SISTEMA PLASTBAU®
PARTITION WALL

PARTITION WALL PLASTBAU

STRUCTURAL ELEMENTS FOR INTERNAL PARTITIONS, CURTAIN WALLS AND ROOFS

PRODUCTS CATALOG

POLIESPANSO®

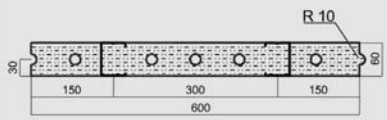
DESCRIPTION

PARTITION WALL

MALE/FEMALE HIGH DENSITY EPS (EXPANDED POLYSTYRENE) ELEMENTS HAVE 2 BUILT-IN METAL PROFILES - WIDTH 60 CM ELEMENTS THICKNES FROM 6 TO 20 CM LENGTH ACCORDING TO ANY CUSTOMER REQUEST.

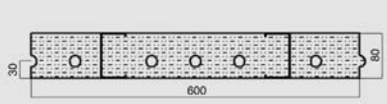
Inside the panels, there are 2 built-in galvanized metal profiles, 30 cm axle spacing, 8/10 mm thickness, C-shaped. In the panels 6, 8, 10 and 12 cm, the height of the two internal profile floating in EPS corresponds to the panel thickness they are fitted to. On request, the entire range is available with the metal profiles covered with 1 cm EPS. Their thicknesses are the following: 6+(1+1)=8 cm, 8+(1+1)=10 cm, 10+(1+1)=12, cm, 12+(1+1)=14 cm; as an alternative they are available with 1 visible profile only on a single side, in the different thicknesses from 8 to 20 cm.

STRUCTURAL ELEMENTS



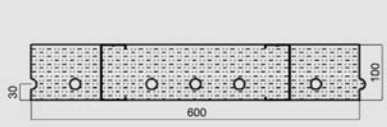
Model 60

Dimensions mm	60 x 600 x L
Weight kg/ml	2,5
Weight kg/W	4,2



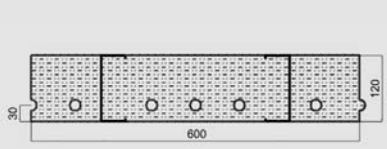
Model 80

Dimensions mm	80 x 600 x L
Weight kg/ml	3,0
Weight kg/W	5,0



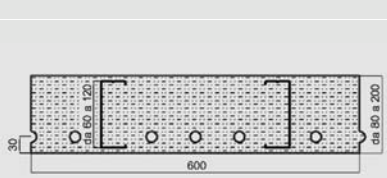
Model 100

Dimensions mm	100 x 600 x L
Weight kg/ml	3,4
Weight kg/W	5,7



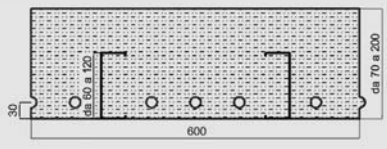
Model 120

Dimensions mm	120 x 600 x L
Weight kg/ml	3,9
Weight kg/W	6,5



Convered profile on both sides

Dimensions in mm from 80 to 140 x 600 x L
Weight kg/ml from 2,8 to 4,1
Weight kg/W from 4,7 to 6,8



Visibile profile on one side only

Dimensions in mm from 70 to 200 x 600 x L
Weight kg/ml from 2,7 to 5,0
Weight kg/W from 4,4 to 8,3

MATERIAL FEATURES

The panel is made of sintered expanded polystyrene EPS 100 - class E - EN 13162, grafphite gray. The reinforcement metal profiles fitted inside the EPS panel are in steel DX51D hot dip galvanized, pre-drilled and cold rolled, 8/10 mm thick. C-shaped metal profiles have variable height, the elements are fitted every 30 cm (2 on each panel). Male / female coupling R 10 mm.

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PERFORMANCES CALCULATION TABLE

In compliance with enclosure ZA of the regulation EN13163 where the features are specified relating to the CE labelling.

Table C

Value to calculate the thermal performances		Value	UM	Reference
Thermal conductivity	λ_D	0,031	W/m K	EN 12939
Volumetric mass	ρ	20/23	kg/m^3	UNI EN ISO 10456
Specific therma capacity	Cp	1.450	J/(kg K)	UNI EN ISO 10456
Resistance factor to water steam	μ	30/70		Enclosure F EN13163

The professional liable for the building thermal features should check the stratigraphy and select the insulation panel thicknesses which better comply with the thermal conductivity within the limits forecast by the regulation or by the project.

APPLICATION RANGE

- *Partitions wall for residential and industrial buildings*
- *Perimeter fillers as curtain wall in to beams and columns structures*
- *Roof tiles underlay with bricks beams*
- *Roof tiles underlay with wood beams*
- *False ceilings*

PARTITION WALL FOR RESIDENTIAL AND INDUSTRIAL BUILDINGS

Partitions Wall Plastbau® can easily replace any traditional partition made with bricks, 8 cm thick, with a panel in the same thickness made with internal C-shaped metal profile, 6 m, covered with 1 cm EPS on each side. The panel can be finished with plastering on both sides. As an alternative, a panel 8 cm total width, with visible C-shaped metal profils - interaxis 30 cm - on both sides, will be easily finished with gips boards.
The panel laying is simple and fast and the laying methods can change according to the different applications. In general after laying the upper L-shaped metal profile to the ceiling and the lower L-shaped metal profile to the floor, the Partition Wall Plastbau® panels are screwed to the same upper and lower L-shaped profiles.
Once the laying concluded, it will be easy and fast to fit the installations inside the EPS before covering the partition walls with plastering or gips boards
Partition Wall Plastbau® panels will provide an optimal sound proofing - Rw=35,5 dB. It will be possible to get higher performances simply changing the wall thickness, matching them or using specific high performance coatings.

INSTALLATION

1 Installation of L-shaped metal profile on the floor

2 Installation L-shaped metal profile on the ceiling

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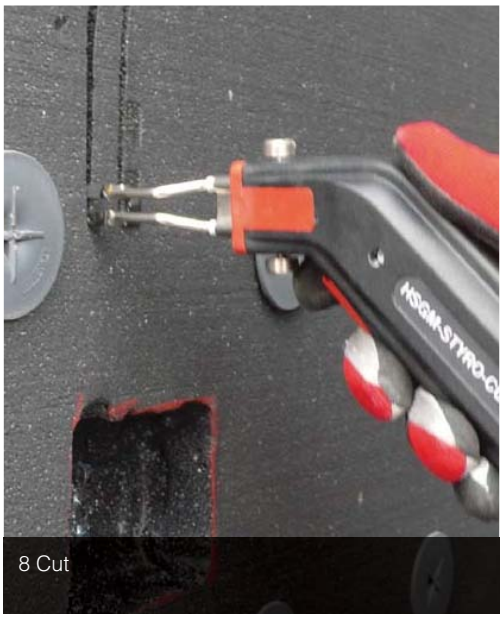
3 Panel cutting at the metal profile level

4 Partition screwing to the profile

5 False-frame fitting for the door

6 False-frame screwing to the partition upright

7 Partition fitting



8 Cut

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ROOFS UNDERLAY WITH BRICK-WALL BEAMS

The system evolution included the replacement of the traditional blocks with the innovating Partition Wall Plastbau® panels, concentrating in a single element unique features, simplifying their laying, cutting timing, reducing costs and providing for a better insulation. The roof tiles underlay execution process is similar to the traditional process therefore bricks walls / wooden beams spacing should be selected according to the PWP panel model. Hereinafter annexed a table suggesting the brick walls / wooden beams spacing.

Panel	Wall spacing	Structure weight	Accidental overload
Model 60	1,50 m	160 Kg/m^2	160 Kg/m^2
Model 80	1,75 m	160 Kg/m^2	160 Kg/m^2
Model 100	2,00 m	160 Kg/m^2	160 Kg/m^2
Model 120	2,25 m	160 Kg/m^2	160 Kg/m^2

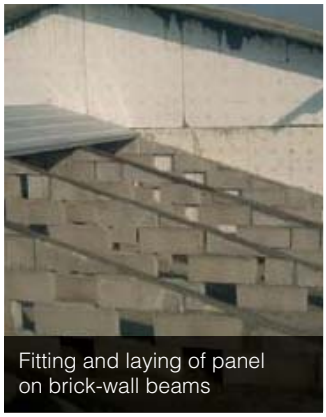
Note: it is possible to ask for each model thicker by covering C-shaped metal profiles with 1 cm EPS.

Roof tiles underlay can be finished at the extrados, with a concrete or lightened concrete slab, about 3 cm thick, reinforced with an electro-welded steel grid. Fix the underlay slab at the ridge using and connecting the steel grid to the beams. Finally the slab is raedy to be fitted with slats for tiles laying.

ROOFS UNDERLAY WITH WOOD SELF-STANDING BEAMS

In case a building roof is to be made, after a building an attic, that is with more or less inclined facing roof facets and with a roof whose main self-standing frame is to remain visible, frequently a roof in wood is used, made with main beams, additional small beams, planking, sheath, insulation and slat to fit the tiles. The use of Partition Wall Plastbau® panels allow to replace the planking and the insulation, fitting the panels directly on the additional small beams.

The type of reinforced panel is to be sized according to the static requirements (refer to the annexed table) and to the thermal insulation required. The thermal insulation must be calculated according to the climate area where the panels are fitted. After laying a panel, it is to be fitted with nails and screws (one or two per panel) together with the metal frame. Finally the concrete 3 cm slab is cast-in-place.



Fitting and laying of panel on brick-wall beams

Arraging before fitting the stell grid frame

Reinfo Partition Wall ced roof slab cast-in-place

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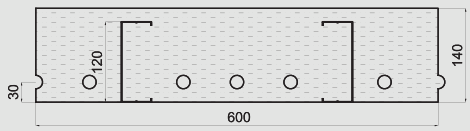
PERIMETER FILLER AS CURTAIN WALL

Partition Wall Plastbau® panels duly taking their thermal insulation and mechanical resistance features can be used as perimeter fillers as curtain wall for buildings with different structures such as iron, wood or reinforced concrete.

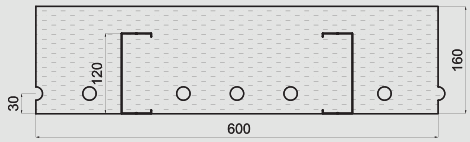
The model with a C-shaped metal profile 12 cm, visible on the interior and covered on the exterior, in different thicknesses according to the project stratigraphy up to maximum 20 cm, can be finished at the extrados with dry finishes screwed to the panel uprights or to specific frames. At the intrados can be finished with gips boards or any dry finishing.

MODELS



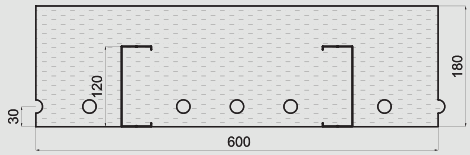
Model 140

Dimensions mm	140 x 600 x L
Weight kg/ml	4,1
Weight kg/W	6,8
U W/mqK	0,22



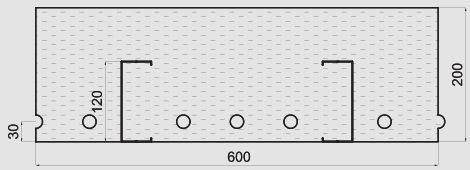
Model 160

Dimensions mm	160 x 600 x L
Weight kg/ml	4,4
Weight kg/W	7,3
U W/mqK	0,19



Model 180

Dimensions mm	180 x 600 x L
Weight kg/ml	4,7
Weight kg/W	7,8
U W/mqK	0,17



Model 200

Dimensions mm	200 x 600 x L
Weight kg/ml	5,0
Weight kg/W	8,3
U W/mqK	0,16

The Plastbau® partition panels is defined at the end of production.

RESISTANCE

Vertical loads capacity

Metal profile	Span	Capacity in Kg/mq*	Equivalent to wind in Kg/mq*
C120	m 3,30	100	140
C120	m 3,00	120	160
C120	m 2,70	130	175

** the calculation is to be made duly taking and project cariable into account*

Partition Wall Plastbau® panels are consistently mechanically resistant and they can replace any traditional brick fillers / bricks curtain walls.

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APPLICATIONS

The many available features, lightness included, offer any designer and professional layer many application possibilities which allow to ease and speed up any laying activity and yard organisation.

Building with steel frames structures

Building with reinforced concrete structure

LAYING

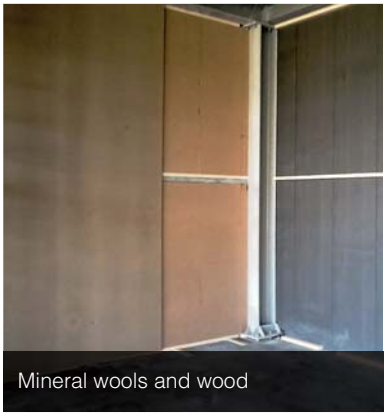
The customised Partition Wall Plastbau® panels are fitted through the tapping and screwed on metal profiles and on the floor and on the ceiling. The vertical upright frames providing for the window and floor frame fitting.

Frames for windows and doors

Partition Wall Plastbau® as filler / curtain wall

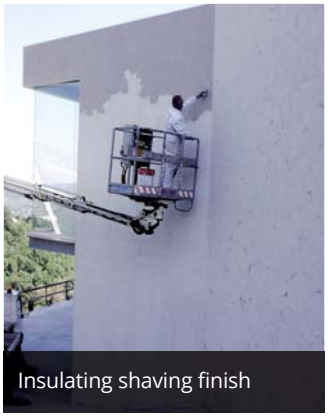
FINISHES

Internally, the filler will be integrated dry with a suitable number of sound proofing layers and of summer sound insulation. Externally it is possible to forecast dry insulating finishes.



Mineral wools and wood

Counter-wall in covered plaster



Insulating shaving finish

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ICF CONTRUCTION SYSTEM

"We aim at producing building materials for more ecologically sustainable buildings, leading to a more consistent energy saving, as to provide for a better comfort to the building dwellers, with a higher laying safety and speed for the building constructors; higher certainty of the final result for the designer, engineer, construction company and final user."

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