UNITEC

Waterproofing membrane

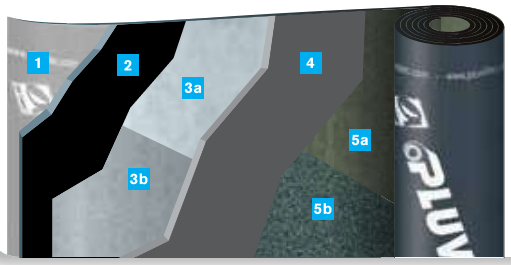
Technical data sheet

Description

Pre-fabricated waterproofing membrane made of distilled bitumen and plastomeric polymers (APP) having a woven non woven single strand composite polyester reinforcement, which provide the membrane with good mechanical characteristics and excellent dimensional stability.
The V versions have a fibre glass reinforcement, with excellent dimensional stability.
The PA versions 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 selvedge of 10 cm and upon request a head selvedge of 15 cm, to improve adhesion between the sheets.

Stratigraphy

1. PE film
2. Waterproofing mass
3a. Single strand composite polyester fabric
3b. Fibre glass reinforcement
4. Waterproofing mass
5a. Sand 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/m².
- 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

CE

EN13707 *Continuous roofs*

	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
UNITEC P 3 MM		▪	▪	▪				▪		▪			▪				
UNITEC P 4 MM		▪	▪	▪				▪		▪			▪	▪			
UNITEC PA 4.0 KG/M²		▪	▪	▪				▪		▪				▪			
UNITEC PA 4.5 KG/M²		▪	▪	▪				▪		▪				▪			
UNITEC V 3 KG/M²		▪	▪	▪						▪			▪				
UNITEC V 4 KG/M²		▪	▪	▪						▪			▪				

EN13859-1 *Under roof tile*

UNITEC PA 4.0 KG/M²
UNITEC PA 4.5 KG/M²

EN13969 *Retaining walls*

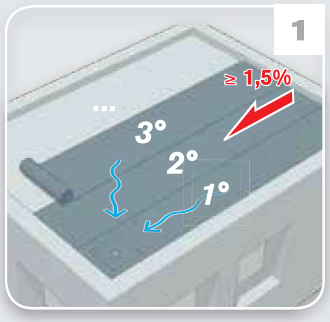
UNITEC P 3 MM
UNITEC P 4 MM

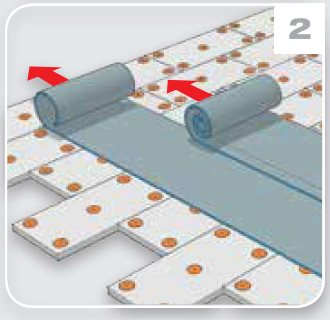
The waterproofing membrane based on distilled bitumen and polymers, as shown in this data sheet does not require the issue of a MSDS, because it does not contain dangerous substances. The information data sheet for the proper use of products is available.

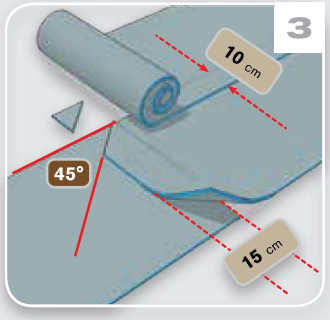
UNITEC

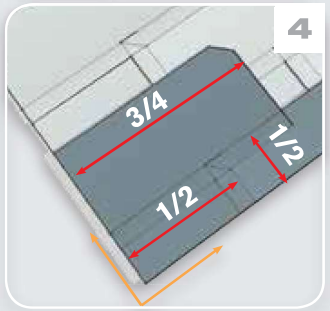
technical data sheet

How to apply









Application

- On cementitious surfaces and similar apply, by roller or airless, bituminous primer, approx. consumption 300 g/m².
- 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, alternating the overlapping areas.
- To facilitate the flow of water towards the drains, so as to encounter as few joints as possible between the sheets, the direction of installation of the membranes must be longitudinal to the direction of the slope of the roof. (Draw. N.1)
- In case of installation of the waterproof sealing element on top of an insulating package, the main direction of the insulating panels must be perpendicular to the direction of installation of the membranes, taking care to install the panels with staggered quincunx combinations. (Draw. N.2)
- Cut the corners of membrane sheet which will be laid under the nest 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.

- The rolls are to be stored in an upright position, indoors in a dry and ventilated area, away from heat sources. Absolutely avoid the stacking of rolls and pallets for storage or transport to avoid possible deformations which may compromise a perfect installation. It is recommended to store the product at temperatures above 0°C.
- The rolls shall be kept in a warm or heated storage area during application, should the workability of the material deteriorate or become stiff and difficult to install during application, these should be returned to the heated storage area and substituted with new rolls. The rolls that are temporarily stored on the roof before application, shall be kept elevated by being left on their own pallets and shall be covered and protected from the weather
- The application surface must be smooth dry & clean.
- The application surface must be previously treated with a suitable bituminous primer, to eliminate dust and enhance the adhesion of the membrane.
- 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.
- In situations of application on vertical surfaces superior to 2 meters or on very sloped substrates, apply suitable mechanical fixings to the head laps, after which they will be sealed when torching the head laps.
- The application must be done at temperature higher than +5°C.
- The application must be interrupted in adverse weather conditions (high humidity, rain, etc.)
- The materials without mineral self-protection or P+V, used as a top layer (cap sheet), can be painted with an aluminium coating to improve and extend the performance and life expectancy, the material should be allowed to oxidize approx. 3-6 months before being coated. An alternative, depending on the type of construction, it is possible to use heavy protection (floating pavements, stone, etc.)
- The pallets on which the rolls are packaged are intended for normal warehouse use.
- The materials on stock should be rotated following a first in first out rotation.

Technical data

Technical Characteristics	Measure Units	Reference Norm	P		PA		V		Tolerance
Type of reinforcement			Single strand polyester				Fibre glass		
Upper face finish			Sand		Mineral *		Sand		
Lower face finish			PE film						
Visible defects		EN 1850-1	No						
Straightness	mm/10 m	EN 1848-1	< 20						
Length	m	EN 1848-1	10						MLV ≥
Width	m	EN 1848-1	1						MLV ≥
Thickness	mm	EN 1849-1	3	4					MDV ±10%
Mass	kg/m²	EN 1849-1			4,0	4,5	3	4	MDV ±10%
Cold flexibility	°C	EN 1109	-5						MLV ≤
Cold flexibility after ageing	°C	EN 1296	0						MDV +15°C
Flow resistance	°C	EN 1110	120						MLV ≥
Flow resistance after ageing	°C	EN 1296	110						MDV -10°C
Artificial U.V. ageing		EN 1297		Pass					
Shear resistance L / T	N / 5 cm	EN 12317-1	300/200				NPD/NPD		MDV -20% +50%
Tensile strength L / T	N / 5 cm	EN 12311-1	400/300				300/200		MDV -20% +50%
Elongation at break L / T	%	EN 12311-1	35/35				2/2		MDV -15/-2 +30
Tearing resistance L / T	N	EN 12310-1	120/120				70/70		MDV -20% +50%
Static puncture resistance	kg	EN 12730-A	10				NPD		MLV ≥
Dynamic puncture resistance	mm	EN 12691-B	700				NPD		MLV ≥
Dimensional stability	%	EN 1107-1	0,3				0,1		MLV ≤
Peel resistance of joints L / T	N	EN 12316-1	NPD/NPD						MDV ±20N
Loss mineral	%	EN 12039			30				MLV ≤
Fire resistance		EN 13501-5	F ROOF						
Fire reaction		EN 13501-1	NPD						
Tensile strength after ageing L / T	N / 5 cm	EN 1296			NPD				MDV -20% +50%
Impermeability after artificial ageing	kPa	EN 1296	60						MLV ≥
Watertightness	kPa	EN 1928	60						MLV ≥
Root resistance		EN 13948	NPD						

* 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.
MDV = value declared by the manufacturer associated with a declared tolerance.
MLV = limit value, minimum or maximum, declared by the manufacturer.

Sizes & packing

Description	P 3 mm	P 4 mm	PA 4,0 kg/m²	PA 4,5 kg/m²	V 3 kg/m²	V 4 kg/m²
Rolls size [m]	10x1	10x1	10x1	10x1	10x1	10x1
Rolls per pallet	30	25	30	27	39	30
Square meters per pallet [m²]	300	250	300	270	390	300

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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Company with certified system

e2512245-6 - e2511184-5-6-7 - 12/01/2026 - This version supersedes all previous ones.