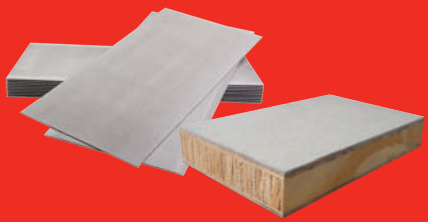
Guidebook for Remodeling

WITH WATERPROOF FLAT SHEETS AND MASTERBOARD



BRASILIT
SAINT-GOBAIN

Storage

The plates and boards should be stored in a dry and sheltered place, following these instructions:

- Stock the products horizontally, on flat ground, on wooden shims leveled and spaced at a maximum of 0.40 m (plates) and 0.80 m (boards);
- Provide support with a length equal to the width of the plates and the boards;
- Keep the alignment of the material into the pile, avoiding leftovers or sharp ends that could produce deformations;
- Check the load capacity of the floor before laying down the material;
- Stack the products in piles of up to 2 m high;
- If it is necessary to store the products outdoors subject to hard weather (not recommended), use a plastic canvas to cover the product, including the base.

Transport

The best option is to use a forklift. Where it is not possible, manual transport should be made by two men with the boards on the vertical.

When the products are carried by forklifts or cranes, the cradles should be composed in accordance with the thickness of the product.

Brasilit Waterproof Flat Sheets:

- 70 plates of 6 mm;
- 50 plates of 8 mm;
- 40 plates of 10 mm;
- 30 plates of 12 mm.

Brasilit Masterboard Panels:

- 40 panels of 14 mm;
- 25 panels of 23 mm;
- 15 panels of 40 mm.

Initial recommendation

It is essential to ask for advice of a qualified professional in the construction industry to design any kind of remodeling or construction, especially those of structural nature. All of the quantitative presented in this material are for demonstration effect and may vary according to the project.

Façade with conventional metallic structure

Use

Closure of shopping mall façades, warehouses and stores, among others. Overlay of existing fire resistant façades, walls and ducts.

Note

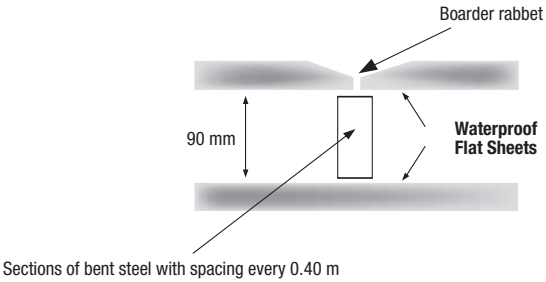
The supporting metallic structure must meet the structural calculation and keep the maximum spacing of 0.40 m between the headers to fasten the **Waterproof Flat Sheets**.

Consumption

Estimate per m² of façade, for spacing of 0.40 m between sections and plates on one side of the structure.

Horizontal cut

Waterproof Flat Sheets - 10 or 12 mm	1.05 m²
Brasilit Self-drilling Screw with Wings	15 pieces
Material of joint: see treatment for joints and plates (p. 14)	



External closing in steel framing

Wall closing with **Galvanized Steel Structural Sections** for steel framing (thickness of the steel from 0.80 mm).

Use

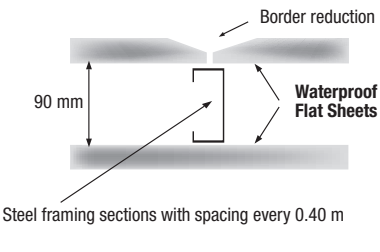
Residential and commercial constructions, building roofs, façades, fire protection and remodeling in general.

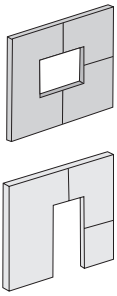
Consumption

Estimate per m² of wall, for spacing of 0.40 m between headers and plates on the outside of the structure (on the inside, flat sheets or drywall sheets could be used).

Waterproof Flat Sheets - 10 or 12 mm	1.05 m²
Brasilit U 90 estructural Guide	0.80 m
Brasilit structural U 90 Header	3.00 m
Steel Pins/Anchor bolt	1 p.
Screws LB 13	8 p.
Brasilit Self-drilling Screws with Wings	15 p.
BrasiMassa	0.56 kg
FibroTape fabric 5 cm	1.40 m
FibroTape fabric 10 cm	1.40 m

Horizontal cut





Note

In doorways or windows, the joints should not coincide with the alignments of the frame or the lintel.

External closing in wood framing

Wall closing with sections made of plantation wood (pine) dried and treated with assured resistance to fungi and termites.

Use

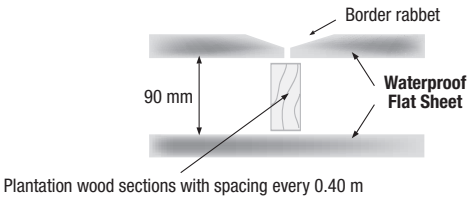
Residential buildings (houses and townhouses), closing for building roofs, remodeling in general and commercial constructions.

Consumption

Estimate per m² of wall, for spacing of 0.40 m between headers and plates on the outside of the structure with thickness of 10 or 12 mm and, on the inside, plates with thickness of 8 mm.

Waterproof Flat Sheets - 10 or 12 mm	1.05 m²
Waterproof Flat Sheets - 8 mm	1.05 m²
Guide 2" x 4"	0.80 m
Header 2" x 4"	3.00 m
Anchor bolts	1 piece
Zinc-coated ardox nail 19 x 36	5 pieces
Zinc-coated ringed nail 15 x 15 (plates fastening)	30 pieces
BrasiMassa	1.12 kg
FibroTape fabric 5 cm	2.80 m
FibroTape fabric 10 cm	2.80 m

Horizontal cut



Closing of inner walls in wettable areas

Use

Bathroom, service area, kitchens and saunas.

Suggestions

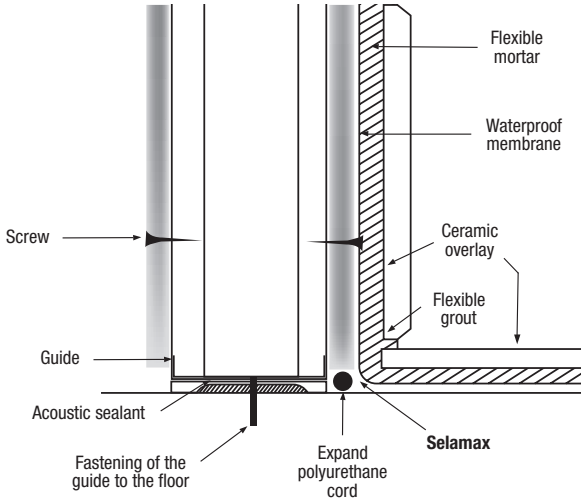
- Use **Galvanized Steel Structural Sections** for steel framing (thickness of the sheet from 0.80 mm);
- Treatment of the wall bottom with the waterproofing used on the room floor, going at least 20 cm on the wall;
- For ceramic sheets, porcelain and similar materials with flexible mortar on the **Waterproof Flat Sheets**, a choppy roughcast must be used all over the plate to increase the mechanical adherence.

Consumption

Estimate per m² of wall, maximum spacing of 0.40 m between headers and plates on one side of the structure.

Waterproof Flat Sheets - 10 or 12 mm	1.05 m²
Brasilit U 90 structural Guide	0.80 m
Brasilit U 90 structural Header	3.00 m
Screws LB 13	5 p.
Brasilit Self-drilling screws with wings	15 p.
BrasiMassa	0.56 kg
FibroTape fabric 5 cm	1.40 m
FibroTape fabric 10 cm	1.40 m

Vertical section



Closing of internal walls with drywall sections

Drywall closing (non-structural) for internal walls with maximum upright of 3 m.

Use

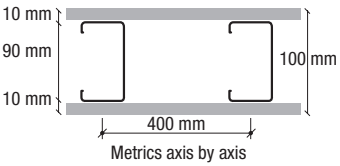
Non-structural internal walls of buildings or large circulation areas that need better mechanical strength. For wettable areas or subject to high temperatures, steel framing sections should be used.

Consumption

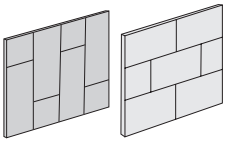
Estimate per m² of wall, for maximum spacing between headers of 0.40 m, and plates on both sides of the structure.

Waterproof Flat Sheets - 8 or 10 mm	2.10 m²
Guide U 90	0.80 m
Header 90	3.00 m
Steel anchobolt	1 piece
Screws LB 9 mm	5 pieces
Brasilit Self-drilling Screw without Wings	30 pieces
BrasiMassa	1.12 kg
FibroTape fabric 5 cm	2.80 m
FibroTape fabric 10 cm	2.80 m

Horizontal cut



Metrics axis by axis


Note: Preferably do not match together.

Dry slab on existing masonry walls or steel framing walls

The dry slabs that use **Masterboards** over **Galvanized Steel Structural Sections** (steel framing) replace the precast concrete slabs with a higher speed execution, no dirt or debris, and no supporting, besides allowing the finish to be made right after the execution - no need to wait when compared to the execution of the concrete slab, which takes 28 days.

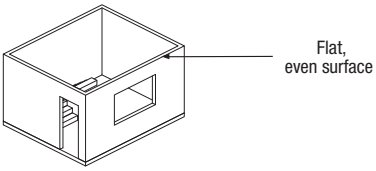
Suggestions

- When installing the product over existing walls, with the help of a qualified professional, make sure that they are resistant enough to hold the load to be added by the new system (slab, extensions, roofs etc);
- At the top of the walls, place a wood or steel binding belt to fasten the sections, sized to receive the loads of the new floor and transfer them

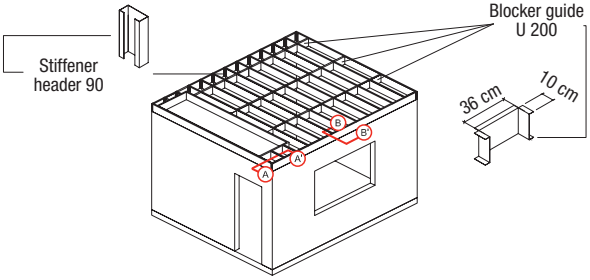
to the walls;

- Over load of 150 kg/m² (residential use);
- Monitoring of a construction professional.

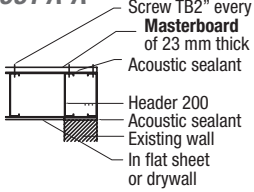
Existing walls



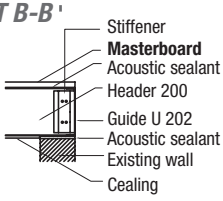
Subfloor with Masterboard panels



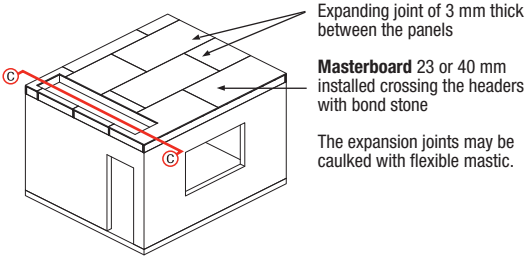
CUT A-A'



CUT B-B'



Structure of the dry slab

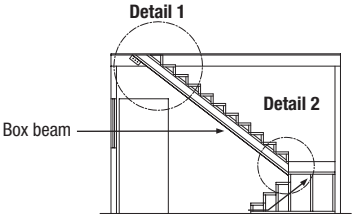


Suggestion

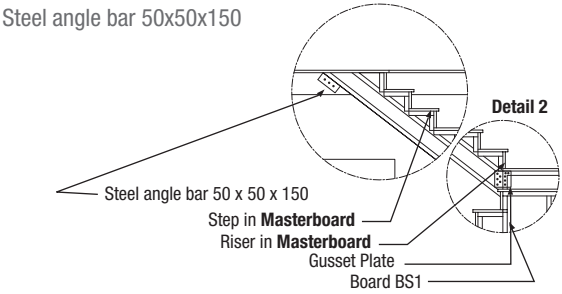
- Install the subfloor of coarse sand and cement 1:3 on the panels, with a reinforcement cloth grid 10, fiber φ1/8", thickness from 4 to 5 mm.

Walls with steel framing sections and Brasilit Waterproof Flat Sheets

Cut C-C'

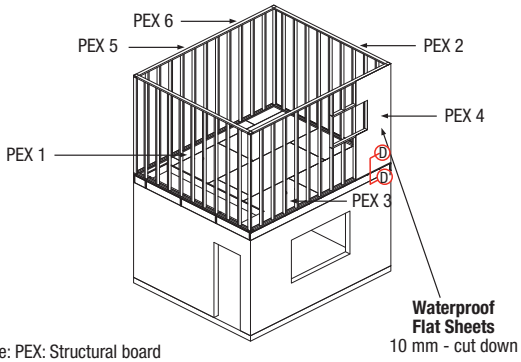


BS2 - Board of the stairs



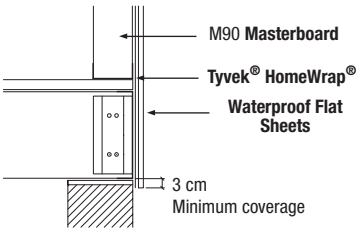
Simplified perspective

(for details, follow the panels scheme.)



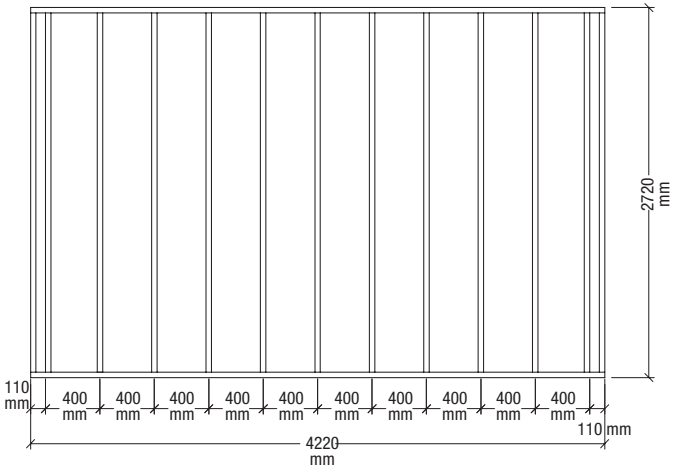
Note: PEX: Structural board

Cut D-D'

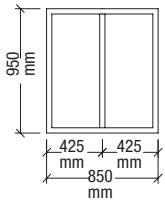


Scheme of the panels

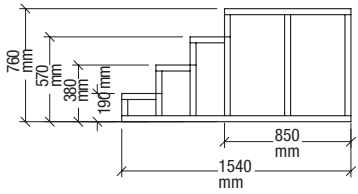
PEX 1 / PEX 2



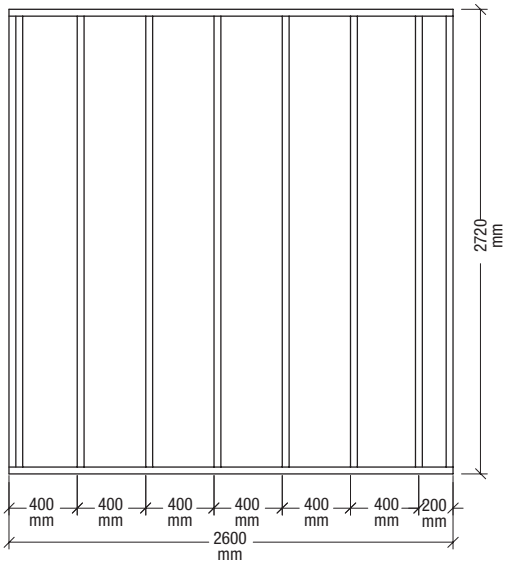
PE 1 (2 pieces)

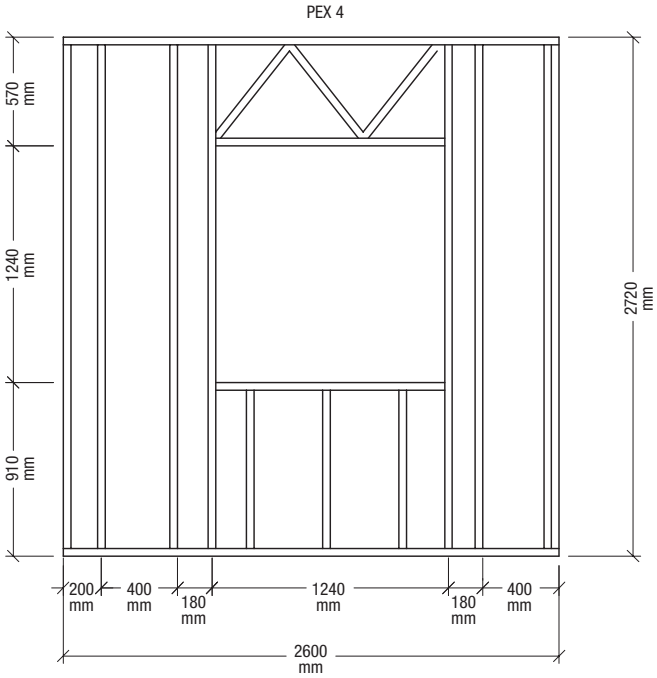


PE 2 (2 pieces)



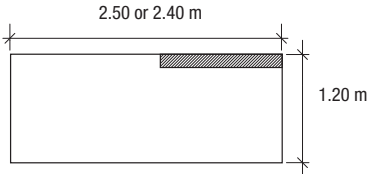
PEX 3 / PEX 5 / PEX 6





*Stairs with **Masterboard** and steel framing*

It is easy to build stairs of several shapes using **Masterboard** 23 or 40 mm on the floor, riser and structural sections for steel framing. There are three methods:



Note: In all of the cases, the step in **Masterboard** should be cut longitudinally.

1 - Structure with panels - Use **Masterboard** 40 mm

Using lower and upper guide of 92 mm and vertical headers of 90 mm. The steps are defined by the folded guide.

Fastened on the floor with screw and bushing, steel bolt or parabolt each 0.50 m. The number of steps depends on the distance between the finished downstairs and upstairs. The standard height of each step is 17 cm (170 mm), and there may be some adjustment for more or less to complete the number of steps.

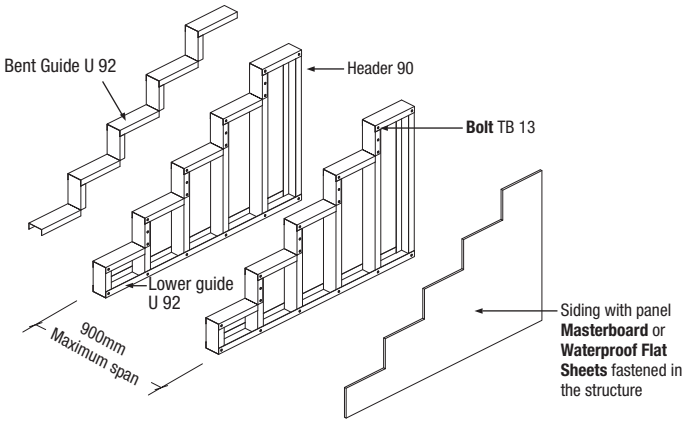
Consult a qualified professional.

Masterboard underfloor

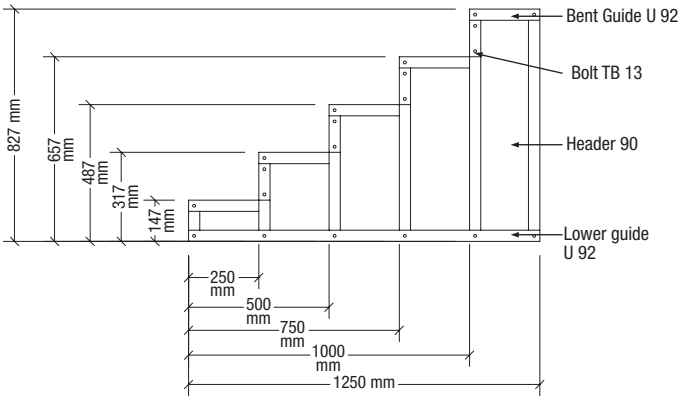
Masterboard parts for the floor and the riser are cut 2 cm (20 mm) bigger in length, considering the siding. They are fastened with four **Bolts** type TB 2" in the structure and two (2) other between the floor and the riser.

Both on the floor and the riser, finishes like floor paint, wood or ceramics can be used.

Note: in case ceramics or other cold finishes are used, apply choppy roughcast for better adherence of the gluing mortar type ACII.



Structure with panels



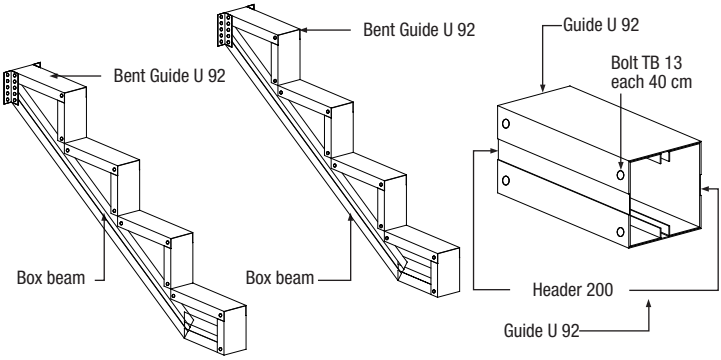
Scheme of the panel

2 - Structure with box beam - Use **Masterboard** 40 mm

Indicated for open stairways the area under which may be used.

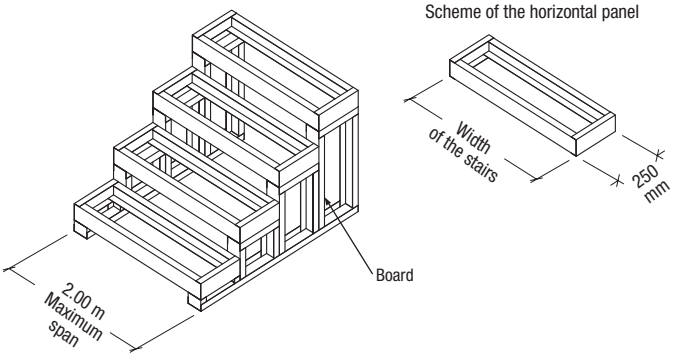
The bent guide is fastened on the box beam, which will form the steps.

A covering with **Waterproof Flat Sheets** could be applied on the lower part of the beams and the sides. A lining can also be applied between the box beams. For underfloor with **Masterboard**, follow the suggestions of the first method.

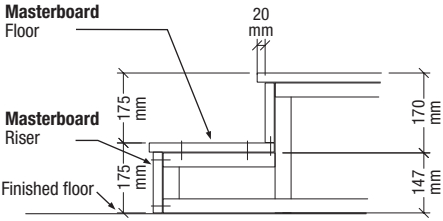


3 - Structure with boards and horizontal panels

Indicated for larger spans on the width of the stairs. For underfloor with **Masterboard**, follow the recommendations of the first method.



Fastening with **Bolt** TB 1 ½"



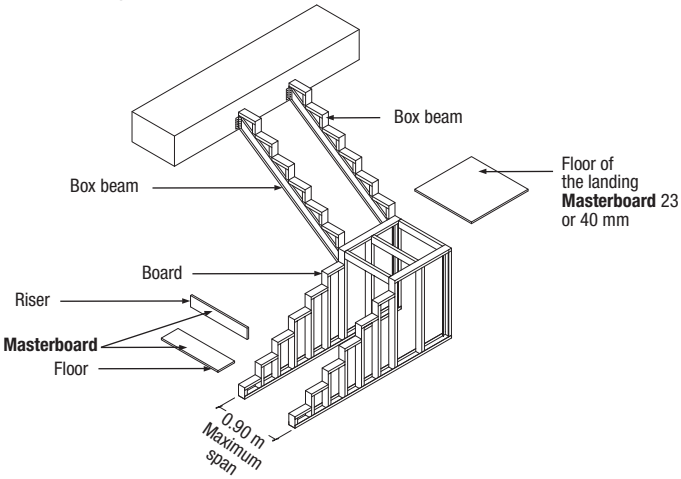
The height of the first step's structure is = 14.7 cm (147 mm).

For the other steps, the height will always be 17 cm (170 mm).

In case there is some finishing over the **Masterboard**, its thickness should be discounted on the height of the structure of the first step.

4 - Stair landing

Used to change direction of the stairs or to create a rest area.



Suggestion

• Monitoring of a construction professional.

Guide to build shed

As an example, a shed project has been developed involving external walls, internal walls, roof and lining with a better use of the materials, with no loss, and execution estimative to be 7 days.

Characteristics of the construction

- Built area (3 m x 6 m = 18 m²);
- Construction leaning against a back wall;
- Annexes: service area, bedroom and bathroom;
- Radier type foundation (it must be designed by an qualified professional): the underfloor on the existing ground with 10 cm height perfectly leveled with the exact dimensions of 3 m in length and 6 m wide and square ready to receive the finish;
- Roof: in a pitch with **Brasilit Ondulada** sheet roofing;
- Inner upright with finish lining = 2.37 m;
- Walls with structure in steel framing covered in and out with **Brasilit Waterproof Flat Sheets**;
- Tyvek moisture barrier **Tyvek® HomeWrap®**;
- Lining in **Waterproof Flat Sheets**.

Suggestion

• The execution should be followed by a qualified professional, as well as the specifications of the materials related to electricity, hydraulic and sewage facilities.

Moisture protection

On the exterior walls, a barrier against moisture and an eventual formation of internal condensation should be used with **Tyvek® HomeWrap®** on the external side of the wall before fastening the **Waterproof Flat Sheets**.

The feet of the walls in the wetlands should be treated with waterproof material to prevent moisture by capillary infiltration or water beneath the wall.

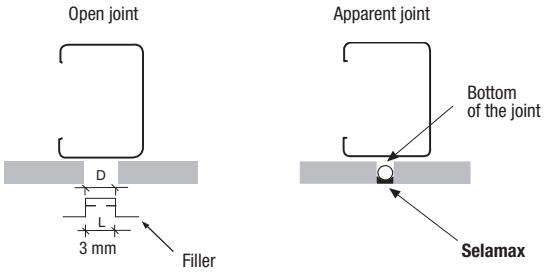
Settle the lower guides on an asphalt wrap.

Acoustic and thermal insulation

The walls and ceilings provide a good thermal and acoustic insulation, however, for a greater insulation, glass wool* can be used between the closings and on the ceiling.

* Access the website www.isover.com.br to check products for insulation.

Treatment of the joints



Note

When used outdoors, some care must be taken to prevent water entry, by using special tapes.

Suggestion

- Minimum spacing between the plates of 3 mm.

Treatment of invisible joints

With **BrasiMassa** and **FibroTape** for **Waterproof Flat Sheets** of 8, 10 and 12 mm with cut-down corners.

Installation

1. The surface of the border reduction must be clean and free of dust;
2. Apply one coat of **BrasiMassa** with at least 8 cm wide on the joint, **without filling the gap**, removing the mass from the inside of the joint with a spatula;
3. Apply the glass fiber net **FibroTape** of 5 cm on the mass, and with a straightener, smooth it in a way that the net penetrates the mass and is perfectly stretched, with no wrinkles and centered on the axis of the joint and cover the tape completely with **BrasiMassa**. Wait 6 hours;
4. Apply a new layer of **BrasiMassa** across the plate's width of the border reduction;
5. Apply the glass fiber net **FibroTape** of 10 cm on the mass, and with a straightener, smooth it in a way that the net penetrates the mass and is perfectly stretched, with no wrinkles and centered on the axis of the joint, and keep a layer of **BrasiMassa** between them;
6. Finish by applying a new layer of **BrasiMassa**, covering the whole fiber glass net **FibroTape** of 10 cm;
7. Wait 24 to 48 hours for the cure of the system, which will go through a decrease due to loss of water. Finally, complete the leveling of the joint with a new layer of **BrasiMassa**.

Final suggestions

- Do not use masking tape or any other device to demarcates the joint region: **BrasiMassa** should be applied in the whole area of the border reduction and surroundings, be ing leveled;
- When the system is exposed to bad weather, the surface finish (mass making, texture or coating) must take no more than one week to be done. If not possible, apply one coat of acrylic paint on the area of the joint to protect the system.

Finishes

On the surface of the plates, any finish can be applied;

After the complete drying of the joints, sand properly to take over excess and burrs, before applying any finish;

The textured masses may be applied directly on the plates;

For more sophisticated finishes, before the paint, apply acrylic finishing coat, according to specifications of the manufacturer. (More indicated for indoors);

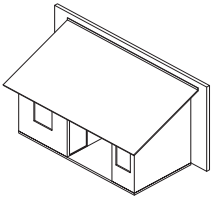
Before applying ceramic, sheets and other cold elements, apply choppy roughcast for better adherence of the finish;

Use additive mortar (type AC2 or AC3) to apply sheets, ceramic etc;

Use flexible grout;

For plastic laminate, use contact adhesive.

Scheme of shed with an area of 18 m² (design and execution should be done by qualified professionals)

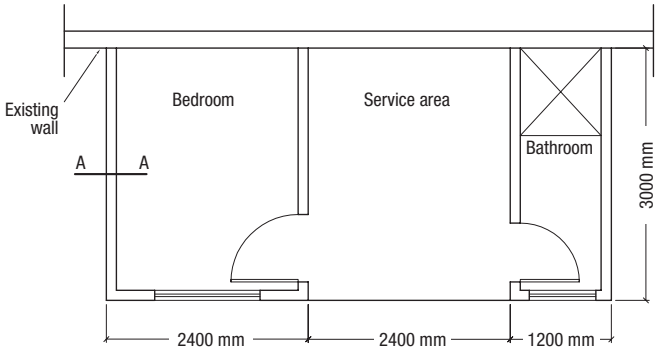


List of materials

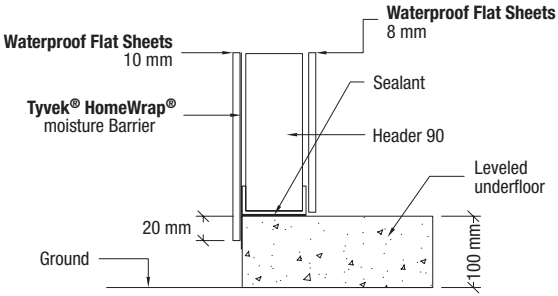
Specification	Quantity
Structure	
Steel framing section Guide U 92 **Brasilit**	45 m
Steel framing section header 90 **Brasilit**	175 m
Sheet section 15/40/40/15 for purlin of the roof	35 m
Sheet section 15/20 40/15 for ceiling belt	35 m
Drilled Angle Bar	12 m
Angle bar – fastening of the scissors 75 x 75 x 50 mm (1.5 mm thk)	30 pieces
Gusset Plate 20 x 20 mm (0.95 mm thickness)	60 pieces
Covering	
Brasilit Waterproof Flat Sheets - 10 mm thk 1.20 x 2.40 Cut-down end - For external closing	16 pieces
Brasilit Waterproof Flat Sheets - 8 mm thk 1.20 x 2.40 Cut-down edge – for inside closing	27 pieces
Ondulada Brasilit - 5 mm thickness (0.92 x 2.13)	16 pieces
Fastenings	
Zinc coated Bolt section/section 13 mm	1.200 pieces
Bolt for **Brasilit Waterproof Flat Sheets** (with wings)	1.850 pieces
Bolt for **Ondulada**	48 pieces
Wedge-bolt to fasten the boards on the floor	22 pieces
Bushing S 10 with Bolt and washer (fasten boards on the vertical)	28 pieces
Treatment of the joint	
FibroTape fabric 5 cm	175 m
FibroTape fabric 10 cm	175 m
Mass for flat sheet **BrasiMassa**	70 kg
Insulating	
Tyvek® HomeWrap® moisture barrier	40 m²
Acoustic Sealant	30 m
Brasilit Water Tank of 310 liters	1 piece

Estimates. **Brasilit** is not liable for the amount of materials.

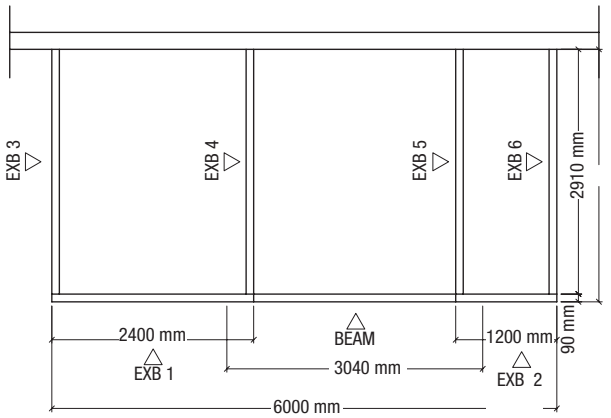
Floor plant



CUT A-A

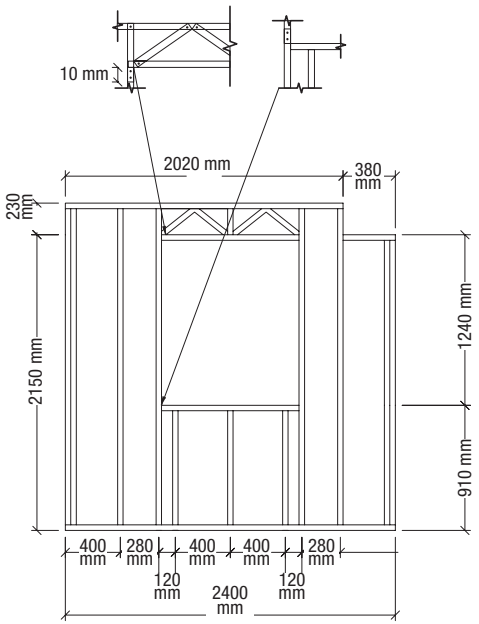


Form plant

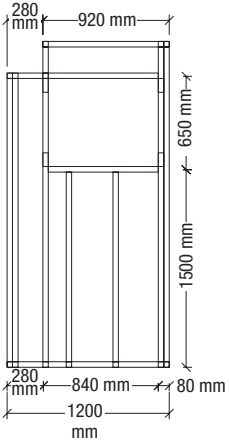


* EXB: Structural board

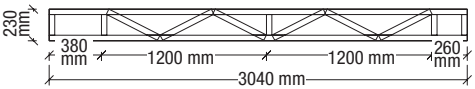
EXB 1



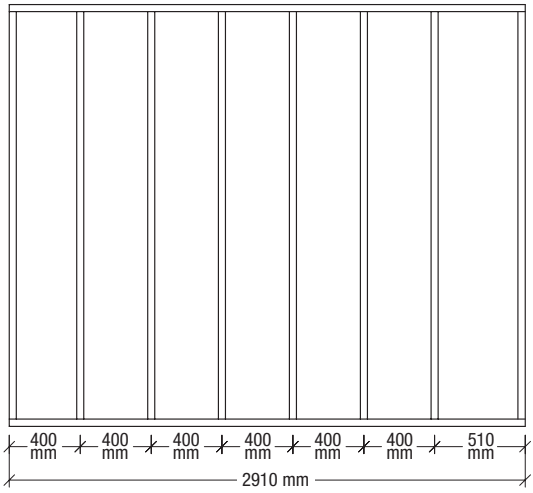
EXB 2



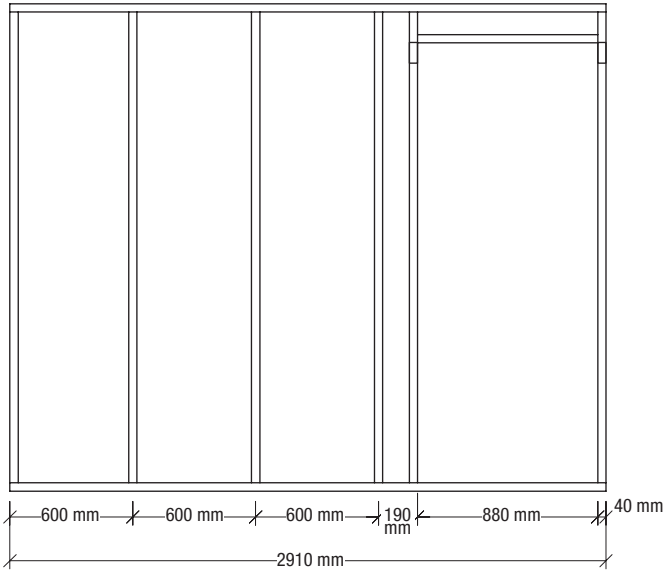
Beam



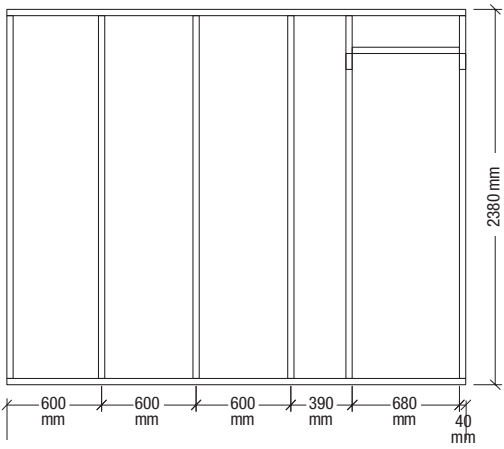
EXB 3 and 6



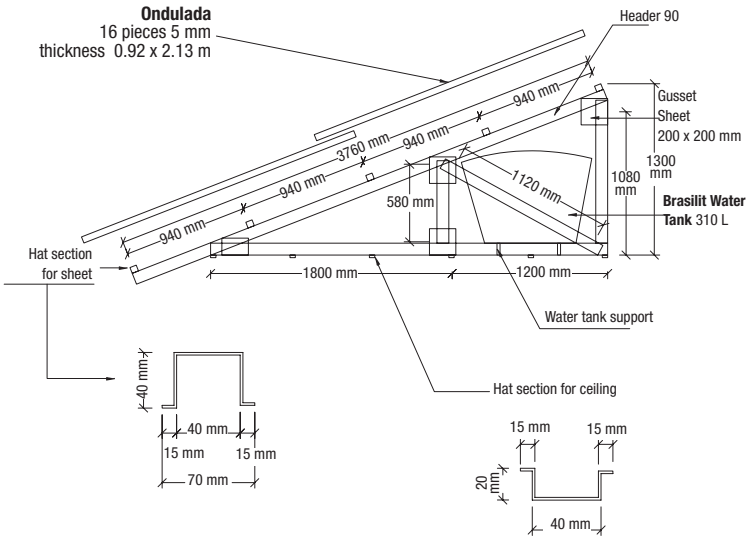
EXB 4



EXB 5

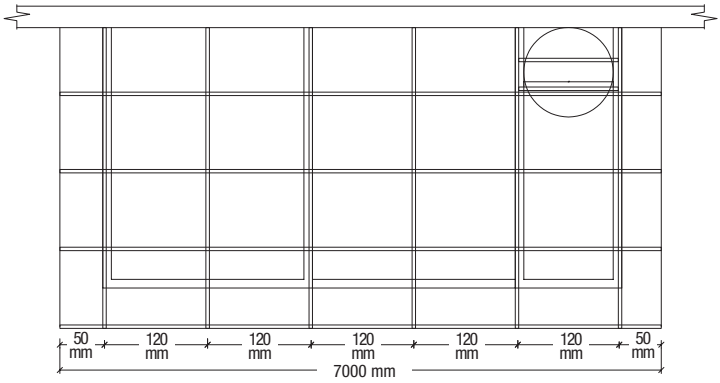


Scheme of scissors - 6 pieces



Note: The floor of the **Brasilit Water Tank** 310 L should have full support.

Scheme of the roof

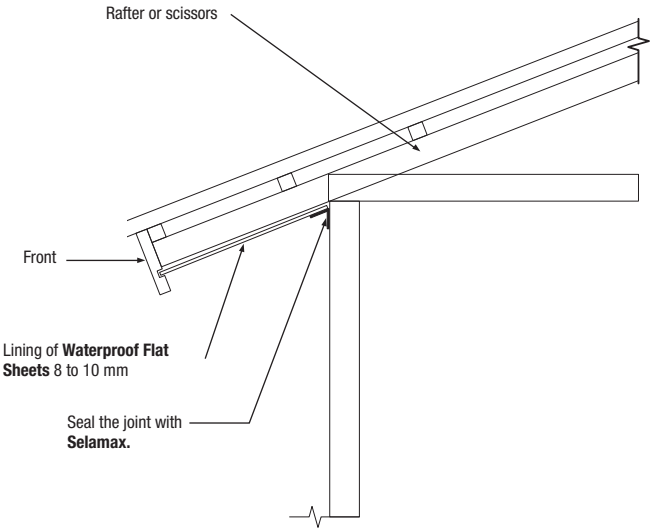


Platbands and eave

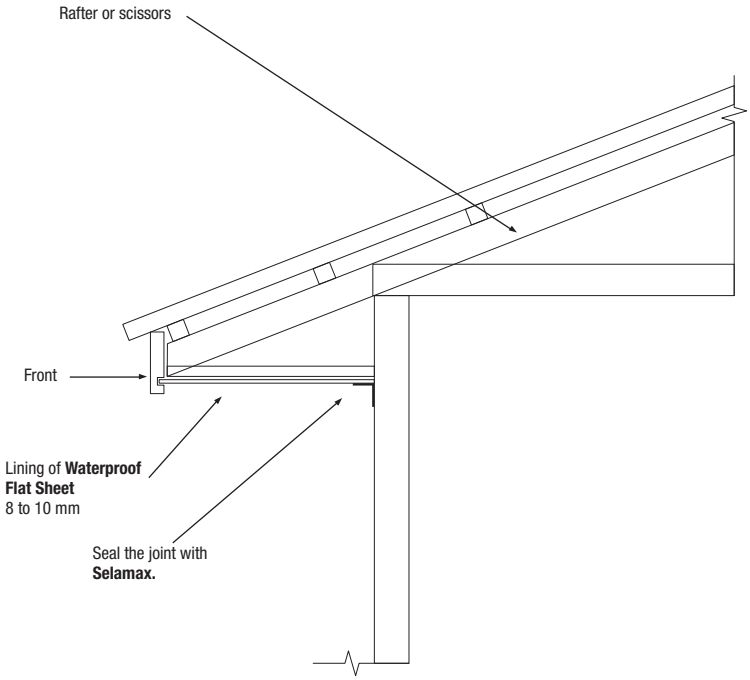
For the execution of the platbands, structures can be used with sections of steel framing or metalon sections spaced every 0.40 m and **Waterproof Flat Sheets** of 10 mm. The eave linings may meet the slant of the roof or be leveled with **Waterproof Flat Sheets** of 8 or 10 mm.

Eave lining

Slanting

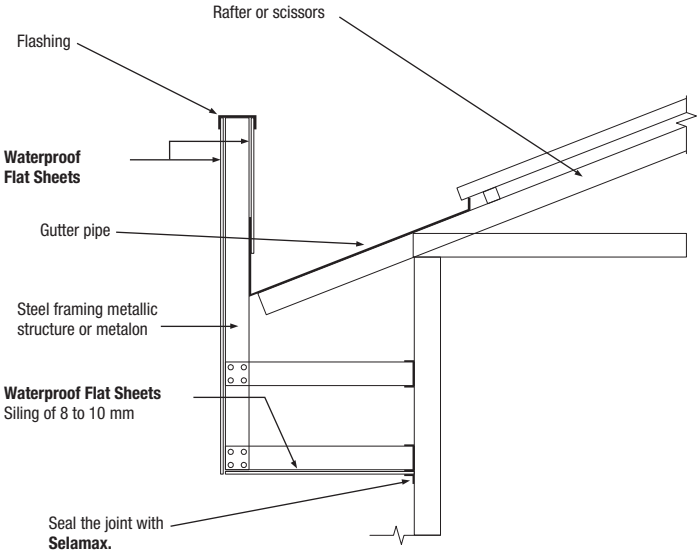


Lining level

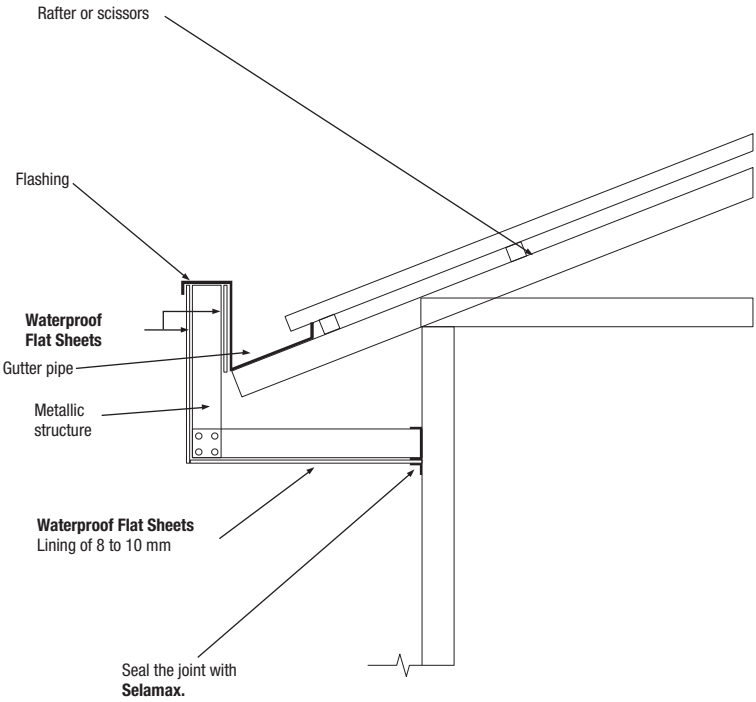


Platbands

Top



Bottom



Note

Metalon sections are more vulnerable to corrosion and less durable than steel framing section.

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