

POLIESPANSO CONSTRUCTION SYSTEM  
TECHNICAL NOTEBOOK  
**PARTITION PLASTBAU®**

LAYING

## INTRODUCTION

This Technical Notebook contains information for the user as suggestions to facilitate the laying and design of the **Partition Plastbau®** solution. This document does not describe all laying methods, but only some of them, in that the “best” method in the construction site is subjective, and may be changed according to the physical characteristics and dimension of the elements and the safety rules to be complied with.

## DESCRIPTION



This system of formwork for reinforced concrete is made with high density and rigid expanded polystyrene (EPS), 60 cm wide, thickness varying from 6 to 20 cm and their length varies according to any customer request. Inside the panels, there are 2 metal profiles, 30 cm axle spacing, in galvanised sheet, 8/10 cm 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 visible metal profile 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, or they are available with a visible profile on a single side, in the different thicknesses from 8 to 20 cm.

## SPECIFICATION ITEMS

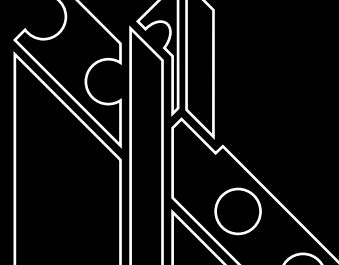
The installation and laying of the external perimeter fillers are possible with partition panels **PLASTBAU®**, 60 cm wide, customized height, with male and female battens, in expanded sintered polystyrene EPS 100 according to the regulation EN 13163 CLASS E, thermal conductivity  $\lambda_D 0,031$  W/m<sup>2</sup>K and 14 cm thick, internally reinforced with metal “C”-shaped profiles, in galvanized steel, 8/10 cm thick and 120 cm high, visible on the internal side. The panels screwed to the steel frame are fit one next to the other. The external finish is made with a shaving finish glue and floating in a glass fiber frame, in the third part of the shaving finish according to the manufacturers’ protocols. Internally a wall will be made, plated on both side in pasterboard, 12.5 cm, with an additional rock wool layer in-between as to provide for the best sound proofing.

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# CHAPTER 1

## Applications

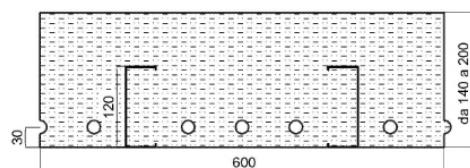


### PERIMETER FILLERS FOR FRAMEWORKS

The partitions **PLASTBAU®**, duly taking their thermal insulation and mechanical resistance into account, can be used for perimeter filling frameworks in iron, wood and reinforced concrete.

The panels, 14 cm thick, fitted with a 12 cm metal profile visible on the internal side and covered on the outside, in the different thicknesses according to the project stratigraphies up to maximum 20 cm, can be finished at the extrados level with dry finishes, screwed to the panel uprights or to specific frames, or finished with suitable shaving finish, as an insulation system.

At the intrados level, after the required climate and sound proofing controls, they will be supplemented by suitable layers to comply with the project requirements. The internal finish will be a dry finish. **Plastbau®** length is set at the end of production according to the customer requirements.



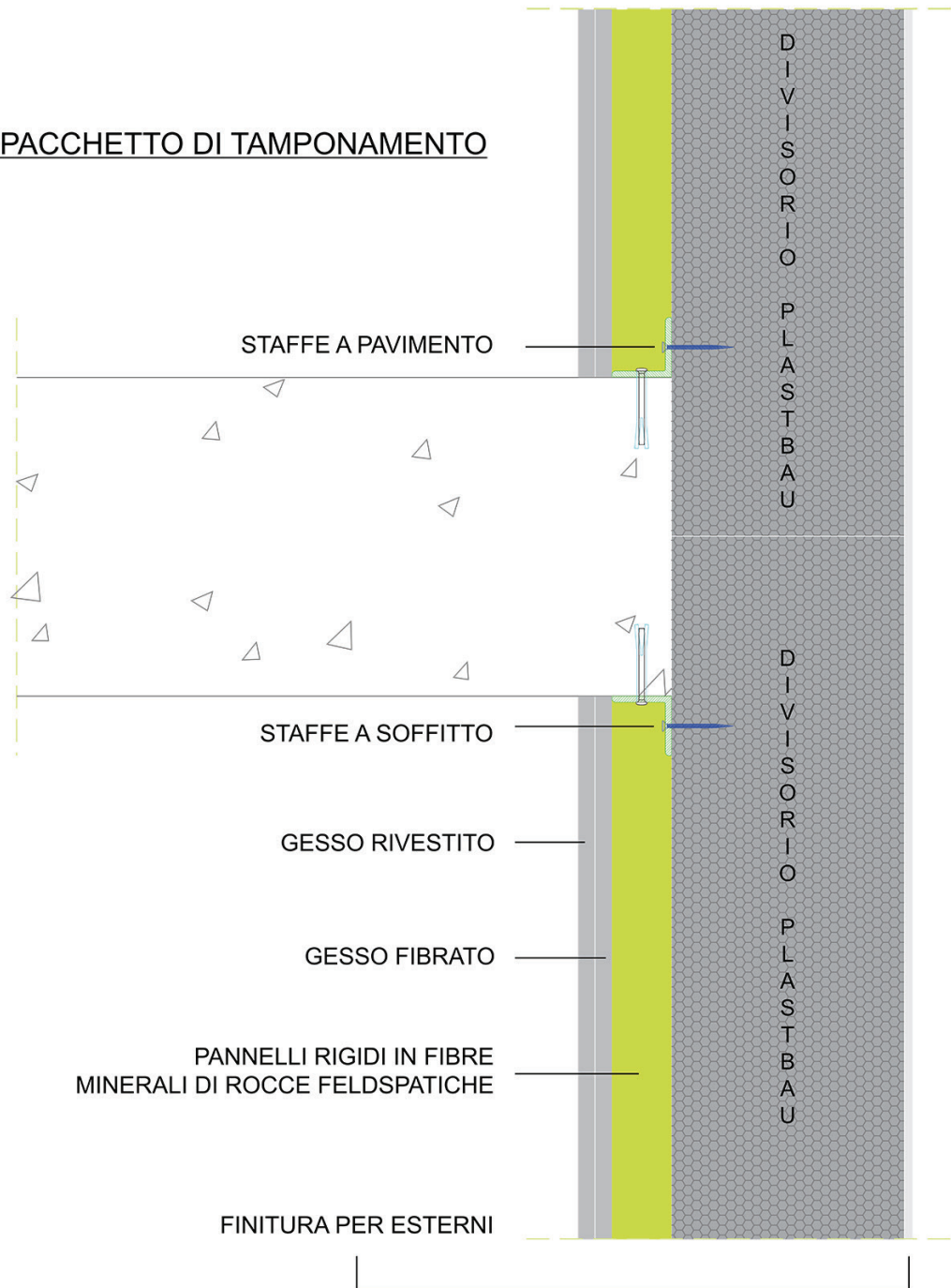
#### Profilo a vista solo da un lato

Dimensioni mm.	da 140 a 200 x 600 x L
Peso Kg./ml.	da 4,1 a 5,0
Peso Kg./mq.	da 6,8 a 8,3





## PACCHETTO DI TAMPONAMENTO



## FRAMEWORKS IN REINFORCED CONCRETE

The partitions **PLASTBAU®** are industrially manufactured and their length is the reference measure (it can vary according to the customer requirements, up to 13 m). They are strong and light and they can offer the designer and the layer a wide range of application possibilities.

The annexed photos refer to an hotel built on the Garda lake, made with self-standing frameworks in reinforced concrete. As visible the wide openings on the side to access the balconies are closed with frames up to 300 kg. The customer made his decision based on the assembling speed, costs and thermal performances.



Internal yard view



Wide side opening



Specific frames for the windows





External insulation shaving finish



Internal counter-wall in plasterboard with rock wool

## FRAMEWORKS IN IRON

Execution speed, yard safety, high performances at convenient costs: that's what provides for the matching of an iron frame buffered with the partitions **PLASTBAU®**.

As for residential constructions the **PLASTBAU®** panels allow the customers to freely design the building, with no constraint as for the internal and external finishes. As clear in the photographs, a villa made with iron beams and pillars (Fig. 1) with a Plastbau partitions, 140 mm used for the perimeter filling and the covering (Fig. 2).

A smaller partition, Plastbau 80 mm, was used for the internal partitions: internal finishes visible in wood fitted on the partition **PLASTBAU®** (Fig. 3); outside the finish was made with a insulating shaving finish, 6/8 mm (Fig.4)



Fig. 1



Fig. 2



Fig. 3



Fig. 4



The partition panels **PLASTBAU® used for industrial constructions** increase the available design prospects and energy performances of the building, always at competitive costs offering a wider execution flexibility and speed. In the hereinbefore annexed photographs, a commercial building used for handicraft activities where the self-standing frame is made with iron beams and pillars. The intermediate slab in **PLASTBAU® Metal**, provides for the thermal insulation between floors, the structure consolidation and its strength for industrial loads as well. The covering was made with **PLASTBAU®** partitions, 140 mm fitted inside a slab in reinforced concrete. The panel, 140 mm was used for the external perimeter filling.



Frame assembling



Partition panel laying



Insulating shaving finish



Internal finishes

The external finish was made with an insulating shaving finish. Internally to improve the soundproofing and the summer thermal transmittance, the partitions **PLASTBAU®** were supplemented with wood panels covered with a fibrated plaster.

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