Plycem® | by elementia materials

PLYCEM **EUREKA** ROOF P7 Y P10 INSTALLATION **GUIDES**

IMPACT TESTS

LIGHTWEIGHT AND RESISTANT

PLAGUE RESISTANT

DURABLE

NON-COMBUSTIBLE

THERMAL AND ACOUSTIC CONFORT

EASY TO INSTALL

STAINLESS

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Installation guide
PLYCEM EUREKA ROOF P7

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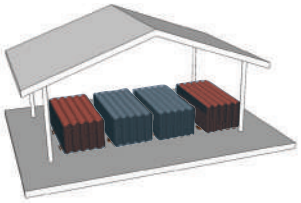
DESCRIPTION

Corrugated fiber cement boards for roof cover -manufactured in gray and terracotta colors which give a unique and differentiating aesthetic effect to constructions. Moreover, our technology gives the advantage of significantly reducing the entrance of heat, reduces noise, and has high durability. Find the full line of accessories for the product.

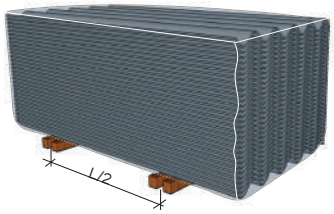
TRANSPORTATION, STORAGE AND HANDLING

Store the corrugated fiber cement indoors in ventilated and dry areas; both in the commercial warehouse and at the construction site. Do not leave the fiber cement corrugated exposed to the outside environment of rain and sun (open sky).



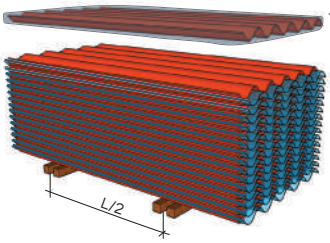
Place the pallets on a flat, firm and level floor. Do not place the fiber cement corrugated directly on the floor, but place them on the wooden shims supplied by the manufacturer or on two wooden strips of uniform section, separated from each other. Corrugated fiber cement should be transported and kept in storage, (distributors' warehouses and in project site), covered with plastic fcorrugated fiber cement to protect them from humidity and sun. **Keep the waterproof cover on the pallet and the bags of individual protective (painted corrugated fiber cement) until installation.**

Storage of corrugated fiber cement



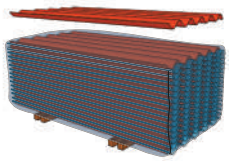
Protective plastic for the pallet

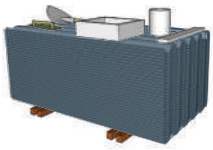
Storage of colored corrugated fiber cement

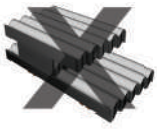


Protective bag

Note: Remove only "BEFORE" installing the boards.

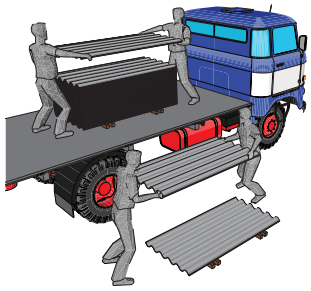






Do not allow the storage of corrugated fiber cement of different sizes on the same pallet, neither store can put other materials on top of the pallets.

MAXIMUM NUMBER OF PANELS PER PALLET	
N°	**Units per pallet**
3, 4, 5, 6, 7, 8, 9	120
10	110
11, 12	60



TWO-PERSON OPERATION

-The corrugated fiber cement should always be transported manually by two people.
-Transport the boards one by one.
-Avoid sliding the colored boards between them.
-Avoid bumping the corrugated fiber cement and support them at the corners.

Vertical Storage

Rest the upper part of the first corrugated panel of the series on a lath previously fixed to the wall and the lower edge on two strips placed on a firm and level floor.

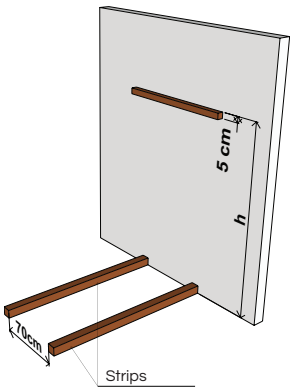
-Lay the panels in a row at an angle of 15° to the wall to prevent slippage of the panels.

- All panels should be of the same length, apply a maximum of 60 units.

-Verify that the supporting wall is enough stable to support the weight of 60 units.

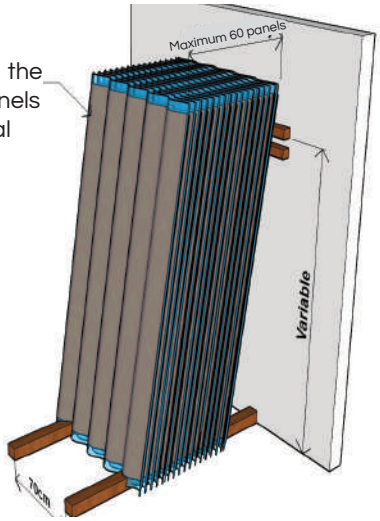
Fasten a beam on the wall at the following height: h= L-10 cm

Fasten a strip on the wall



Vertical storage of corrugated boards

Do not remove the protector of panels before their final installation



Note:
Keep the waterproof cover on the pallet and the bags of individual protective (painted corrugated fiber cement) until installation.

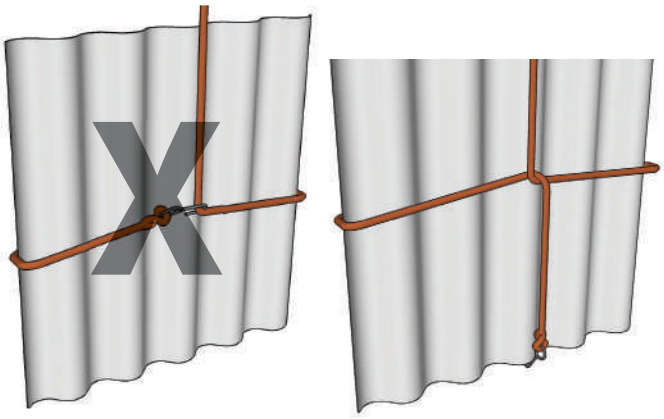
Moving the panels to the roof

In one-story constructions, the panels can be directly lifted by hand.

In constructions with more than one story, a pulley system must be used.

In constructions up to three stories, the panels can be lifted with a rope -securing the panel as indicated in the picture. Using a hook on the end of the rope loop that serves as support of the lower part is recommended. Always hang the panels lengthwise.

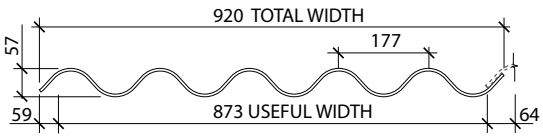
In constructions of more than three stories, use an electric hoist.

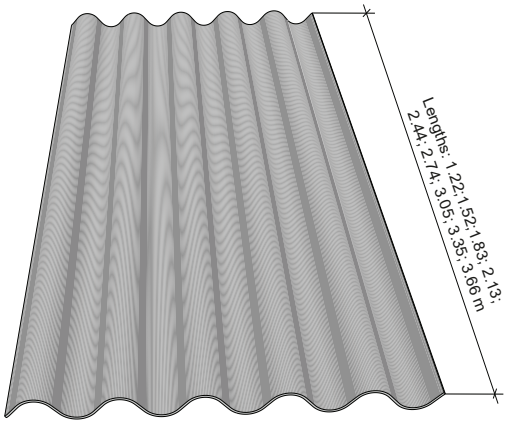


RIGHT WRONG

SYSTEM COMPONENTS

P7 Panel





14 cm Overlap (Slopes ≥27°)

PANEL	LENGTH ± 15 mm. TOTAL (m.)	LENGTH ± 15 mm. Useful (m.)	WIDTH TOTAL (m.)	WIDTH + 15 mm - 10 mm Useful (m.)	SURFACE TOTAL (m2)	SURFACE Useful (m2)	OVERLAP ± 10 mm. LONG (m)	OVERLAP ± 5 mm. LATERAL (m)	DISTANCE BETWEEN STRAPS (m).	WEIGHT (kg)
4'	1,22	1,08	0,92	0,87	1,12	0,94	0,14	0,05	1,08	11,60
5'	1,52	1,38	0,92	0,87	1,4	1,20	0,14	0,05	1,38	14,50
6'	1,83	1,69	0,92	0,87	1,68	1,47	0,14	0,05	0,845	17,40
7'	2,13	1,99	0,92	0,87	1,96	1,73	0,14	0,05	0,995	20,30
8'	2,44	2,3	0,92	0,87	2,24	2,00	0,14	0,05	1,15	23,20
9'	2,74	2,6	0,92	0,87	2,52	2,26	0,14	0,05	0,87	26,10
10'	3,05	2,91	0,92	0,87	2,81	2,53	0,14	0,05	0,97	29,00
11'	3,35	3,21	0,92	0,87	3,08	2,79	0,14	0,05	1,07	31,90
12'	3,66	3,52	0,92	0,87	3,37	3,06	0,14	0,05	1,17	34,80

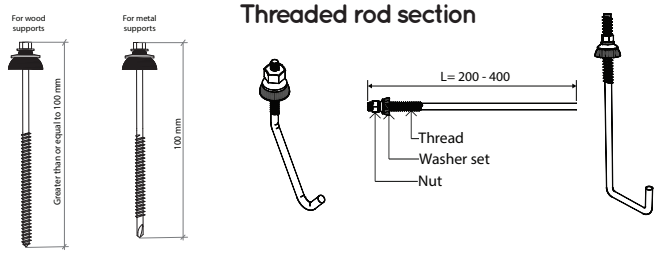
Average weight per surface unit 12kg/m2
Thermal conductivity coefficient K: 4.76kcal/m2h°C

20 cm Overlap (Slopes <27°)

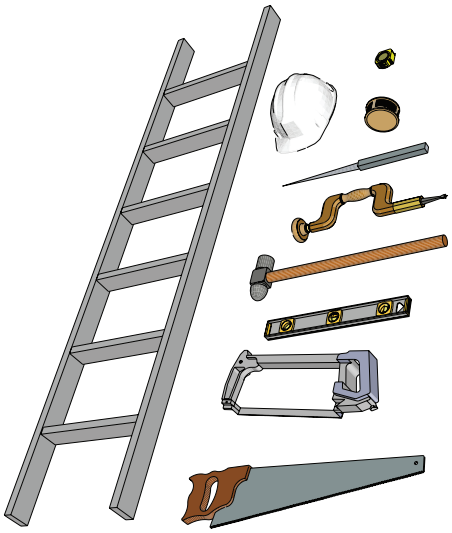
PANEL	LENGTH ± 15 mm. TOTAL (m.)	LENGTH ± 15 mm. (m.)	WIDTH TOTAL (m.)	WIDTH + 15 mm Útil (m.)	SURFACE TOTAL (m2)	SURFACE Useful (m2)	OVERLAP ± 10 mm. LONG (m)	OVERLAP ± 5 mm. LATERAL (m)	DISTANCE BETWEEN STRAPS (m).	WEIGHT (kg)
4'	1,22	1,02	0,92	0,87	1,12	0,89	0,2	0,05	1,02	11,60
5'	1,52	1,32	0,92	0,87	1,4	1,15	0,2	0,05	1,32	14,50
6'	1,83	1,63	0,92	0,87	1,68	1,42	0,2	0,05	0,815	17,40
7'	2,13	1,93	0,92	0,87	1,96	1,68	0,2	0,05	0,965	20,30
8'	2,44	2,24	0,92	0,87	2,24	1,95	0,2	0,05	1,12	23,20
9'	2,74	2,54	0,92	0,87	2,52	2,21	0,2	0,05	0,85	26,10
10'	3,05	2,85	0,92	0,87	2,81	2,48	0,2	0,05	0,95	29,00
11'	3,35	3,15	0,92	0,87	3,08	2,74	0,2	0,05	1,05	31,90
12'	3,66	3,46	0,92	0,87	3,37	3,01	0,2	0,05	1,15	34,80

Average weight per surface unit 13 kg/m2
Thermal conductivity coefficient K: 4.76 kcal/m2 h °C
Ask about stock in each country
Both tables are for 5mm thick boards. Ask for 6mm thickness

Fastenings



MANUAL TOOLS



- Measuring tape
- Ladders
- Hammer
- Rasp
- Hand saws
- Carpenter's brace
- Hand wrenches
- Bits
- Thread spools
- Tool belt
- Handsaw
- Safety helmets
- String rope
- Construction level



Straps
Planks
Pencil
Caulking gun
5/16", 3/8" magnetic hex nut driver.

ELECTRIC TOOLS


SCREWDRIVER


CIRCULAR SAW WITH DIAMOND BLADE

1 Adjustable torque screwdriver.

1 Abrasive-disc circular saw.

1 Jig saw for special curved cuts.

INSTALLATION INSTRUCTIONS

Before placing the panels, verify the following:

1. Verify that the roof slope is the correct one

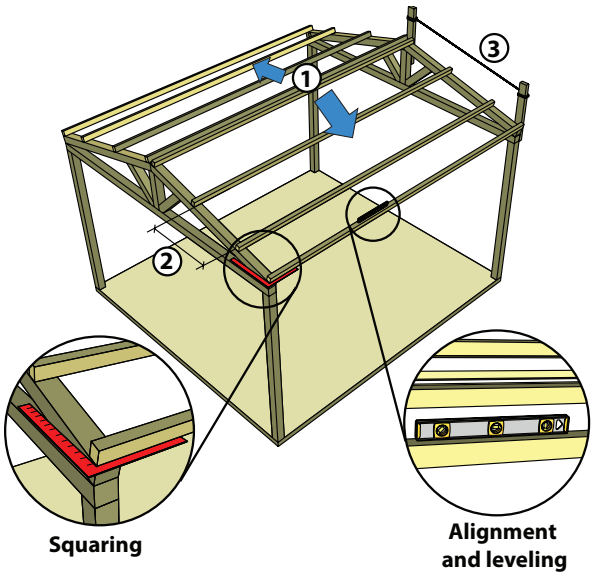
2. Verify that the distance between support straps corresponds to the panels.
3. Verify that the straps are well aligned and leveled, that everything is squared and attached to the main structure. It must form a single plane.

4. Verify that all the structural elements are installed (straps, nailers, tensioners, etc.).

5. Verify that the cover materials are properly stored.

6. Verify that your employees know about the application of products
and about the safety standards that should be followed.

Note: Verify the proper installation of support slopes. Do not install panels if the support structure does not comply with the recommendations regarding distance between supports.

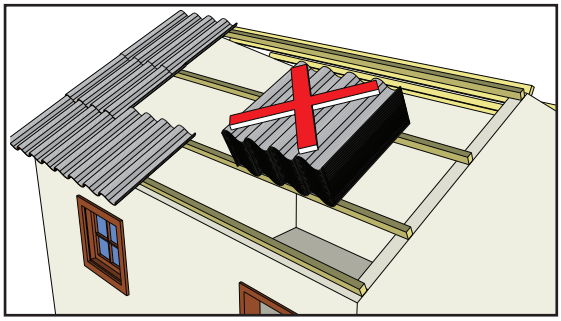


Squaring

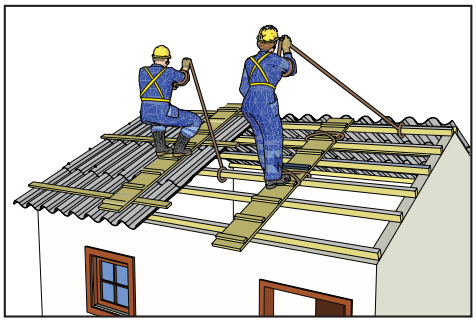
Alignment and leveling

GENERAL SAFETY RECOMMENDATIONS

1. Comply with all safety standards at the time of lifting the roofs.
2. The covers are not designed to store elements



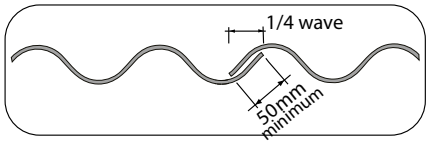
3. Wear the helmet and secure it to your head with the strap.
4. Before going up to the roof, it is essential to wear the safety harness and fasten the safety strap.
5. Using walkways during the installation and during any maintenance activity is essential. Walkways should be supported at least on 3 straps.



6. Do not store panels on the roof.
7. Never install the panels if it is raining, if they are visibly wet, or in case of strong winds
8. Do not install broken or cracked panels.
9. Hire trained employees for maintaining the roof
10. Control the access to the roof. Explain the content of this manual to those people who need to go up on the roof.
11. Periodically check the condition of the roof
12. Remember to always follow the safety rules.

OVERLAPS AND SLOPES

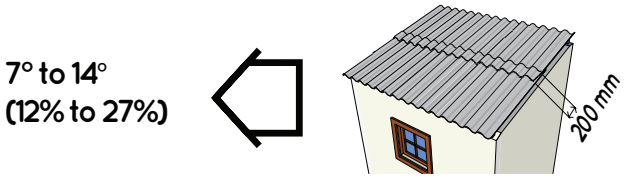
Lateral Overlap

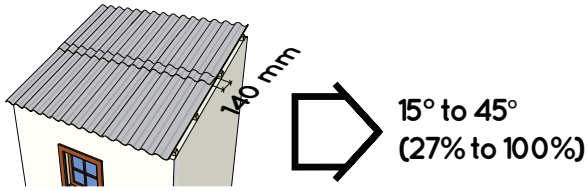


Longitudinal Overlap

- The minimum roof slope must be greater than or equal to 12%.

- In order to have a greater visibility of the roof, slopes equal to or greater than (27) % are recommended.





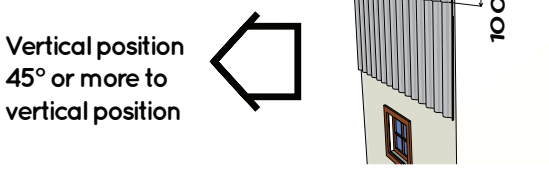
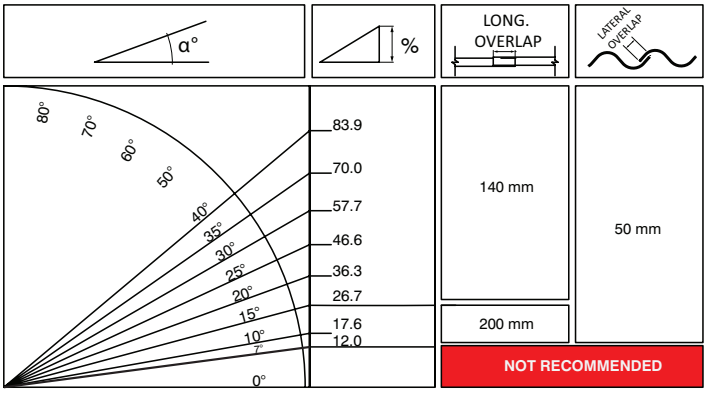
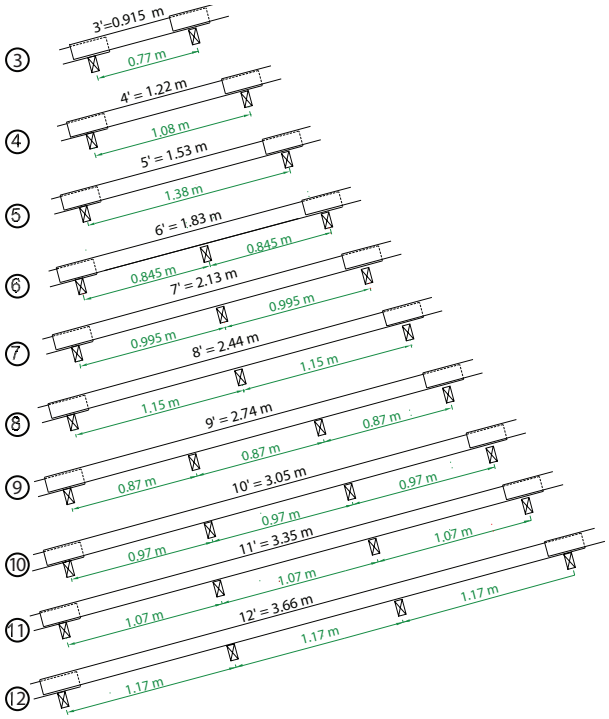


Table of Roof Slopes

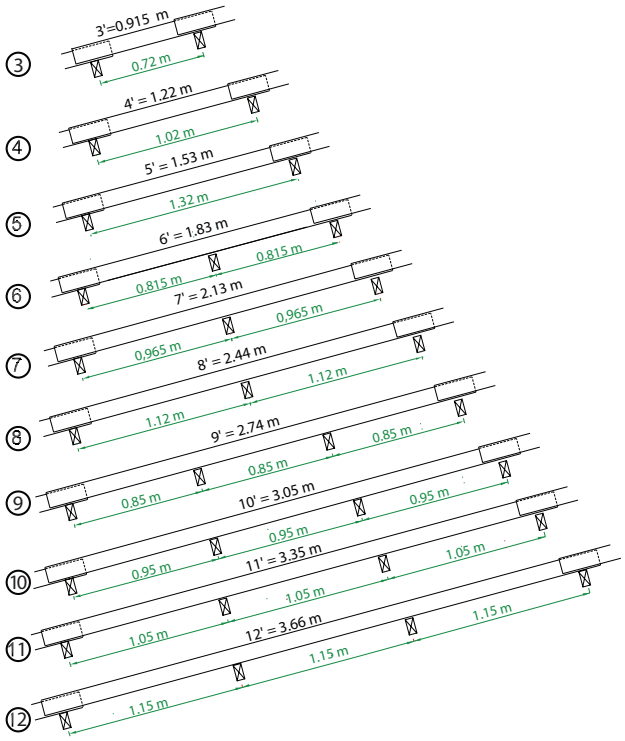


Distance of Supports and 14 cm Overlap for ≥ 27% Slope



* Measurements in green in (mm) indicate the theoretical distance between support centers -placed with a 14 cm overlap.

Distance of Supports and 20 cm Overlap for < 27 % Slope



* Measurements in green in (mm) indicate the theoretical distance between support centers -placed with a 20 cm overlap.

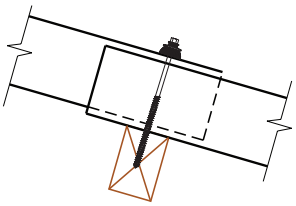
- Only use 2 threaded hooks or 2 screws per panel.
- The support and fastening structure of panels must be well aligned, leveled, and with no protusions that may cause damages after the installation.
- The minimum width of the support structure is 40 mm, following the slope of the panels.

FASTENING OF PANELS

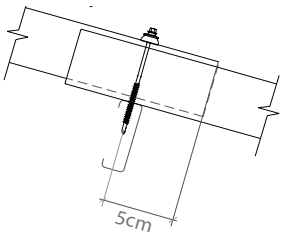
Self-drilling screws for roof

Rust-resistant elements -specially designed to safely fasten the roof.

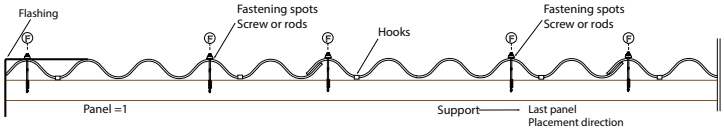
Fastening on wood



Fastening on metal

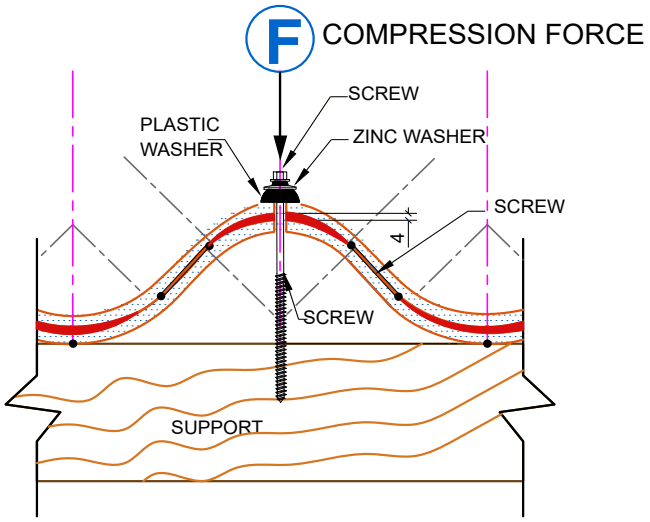


P7 Corrugated Panel



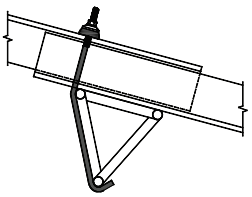
Pressure control of screw on panel

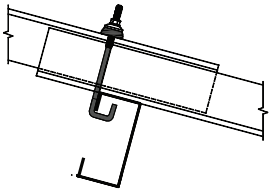
Avoid over-tightening the screws, as this will affect the product and may cause cracking. Do not force the second panels together at the fastening point so as not to stress the lateral support points on the ridge.

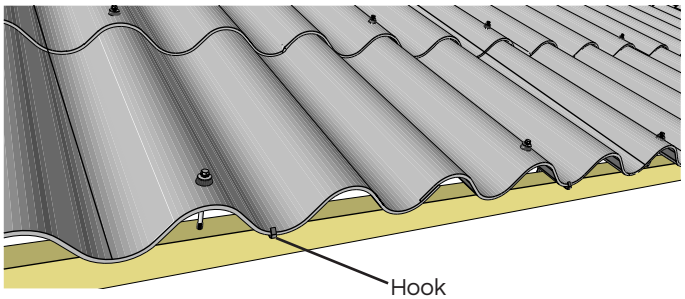


Threaded Rod Section

Galvanized steel rod with a thread on one end, of 8-10-12-14" (ask for stock) length to display them on the work according to the shape of the support structures.
The examples show some of the possible uses of the fastenings displayed on the work.







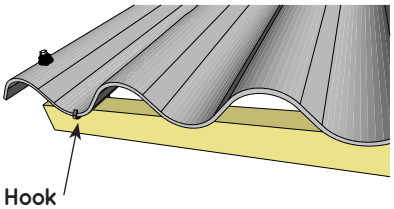
Note:

- In areas with strong winds, fasten with screws on all supports, located in the appropriate position, to prevent the wind from lifting them.
- The minimum distance from the center of the hole to the free
- edge of the panel must be 5 cm.
- Whenever you need to make the blunts and perforations, always remember to previously wet the area and use the personal protection elements required such as goggles, masks with filters 100% efficient for particulate matter.
- Do not punch with nails.

Placement of hook

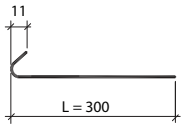
Use a hook to hold the panels before fastening them with the screw mainly on highly sloped roofs, roofs in high-wind areas, or very high roofs.

Note: The hook does not replace the screw or the threaded rod section.

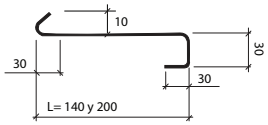


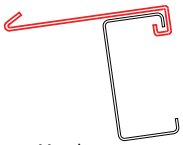
In roofs with less than 27%, for security purposes, using a hook for each plate on the eaves is recommended because the plates do not move move due to vibrations. For slopes over 27%, place hooks on all panels.

Straight hook to display on the work.

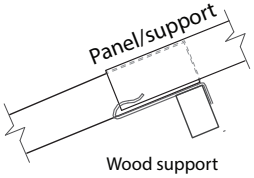


Galvanized strip hooks of 1/2" and 1/16". Pre-folded L = 150 and 200



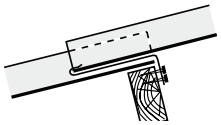


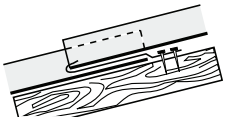
Metal support



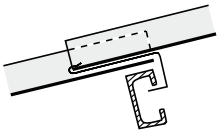
Wood support

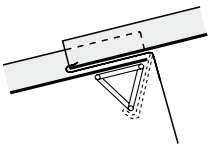
Use an additional plate hook per each panel and placed on the second wave, on covers with slopes of more than 20°.



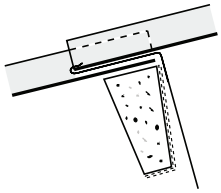


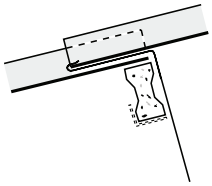
Installation on flat base





Bend on the worksite



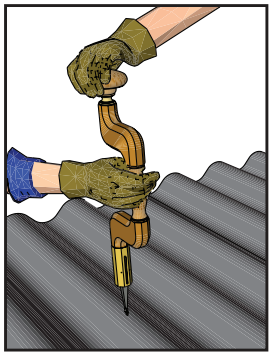


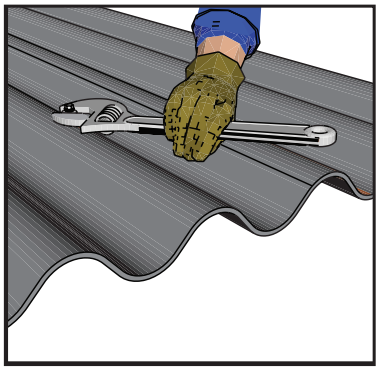
Bend on the worksite

Fastening panels with screws

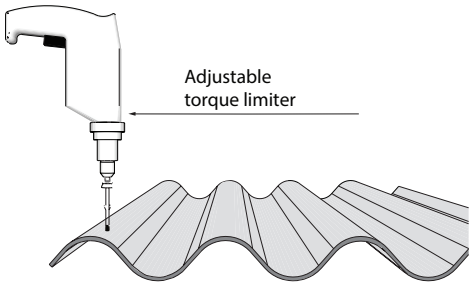
- Prior to placement of the screw, drill at the intersection of the central line of the support and the board, using a carpenter's brace or drill or a hand drill with a metal drill bit and the hole should be or 1.5 mm larger than the diameter of the screw.

- The best option is having a wrench with torque limiter.
A ring spanner #12 may be also used.





- The screws should be always placed on the upper part of the wave.
- Place the screws with their washes by pressing them in such a way that there is no excessive pressure on the panels but that they are securely fastened.
- Due to the deformity of the rubber or plastic washer, you may orient yourself to obtain the perfect spot (good fastening and good sealing without damaging the product).
- In case of using electric drills or drills it is recommended that they have an adjustable torque limiter.

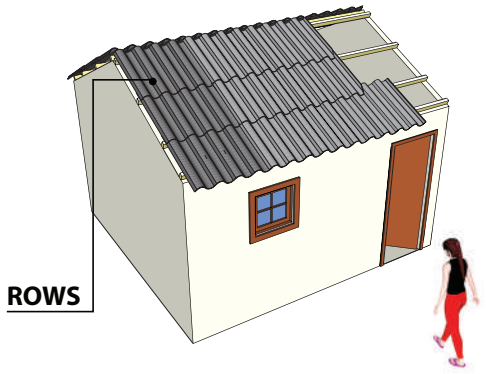


Placement of Panels

Straight Placement:
It is made from left to right, having, as reference, a person facing the roof.

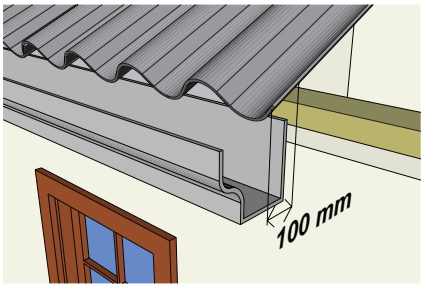
A ROW will be the sequence of panels horizontally placed in any of the two directions.

Left Assembly
It is made from left to right, having, as reference, a person facing the roof.

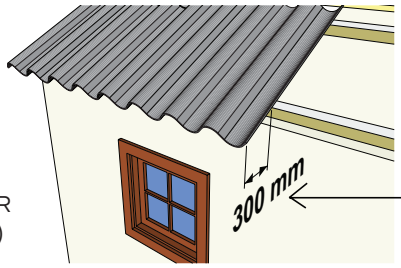


We will identify as ROW the sequence of panels placed from bottom to top, from the eaves to the ridge.

Eaves



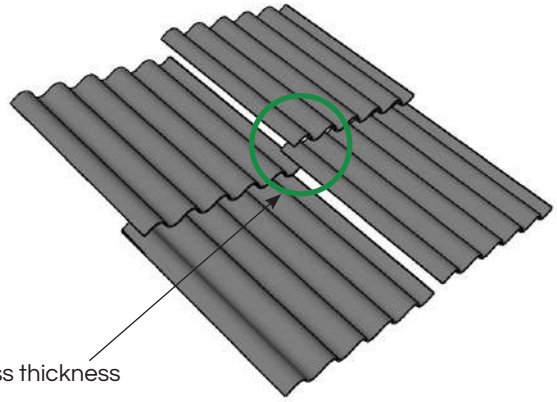
WITH GUTTER

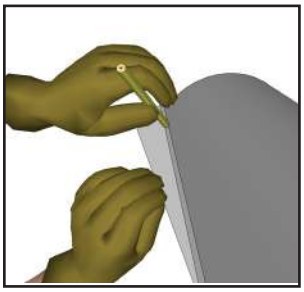


WITHOUT GUTTER
(Free fall of water)

Panel Cutting

Panel extra thickness is generated on overlaps of 4 panels.
Corner cuts should be made for the two diagonal panels in accordance with the scheme.





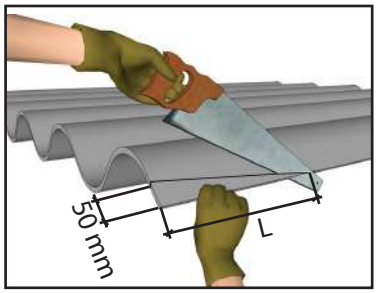
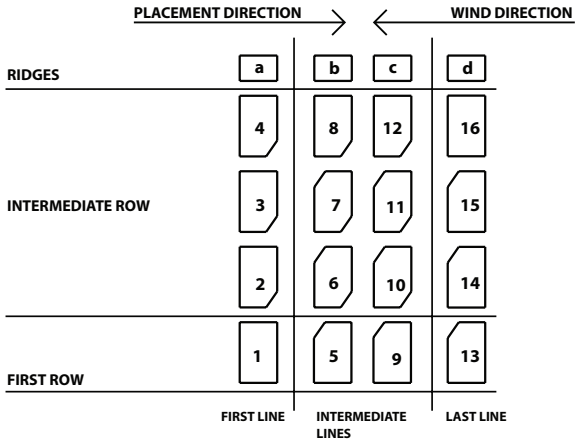
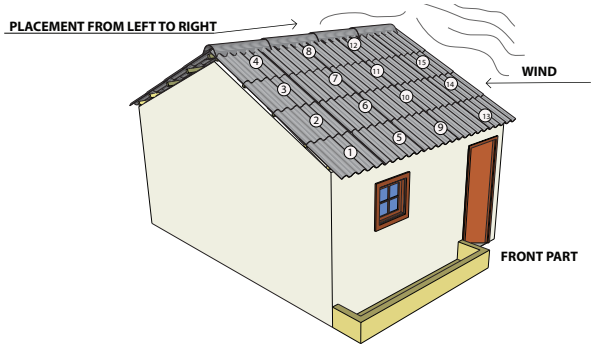


TABLE OF BLUNT MEASURES (L)	
Overlap of 140mm	Overlap of 200mm
140 mm	200 mm

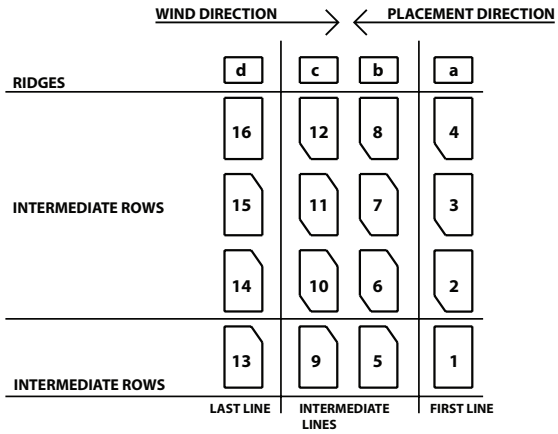
Panel Cutting, Blunt Scheme

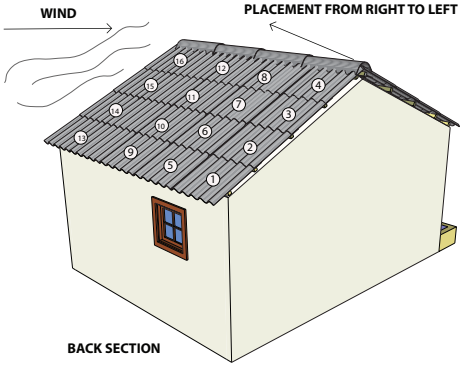
PLACEMENT FROM LEFT TO RIGHT

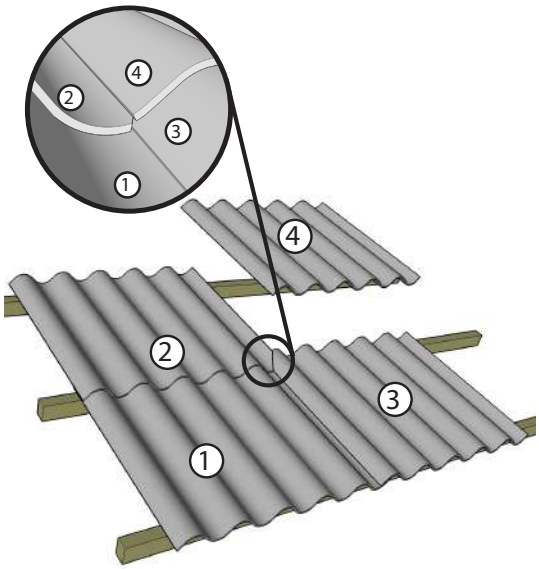




PLACEMENT FROM RIGHT TO LEFT



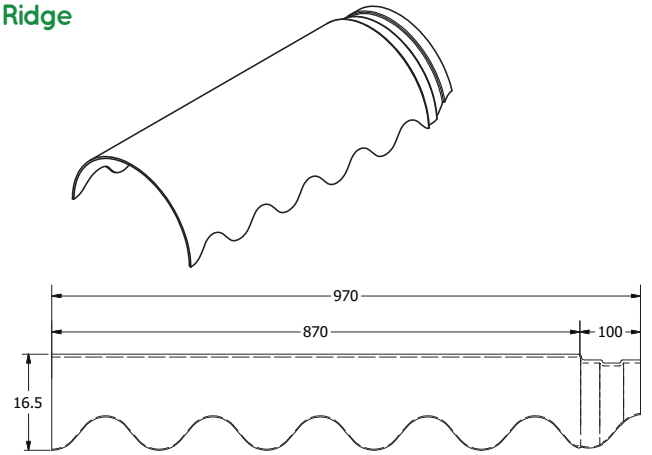


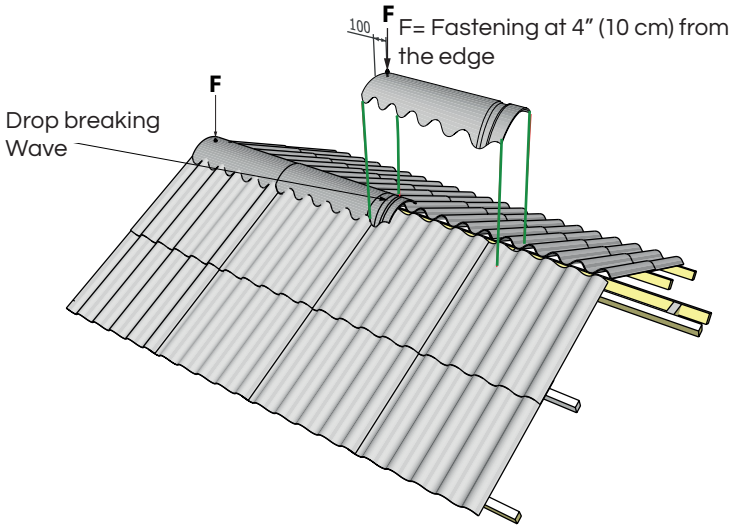


INSTALLATION OF COMPLEMENTARY ELEMENTS

Note: Design and availability of accessories varies by country. Consult your Plycem technical advisor or authorized distributor.

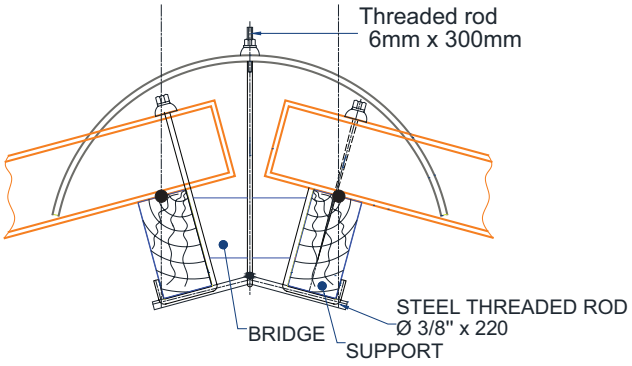
P7 Ridge





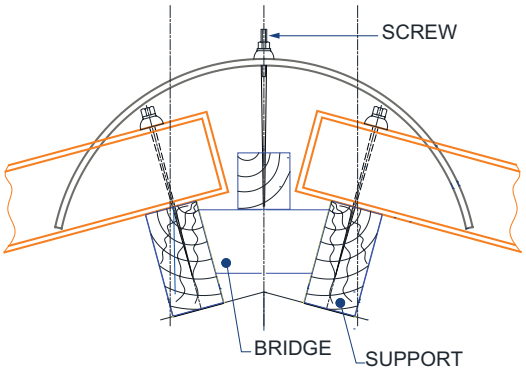
Specific fastening of Ridge

A bridge between supports is placed on the exact position where the fastening for ridges is to be placed.
The fastening is made through a threaded rod shaped on the work site.
A wire can be also used as bridge between the supports.



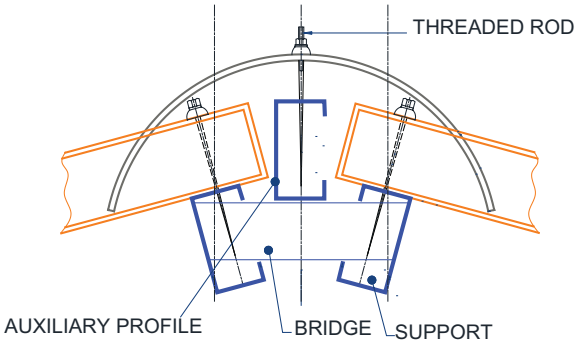
Fastening for Wood Structure

A highly functional solution is placing an additional piece fastened through bridges between both straps.
The fastening is made with 6" screws (minimum). This system allows some freedom regarding the fastening position.

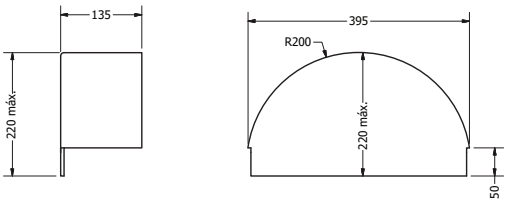


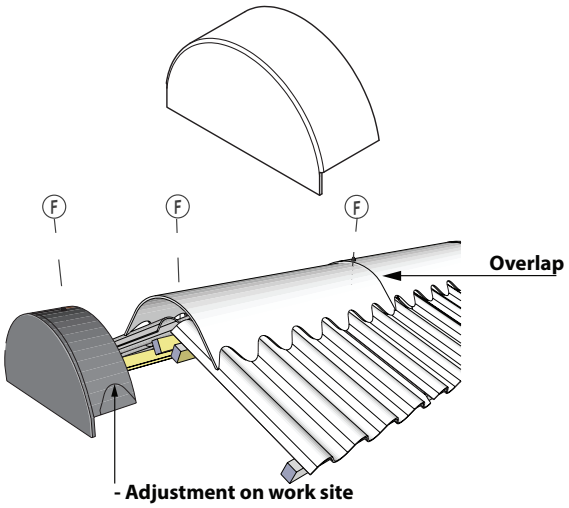
Fastening for Metal Structure

Place a steel profile, stud 80x40 mm along the ridge held by a metal crosspiece that is fastened to both supports.
Fastening to the ridge through self-tapping screws.



End Cap





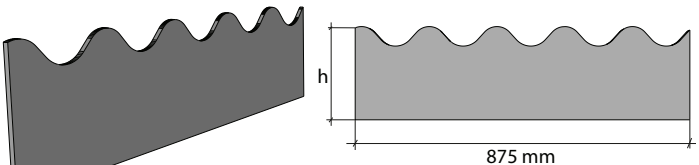
- Adjustment on work site
- Cap superimpose on ridge
- Fastening with screw or threaded rod

Side Flashings

The flashings are made of painted or galvanized steel and can be covered with fiber cement strips.

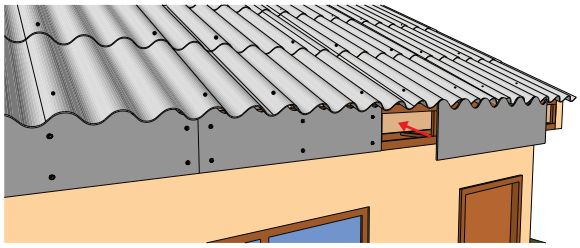
Frieze

It seals the space between the panel and the frieze line, thus avoiding water splashing on eaves and gutters.



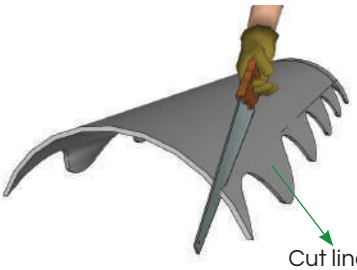
h= height of frieze.

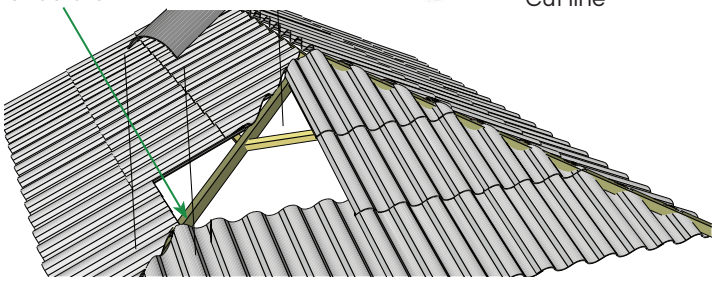
Can be fabricated on site with 8 mm Plycem Exterior frieze.



Ridge to be used as hip

The ridge can be used on beams as long as the waves are removed with a hand-saw or any other cutting tool.

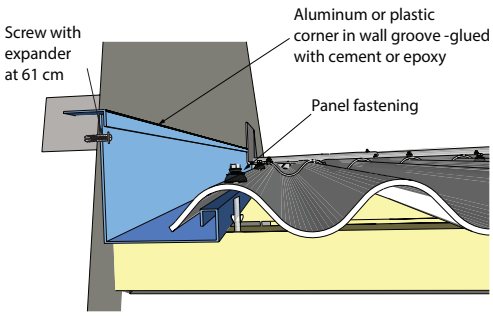


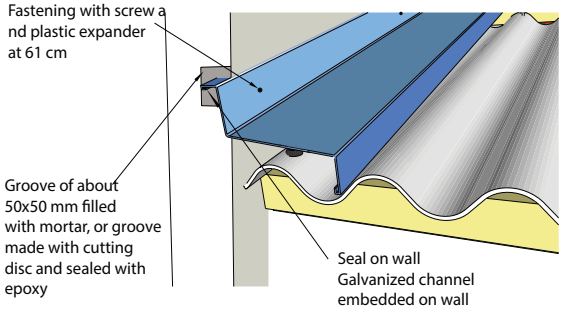


Metal lateral ends of galvanized boards.

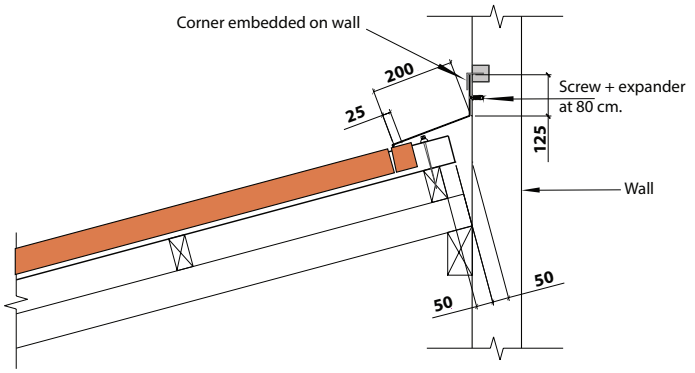
Never embed the P7 corrugated panels on the walls. They should be allowed to move freely.

See solutions using embedded metal lateral ends.

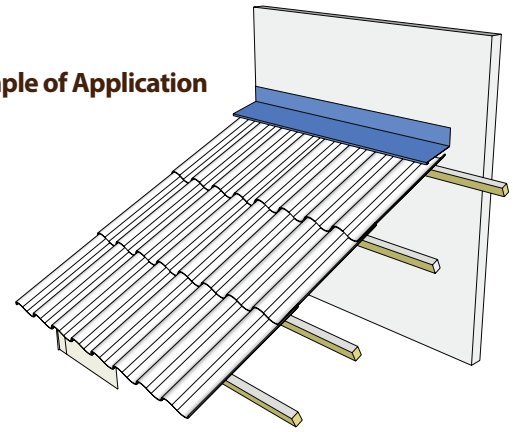




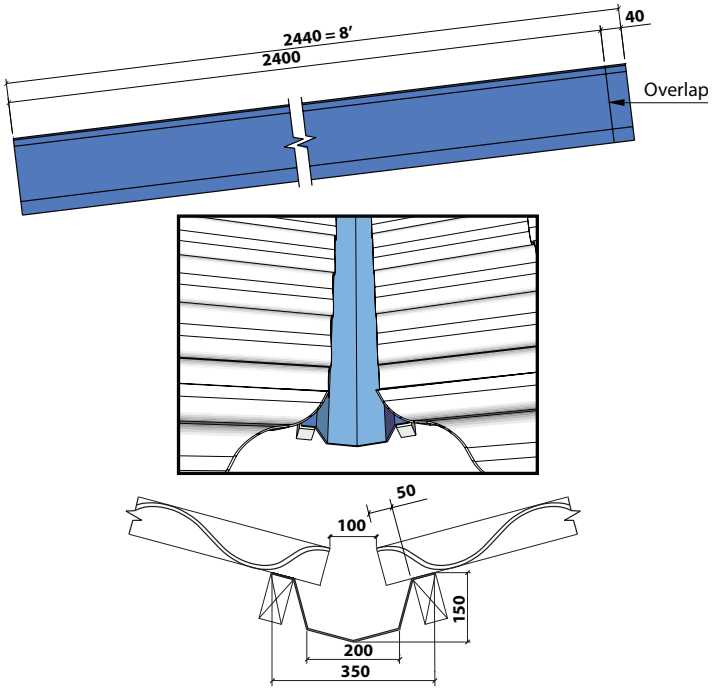
Upper Ends on Galvanized Panel Wall



Example of Application



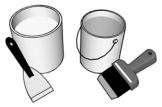
Valley



Plycem does not provide metallic accessories.

ROOF MAINTENANCE

- Remove the leaves and dust accumulated every summer on roofs and gutters
- Never use acids to wash the roof
- Wash the roof with a hose, water, soap, and bleach. Let it dry for 24 hours.
- Apply good acrylic exterior paint. Apply two coats of paint.
-- The first coat diluted to have good absorption (Consumption ~ 80 gr / m2).



BUDGET AND COVERAGE

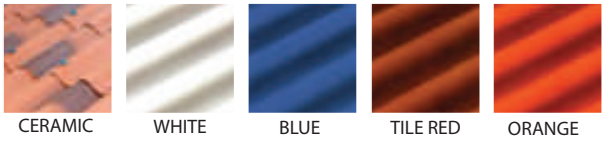
TABLE OF EFFECTIVE AREA (m2/panel) P7

Overlaps	Panel length (m)								
	1.22	1.52	1.83	2.13	2.44	2.74	3.05	3.35	3.66
14 cm	0.94	1.20	1.47	1.73	2.00	2.26	2.53	2.79	3.06
20 cm	0.89	1.15	1.42	1.68	1.95	2.21	2.48	2.74	3.01

Other information:
Effective length of ridge 1 m
Screws per panel = 2

Note: the dimensions with units not indicated in this manual correspond to measurements in millimeters.

COLORS /FINISHING



Note: Ask for our colors or finishes.
Subject to availability according to each country.

The recommendations and instructions given in this manual represent an adequate guide for the use, storage and handling of the product. This guide does not replace the responsibility of the responsible engineer, structural engineer or supervisor of each of the projects in which the product is used. In case of projects in which special measures or manufacturing conditions are requested, the product will be manufactured according to plans and the design given by the client, assigned constructor or engineer, the installation instructions given by the client being applicable, without any responsibility on the part of PLYCEM. PLYCEM does not assume responsibility for misuse of the product, improper handling, improper storage or use of materials other than the suggested complementary ones. PLYCEM does not co-help in the installation and management part of structural design, so this manual does not represent a co responsibility in that area, being the responsibility limited to the material only.
The product warranty applies only if the installation instructions in this guide are followed. For warranty details visit: www.plycem.com

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Installation guide
PLYCEM EUREKA ROOF P10

IMPACT TESTS

LIGHTWEIGHT AND RESISTANT

PLAGUE RESISTANT

DURABLE

NON-COMBUSTIBLE

THERMAL AND ACOUSTIC CONFORT

EASY TO INSTALL

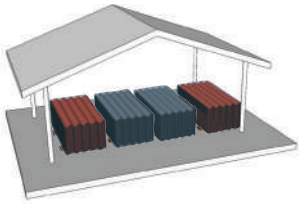
STAINLESS

DESCRIPTION

Corrugated fiber cement boards for roof cover -manufactured in gray and terracotta colors which give a unique and differentiating aesthetic effect to constructions. Moreover, our technology gives the advantage of significantly reducing the entrance of heat, reduces noise, and has high durability. Find the full line of accessories for the product.

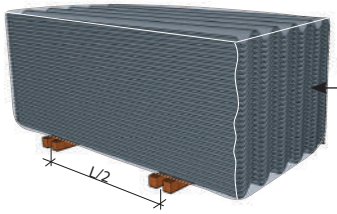
TRANSPORTATION, STORAGE AND HANDLING

Store the corrugated fiber cement indoors in ventilated and dry areas; both in the commercial warehouse and at the construction site. Do not leave the fiber cement corrugated exposed to the outside environment of rain and sun (open sky).



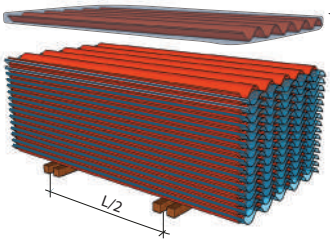
Place the pallets on a flat, firm and level floor. Do not place the fiber cement corrugated directly on the floor, but place them on the wooden shims supplied by the manufacturer or on two wooden strips of uniform section, separated from each other. Corrugated fiber cement should be transported and kept in storage, (distributors' warehouses and in project site), covered with plastic fcorrugated fiber cement to protect them from humidity and sun. **Keep the waterproof cover on the pallet and the bags of individual protective (painted corrugated fiber cement) until installation.**

Storage of corrugated fiber cement



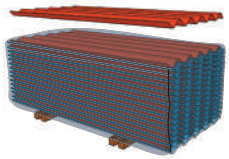
Protective plastic for the pallet

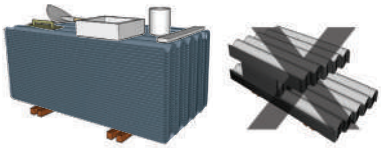
Storage of colored corrugated fiber cement



Protective bag

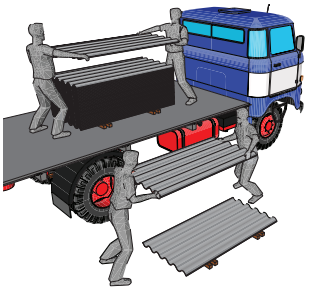
Note: Remove only "BEFORE" installing the boards.





Do not allow the storage of corrugated fiber cement of different sizes on the same pallet, neither store can put other materials on top of the pallets.

MAXIMUM NUMBER OF PANELS PER PALLET	
N°	**Units per pallet**
3, 4, 5, 6, 7, 8, 9	100
10	60
11, 12	50



TWO-PERSON OPERATION

-The corrugated fiber cement should always be transported manually by two people.
-Transport the boards one by one.
-Avoid sliding the colored boards between them.
-Avoid bumping the corrugated fiber cement and support them at the corners.

Vertical Storage

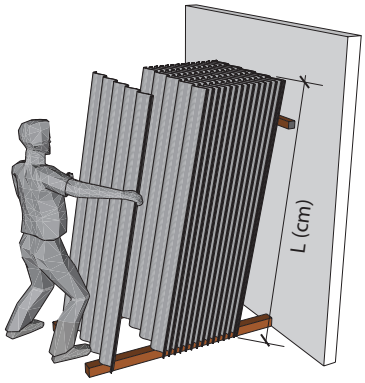
-Rest the upper part of the first corrugated panel of the series on a lath previously fixed to the wall and the lower edge on two strips placed on a firm and level floor.

-Lay the panels in a row at an angle of 15° to the wall to prevent slippage of the panels.

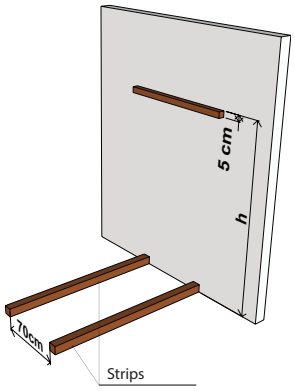
- All panels should be of the same length, apply a maximum of 60 units.

-Verify that the supporting wall is enough stable to support the weight of 60 units.

Fasten a beam on the wall at the following height: h= L-10 cm

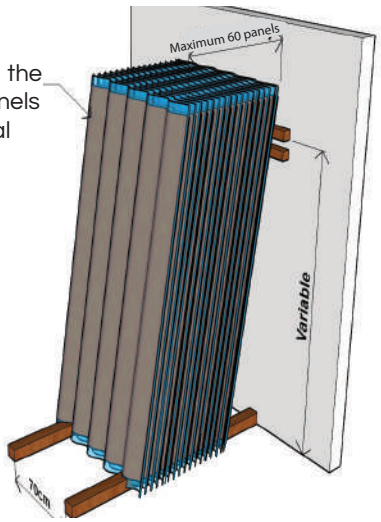


Fasten a strip on the wall



Vertical storage of corrugated boards

Do not remove the protector of panels before their final installation



Note:
Keep the waterproof cover on the pallet and the bags of individual protective (painted corrugated fiber cement) until installation.

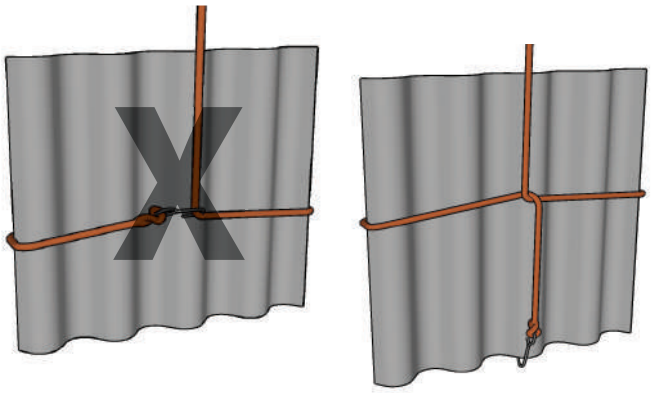
Moving the panels to the roof

In one-story constructions, the panels can be directly lifted by hand.

In constructions with more than one story, a pulley system must be used.

In constructions up to three stories, the panels can be lifted with a rope -securing the panel as indicated in the picture. Using a hook on the end of the rope loop that serves as support of the lower part is recommended. Always hang the panels lengthwise.

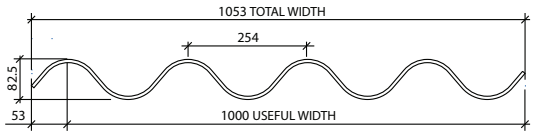
In constructions of more than three stories, use an electric hoist.

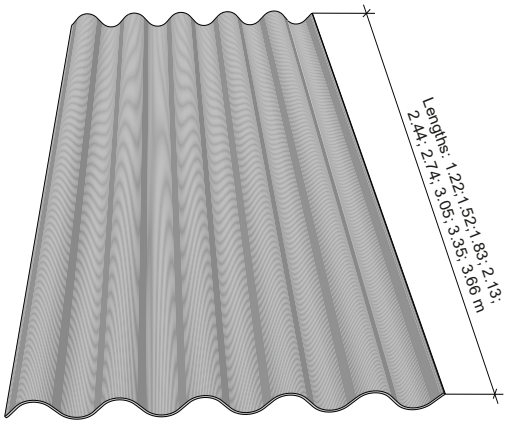


RIGHT WRONG

SYSTEM COMPONENTS

P10 Panel





14 cm Overlap (Slopes ≥27°)

PANEL	LENGTH ± 15 mm. TOTAL (m.)	LENGTH ± 15 mm. Useful (m.)	WIDTH TOTAL (m.)	WIDTH + 15 mm - 10 mm Useful (m)	SURFACE TOTAL (m2)	SURFACE Useful (m2)	OVERLAP ± 10 mm. LONG (m)	OVERLAP ± 5 mm. LATERAL (m)	DISTANCE BETWEEN STRAPS (m).	WEIGHT (kg)
4'	1,22	1,08	1,053	1,00	1,28	1,08	0,14	0,05	1,08	16,40
5'	1,52	1,38	1,053	1,00	1,60	1,38	0,14	0,05	1,38	20,50
6'	1,83	1,69	1,053	1,00	1,93	1,69	0,14	0,05	1,69	24,60
7'	2,13	1,99	1,053	1,00	2,24	1,99	0,14	0,05	0,995	28,70
8'	2,44	2,30	1,053	1,00	2,57	2,29	0,14	0,05	1,15	32,80
9'	2,74	2,60	1,053	1,00	2,89	2,60	0,14	0,05	1,30	36,90
10'	3,05	2,91	1,053	1,00	3,21	2,90	0,14	0,05	1,455	41,00
11'	3,35	3,21	1,053	1,00	3,53	3,21	0,14	0,05	1,07	45,10
12'	3,66	3,52	1,053	1,00	3,85	3,51	0,14	0,05	1,17	49,20

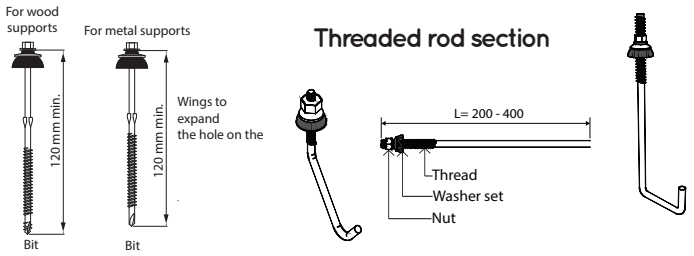
Average weight per surface unit 14.5kg/m2
Thermal conductivity coefficient K: 4.76kcal/m2h°C

20 cm Overlap (Slopes <27°)

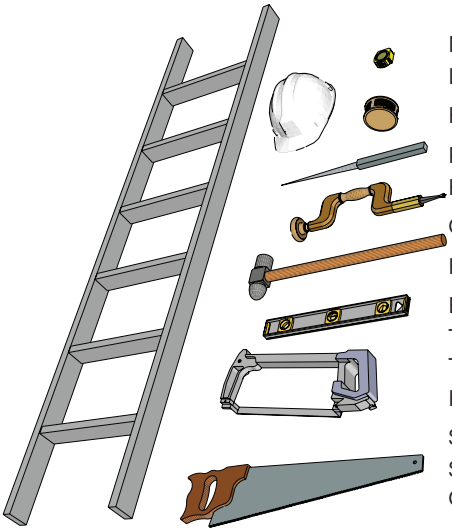
PANEL	LENGTH ± 15 mm. TOTAL (m.)	LENGTH ± 15 mm. Useful (m.)	WIDTH TOTAL (m.)	WIDTH + 15 mm - 10 mm Useful	SURFACE TOTAL (m2)	SURFACE Useful (m2)	OVERLAP ± 10 mm. LONG (m)	OVERLAP ± 5 mm. LATERAL (m)	DISTANCE BETWEEN STRAPS (m).	WEIGHT (kg)
4'	1,22	1,02	1,053	1,00	1,28	1,02	0,20	0,05	1,02	16,40
5'	1,52	1,32	1,053	1,00	1,60	1,32	0,20	0,05	1,32	20,50
6'	1,83	1,63	1,053	1,00	1,93	1,63	0,20	0,05	1,63	24,60
7'	2,13	1,93	1,053	1,00	2,24	1,93	0,20	0,05	0,97	28,70
8'	2,44	2,24	1,053	1,00	2,57	2,24	0,20	0,05	1,12	32,80
9'	2,74	2,54	1,053	1,00	2,89	2,54	0,20	0,05	1,27	36,90
10'	3,05	2,85	1,053	1,00	3,21	2,85	0,20	0,05	1,425	41,00
11'	3,35	3,15	1,053	1,00	3,53	3,15	0,20	0,05	1,05	45,10
12'	3,66	3,46	1,053	1,00	3,85	3,46	0,20	0,05	1,15	49,20

Average weight per surface unit 15 kg/m2
Thermal conductivity coefficient K: 4.76 kcal/m2 h °C
Ask about stock in each country
Both tables are for 5mm thick boards. Ask for 6mm thickness

Fastenings



MANUAL TOOLS



Measuring tape
Ladders
Hammer
Rasp
Hand saws
Carpenter's brace
Hand wrenches
Bits
Thread spools
Tool belt
Handsaw
Safety helmets
String rope
Construction level

Straps

Planks

Pencil

Caulking gun

5/16", 3/8" magnetic hex nut driver.

ELECTRIC TOOLS

SCREWDRIVER

CIRCULAR SAW WITH DIAMOND BLADE

1 Adjustable torque screwdriver.

1 Abrasive-disc circular saw.

1 Jig saw for special curved cuts.

INSTALLATION INSTRUCTIONS

Before placing the panels, verify the following:

1. Verify that the roof slope is the correct one

2. Verify that the distance between support straps corresponds to the panels.

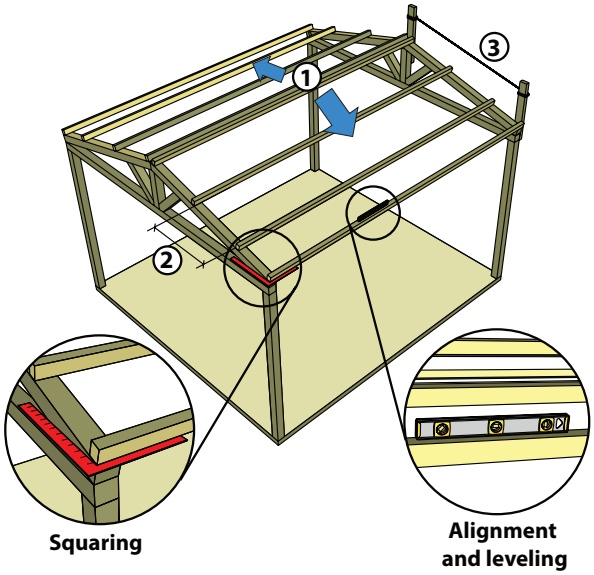
3. Verify that the straps are well aligned and leveled, that everything is squared and attached to the main structure. It must form a single plane.

4. Verify that all the structural elements are installed (straps, nailers, tensioners, etc.).

5. Verify that the cover materials are properly stored.

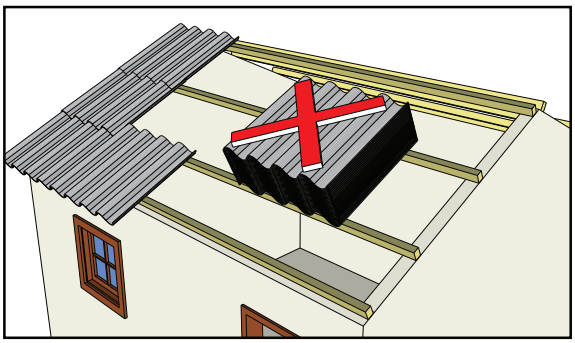
6. Verify that your employees know about the application of products and about the safety standards that should be followed.

Note: Verify the proper installation of support slopes. Do not install panels if the support structure does not comply with the recommendations regarding distance between supports.

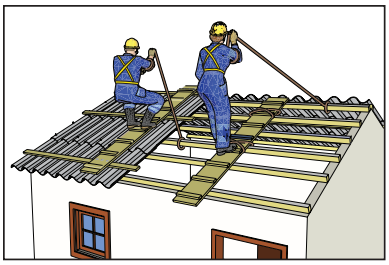


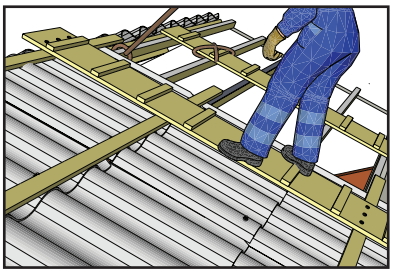
GENERAL SAFETY RECOMMENDATIONS

1. Comply with all safety standards at the time of lifting the roofs.
2. The covers are not designed to store elements



3. Wear the helmet and secure it to your head with the strap.
4. Before going up to the roof, it is essential to wear the safety harness and fasten the safety strap.
5. Using walkways during the installation and during any maintenance activity is essential. Walkways should be supported at least on 3 straps.

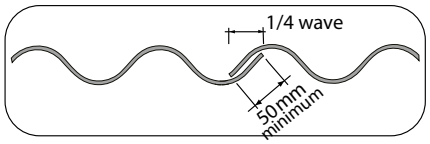




6. Do not store panels on the roof.
7. Never install the panels if it is raining, if they are visibly wet, or in case of strong winds
8. Do not install broken or cracked panels.
9. Hire trained employees for maintaining the roof
10. Control the access to the roof. Explain the content of this manual to those people who need to go up on the roof.
11. Periodically check the condition of the roof
12. Remember to always follow the safety rules.

OVERLAPS AND SLOPES

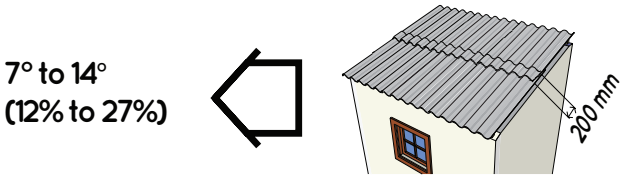
Lateral Overlap

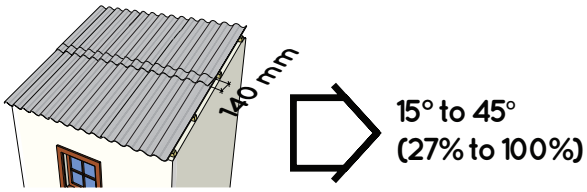


Longitudinal Overlap

- The minimum roof slope must be greater than or equal to 12%.

- In order to have a greater visibility of the roof, slopes equal to or greater than (27) % are recommended.





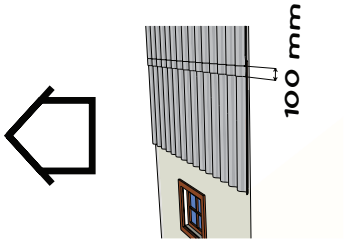
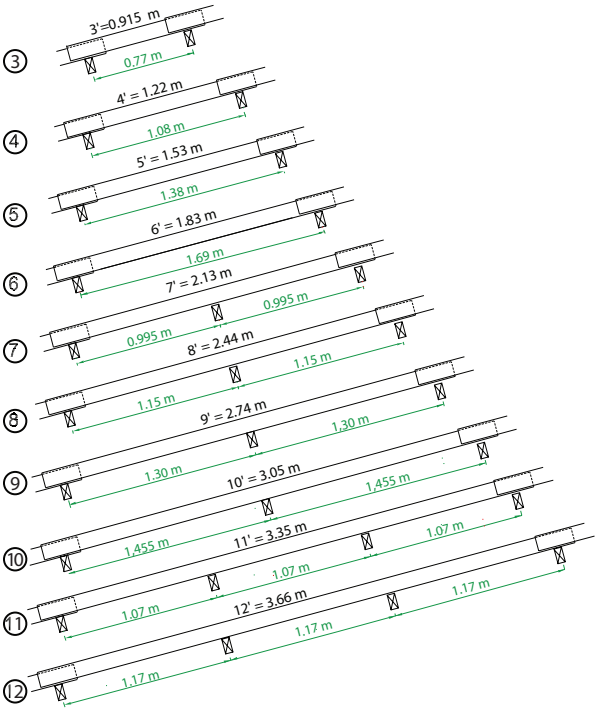


Table of Roof Slopes

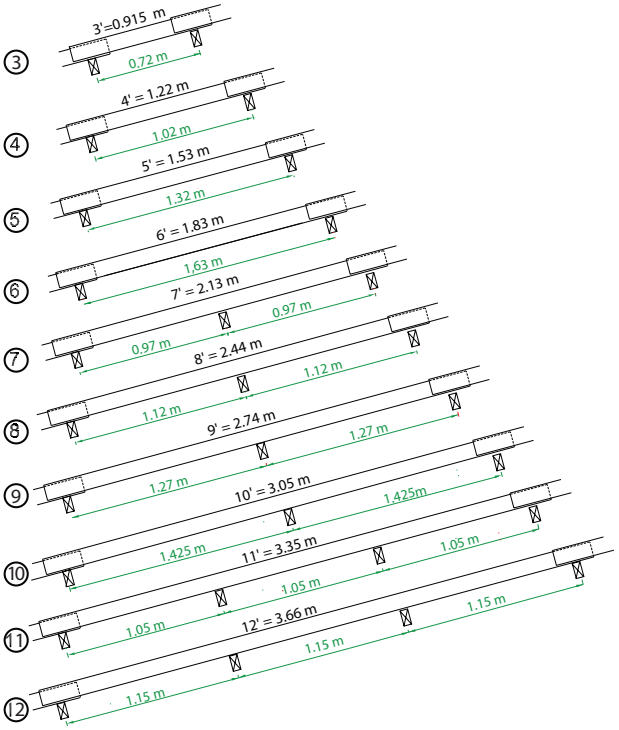
α°	%	LONG. OVERLAP	LATERAL OVERLAP
80°	83.9	140 mm	50 mm
70°	70.0		
60°	57.7		
50°	46.6		
40°	36.3		
35°	26.7		
30°	17.6	200 mm	
25°	12.0	NOT RECOMMENDED	
20°			
15°			
10°			
7°			
0°			

Spans Between Support and 14 cm Overlap for ≥ 27% Slope



* Measurements in green in (mm) indicate the theoretical distance between support centers -placed with a 14 cm overlap.

Distance of Supports and 20 cm Overlap for < 27 % Slope



* Measurements in green in (mm) indicate the theoretical distance between support centers -placed with a 20 cm overlap.

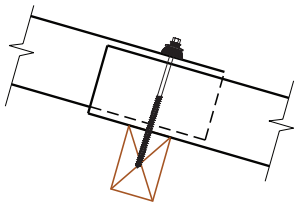
- Only use 2 threaded hooks or 2 screws per panel.
- The support and fastening structure of panels must be well aligned, leveled, and with no protusions that may cause damages after the installation.
- The minimum width of the support structure is 40 mm, following the slope of the panels.

FASTENING OF PANELS

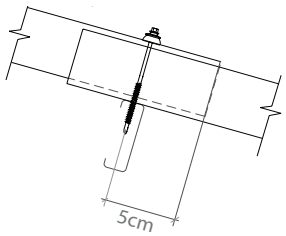
Self-drilling screws for roof

Rust-resistant elements -specially designed to safely fasten the roof.

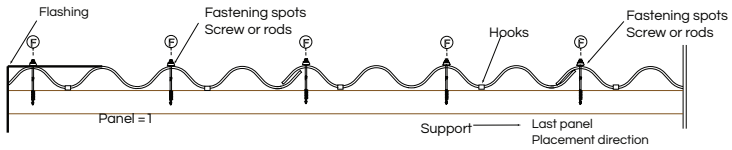
Fastening on wood



Fastening on metal

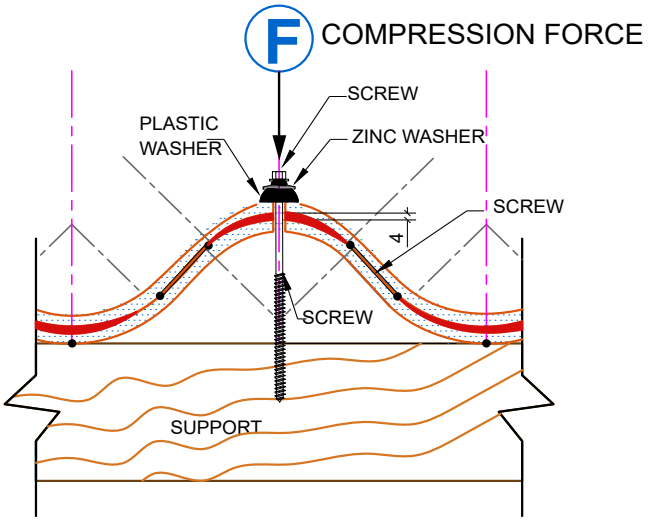


P10 Corrugated Panel



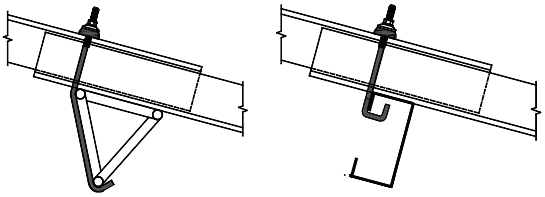
Pressure control of screw on panel

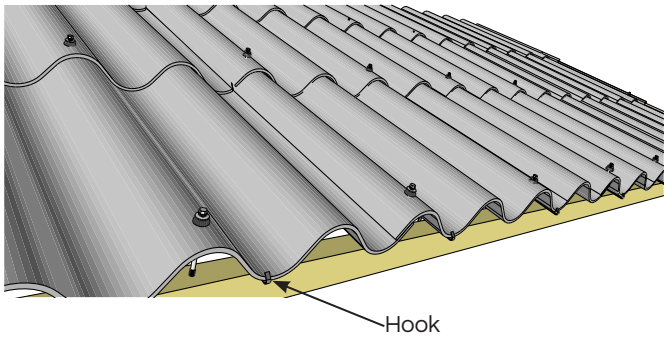
Avoid over-tightening the screws, as this will affect the product and may cause cracking. Do not force the second panels together at the fastening point so as not to stress the lateral support points on the ridge.



Threaded Rod Section

Galvanized steel rod with a thread on one end, of 8-10-12-14" (ask for stock) length to display them on the work according to the shape of the support structures.
The examples show some of the possible uses of the fastenings displayed on the work.





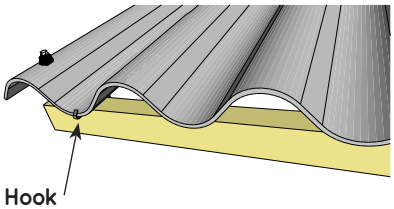
Note:

- In areas with strong winds, fasten with screws on all supports, located in the appropriate position, to prevent the wind from lifting them.
- The minimum distance from the center of the hole to the free
- edge of the panel must be 5 cm.
- Whenever you need to make the blunts and perforations, always remember to previously wet the area and use the personal protection elements required such as goggles, masks with filters 100% efficient for particulate matter.
- Do not punch with nails.

Placement of hook

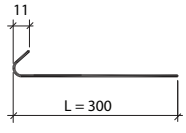
Use a hook to hold the panels before fastening them with the screw mainly on highly sloped roofs, roofs in high-wind areas, or very high roofs.

Note: The hook does not replace the screw or the threaded rod section.

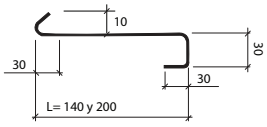


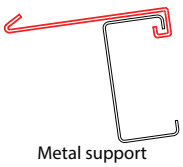
In roofs with less than 27%, for security purposes, using a hook for each plate on the eaves is recommended because the plates do not move move due to vibrations. For slopes over 27%, place hooks on all panels.

Straight hook to display on the work.

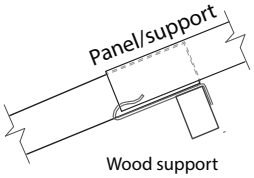


Galvanized strip hooks of 1/2" and 1/16". Pre-folded L = 150 and 200



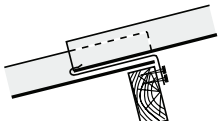


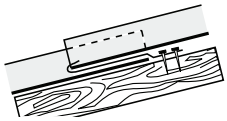
Metal support



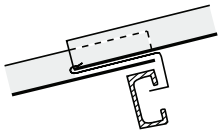
Wood support

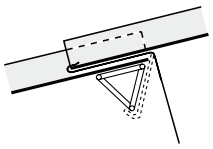
Use an additional plate hook per each panel and placed on the second wave, on covers with slopes of more than 20°.



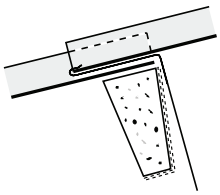


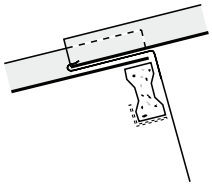
Installation on flat base





Bend on the worksite



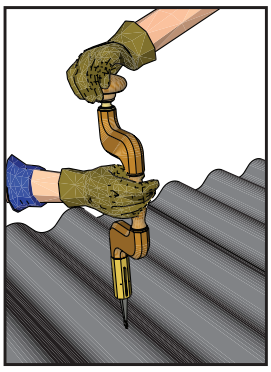


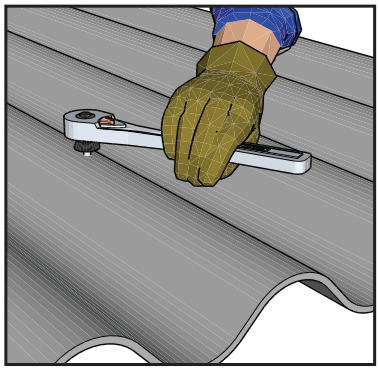
Bend on the worksite

Fastening panels with screws

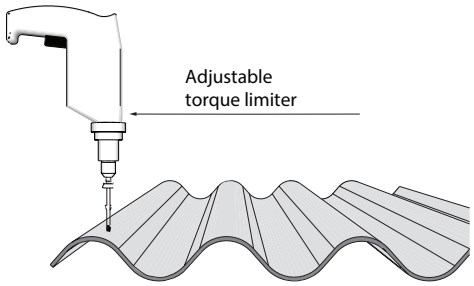
- Prior to placement of the screw, drill at the intersection of the central line of the support and the board, using a carpenter's brace or drill or a hand drill with a metal drill bit and the hole should be or 1.5 mm larger than the diameter of the screw.

- The best option is having a wrench with torque limiter.
A ring spanner #12 may be also used.





- The screws should be always placed on the upper part of the wave.
- Place the screws with their washes by pressing them in such a way that there is no excessive pressure on the panels but that they are securely fastened.
- Due to the deformity of the rubber or plastic washer, you may orient yourself to obtain the perfect spot (good fastening and good sealing without damaging the product).
- In case of using electric drills or drills it is recommended that they have an adjustable torque limiter.

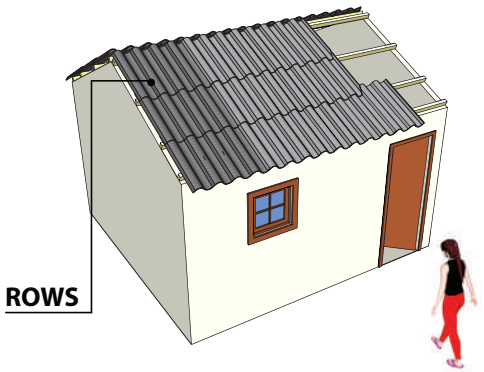


Placement of Panels

Straight Placement:
It is made from left to right, having, as reference, a person facing the roof.

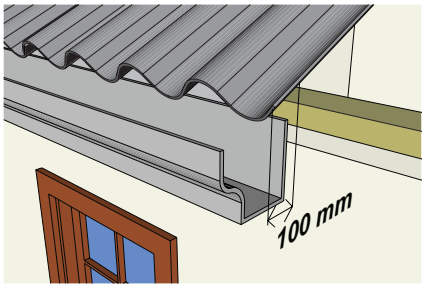
A ROW will be the sequence of panels horizontally placed in any of the two directions.

Left Assembly
It is made from left to right, having, as reference, a person facing the roof.

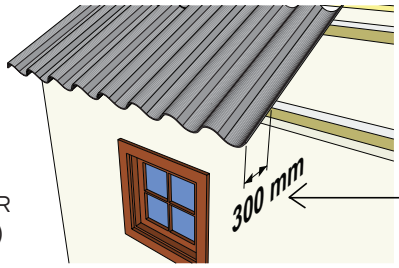


We will identify as ROW the sequence of panels placed from bottom to top, from the eaves to the ridge.

Eaves



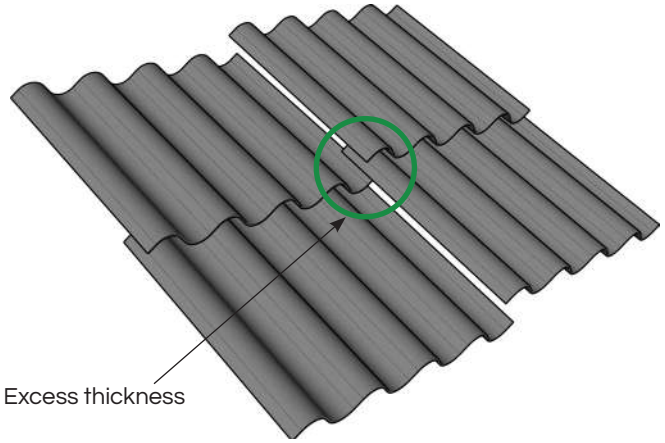
WITH GUTTER

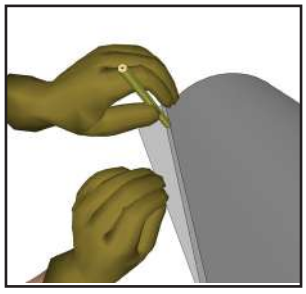


WITHOUT GUTTER
(Free fall of water)

Panel Cutting

Panel extra thickness is generated on overlaps of 4 panels.
Corner cuts should be made for the two diagonal panels in accordance with the scheme.





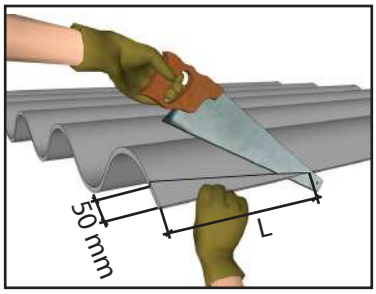
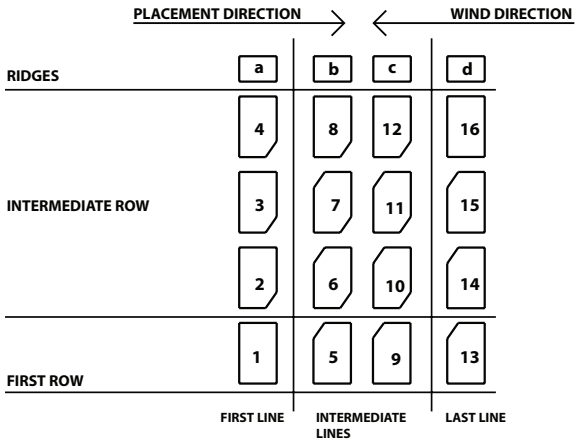
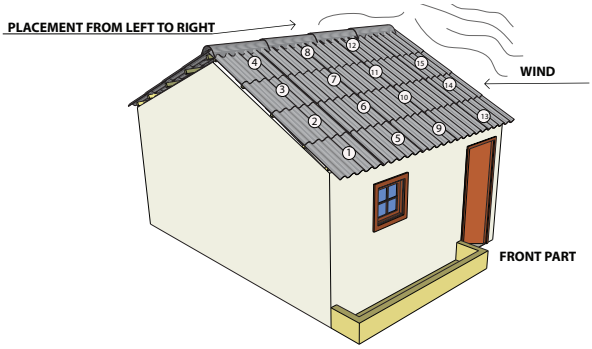


TABLE OF BLUNT MEASURES (L)	
Overlap of 140mm	Overlap of 200mm
140 mm	200 mm

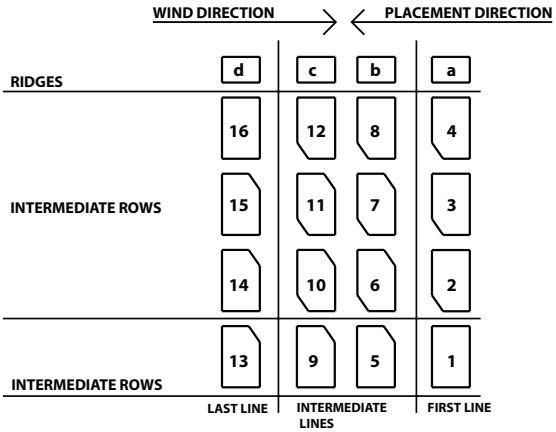
Panel Cutting, Blunt Scheme

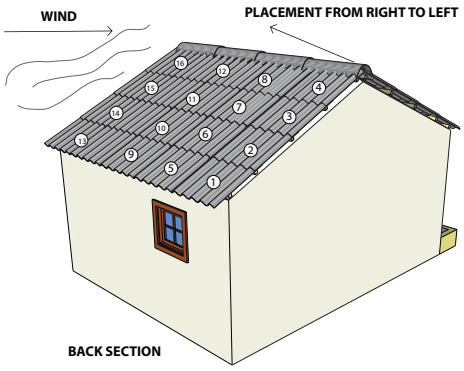
PLACEMENT FROM LEFT TO RIGHT

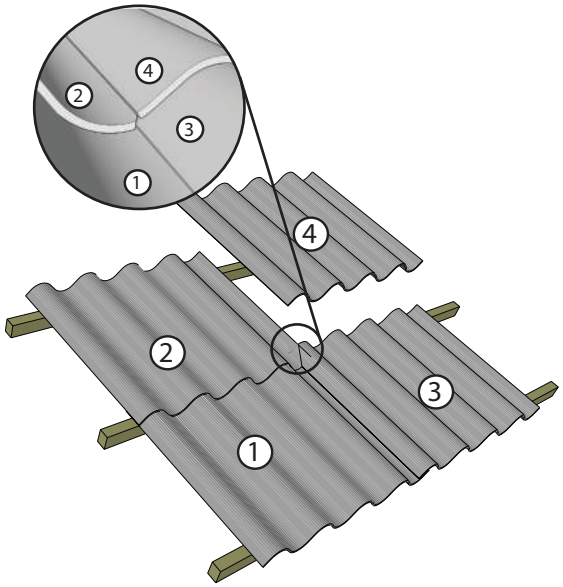




PLACEMENT FROM RIGHT TO LEFT



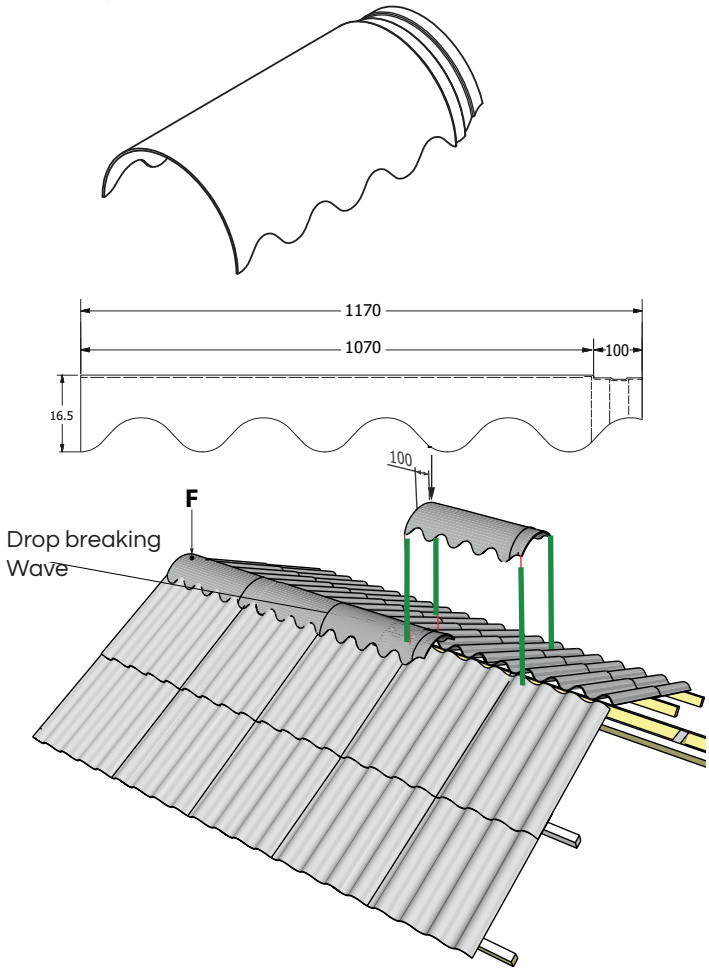




INSTALLATION OF COMPLEMENTARY ELEMENTS

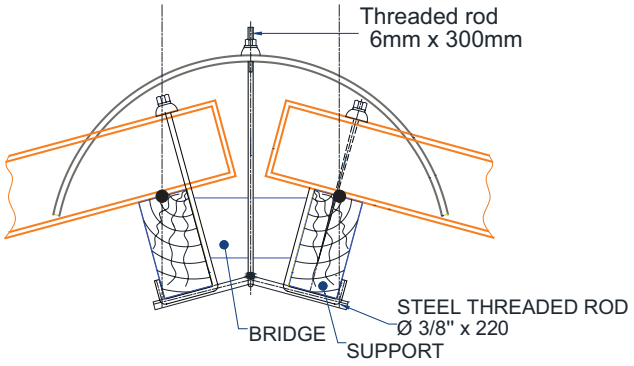
Note: Design and availability of accessories varies by country. Consult your Plycem technical advisor or authorized distributor.

P10 Ridge



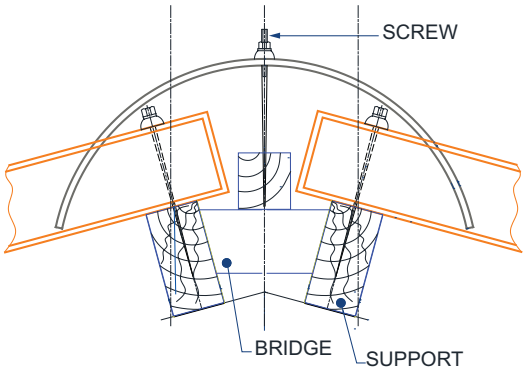
Specific fastening of Ridge

A bridge between supports is placed on the exact position where the fastening for ridges is to be placed.
The fastening is made through a threaded rod shaped on the work site.
A wire can be also used as bridge between the supports.



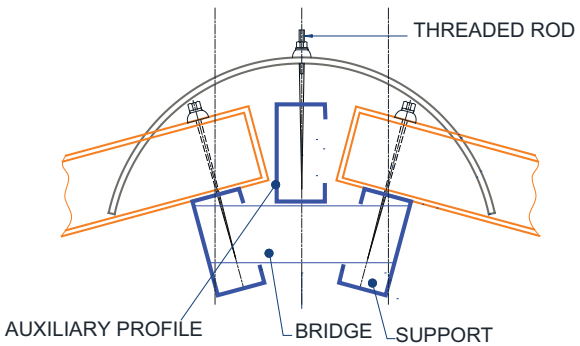
Fastening for Wood Structure

A highly functional solution is placing an additional piece fastened through bridges between both straps.
The fastening is made with 6" screws (minimum). This system allows some freedom regarding the fastening position.

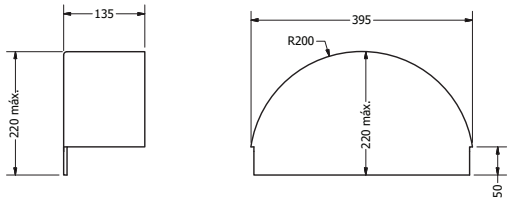


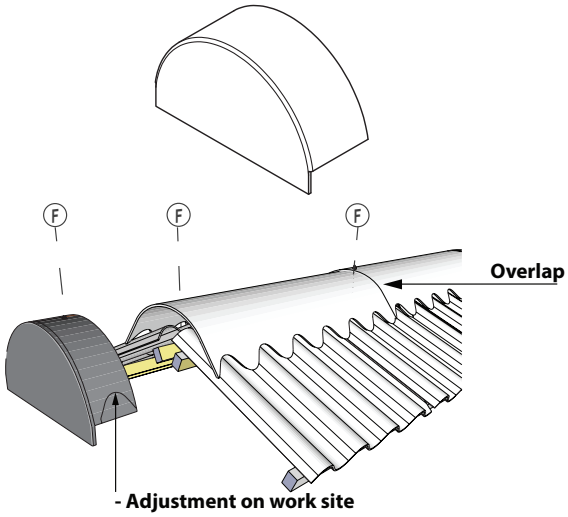
Fastening for Metal Structure

Place a steel profile, stud 80x40 mm along the ridge held by a metal crosspiece that is fastened to both supports.
Fastening to the ridge through self-tapping screws.



End Cap





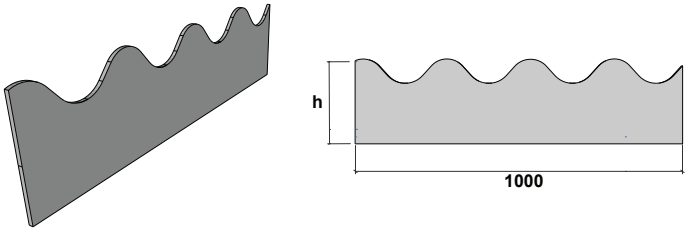
- Adjustment on work site
- Cap superimpose on ridge
- Fastening with screw or threaded rod

Side Flashings

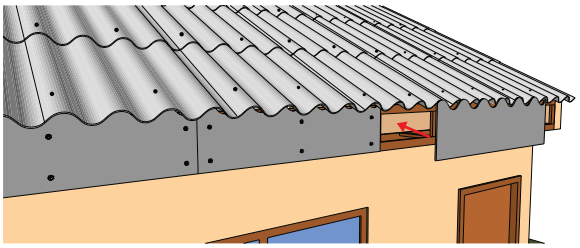
The flashings are made of painted or galvanized steel and can be covered with fiber cement strips.

Frieze

It seals the space between the panel and the frieze line, thus avoiding water splashing on eaves and gutters.

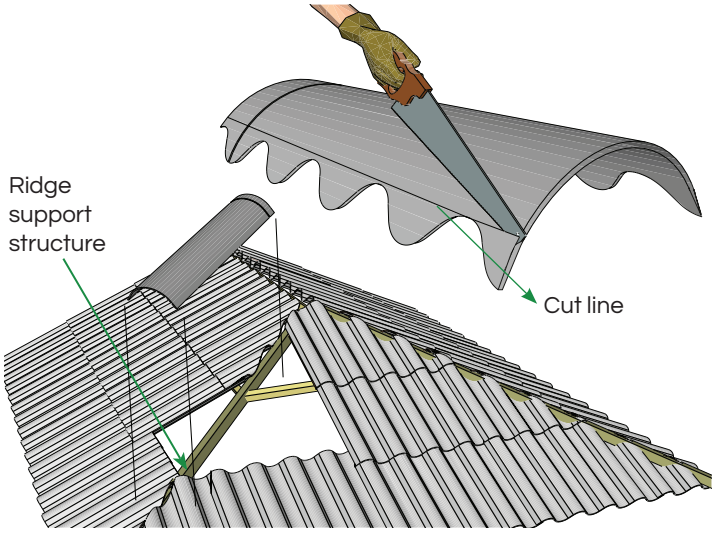


h= height of frieze.



Ridge to be used as hip

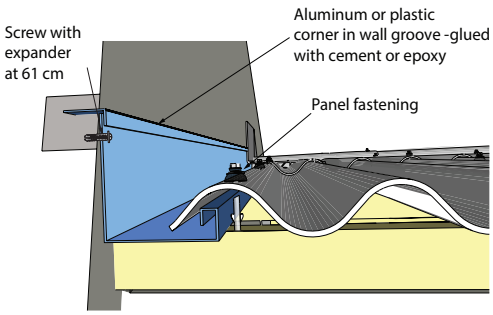
The ridge can be used on beams as long as the waves are removed with a hand-saw or any other cutting tool.

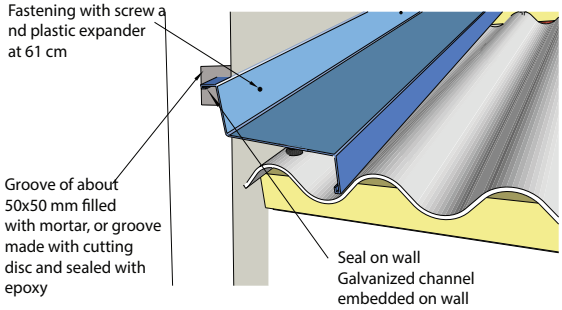


Metal lateral ends of galvanized boards.

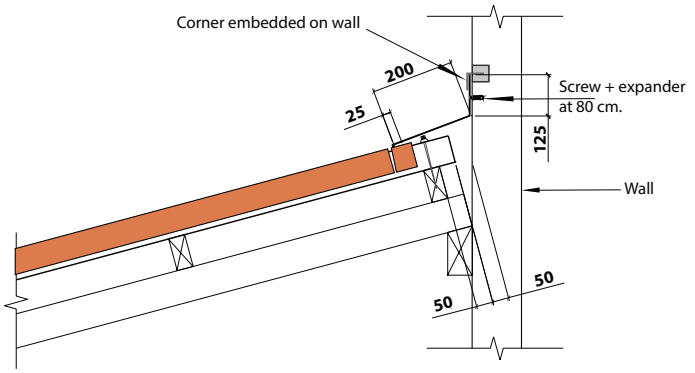
Never embed the P10 corrugated panels on the walls. They should be allowed to move freely.

See solutions using embedded metal lateral ends.

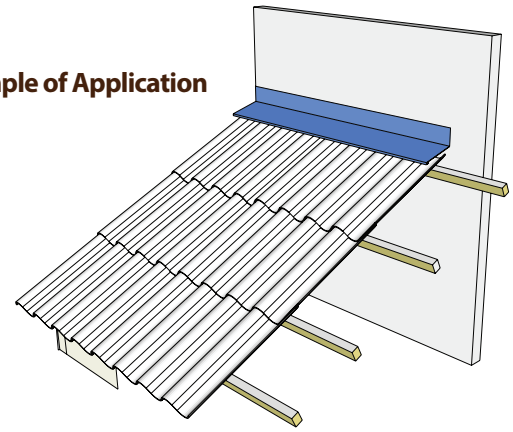




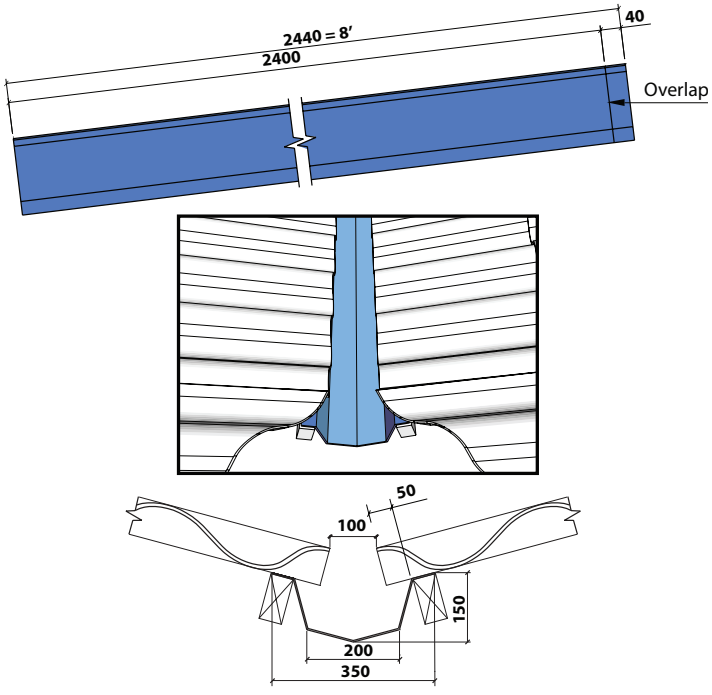
Upper Ends on Galvanized Panel Wall



Example of Application



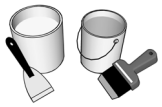
Valley



Plycem does not provide metallic accessories.

ROOF MAINTENANCE

- Remove the leaves and dust accumulated every summer on roofs and gutters
- Never use acids to wash the roof
- Wash the roof with a hose, water, soap, and bleach. Let it dry for 24 hours.
- Apply good acrylic exterior paint. Apply two coats of paint.
-- The first coat diluted to have good absorption (Consumption ~ 80 gr / m2).



BUDGET AND COVERAGE

TABLE OF EFFECTIVE AREA (m2/panel) P10

Overlaps	Panel length (m)								
	1.22	1.52	1.83	2.13	2.44	2.74	3.05	3.35	3.66
14 cm	1.08	1.38	1.69	1.99	2.30	2.60	2.91	3.21	3.52
20 cm	1.02	1.32	1.63	1.93	2.24	2.54	2.85	3.15	3.46

Other information:
Effective length of ridge 1 m
Screws per panel = 2

Note: the dimensions with units not indicated in this manual correspond to measurements in millimeters.

COLORS /FINISHING

Note: Ask for our colors or finishes.
Subject to availability according to each country.

The recommendations and instructions given in this manual represent an adequate guide for the use, storage and handling of the product. This guide does not replace the responsibility of the responsible engineer, structural engineer or supervisor of each of the projects in which the product is used. In case of projects in which special measures or manufacturing conditions are requested, the product will be manufactured according to plans and the design given by the client, assigned constructor or engineer, the installation instructions given by the client being applicable, without any responsibility on the part of PLYCEM. PLYCEM does not assume responsibility for misuse of the product, improper handling, improper storage or use of materials other than the suggested complementary ones. PLYCEM does not co-help in the installation and management part of structural design, so this manual does not represent a co responsibility in that area, being the responsibility limited to the material only.
The product warranty applies only if the installation instructions in this guide are followed. For warranty details visit: www.plycem.com

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