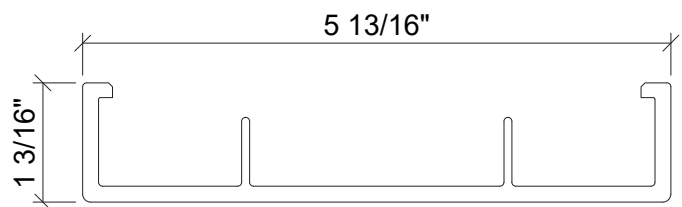
NOTE: Hangers, screws and wall plugs not included. For outdoor installation, the perimeter of the ceiling must be closed on all sides.

SYSTEM COMPONENTS

Profile TH9050HD		3.20 ft/sqft	Substructure profile ZSSW-LG9637V		1.19 ft/sqft (stacked bond) 1.40 ft/sqft (running bond)
Accessory closing piece THZ5004HD		3.20 ft/sqft 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 6' long and slats/substructure with maximum distance o.c. up to 16". 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

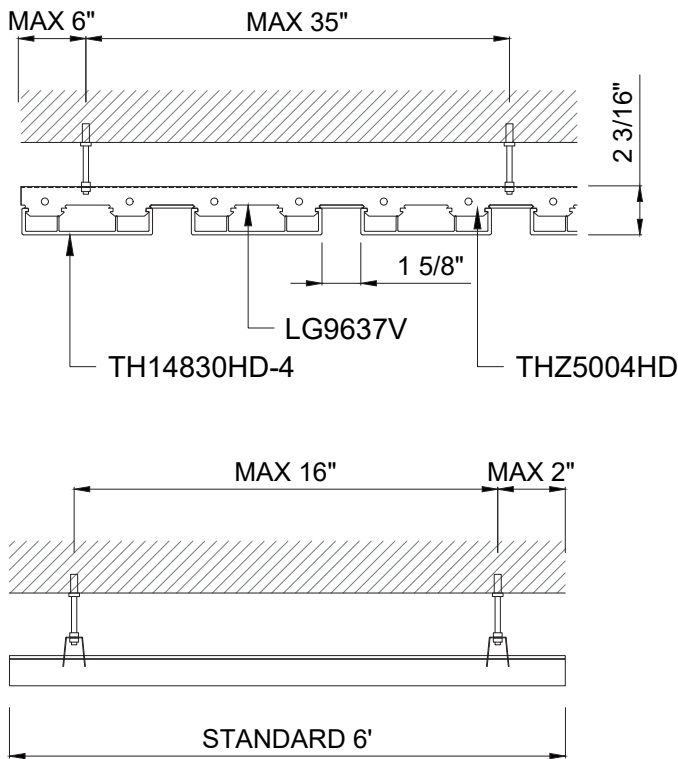


Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).



MOUNTING SYSTEM

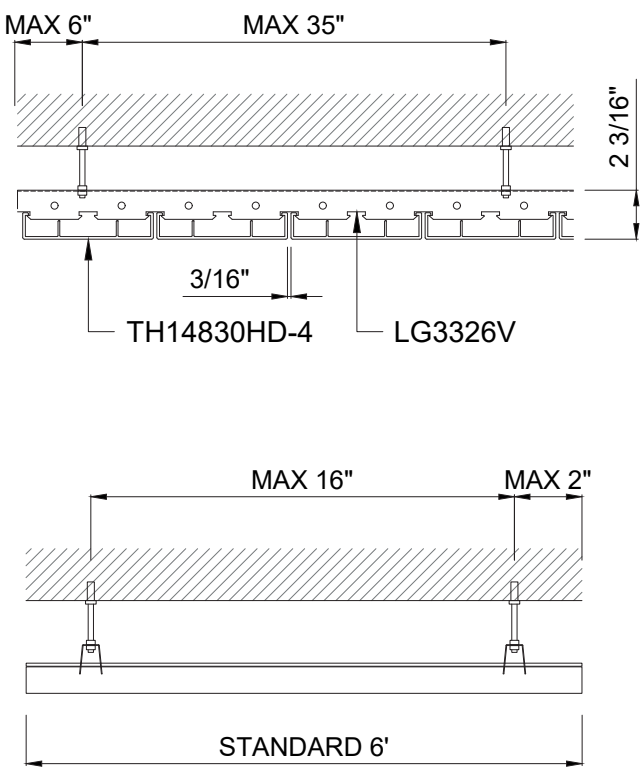
JOINT 40 mm (≈ 1"9/16")



WEIGHT OF THE SYSTEM (without THZ5004HD) ≈ 1.58 lb/sqft
WEIGHT OF THE SYSTEM (with THZ5004HD) ≈ 1.90 lb/sqft

REV.00-2021

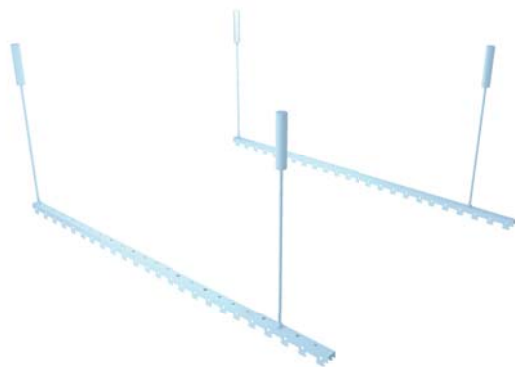
JOINT 4 mm (≈ 5/32")



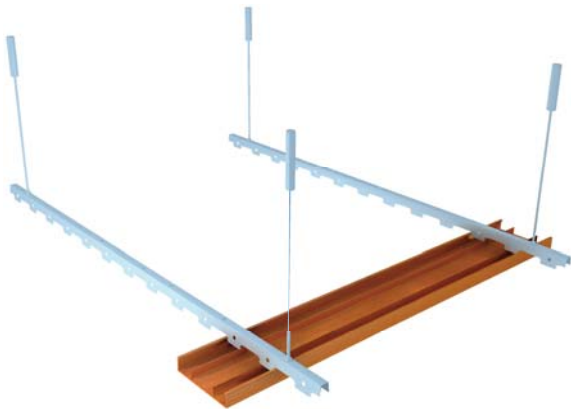
WEIGHT OF THE SYSTEM (joint 5/32") ≈ 1.84 lb/sqft

pag. 110

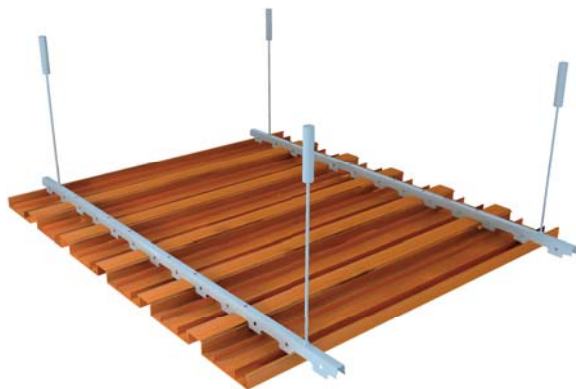
ASSEMBLY INSTRUCTIONS



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.



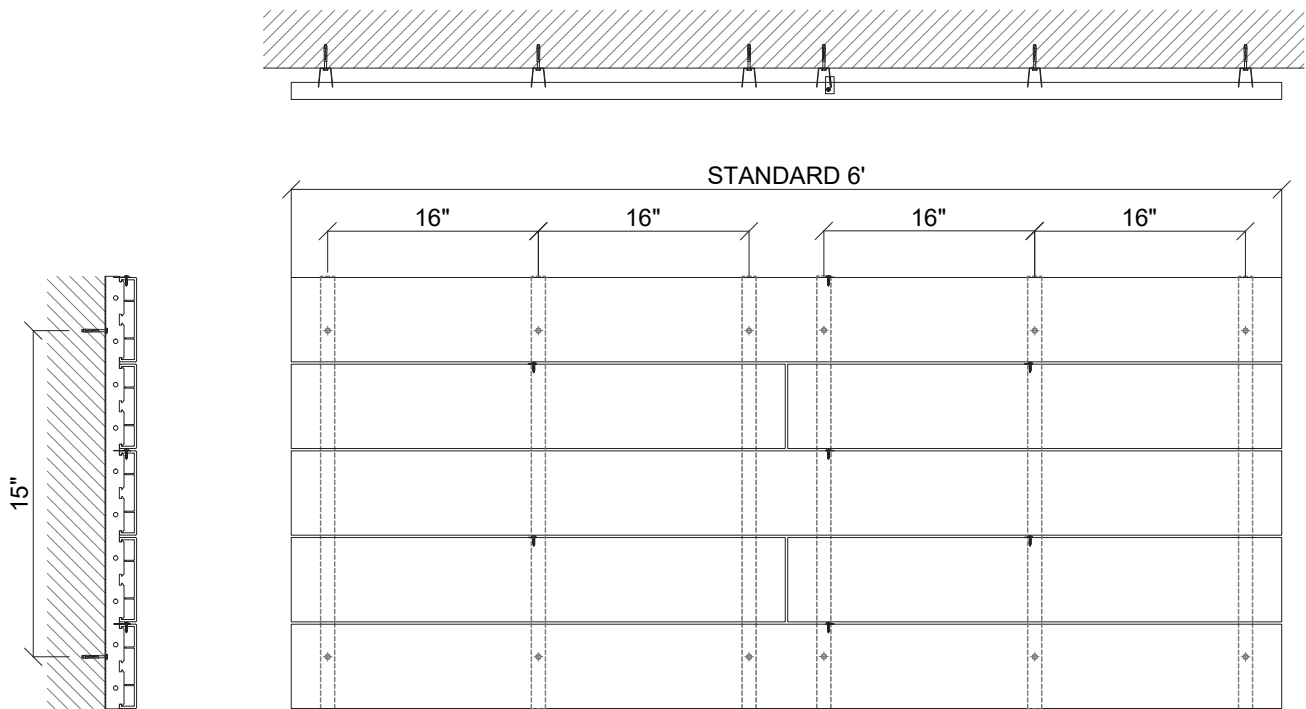
3. Complete the work by repeating the steps described in 2.

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		1.65 ft/sqft (joint 1"9/16) 2.01 ft/sqft (joint 5/32")	Substructure profile ZSSW-LG9637V joint 1"9/16		1.19 ft/sqft (stacked bond) 1.40 ft/sqft (running bond)
Accessory closing piece THZ5004HD		1.65 ft/sqft (joint 1"9/16)	Substructure profile ZSSW-LG3326V joint 5/32"		1.19 ft/sqft (stacked bond) 1.40 ft/sqft (running bond)

WARNING: the incidences of accessory material indicated refer to application according to the European standards, which provides for planks 6' long and slats/substructure with maximum distance o.c. up to 16". 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.



7341 Westport Pl Suite 1A, West Palm Beach, FL 33413
Phone: 561-508-2830 E-mail: Eng@blackwater-testing.com
REPORT NO: BT-FLS-16-002A1 MIAMI-DADE CERTIFICATION #14-0911.04
Test Dates: 03/11/2016 to 03/14/2016

**TESTING FOR UNIFORM STATIC AIR PRESSURE TAS
202-94 AND CYCLIC LOADS TAS 203-94 OF
"TH14830HB 16" O.C. WOODN CEILING"**

Client:
WOODN INDUSTRIES SRL.
Via Ippolito Caffi, 17
32100 Belluno (BL), Italy
Office Phone: (+39) 049 89.60.706

Specimen 1-2-3

Product Description of Unit: TH14830HB 16" O.C. Woodn Ceiling

Overall Size: Sp 1-2-3 49"X36-1/8"

Test Buck Size: Sp 1-2-3 49-1/2"X36-5/8"

Test Protocol: Sp 1-2-3 TAS 202-94@+/-150psfDP---TAS 203-94@+/-150psfDP

Disclaimer:
This is a general statement and does not supersede the specific product descriptions in this report. The specimens are in conformance with attached Drawings. These drawings have been marked to indicate the appropriate portions descriptive of this test series. Blackwater Testing Inc. does not take responsibility of product performance and whose only purpose is to test and gather pertinent data under test report format for the client.

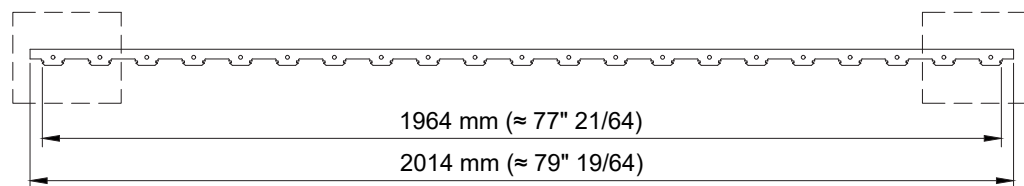
Witness to Testing:
Dennis Duffy, BT CEO
Erik Coppola, BT Lab Technician
Yamil G. Kuri, P.E. Test Engineer

Reports pertaining to the samples tested only and may not be reproduced without permission.
BT-FLS-16-002A1 03/14/2016 Page 1
MAR 3 1 2016

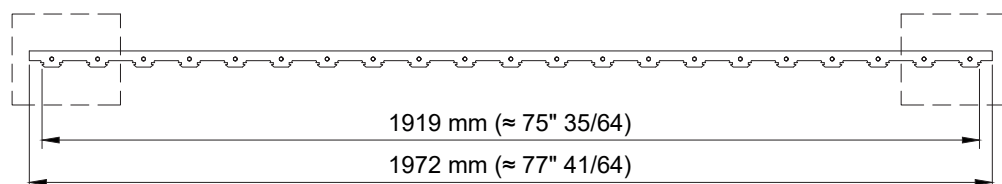
Ceiling/soffit substructures

(lengths and details of the supplied items)

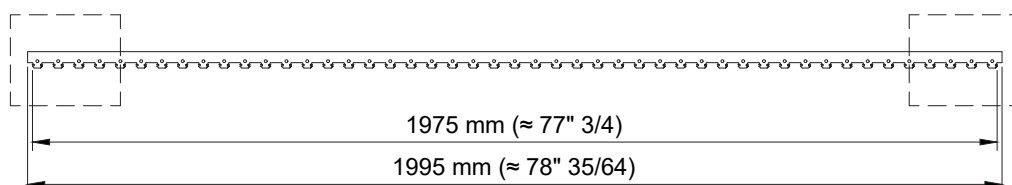
LG9637V for TH6050HD, TH9050HD, TH14830HD-4 (joint 1" 9/16)



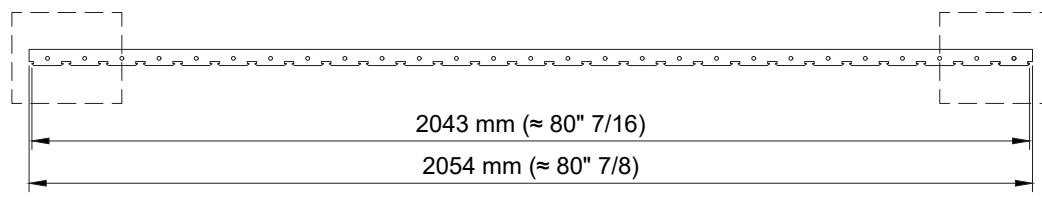
LG9433V for TH3050HD



LG4213V for TH5025HD

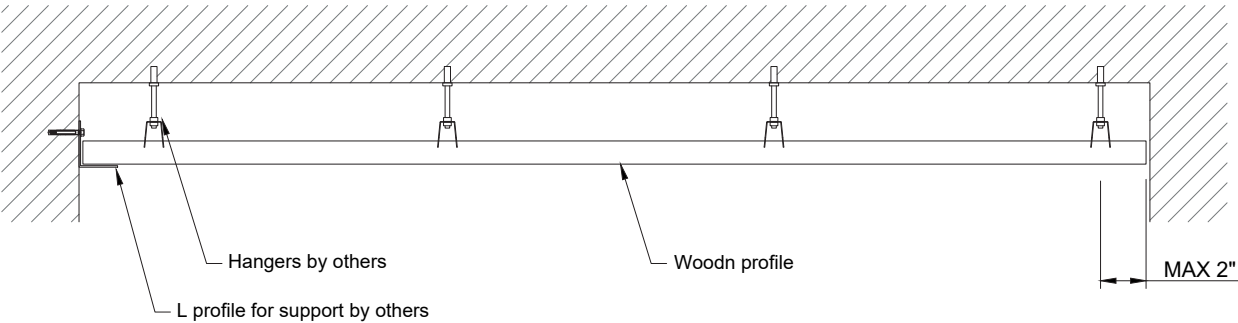
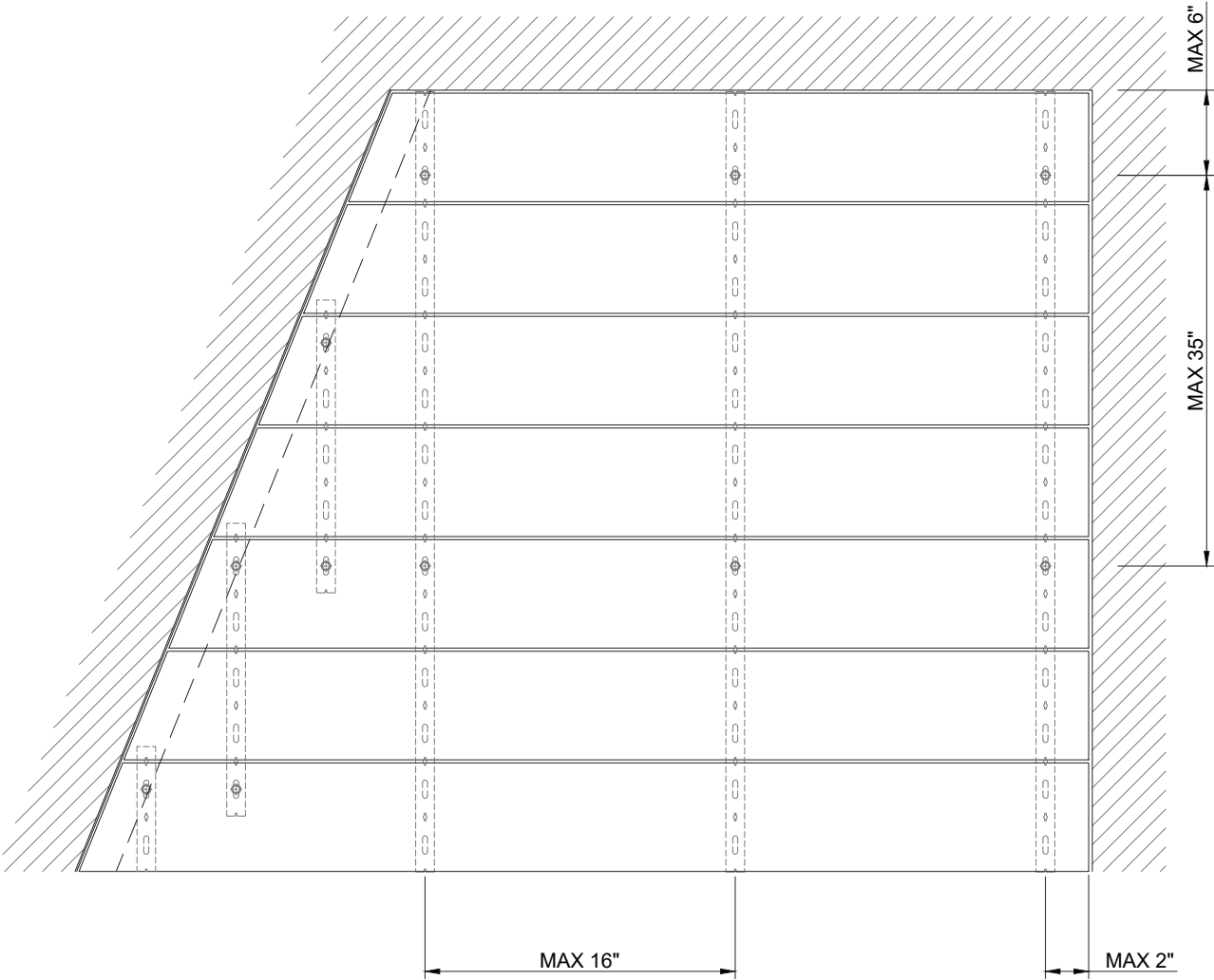


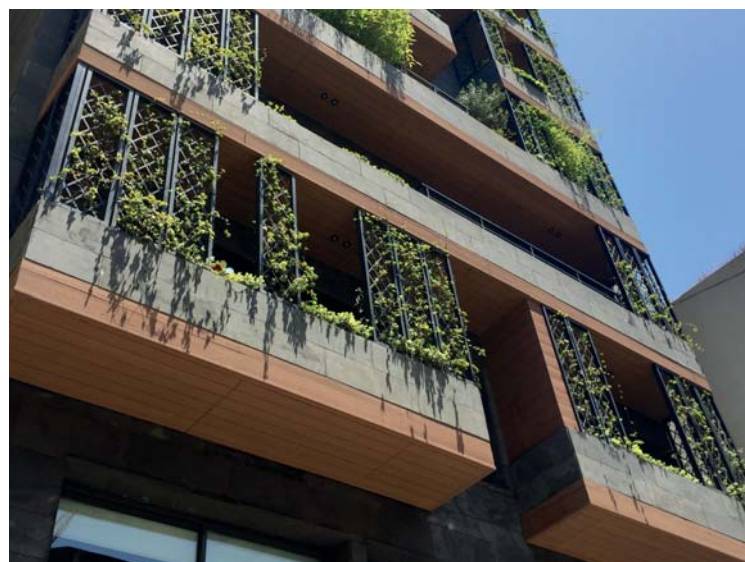
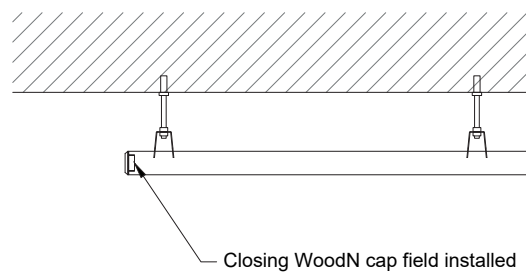
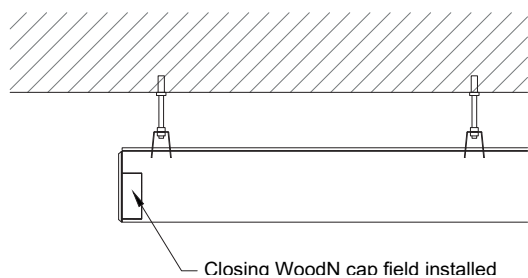
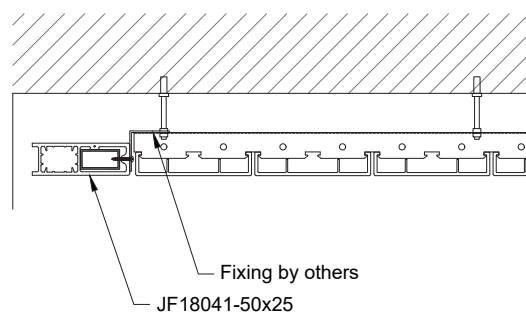
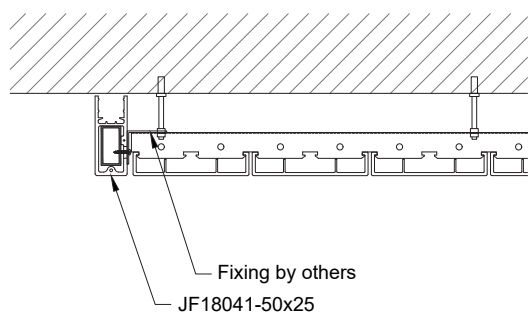
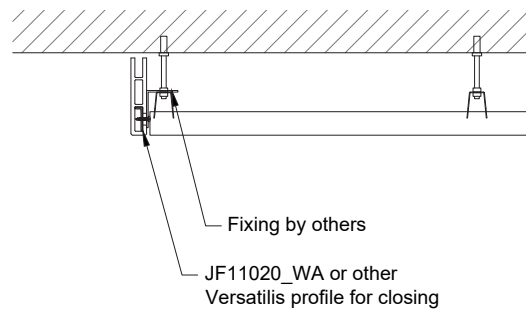
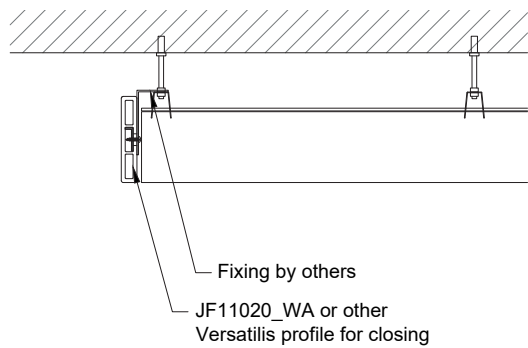
LG3326V for TH14830HD-4 (joint 5/32")



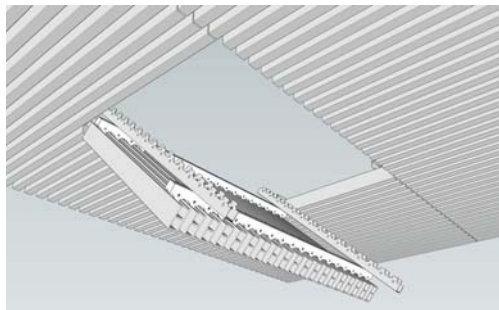
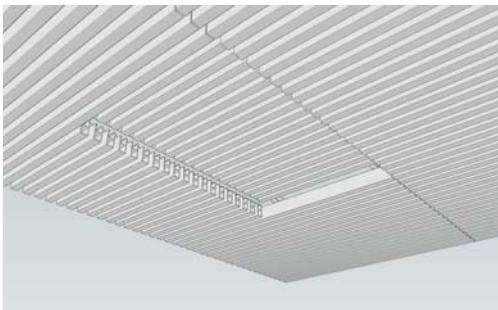
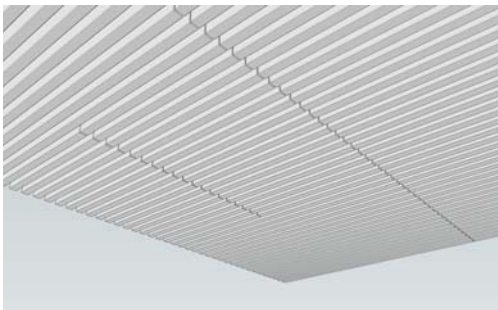
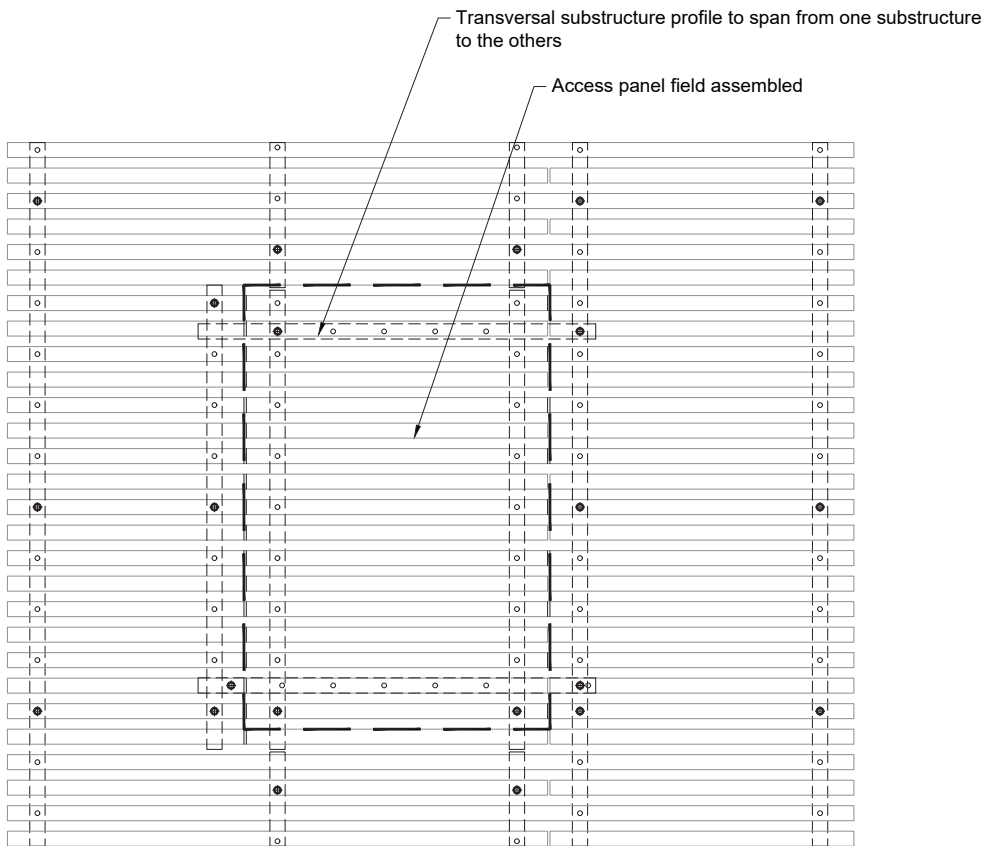
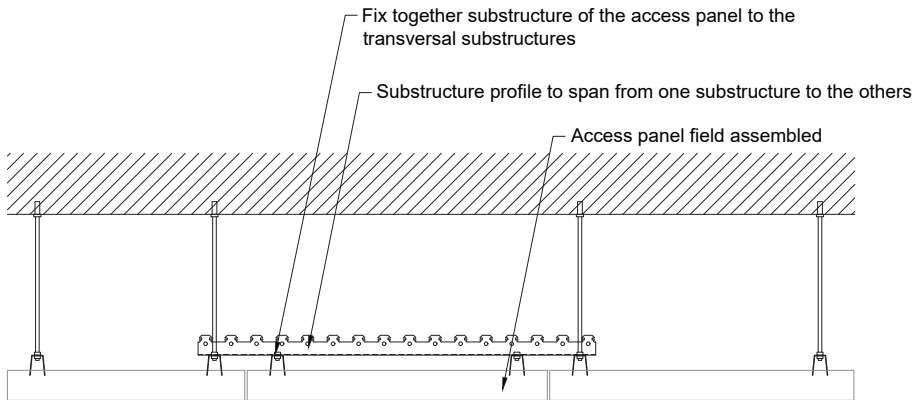
The dimensions listed are nominal values.
 Length tolerances according UNI EN-ISO 22768: class UNI EN-ISO 22768-vL.

Solutions for the ceiling/soffit perimeter closure

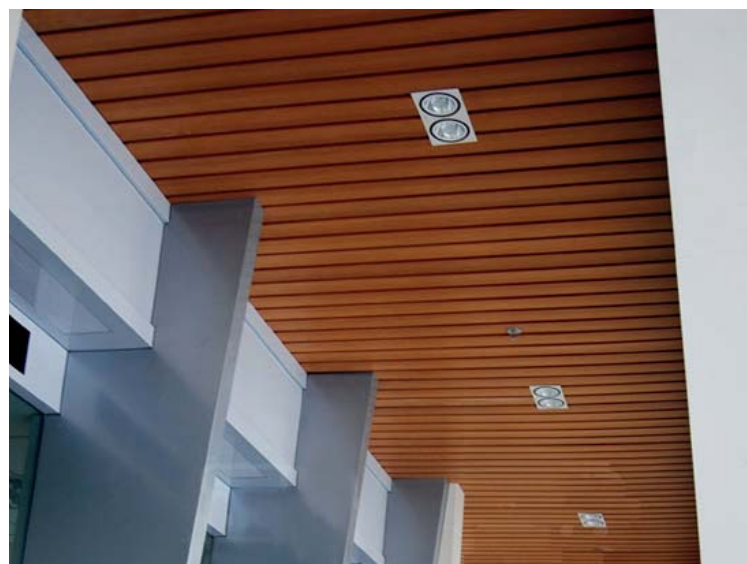
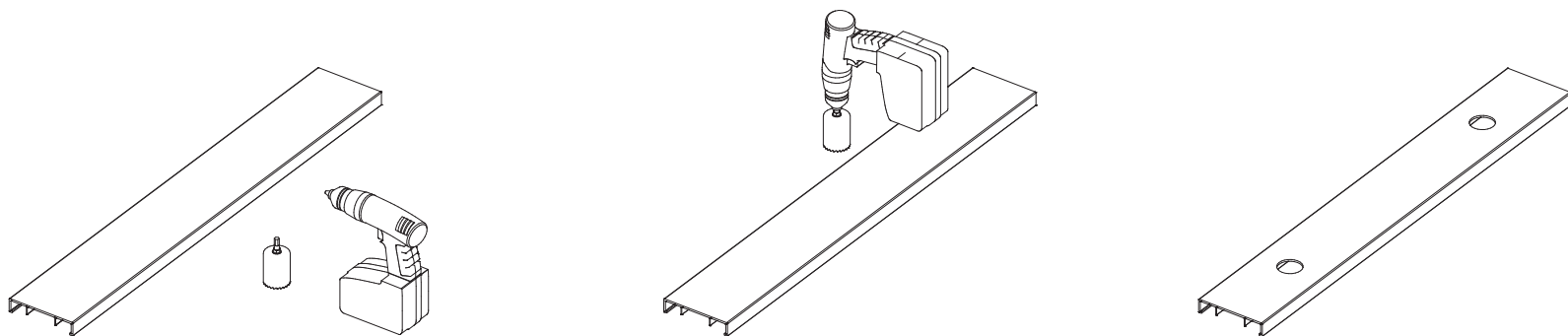




Ceiling access panel

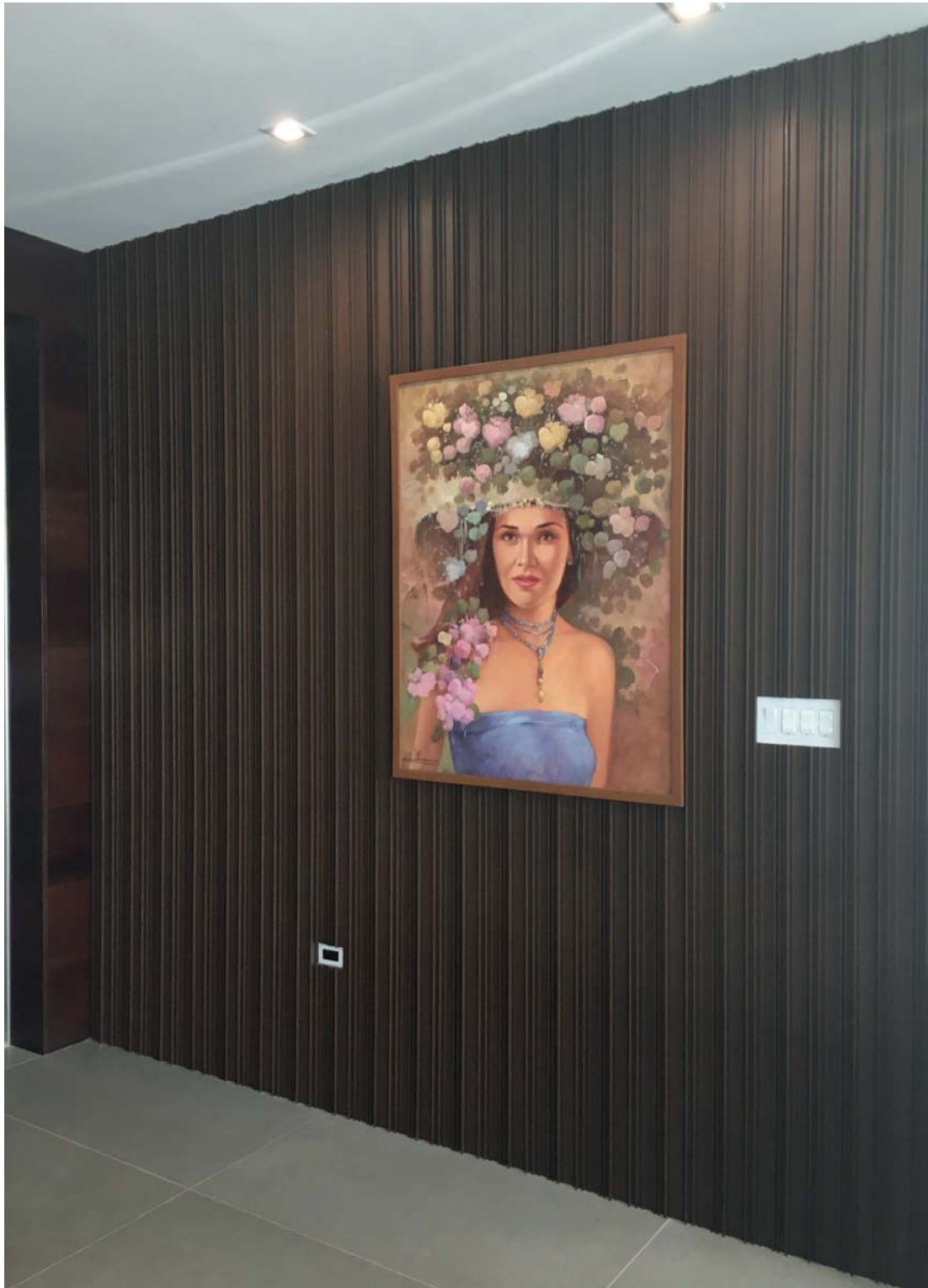


Drill to position lights and other recessed elements



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

WOODN ORNANS



DISCLAIMER - GENERAL NOTES

Due to conversion from metric sizes and measurements, the US values provided are approximate.

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MATERIAL'S FEATURES

Mechanical properties

Elasticity (bending)	UNI EN ISO 178	2070 Mpa (@73 °F) 660 Mpa (@149 °F)
Yield strenght (flexural)	UNI EN ISO 178	31 Mpa (@73 °F)
Water absorbptn and humidity	ASTM D1037	absorption 0,07%
Dynamic- Mechanical analysis of transition temperature	ASTM D4065/95	173.8 °F
Linear thermal expansion coefficient (from 14 °F to 158 °F)	TMA ASTM E 831/2006	longitudinal $46,9 \times 10^{-6}$ m/(m°C) trasversal 48×10^{-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	890 °F
Average critical radiant flux of floor	AS ISO 9239 ASTM E648	≥ 11 kW/m ² > 1,03 W/cm ² (class I as per NFPA 101)
Ignitability, flame propagation, heat release and smoke release	AS/NZS 1530.3:1999	Ignitability (0-20) = 8 Spread of Flame (0-10) = 0 Heat Evolved (0-10) = 0 Smoke Developed (0-10) = 7

Chemical and biological features


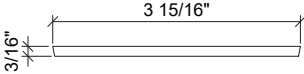

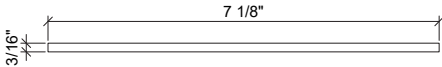

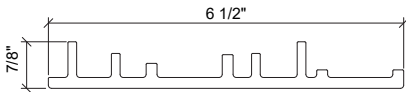
Evaluation of the action of microorganisms (scale from 0 to 5)	EN ISO 846:97	Test result: 1
Heavy metal content (Pb, Ge, Cr, Hg)	GB18584-2001 GB18580-2001	< 0,5 ppm
Formaldehyde emission	EN 717-2:1994	0,1 mg HCHO/(m ² h)



The values shown are indicative and not binding. Test reports available upon request.
The natural aging of the material and temperature variations may cause deviations from the values indicated above.
The product is protected by a warranty in line with legal requirements: for more information see the SPECS on www.woodn.com


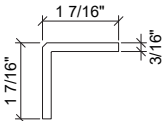
PROFILES SECTION

Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

profile	cross-section	nominal dimensions [ft,in]	weight of the plank [lb]	number of planks per sqft
<div>WIT10004R</div> 		section 100 x 4 mm (≈ 3"15/16 x 3/16") standard length 1830 mm (≈ 6')	≈ 1.92	0.46
<div>WIT18004R</div> 		section 180 x 4 mm (≈ 7"1/8 x 3/16") standard length 1830 mm (≈ 6')	≈ 3.78	0.26
<div>Q16422</div> 		section 164 x 22 mm (≈ 6"1/2 x 7/8") standard length 1830 mm (≈ 6')	≈ 5.88	0.28

The Woodn Ornans cladding is brushed on the backside to allow a proper fixing with the adhesive.

CORNERS COMPONENTS

<div>Profile WITK3535A</div>			section 35 x 35 mm (≈ 1"7/16 x 1 7/16") standard length 1830 mm (≈ 6')	inner and outer corner
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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.

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 32 °F.
- Do not cover the product with sheets made with non-breathable material (nylon, polyethylene and similar materials). For this purpose it is advisable to use breathable material such as painter felt sheets.
- The accumulation of electrostatic charges is a natural phenomenon commonly found in plastic materials, and under exceptional environmental conditions this may also occur in Woodn™'s products.
- Profiles shall be handled with care in order to prevent damages. It is recommended to lift the profiles on the whole length during displacement and not make them slide on top of each other. Always use clean fabric gloves when handling profiles.
- Prevent the formation of dirt on and between profiles; in particular, make sure that mechanical processes carried out on other materials, near Woodn products, do not determine the accumulation of chips or dust of any kinds. During the installation/assembly phase do not apply any label or sticker; if already applied, please remove immediately after installation. Immediately remove major stains such as paint, concrete or tar residues.
- For cleaning and maintenance instructions refer to page 129. The WoodN warranty will be rendered null and void in the event of incorrect or improper handling, cleaning and maintenance.

PREPARATION OF THE BASE

Check the stability of the support on which the installation will be carried out: a surface subject to expansion and movements of any kind can compromise the success of the installation. For an easy, fast and safe installation of Woodn™ Ornaments, a properly levelled substrate is required. Any irregularities of the floor and wall will affect the surface of the cladding.

Before applying the adhesive to the substrate, check the following:

- cleanliness (namely: the absence of oily or greasy substances in general, which may jeopardise the adhesion of the adhesive to the substrate; absence of debris, which may seriously compromise the aesthetic result of the installation);
- absence of surface and rising moisture.

ADHESIVE

Installation may be carried out correctly using different types of adhesive among those available on the market. We recommend using the following products depending on the substrate on which you perform the application.

WoodN Industries does not take responsibility for the bonding and laying methods.

The amount of adhesive to be prepared depends on the experience and skill of the installer, on the "open time" of the adhesive (catalysis rate) and on the ambient temperature (heat accelerates the catalysis while a low temperature can slow down the process): we recommend carefully reading the instructions for use.

To apply the adhesive properly, **use a trowel with triangular teeth (5/64" is ideal)**. Then prepare a **uniform base** of adhesive on an appropriate portion of the surface you need to cover (size varies depending on the dexterity of the installer).

It may happen that for every 215 sqft to 323 sqft of laying, the teeth of the trowel become worn to the point of not allowing for an ideal application. In this case, we recommend promptly replacing the trowel.

products	cured and consolidated plaster*	dusty plaster*	plaster*	plasterboard*	cured and consolidated screed	dusty screed*	plastics**	metals**	ceramics**	cured and consolidated screed***
MAPEI KERALASTIC two-component polyurethane					•		•	•	•	•
MAPEI KERALASTIC T two-component polyurethane	•	•	•	•	•	•	•	•	•	•
SLC-KERAKOLL SLCPU31 PRIMER polyurethane single-component solvent (to use before the adhesive)		•				•				
SLC-KERAKOLL SLCEP21 PRIMER epoxy single-component (to use before the adhesive)		•				•				
SLC-KERAKOLL L34 two-component epoxy-polyurethane	•	•	•	•	•	•				
TOVER PRIMERFIX (to use before the adhesive)		•				•				
TOVER TOVCOL PU 2C two-component polyurethane	•	•	•	•	•	•	•	•	•	•
TOVER TOVCOL T91 two-component epoxy-polyurethane					•	•	•	•	•	•
TOVER TOVCOL T91-V two-component epoxy-polyurethane	•	•	•	•	•	•	•	•	•	•

* Absorbent floors (indoors) ** Non-absorbent floors *** Outdoor applications

WALL APPLICATION

A smooth wall free from surface irregularities is required for the laying stage, as described above. For application on a wall, we recommend proceeding from the bottom up. It is important to gradually check the correct positioning of the planks so you can correct any irregularities before the adhesive catalyses. Apply an even layer of adhesive on the portion of surface you need to cover and then apply the planks; until you complete the cladding. To prevent downwards slippage of the planks, fix them using pins or small nails that can later be removed once the adhesive catalyses.

For outdoor applications, the surface must be made with a hydraulic binder, have high mechanical strength and be compact and cured at the time of installation. We also recommend using planks less than or equal to 500 mm length ($\approx 20''$).

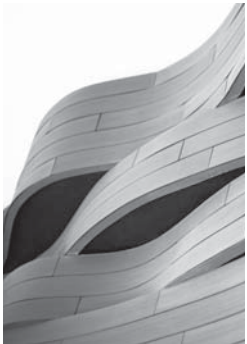
TIPS FOR LAYING

The plank should be laid with a movement perpendicular to the application surface, make sure you do not slide it parallel to the substrate. Every 32 sqft to 43 sqft laid, apply pressure on the widest possible surface to make the planks adhere evenly to the substrate, using square trowels with a rubber base. For this step, we do not recommend using your fingers or the palm of your hand. Any excess adhesive should be eliminated as you go, to keep the adhesive from adhering to the visible surfaces. The adhesive may harden long after the laying itself (for instance, when the laying is done in low temperature environments). In these cases we recommend passing the square trowel a second time, if necessary. We recommend until the hardening is completed, using adhesive tape from a body shop (made of paper and with low adhesiveness) to hold the planks together, in order to avoid cracks forming between them.

Woodn recommends to refer only to the values expressed in mm the US values are to be considered approximate).

ROUTINE MAINTENANCE

The material is water resistant and can be washed with traditional liquids such as water, neutral soap, alcohol, etc. Carefully avoid using solvents (especially acetone) that could damage the surface of the planks. For example, the cladding can be washed with neutral soap and/or a capful of ammonia per each 5 L bucket of water. To remove dust, we recommended avoiding the use of abrasive tools, such as sorghum brooms. We recommend checking the level of wear of the brushes in your vacuum cleaner, in order to avoid scratches.



For special applications please contact our Woodn Industries' technical department. As part of a normal technological evolution, there may be changes in colour/appearance of the product; we recommend requesting recently-made samples when you order. We will not accept claims involving differences in colour or appearance outside commercial tolerances, if choices have been made based on old samples. We reserve the right to terminate, update, make technical changes to improve the quality and appearance of the material, without prior notice.



El Bajío Mexico City (WIT10004)

SPECIES UNICA



BORN IN VENICE

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