

# PLUSGUM

## Waterproofing membrane

### Description

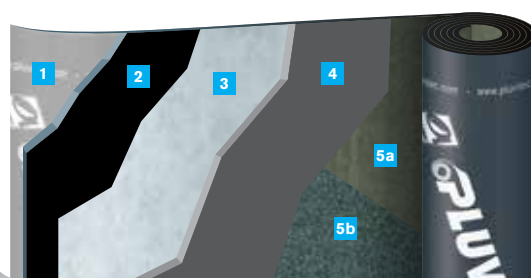
Pre-fabricated waterproofing membrane made of distilled bitumen and elasto-plastic polymers (APP) having a woven non woven single strand composite polyester reinforcement, which provide the membrane with high mechanical characteristics and excellent dimensional stability.

The versions PA are self-protected on the upper face with mineral slates which reduce superficial heat absorption improving the durability of the membrane.

The self-protected versions have a side selvage of 10 cm and upon request a head selvage of 15 cm, to improve adhesion between the sheets.

### Stratigraphy

1. PE film
2. Waterproofing mass
3. Single strand composite polyester fabric
4. Waterproofing mass
- 5a. Sand or talc finish
- 5b. Mineral finish



### Methods of application

For the application of the membrane the use of heat is generally used by means of a gas torch or specific hot air machine. Use protective devices required by law. The application by heat is not suggested when on heat sensitive materials (polystyrene insulation).

- Coordinate the operations in a way to not cause damage to the construction elements and underground structure. Avoid to leave the structure for the night or for periods of prolonged work interruptions without having been properly sealed.
- **The application surface must not have any depressions to avoid the risk of ponding water, the slope must be at least 1.5% on concrete decks and 3% for steel or wooden ones, this to guarantee a proper run off of rainwater.**
- The water drainage spouts should be sufficiently big enough to allow for rain water to be eliminated in an efficient way.
- Prepare cementitious substrates, including verticals and details, with a bituminous primer either by brush or airless, approx. 300/400 g/m<sup>2</sup>.

- Allow this preparation layer to dry before proceeding with any other operation.
- With prefabricated constructions, apply a suitable reinforcing strip along all joints. In the presence of construction joints, prefabricated panels or metal decks, suitable expansion joints are to be considered.
- The membranes must be applied to the substrate fully bonded.
- All details, perimeters, verticals, change of slope as well as projecting area must be fully bonded.

For further information and news it is recommended to consult the PLUVITEC technical literature; our Technical Office is always available to evaluate particular problems and to provide the necessary assistance to best apply our waterproofing membranes.

### Fields of use



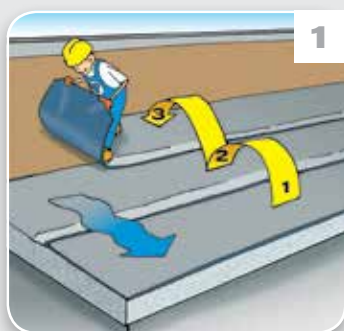
#### EN13707 Continuous roofs (Certificate n° 0958-CPR-2045/1)

	N° layers			Method of application						Type of application			Type				
	Single Layer	Double Layer	Multilayer	Torch	Hot Air	Mixed (Torch / Air)	Cold Bond Glue	Mechanical Fixing	Thermo Adhesive / Self Adhesive	Fully Bonded	Partially Bonded	Loose Laid	Complimentary Layer	Top Layer	Heavy Protection	Anti-root	Other Uses
PLUSGUM P 3 MM		▪	▪	▪				▪		▪			▪				
PLUSGUM P 4 MM		▪	▪	▪				▪		▪			▪	▪			
PLUSGUM PA 4.0 KG/M <sup>2</sup>		▪	▪	▪						▪				▪			
PLUSGUM PA 4.5 KG/M <sup>2</sup>		▪	▪	▪						▪				▪			

#### EN13859-1 Under roof tile

PLUSGUM PA 3.5 KG/M <sup>2</sup>	▪	▪	▪	▪						▪				▪			
PLUSGUM PA 4.0 KG/M <sup>2</sup>	▪	▪	▪	▪						▪				▪			
PLUSGUM PA 4.5 KG/M <sup>2</sup>	▪	▪	▪	▪						▪				▪			

## How to apply



## Sizes & packing

	P 3 mm	P 4 mm	PA 3,5 kg/m <sup>2</sup>	PA 4,0 kg/m <sup>2</sup>	PA 4,5 kg/m <sup>2</sup>
<b>Rolls size [m]</b>	10x1	10x1	10x1	10x1	10x1
<b>Rolls per pallet</b>	30	25	30	27	25
<b>Square meters per pallet [m<sup>2</sup>]</b>	300	250	300	270	250

Sizes & packing may vary depending on the type of transportation. The technical data given is based on average values obtained during production. We reserve the rights to change or modify the nominal values without prior notice or advice. The information contained in this data sheet are based on our experience. We cannot take any responsibility for a possible incorrect use of the products. The customer has to choose under their own responsibility a product fit for the intended use.

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## Application

- On cementitious surfaces and similar apply, by roller or airless, bituminous primer, approx. consumption 300 g/m<sup>2</sup>.
- Apply by torch application a 25 cm strip of membrane reinforced with polyester along all vertical up stands.
- To have all overlaps with the slope, position the membrane always starting from the lowest point. (Draw. N.1)
- Position the membrane sheets staggered, avoiding to create any overlaps against the slope and the drains. (Draw. N.2)
- Cut the corners of membrane sheet which will be laid under the next sheet at a 45° angle (10 x 10 cm). (Draw. N.3)
- The joints, both side and head, must be respectively overlapped by 10 & 15 cm. (Draw. N.3)
- The second layer of membrane will be applied astride and over the first one, always in the same direction, and approx. 1/4 of its length from the previous sheet. (Draw. N.4)
- The bituminous membrane will be applied with a propane gas torch to the substrate. It is necessary to heat the entire surface, except for the side & head laps, making sure that the compound forms a liquid mass in front of the roll to assure that it saturates any superficial porosity.
- The side laps (10 cm) and head laps (15 cm) will be heat welded with an appropriate torch; during this stage the overlaps should be pressed by using a roller (15 kg) from which a bead of compound should flow and therefore avoiding to have to iron the overlaps.
- Apply the vertical membrane sheet having the same characteristics of the waterproofing membrane and dimensions equal to the width of the roll, making sure that it overlaps the horizontal one by at least 10 cm, heating it with a gas torch and squeezing it with a trowel until a bead of compound appears from underneath.
- The height of the verticals must be equivalent or superior to the finished surface by at least 15 cm.

## Recommendations

To best use the technical characteristics of bituminous membranes and guarantee the maximum performance and durability of the jobs where they are used, some simple but fundamental rules must be respected.

## Technical data

Technical Characteristics	Measure Units	Reference Norm	P		PA		Tolerance		
			3	4					
<b>Type of reinforcement</b>			Single strand polyester						
<b>Upper face finish</b>			Sand or talc		Mineral *				
<b>Lower face finish</b>			PE film						
<b>Length</b>	m	EN 1848-1	10 -1%						
<b>Width</b>	m	EN 1848-1	1 -1%						
<b>Thickness</b>	mm	EN 1849-1	3	4			±5%		
<b>Mass</b>	kg/m <sup>2</sup>	EN 1849-1			3,5	4,0	4,5	±10%	
<b>Cold flexibility</b>	°C	EN 1109	-10						
<b>Flow resistance</b>	°C	EN 1110	120						
<b>Flow resistance after ageing</b>	°C	EN 1296	110					-10°C	
<b>Artificial U.V. ageing</b>		EN 1297	pass						
<b>Tensile strength L / T</b>	N / 5 cm	EN 12311-1	600/400					-20%	
<b>Elongation at break L / T</b>	%	EN 12311-1	35/35					-15	
<b>Tearing resistance L / T</b>	N	EN 12310-1	150/150					-30%	
<b>Static puncture resistance</b>	kg	EN 12730	15						
<b>Dynamic puncture resistance</b>	mm	EN 12691	1000						
<b>Dimensional stability</b>	%	EN 1107-1	-0,5						
<b>Loss mineral</b>	%	EN 12039						30	
<b>Fire resistance</b>		EN 13501-5	F ROOF						
<b>Fire reaction</b>		EN 13501-1	F						
<b>Tensile strength after ageing L / T</b>	N / 5 cm	EN 1296						NPD	-20%
<b>Elongation at break after ageing L / T</b>	%	EN 1296						NPD	-15
<b>Impermeability after artificial ageing</b>	kPa	EN 1296						60	
<b>Watertightness</b>	kPa	EN 1928						60	

\* Mineral self-protected products may undergo color tone variations due to the time and length of storage. Exposure to atmospheric conditions, after application, will tend to uniform the color after a few months. The change in color tone cannot therefore be contested and / or complained of as it is a natural phenomenon that the slate manufacturer himself cannot guarantee. NPD = No Performance Declared in accordance with the EU Construction Products Directive.