

Installation guide **PLYCEM** **EXTERIOR HIDDEN JOINT**



IMPACT TESTS



LIGHTWEIGHT



PLAGUE RESISTANT



WEATHER RESISTANT



NON-COMBUSTIBLE



THERMAL AND ACOUSTIC COMFORT

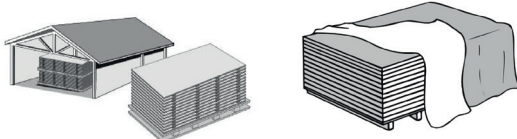


EASY TO INSTALL

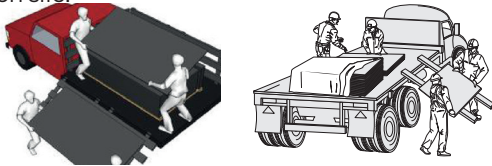
Construction system for fully smooth exterior and interior walls with hidden joints. To guarantee the result, use the full Plycem Exterior system by Plycem according to the application instructions mentioned in this manual.

TRANSPORTATION, STORAGE, AND HANDLING

Always store the panels indoors in ventilated and dry areas; both in the commercial warehouse and on the construction site. Do not expose the panels to the outside (rain, sun or snow). In flat surfaces, stack them on pieces of wood (do not leave them directly on the ground). If you leave them temporarily outside, you must cover the pallet with a waterproof mantle.



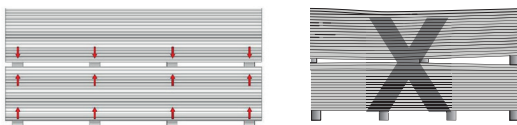
Plycem panels must be loaded by at least 2 people. Transport the covered panels with a waterproof mantle, preventing them from getting wet on the trip to the commercial warehouse or the construction site.



Always handle the boards on their edges, avoiding deflections in a horizontal position.



Always stack the boards in the correct position on aligned supports. Avoid deformation during stacking. Do not stack more than 3 pallets one on top of the other.

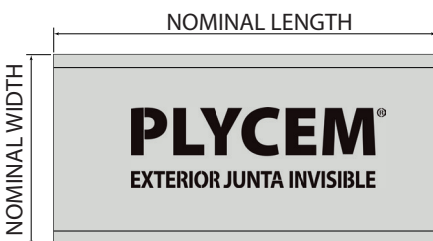


SYSTEM COMPONENTS

The Plycem System is composed of fiber cement and complementary boards, which constitute the wall system.

Plycem Exterior

Plycem interior and exterior boards are made from cellulosic fibers reinforced with cement. They are 8mm, 10mm, 11mm, 12mm and 14mm thickness, 1219mm wide, and 2438mm, 3048mm and 3657mm long (Ask for minimum production quantity and available stock.) For Plycem Exterior technical data sheets please visit www.plycem.com.

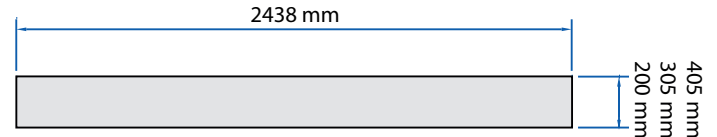


Note :

- The color of the boards may vary depending on the country of manufacturing.
- The availability of board lengths greater than 2.44m should be consulted in each country, prior to consideration in the specification or construction of the project.
- The 8mm, 10mm, 11mm, 12mm and 14mm boards are available with tapered edges on the long sides, they can be used on internal and external walls.

Plycem fascias

Plycem fascias have thicknesses of 8 mm and 10 mm, 200 mm, 305 mm or 405 mm wide by 2438 mm long (consult available stock).



Structure

- Track 24 GA (min.)
- Stud 24 GA (min.)
- (25.4x50mm) piece of semi-hard wood.
- Furring Channel or Omega profile. 24 Ga. (min.) 32 mm
- Angular 24 Ga. (min.) Strap and Perimeter. (25.4x25.4 mm)

*Profile sections may vary in each market. Ask about availability or stock.

Fastenings

- LH 8-050 SCREW (structure)**
Stud and track assembly.
- MM10-075 SCREW (structure)**
Structural corner joints or intersections.
- PH 8-125 SCREW (Plycem on steel)**
Fastening of Plycem panel to 20 Ga. metal structure
- PL 6-100 SCREW (Plycem on steel or wood)**
Fastening of Plycem panel to 24 Ga. metal structure or wood structure.
- PL 8-175 SCREW (Plycem on wood)**
Fastening of Plycem panel to wood structure.

Finishing products



Plycem joints mesh (15 cm wide).



Polyurethane Sikaflex 15 LM, 1APlus or the like



Plycem ULTRA 510 joint compound



Reinforcing mesh for cement plaster of 25 cm or 100cm wide. See pages 3 or 4 for the corresponding uses in accordance to the wall height.

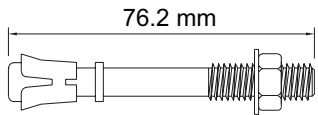


Plycem ULTRA 560 Dry Wall Mortar (smooth finish)

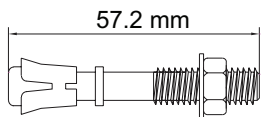


Plycem ULTRA 520 Dry Wall Mortar (textured)

Floor Fastening



EXPANSION ANCHOR 76.5mm (3")

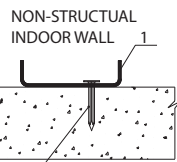


EXPANSION ANCHOR 50mm (2") x Ø 6mm (1/4")

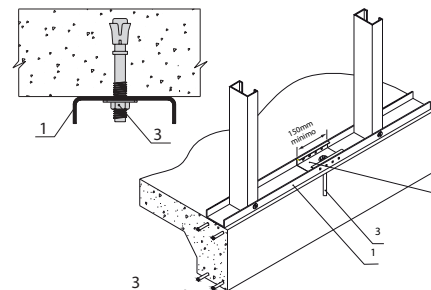


STEEL POWDER ACTUATED DRIVE PIN 25.4 mm (1")

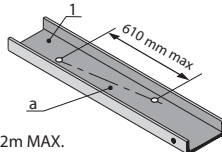
STRUCTURAL OUTDOOR WALL



NON-STRUCTURAL INDOOR WALL



Section of stud used as a load distribution element (minimum 150mm)



- 1. ANCHOR PROFILE (TRACK)
- 2. NAIL FOR CEMENT
- 3. EXPANSION ANCHORAGE AT 1.22m MAX.
- a. ALTERNATE THE ANCHORAGE ON ZIG-ZAG ON THE PROFILE

Tools



SCREW DRIVER



MITER SAW



CONSTRUCTION LEVEL



LEVEL STRING ROPE



CIRCULAR SAW WITH DIAMOND BLADE



RUBBER TROWEL



FLAT TROWEL



PUTTY KNIFE

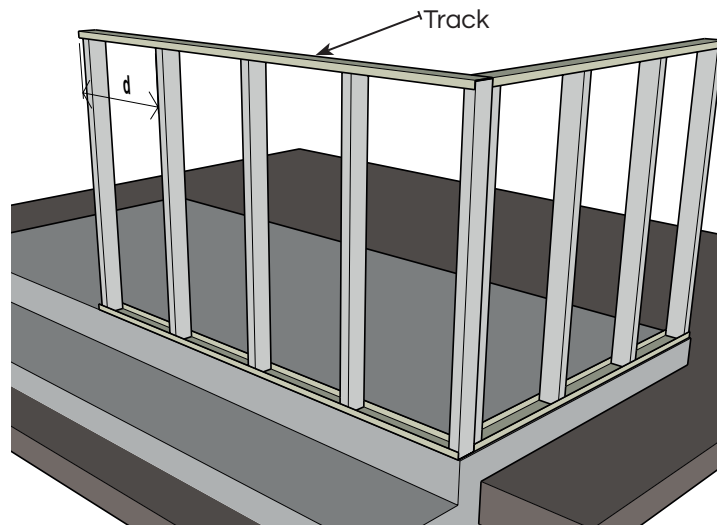


MIXER

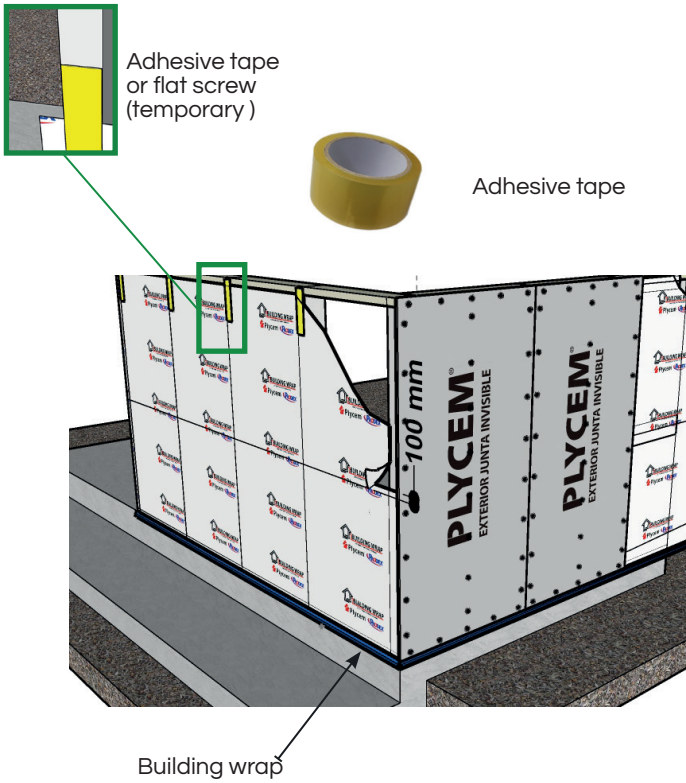
INSTALLATION INSTRUCTIONS

The metal frame will be 24 Ga (indoor wall) or 20 Ga (outdoor wall), with a maximum space of 61cm. A moisture barrier (Building Wrap, or the like) will be installed on the structures of outdoor walls. Boards will be preferably fixed with the longest edge parallel to the studs, using PLYCEM self-tapping screws. The spacing between screws is 200 mm. The attachments will be placed in accordance to fastening schedule.

Plycem panels vertically

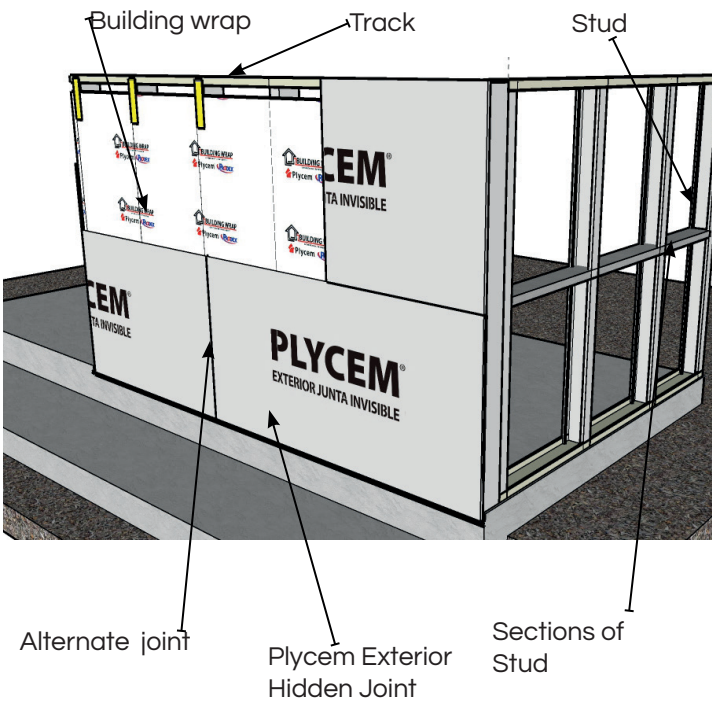


d= 406 ó 610 mm máx.



Plycempanels horizontally

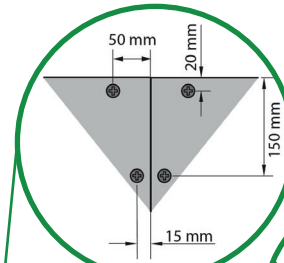
The horizontal support elements must be placed on all joints between boards.



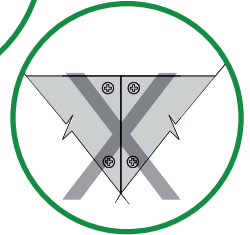
Note: The moisture barrier (Building wrap) is necessary in exterior walls. It is recommended to use it in wet areas without ceramic tiles.

FASTENING

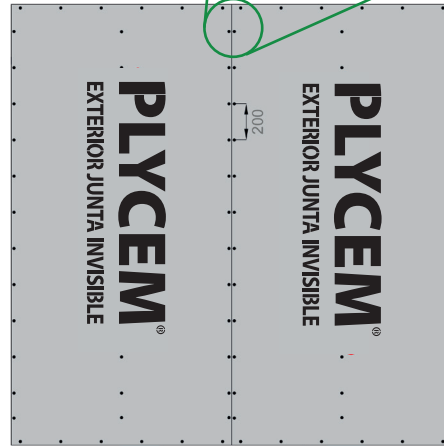
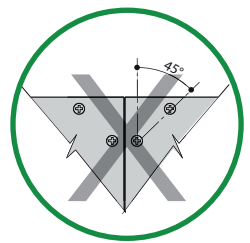
Correct corner fastening



Wrong fastening



Wrong fastening



JOINT AND FINISHING TREATMENT

Use Plycem ULTRA 510 joint compound which is for interior or exterior use and comes ready to apply to all joints between Plycem boards. Do not add water or additives.

Joint compound characteristics:

- Interior or exterior use.
- Applied directly to surfaces, it does not require adding water, cement, or additives (ready to use).
- Easy to apply.
- It can be used as coating base for applying tiles, vinyl coatings, etc.
- This product is flexible, has great plasticity, high adhesion and resistance.
- It dries quickly.

Application process: Boarding, jointing and finishing

1- Installation of the board for interior and exterior walls.



Place the boards on the structure with butt joints.

2- Joint treatment

Step 1: Preparation of mortar

Mix the joint compound well with a mixer until it is homogeneous.

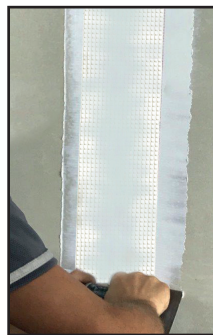


Step 2: If there is any space between boards, fill it with polyurethane sealant or with Plycem ULTRA 510.

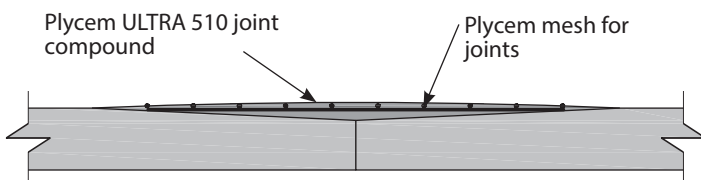


Step 3: Apply a first coat of mortar on the entire area of the joints by using a 15 cm trowel. Fasten the joint mesh of 15cm with the fresh compound- by centering it on the joint. Reapply the mortar over the joint, covering the mesh well in its entire width. Avoid leaving excess of the mortar on the mesh.

Let it dry fully. Letting it dry from a day for another is recommended.



Joint treatment



3- Surface coating

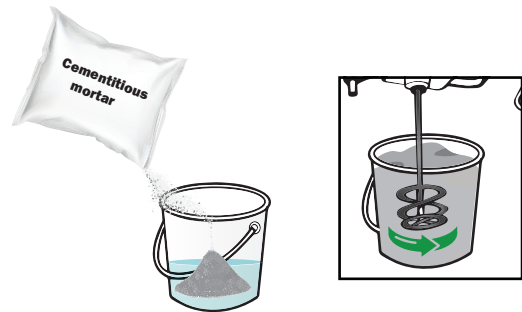
Using basecoat Plycem ULTRA 520 (textured finish) or Plycem ULTRA 560 (smooth texture) for indoors or outdoors.

3-1 Single Family Building

If the building is a single-family building up to two stories or 10 m high, use the 25 cm wide reinforcing mesh over the joint area.

Prepare Plycem ULTRA 520 by adding the contents of the 25 kg bag to 6-6.5 liters of clean water. Mix with a mixer until a homogeneous mixture without lumps. Let stand for 5 minutes.

In the case of using Plycem ULTRA 560, the mixture should contain 10 liters of clean water per 25 kg bag. Mix well and uniformly without lumps and let stand for 5 minutes.

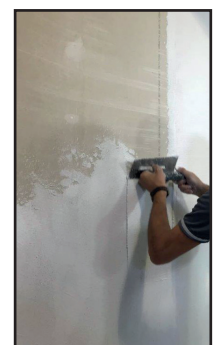


Before applying the mortar on the surface of the Plycem it is important to spray clean water on the surface without saturating the board. This ensures greater workability of the mortar paste on the fiber-cement surface.



Place a layer of cementitious mortar on the mesh and on the total surface of the wall securing the level in the joint mainly.

It is recommended to use a wide trowel for this joint leveling. Allow the coating mortar to dry thoroughly.



Step 2: Apply a second coat of cementitious mortar over the entire surface ensuring level. Before, remove any particles with the trowel. It is important to spray the surface with a sprinkler, prior to each coat, without saturating the boards.



Step 3: You can apply a third coat if necessary and then smooth the surface with a rubber trowel or apply a smooth coating.

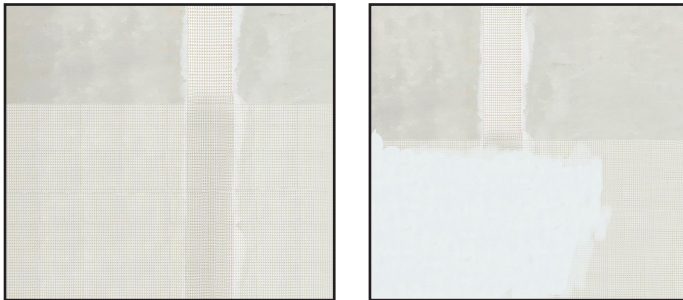
Note:

- The use of the reinforcing mesh, embedded in the first coat, increases the tensile and flexural strength of the cementitious mortar (base coat).
- To level or fill the surface, it is recommended to use Plycem ULTRA 520 as a base coat and then, if smoothing is required, use Plycem ULTRA 560.

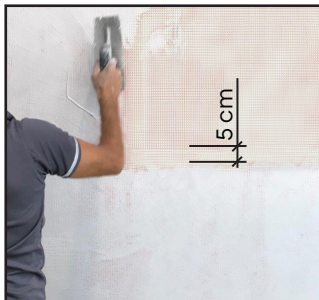
3-2 Commercial or Institutional Building

In commercial or high-rise buildings taller than 10m, use reinforcing mesh of at least 1m wide over the entire surface.

Step 1: Place and hold the 100 cm feet wide reinforcing mesh on the entire surface, and apply the first coat of cement mortar Plycem ULTRA 520. Leave a 5 cm overlap for this mesh.



Step 2: Cover the entire mesh. Let the mortar layer dry thoroughly.



Step 3: Apply a second layer of cementitious mortar to the entire wall surface ensuring that the mesh has been completely covered. Before starting, remove any residue with the trowel. It is suggested spraying the surface with water, before each layer, without saturating the boards.



Step 4: You may apply a third coat if it is required.

3-3 Finishing

After applying the last coat, let it dry for a moment and proceed to finish the coating with a rubber trowel in the case of Plycem ULTRA 520 .



If an smooth wall texture finish is required apply thin layers of the Plycem ULTRA 560 and sand it down with 120-200 sandpaper. Then paint it with 100% acrylic paint. Any surface differences can be eliminated by applying thin coats of this mortar.

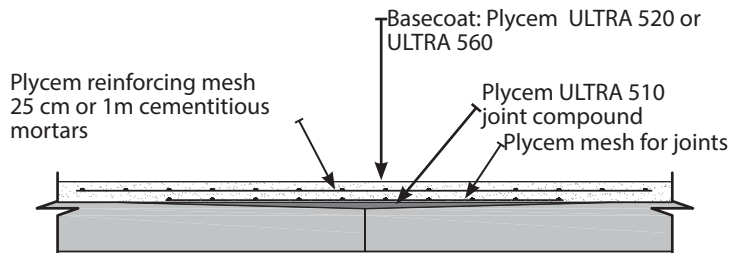
Note: A maximum layer thickness of 1.5mm is suggested for cementitious mortars.

It is suggested to cure the wall with water, using a manual sprinkler, from 3 to 5 days.

Plycem ULTRA 520

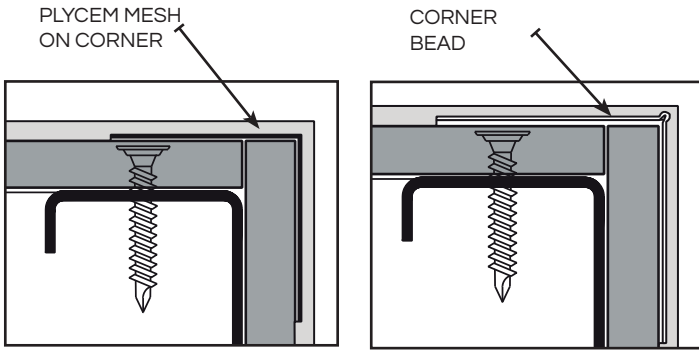


Plycem ULTRA 560



BORDER DETAILS

On the outer corners, wall edges, window and door edges, finish the joint by using Plycem mesh or plastic dry wall corner bead.

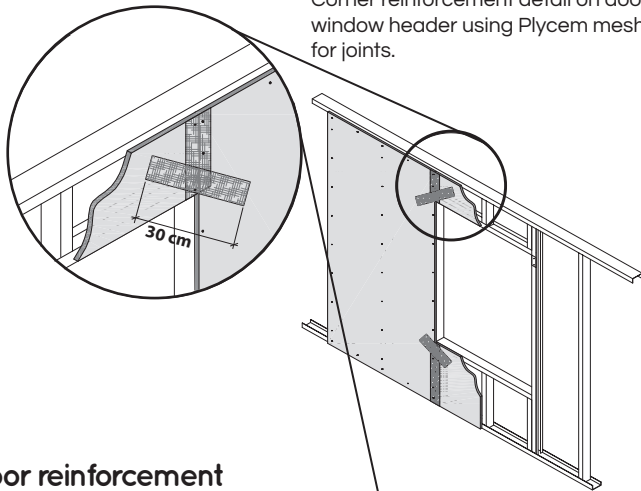


Note: The mesh should be adhered with Plycem ULTRA 510 joint compound on one side (first step). Let it dry and then adhere the another side. The corner bead is adhered with contact cement, or you may use the same Plycem ULTRA 510 (do not use screws)

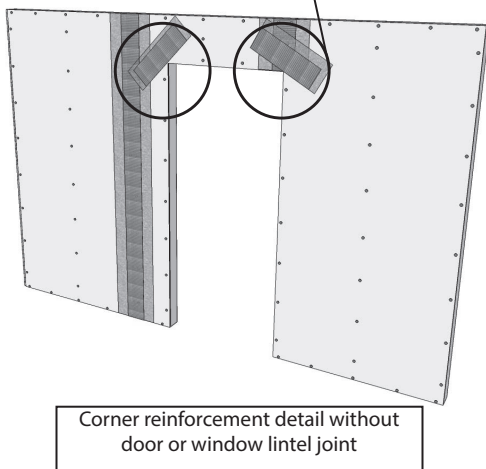
HEADER OR JOINT REINFORCEMENT DETAIL

Window reinforcement

Corner reinforcement detail on door or window header using Plycem mesh for joints.

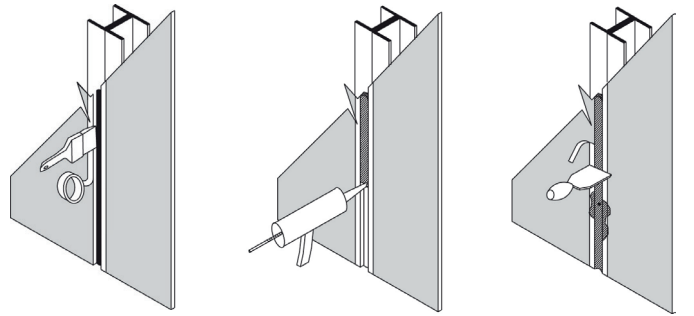


Door reinforcement



Place flexible control joints every 7.32 m horizontally (6 boards of 1.22 m) in long walls and every 4.88 m ,maximum, vertically in high walls. Also locate flexible joints at joints with concrete walls, columns, beams or floor (construction joints).

CONTROL JOINTS: Indoors



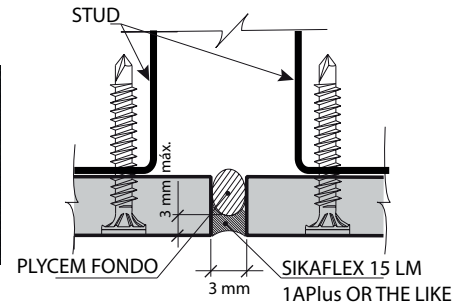
Remove dust from the joint. Place the adhesive tape on both sides of the joint, and place the Plycem fondo 6 mm diameter or backer rod.

Apply Sikaflex 15 LM polyurethane sealant, Poliflex or the like.

Use a putty knife. Hand smooth with soap and water. Remove the adhesive tape.



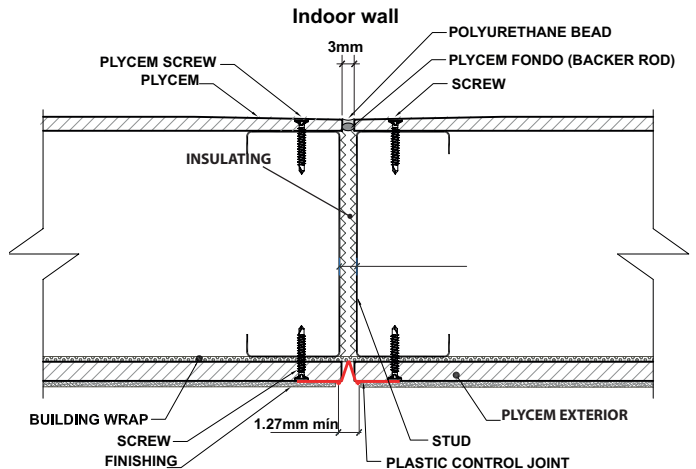
PLYCEM FONDO (BACKER ROD)



Note: A PVC plastic cover joint can also be used.

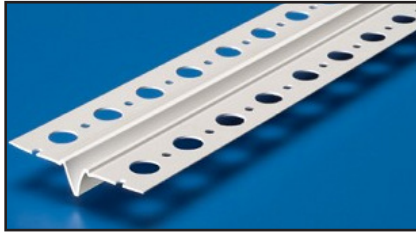
CONTROL JOINTS: Outdoors or indoors

Details of type "V" control joint



Outdoor, indoor wall

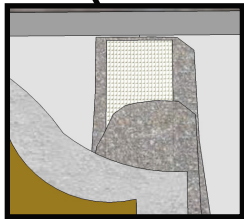
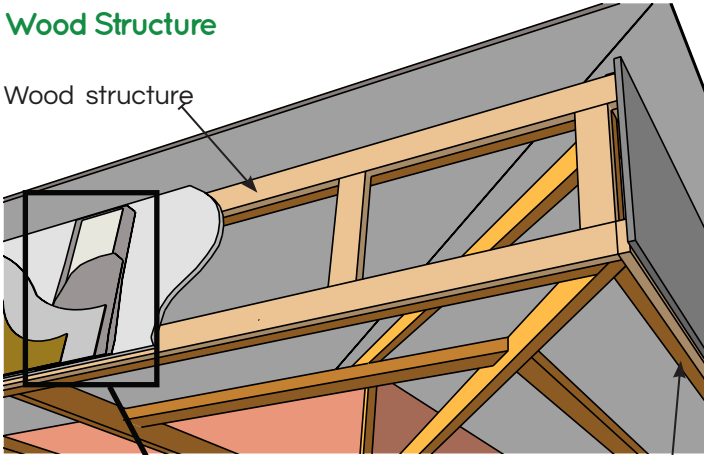
Type V Plastic Control Joint



FASCIAS INSTALLATION

Wood Structure

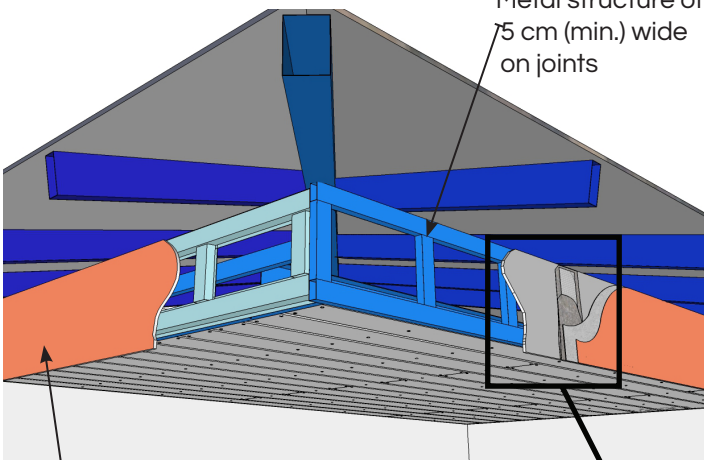
Wood structure



Plycem fascia
See details of joints and finishing in this manual.

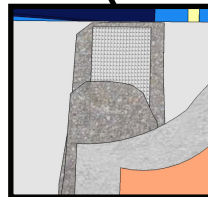
Structure on metal

Metal structure of 75 cm (min.) wide on joints

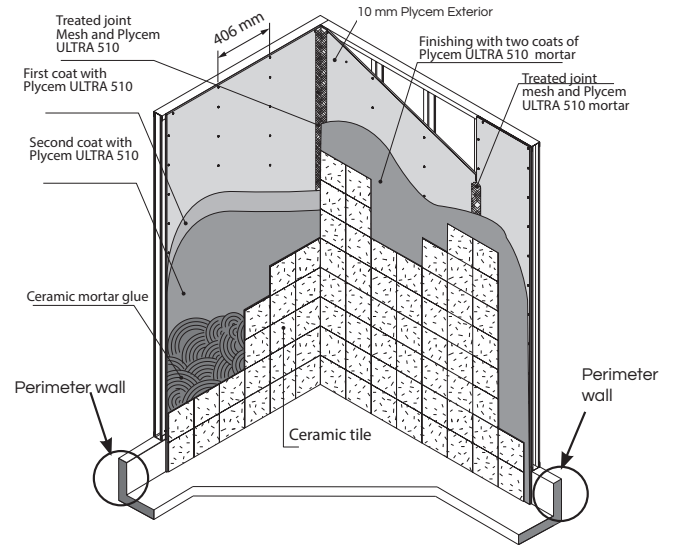


Plycem fascia

See details of joints and finishing in this manual.
Note: Always use basecoat with reinforcing mesh for finishing on fascias.

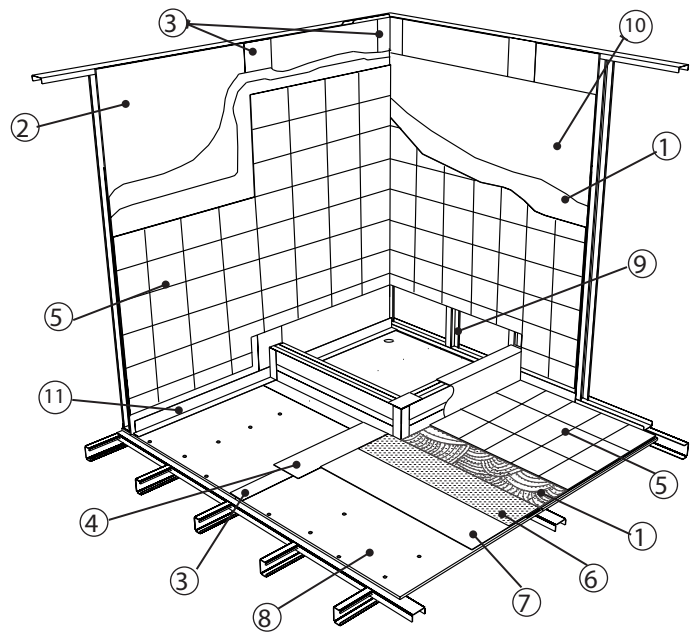


PLACEMENT OF CERAMIC FINISHES WITH PLYCEM EXTERIOR HIDDEN JOINT 10mm



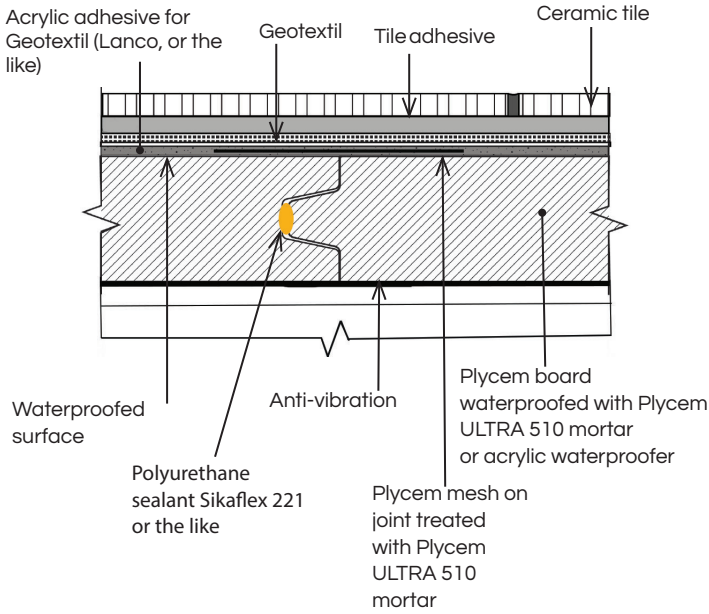
IN WET AREAS SUCH AS BATHROOMS, KITCHENS AND HIGH TRAFFIC AREAS, USE STRUCTURE EVERY 406 mm AND 10 mm PLYCEM DO NOT WET CERAMIC TILES

WALL (LIGHT) IN WET AREAS(BATHROOMS)
(on concrete floor)

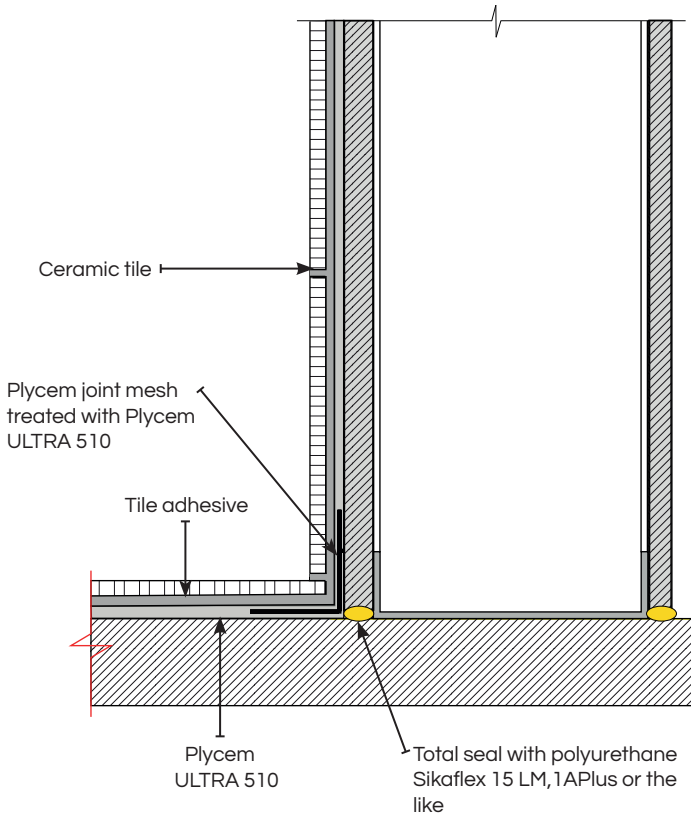


- ① Tile adhesive.
- ② Plycem 10mm min.
- ③ Plycem joint mesh with Plycem ULTRA 510
- ④ Mesh and Plycem ULTRA 510 mortar on joint.
- ⑤ Ceramic tile.
- ⑥ Geotextile.
- ⑦ Acrylic glue for geotextile (Lanco, or the like)
- ⑧ Plycem board waterproofed with Plycem ULTRA 510 joint compound or acrylic waterproofer
- ⑨ Vertical stud at 406mm
- ⑩ Plycem ULTRA 510 joint compound
- ⑪ Mesh on corner with Plycem ULTRA 510

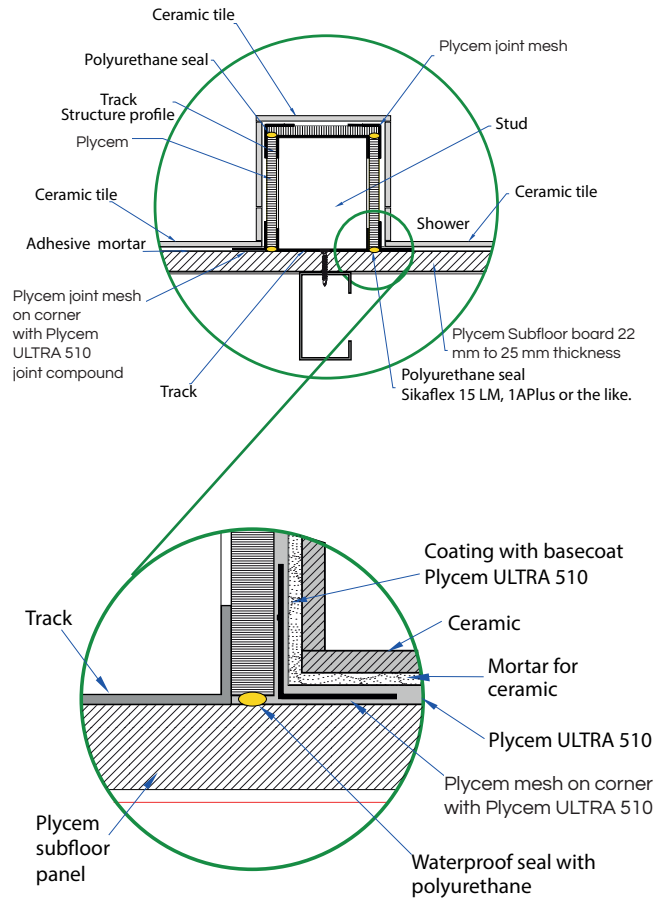
FLOOR JOINT TREATMENT



WALL SEAL

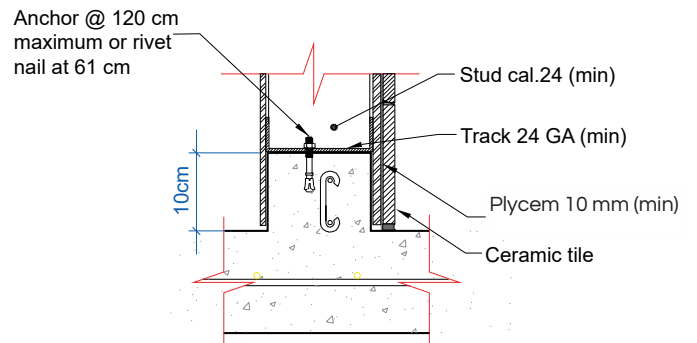


WALL AND LIGHT WALL SEAL



Note: The joint seal on the Plycem Subfloor boards must be total. It is suggested to run waterproof tests before installing the ceramic tile.

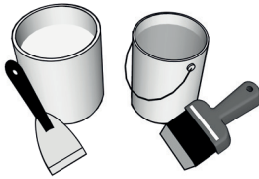
PERIMETER WALL OF THE WET AREA (on concrete floor)



NOTE: THE CONCRETE WALL WIDTH WILL DEPEND ON THE WIDTH OF THE TRACK TO BE USED.

PAINT

To finish the Plycem Exterior system, use a 100% high quality acrylic latex paint or coating and always follow the manufacturer's instructions. To ensure maximum product performance, first apply a 100% latex and paint to all areas that have been cut.



PLYROCK SYSTEM COVERAGE

MATERIAL	UNIT	COVERAGE*
Plycem ULTRA510 joint compound (paste)	5kg bucket (11 lb)	18 to 22 ml
	25kg bucket (55 lb)	90 to 110ml
Plycem ULTRA560 Surface Mortar Smooth finishing	25kg bag (55 lb)	25 - 28 m ²
Plycem ULTRA520 Surface Mortar Textured Finishing	25kg bag (55 lb)	13-18 m ²
Reinforcing mesh for cement mortar 25cm wide	45 m /unit	55 m ² /unit
Reinforcing mesh for cement mortar 1m wide	45 m /unit	from 40 to 43 m ² /unit
Plycem Exterior Boards	1.22x2.44m	2.97 m ² / panel
	1.22x3.05m	3.72 m ² / panel
Plycem Mesh for joints	45 m / unit	55 m ² / unit
**PH8-125 screw	Plycem h=2.44m	48 units / panel
	Plycem h = 3.05m	57 units / panel
Building Wrap	1.22x35m	39.2 m ² / unit

**Number of screws considering structure at 61 cm.

* Coverage of surface mortars with two coats.

STRUCTURE COVERAGE

MATERIAL	WALL HEIGHT	COVERAGE
Stud	2.44 m high at 40.5cm	0.108 un. / m ²
Stud	3.05 m high at 40.5cm	0.86 un. / m ²
Stud	2.44 m high at 61 cm	0.71 un. / m ²
Stud	30.5 high at 61 cm	0.56 un. / m ²
Track	2.44 m high	0.135 un. / m ²
Track	3.05 m high	0.108 un. / m ²
LH 8050 screw	units	4 un / Stud

NOTE:

Coverage indicated for Plycem ULTRA 510 mortar for joints are due to a linear application. Cement mortars consider two coats with a 15mm thickness per coat-maximum and consider optimum application and surface conditions.

These coverage values may vary depending on the application method, because the labor and due the finishing level required. These are estimates and do not replace those calculated in a detailed budget.

Plycem Exterior product warranties will apply if the recommendations for use, handling and installation corresponding to each product or system are followed. Any misuse or improper use will invalidate the warranty.

This product is manufactured for outdoor and indoor uses (Category A, Class 1) in accordance to the INTE/ISO 8336:2018 standard.

TOLERANCE (mm)			APPARENT DENSITY
LENGTH	WIDTH	THICKNESS	
± 2	± 2	± 0.6	1.15 g/cm ³

Recommendations and instructions given in this manual are an adequate guide for using and handling the product. This guide does not replace the responsibility of the responsible engineer, the structural engineer, or the supervisor of each project where the product is used. For projects where special measures or conditions are requested, the product will fit the plans and the design provided by the client, assigned constructor, or engineer. Installation instructions provided by the client will apply. PLYCEM does not assume any responsibility for misuse of the product, incorrect handling, or use of materials different from the complementary materials recommended. PLYCEM does not help in the installation and management of the structural design. Therefore, this manual does not represent a co-responsibility in this regards, and its responsibility will be exclusively limited to the material.



Find us in:

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/Experto Plycem

Manufactured by:

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PLYCEM Construsistemas El Salvador S.A.

