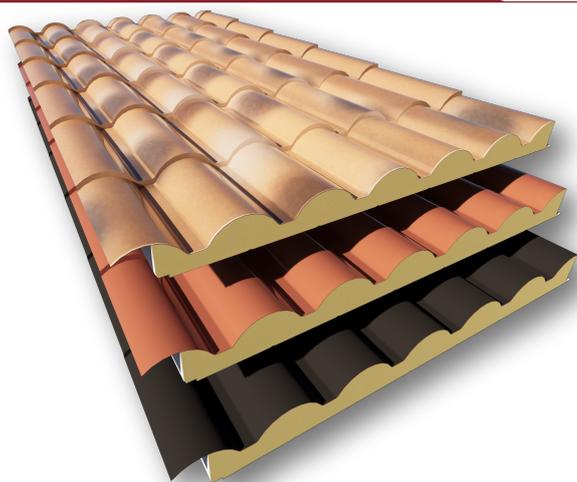


TEJA PANEL



ROOF PANEL

EXTERIOR FACE
Pre-painted steel

INTERIOR FACE
Pre-painted steel

EXTERIOR FINISH COLOR
Aged Ochre-Yellow
Teja Red
Slate

USEFUL WIDTH
1000 mm (39.37 in.)

INTERIOR FINISH COLOR
Standard colors
Wood finish

INSULATION
Polyurethane (PUR) and
Polyisocyanurate (PIR)

THICKNESSES mm (in.)
20/30/40
(0.79/1.18/1.57)

USE
Sloping roof surfaces



TECHNICAL SPECIFICATIONS AND DESCRIPTION

MAIN CHARACTERISTICS OF THE 20, 30, and 40mm PANEL - TOLERANCES

Nominal thickness	20 / 30 / 40 mm (0.79 / 1.18 / 1.57 in.) (± 2 mm / 0.08 in.)
Average thickness	42 / 52 / 62 mm (1.65 / 2.05 / 2.44 in.) (± 2 mm / 0.08 in.)
Average foam density	40 kg/m ³ (±10%)
Useful width	1000 mm (± 2 mm/0.08 in.)
Lack of squaring	0 mm (0.006*w(nominal width))
Straightness	0 mm (1 mm/m max. 5 mm)
Contraction - Inflection lengthwise	0 mm (2 mm/m max. 10 mm)
Panels per standard package	10/9/8 pcs.
Minimum length	1000 mm (39.37 in.) (± 5 mm/0.20 in.)
Maximum length	16,000 mm (±10 mm) depending on transport
Fire resistance PUR-UNE 13501-1	until B-s2-d0 *
Fire resistance PIR-UNE 13501-1	until B-s1-d0 *

(*): consult regarding other classifications

THERMAL INSULATION AND WEIGHT

TEJA PANEL		HEAT TRANSFER		WEIGHT (Kg/m ²)	
Nominal thickness in mm	Average thickness in mm	K in W/m ² .k	0.4/0.4	0.5/0.5	
20 (0.79)	42	0.48	9.17	10.77	
30 (1.18)	52	0.38	9.57	11.17	
40 (1.57)	62	0.32	9.97	11.57	

The weight includes the proportional part of the accessory elements.

Advantages:

- Quick and easy to install.
- Lightweight and easy to maintain.
- Great variety of finishes.
- Possibility of interior finish in imitation wood.

The TEJA panel by HIANSA PANEL consists of an exterior sheet that resembles a classic tiled roof, which gives the panel an attractive appearance.

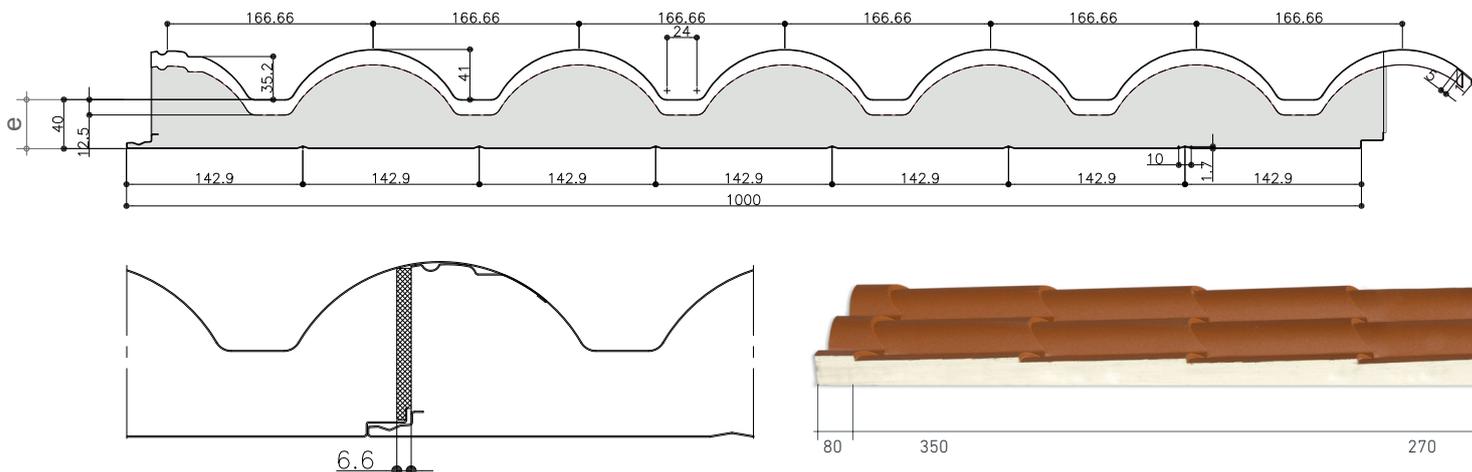
This panel has an urban-style design and is recommended for residential use, country homes and single-family houses with roof slopes of at least 10%.

It can be installed directly as the only final roof or on any other surface using it as a final finish and insulation.

It combines high mechanical performance, high levels of thermal and acoustic insulation and a high level of aesthetic finish.

A complete range of mounting accessories and trims has been designed to complete the construction system.

GEOMETRIC SPECIFICATIONS



Manufacture in total L to multiples of 350 mm.

STANDARDS APPLIED

Ref. Standard	Description
EN 14509-2014	Metal double-sided insulated self-supporting sandwich panel. Products made at the factory. Specifications.
EN 13823	Reaction to fire tests of construction products. Construction products, excluding floor coverings exposed to thermal attack caused by a single burning object.
EN 10169	Flat steel products, continuous coated with organic materials (pre-painted). Technical supply conditions.
EN 13501	Classification based on the fire performance of construction products and building elements. Part 1.

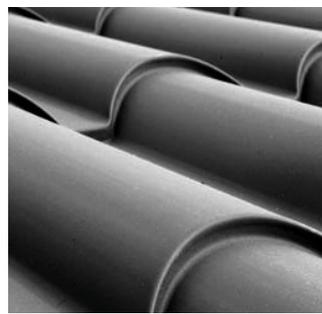
EXTERIOR / INTERIOR FINISHES



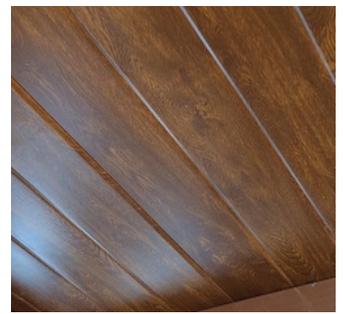
TEJA RED
RAL 8004 MATTE



AGED OCHRE-YELLOW



SLATE
RAL 7022



INTERIOR WOOD
ALSO AVAILABLE IN WHITE INTERIOR

CONSTRUCTION DETAILS LENGTHWISE / TRANSVERSE OVERLAP

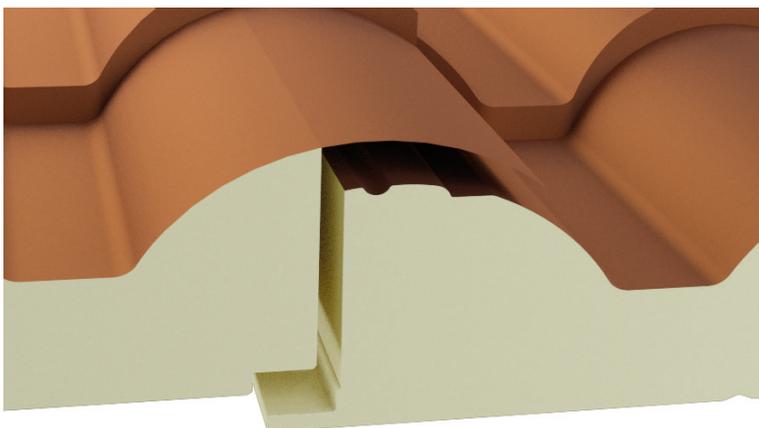
CONDITIONS OF THE ROOF FOR MAKING THE OVERLAP

- The roof must have a slope greater than 10%.
- The purlin on which the transverse overlap of panels will be carried out shall have a minimum width of 100 mm.
- The minimum length of the overlap will be 350 mm.

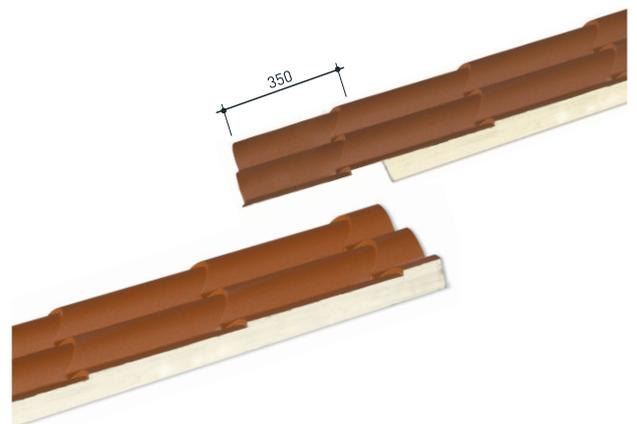
Transverse overlap between roof panels without flashing (designed for waters of considerable length, where the maximum panel size is insufficient).

In order to carry out the transverse overlap, the cutting of the inner sheet and the emptying of the insulation is carried out up to the 350 mm necessary from the edge of the panel to carry out said overlap correctly.

From there, the panels can be overlapped, always starting the assembly from the low point of the roof towards the ridge, in order that the water can run from the beginning to the end of the slope without producing leaks towards the inside.



LENGTHWISE OVERLAP DETAIL



TRANSVERSE OVERLAP DETAIL

SPECIAL PIECES - TEJA PANEL

RIDGE DIE-STAMPED TILE

Development	416x2
Length	2500



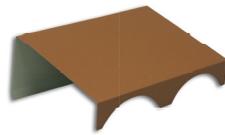
SILHOUETTE

Development	100
Length	1000



DIE-STAMPED WALL TRIM

Development	416
Length	2500



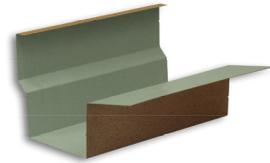
RIDGE SMOOTH TEJA

Development	416x2
Length	2500



CHANNEL

Development	416
Length	3000



DIE-STAMPED WALL TRIM

Development	416
Length	2500



SIDE TRIM TYPE "A"

Development	178
Length	2500



CHANNEL COVER



SIDE TRIM TYPE "C"

Development	178
Length	2500



SIDE TRIM TYPE "B"

Development	178
Length	2500



PAINTED BOLT 6.3x100 P18

RESISTANCE TABLES

1 OPENING

THICKNESS 20 mm (kg/m ²)		
L	1 Opening	
	Pressure	Suction
1.0	169	352
1.2	125	234
1.4	96	168
1.6	76	127
1.8	61	100
2.0	49	82
2.2	40	68
2.4		58
2.6		51
2.8		44
3.0		40
3.2		
3.4		
3.6		
3.8		
4.0		

THICKNESS 30 mm (kg/m ²)		
L	1 Opening	
	Pressure	Suction
1.0	185	350
1.2	141	239
1.4	112	175
1.6	90	134
1.8	73	107
2.0	60	88
2.2	50	74
2.4	42	63
2.6		55
2.8		48
3.0		43
3.2		
3.4		
3.6		
3.8		
4.0		

THICKNESS 40 mm (kg/m ²)		
L	1 Opening	
	Pressure	Suction
1.0	186	325
1.2	145	264
1.4	116	194
1.6	95	149
1.8	78	119
2.0	65	98
2.2	55	82
2.4	46	70
2.6		61
2.8		54
3.0		48
3.2		43
3.4		
3.6		
3.8		
4.0		

RESISTANCE TABLES

2 OPENINGS

THICKNESS 20 mm (kg/m ²)		
L	2 Openings	
	Pressure	Suction
1.0	247	226
1.2	200	175
1.4	167	142
1.6	143	118
1.8	124	100
2.0	110	86
2.2	98	75
2.4	86	
2.6	71	58
2.8	59	52
3.0	49	47
3.2	42	43
3.4		
3.6		
3.8		
4.0		

THICKNESS 30 mm (kg/m ²)		
L	2 Openings	
	Pressure	Suction
1.0	269	229
1.2	218	182
1.4	182	150
1.6	156	127
1.8	136	109
2.0	120	94
2.2	108	83
2.4	97	73
2.6	82	66
2.8	69	59
3.0	58	53
3.2	49	49
3.4	42	45
3.6		41
3.8		
4.0		

THICKNESS 40 mm (kg/m ²)		
L	2 Openings	
	Pressure	Suction
1.0	290	233
1.2	235	189
1.4	196	159
1.6	168	136
1.8	146	118
2.0	129	104
2.2	116	92
2.4	104	82
2.6	94	73
2.8	78	66
3.0	66	60
3.2	57	55
3.4	49	50
3.6	42	47
3.8		43
4.0		40

Permissible service loads, uniformly distributed in kg/m². The tables have been obtained based on a calculation methodology established in accordance with the provisions of the EAE-2012 standard and the EC-3, considering only the upper steel sheet as a structural element. These results comply with the Ultimate Limit States of normal and tangential stresses prescribed in said standards and with a limitation of the Serviceability Limit State for deformations of L/200.

RESISTANCE TABLES

1 OPENING

THICKNESS 20 mm (kN/m ²)		
L	1 Opening	
	Pressure	Suction
1.0	1.66	3.45
1.2	1.23	2.30
1.4	0.94	1.65
1.6	0.75	1.25
1.8	0.60	0.98
2.0	0.48	0.80
2.2	0.39	0.67
2.4		0.57
2.6		0.50
2.8		0.43
3.0		0.39
3.2		
3.4		
3.6		
3.8		
4.0		

THICKNESS 30 mm (kN/m ²)		
L	1 Opening	
	Pressure	Suction
1.0	1.81	3.43
1.2	1.38	2.34
1.4	1.10	1.72
1.6	0.88	1.31
1.8	0.72	1.05
2.0	0.59	0.86
2.2	0.49	0.73
2.4	0.41	0.62
2.6		0.54
2.8		0.47
3.0		0.42
3.2		
3.4		
3.6		
3.8		
4.0		

THICKNESS 40 mm (kN/m ²)		
L	1 Opening	
	Pressure	Suction
1.0	1.82	3.19
1.2	1.42	2.59
1.4	1.14	1.90
1.6	0.93	1.46
1.8	0.76	1.16
2.0	0.64	0.96
2.2	0.54	0.80
2.4	0.45	0.68
2.6		0.60
2.8		0.53
3.0		0.47
3.2		0.42
3.4		
3.6		
3.8		
4.0		

RESISTANCE TABLES

2 OPENINGS

THICKNESS 20 mm (kN/m ²)		
L	2 Openings	
	Pressure	Suction
1.0	2.42	2.22
1.2	1.96	1.72
1.4	1.64	1.39
1.6	1.40	1.16
1.8	1.22	0.98
2.0	1.08	0.84
2.2	0.96	0.74
2.4	0.84	0.65
2.6	0.70	0.57
2.8	0.58	0.51
3.0	0.48	0.46
3.2	0.41	0.42
3.4		
3.6		
3.8		
4.0		

THICKNESS 30 mm (kN/m ²)		
L	2 Openings	
	Pressure	Suction
1.0	2.64	2.25
1.2	2.14	1.78
1.4	1.78	1.47
1.6	1.53	1.25
1.8	1.33	1.07
2.0	1.18	0.92
2.2	1.06	0.81
2.4	0.95	0.72
2.6	0.80	0.65
2.8	0.68	0.58
3.0	0.57	0.52
3.2	0.48	0.48
3.4	0.41	0.44
3.6		0.40
3.8		
4.0		

THICKNESS 40 mm (kN/m ²)		
L	2 Openings	
	Pressure	Suction
1.0	290	233
1.2	235	189
1.4	196	159
1.6	168	136
1.8	146	118
2.0	129	104
2.2	116	92
2.4	104	82
2.6	94	73
2.8	78	66
3.0	66	60
3.2	57	55
3.4	49	50
3.6	42	47
3.8		43
4.0		40

Permissible service loads, uniformly distributed in kg/m². The tables have been obtained based on a calculation methodology established in accordance with the provisions of the EAE-2012 standard and the EC-3, considering only the upper steel sheet as a structural element. These results comply with the Ultimate Limit States of normal and tangential stresses prescribed in said standards and with a limitation of the Serviceability Limit State for deformations of L/200.

FASTENING DIAGRAM

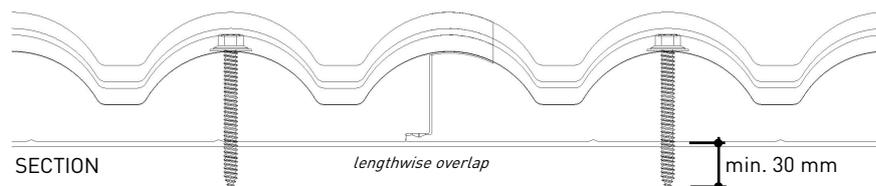
To be able to attach the panel to the support structure, the most suitable screw must be chosen according to the material that conforms to that structure.

The panel is usually mounted on metal structures, wood or concrete (or even a combination of these). It is recommended to contact the manufacturer/supplier of the fixing screws in order to choose the most suitable screw depending on the support.

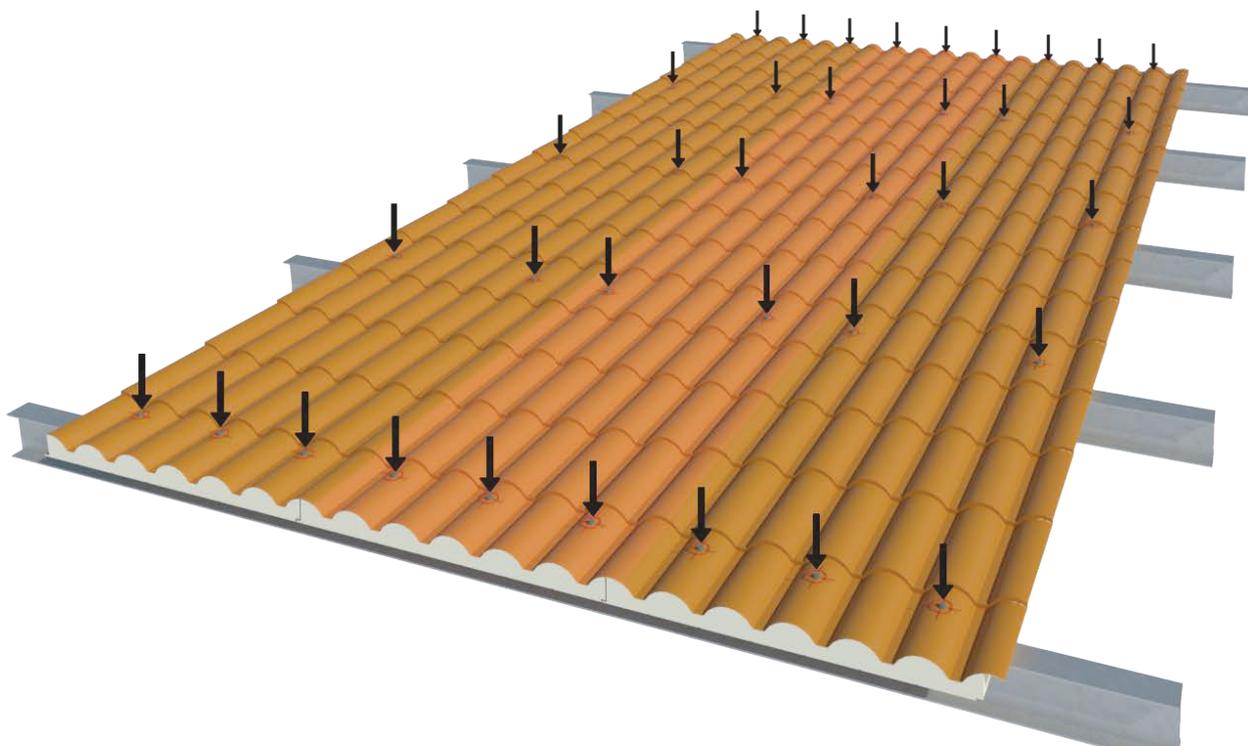
This screw must be accompanied by a watertight washer to prevent water from seeping through the hole generated during installation. This washer is usually made of neoprene or EPDM and has a metallic top coating that makes it more durable against different types of weather.



Generally speaking, for attaching the panel to the structure, we will place at least one screw on each side of the longitudinal overlap between panels that line up with the structure's purlin. In this way we will have each panel secured with at least 2 securing systems on each purlin. All screws will be placed on the top part of the panel rib. Each screw must be driven into the support material at least 30 mm to ensure optimal grip.



Additionally, it is recommended that in the first and last rows of purlins (low point and ridge) one more fixing bolt be placed in the center of the panel, coinciding with the structure's purlin, because it is at the ends of the panel, where the action of pressure/suction of the wind becomes more evident and causes the maximum stress on the panel.



In any case, the final decision will be determined by the designer for each particular project, depending on the support, the distances between supports, fixing points, the geographical location of the site and the type of building, conditions and particular requirements, etc. Logically, prior to installation, it must be verified that both the support and the bolt or screw are in perfect condition.

FASTENING DIAGRAM

It is recommended to use machines with a pressure limiter, for a correct positioning of the bolts, especially those that incorporate neoprene washers to ensure their watertightness, since applying excessive pressure or a bad positioning of the bolt can deform the panel and thus shorten its useful life.



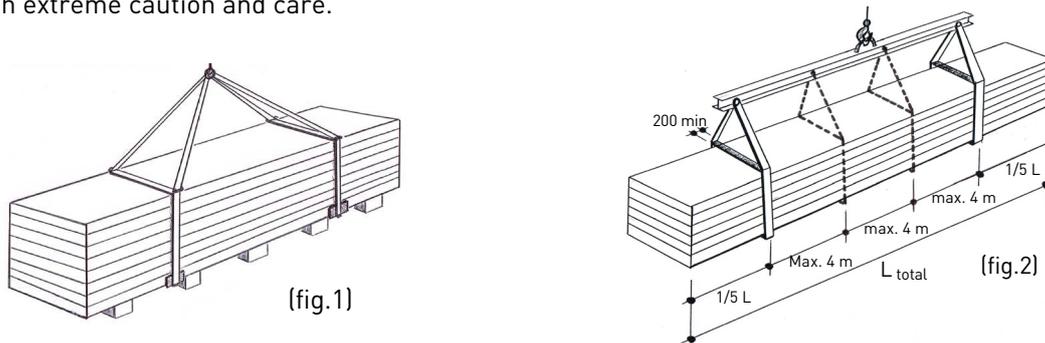
Once the bolts and/or rivets have been placed, any residue from steel shavings must be carefully cleaned and removed from the surface to prevent them from rusting and affecting the aesthetic appearance of the panels and/or trims.

HANDLING AND UNLOADING

The packages of panels must always be shipped covered with awning or in a closed container, on a flat surface and perfectly secured with sling devices and corner protectors to prevent any movement and friction between the panels. No more than 3 packages of panels will be stacked in height.

The unloading of panels must always be carried out with nylon slings with a width sufficient not to mark the panel and must be equipped with a rigid protection of a length greater than the width of the package, both at the top and at the bottom of it (fig.1).

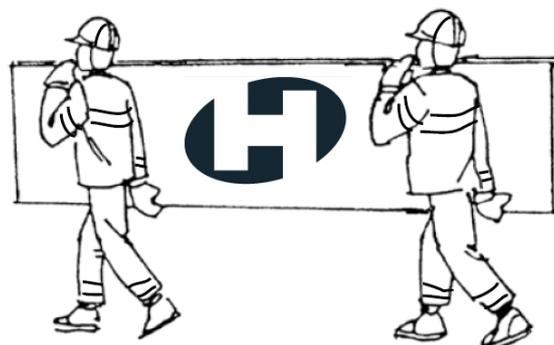
It is essential that the clutching or support points cannot be moved during the handling maneuvers, which must be performed with extreme caution and care.



In packages with a length greater than 6.00 m, it will be necessary to use a rocker arm for the unloading and positioning of the material by means of lifting, made of sufficiently resistant material and which must have sufficient anchorage points, with a maximum separation of 4 m between them (fig.2).

In case of unloading with a forklift, it will be important to ensure that due to the length of the panel, the package does not flex excessively and may cause damage to the bottom of the package or even cause breakage or cracking of the panel. Forklifts indicated for this use will be used, with the forks being sufficiently long and wide, with round edges, and able to open wide enough to move the package correctly.

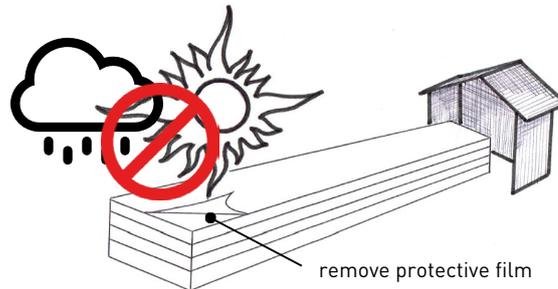
For any handling of the panel, the operators will be duly equipped with the corresponding PPE maintained in perfect condition, according to current standards. In addition, slings or something similar may be used, provided that they do not damage the edges of the panel. To unpack the material, tools or implements that cannot scratch, mark or affect the panels, be it entirely or partially, will be used. For their assembly, the panels will be removed one by one from each package received on site **without dragging one on top of the other** and must be transported **vertically**, to avoid excessive sag and buckling that could affect the bond between sheets and inner insulation.



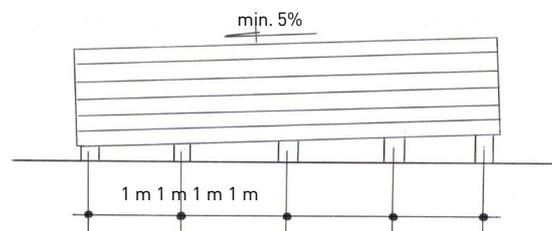
STORAGE

Panels should be stored in a covered, ventilated and dry place. If this is not possible, they must be protected with tarpaulins or plastics, **ensuring proper ventilation**, in order to avoid the reaction of the zinc contained in the steel and that can cause "white oxide", which does not affect the resistance of the material, but does affect its aesthetics.

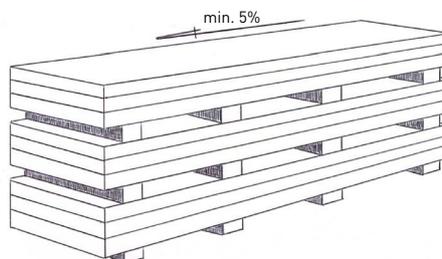
If the panels have protective film, it must be removed as soon as possible. After 10 days of storage, the film becomes increasingly difficult to remove and can damage the panel coating.



Packages must never be laid directly on the ground, but should be placed on supports that are wide and long enough so as not to damage the material. They must be stored on a flat and stable surface. In addition, the structure must have a small slope of at least 5% in order not to accumulate water, rain or possible condensations between panels.



Never stack more than three panels on top of each other, avoiding as much as possible the prolonged storage of stacked packages. It is recommended that the supplied panels be installed as soon as possible, without exceeding 60 days from their manufacture, in order to maintain all their original properties as much as possible. The protective film must be removed immediately once installed.



MAINTENANCE

Once the panel is installed, the panel surface must be thoroughly cleaned, eliminating any chip or metal shaving that may cause rust. All metallic and non-metallic objects that exist must also be removed, leaving it completely free of obstacles. If necessary, the wall will be washed with neutral detergent solution + water. Do not use brushes that may damage the panel.

Each year, it is necessary to check the material installed (panels and trims), in order to locate corrosion points and make the appropriate touch-ups with paints, or identify points affected by the passage of time or by external elements.

Every two years, at the maximum, a complete inspection will be performed on the material installed, which includes washing the wall with neutral detergent solution + water. Do not use brushes that may damage the panel.

The points that have scratches or abrasions must be protected immediately with a suitable treatment touch-up or paint.

Any fastening that is detected as having a loss of tension must be tightened or otherwise replaced immediately.

In the event of any anomaly arising in the installed wall, whether due to human action or natural causes, it will be necessary to act immediately if there is a risk of further deterioration or safety for people, disassembling the entire affected area and correctly securing it in a safe place until it can be repaired or replaced by new panels, if necessary.