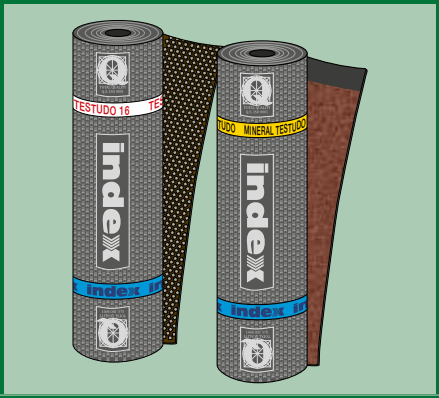


TESTUDO®

TESTUDO SPUNBOND POLYESTER 16
MINERAL TESTUDO SPUNBOND POLYESTER 16

ELASTOPLASTOMERIC DISTILLED POLYMER-BITUMEN WATERPROOFING MEMBRANES, BASE ON DISTILLED BITUMEN, PLASTOMERS AND ELASTOMERS

GRANTS *LEED* CREDITS

CATEGORY	CHARACTERISTICS		ENVIRONRMENTAL							METHOD OF USE				
EP		Reazione al fuoco		ASBESTOS FREE	TAR FREE	CHLORINE FREE								
ELASTOPLASTOMERIC	WATERPROOF	REACTION TO FIRE	ECO GREEN	ASBESTOS FREE	TAR FREE	CHLORINE FREE	RECYCLABLE	NON DANGEROUS WASTE	EXHAUSTED OIL FREE	TORCH APPLICATION	HOT AIR APPLICATION	NAILING	COLD ADHESIVE BONDING	APPLICATION WITH MOLTEN BLOWN BITUMEN

* For waterproofing membranes with TEXFLAMINA underface finish only

DESCRIPTION

The **TESTUDO** membranes are manufactured from distilled bitumen selected for industrial use, modified with a high content of elastomeric polymers and plastomers to obtain a phase inversion compound whose continuous phase is formed by polymers with bitumen in dispersion, where the characteristics are determined by the polymeric matrix and not by the bitumen even if this is the main component.
The performance of the bitumen improves along with the durability and resistance to high and low temperatures, while keeping the already optimal adhesive and waterproofing qualities of the bitumen.
The reinforcement is a high grammage, rot proof, single strand spunbond polyester, isotropic, thermally stabilised non-woven fabric which makes the product extremely strong with a notable ultimate elongation, combined with an optimal resistance to puncture and tearing.
The **TESTUDO** membranes are produced in various thicknesses, the top face is coated with fine serigraphed talc, uniformly spread over the surface, a patented treatment which allows the roll coils to easily unroll combined with the fast and sound welding of the joints and the optimal adherence to the freshly laid hot asphalt road surface.
The **MINERAL** version, produced in various grammages, has the top face auto-protected with slate granules, which are bonded and hot pressed except for a lateral overlapping strip without slate, protected with a band of Flamina film which melts when torched to weld the joint. The underside is coated with Flamina, a plastic meltable film and it is embossed in order to obtain both the pre-tension and therefore the optimum retraction of the film and also to provide a greater surface area for the flame to melt, for faster and more reliable installation.
When the membrane is applied dry or spot bonded, the embossing helps to diffuse the vapour.

APPLICATION FIELDS

The long lasting characteristics of strength, elasticity and dimensional stability both at high and low temperatures makes it possible to use **TESTUDO** membranes as single or multi-layer waterproofing in the building industry and civil engineering, both for new constructions, for renovation work of various typologies and in climatic conditions characterized by notable changes in temperature:

- **On all inclined surfaces:** on flat, vertical and curved surfaces.
- **On different types of surface:** site-cast or prefabricated cement substructures, on metal or wooden roofing, on the most widely used heat insulation used in the building industry.
- **For the various uses:** terraces, flat and sloping roofs, undertile, foundations (even earthquake-proof), car park roofing, waterworks and ecological works, tunnels, underground passages, undergrounds and subways, bridges and tarmac, dielectric and acid proof coatings.

CE INTENDED USE OF "CE" MARKING SPECIFIED ACCORDING TO THE AISPEC-MBP GUIDLINES

EN 13707 - REINFORCED BITUMEN SHEETS FOR ROOF WATERPROOFING

- **Under layer or intermediate layer in multi-layer systems without permanent heavy surface protection**
  - TESTUDO SP. POLYESTER 16 3-4 mm
- **Upper layer in multi-layer systems without permanent heavy surface protection**
  - TESTUDO SP. POLIESTERE 16 4 mm
  - MIN. TESTUDO SP. POL. 16 4,0-4,5 kg/m²
- **Exposed single-layer**
  - TESTUDO SP. POLYESTER 16 4 mm
- **Single-layer under heavy protection**
  - TESTUDO SP. POLYESTER 16 4 mm
- **Under heavy protection in multi-layer systems**
  - TESTUDO SP. POLYESTER 16 4 mm

EN 13969 - BITUMEN DAMP PROOF SHEET INCLUDING BITUMEN BASEMENT TANKING SHEETS

- **Membranes for foundations**
  - TESTUDO SP. POLYESTER 16 3-4 mm

EN 13859-1 - UNDERLAY FOR DISCONTINOUS ROOFING

- MIN. TESTUDO SP. POLYESTER 4,0-4,5 kg/m²

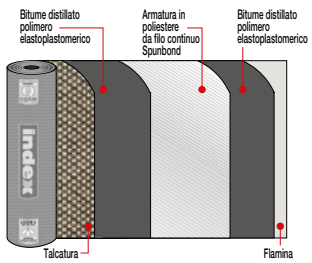
TECHNICAL CHARACTERISTICS

	Standard	T	TESTUDO SPUNBOND POLYESTER 16		MINERAL TESTUDO SPUNBOND POLYESTER 16	
Reinforcement			Non-woven Spunbond polyester		Non-woven composite polyester stab. with fibreglass	
Thickness	EN 1849-1	±0,2	3 mm	4 mm	–	–
Mass per unit area MINERAL	EN 1849-1	±15%	–	–	4,0 kg/m²	4,5 kg/m²
Roll size	EN 1848-1	-1%	1x10 m	1x10 m	1x10 m	1x10 m
Watertightness • after ageing	EN 1928 – B EN 1926-1928	≥ ≥	60 kPa 60 kPa	60 kPa 60 kPa	60 kPa 60 kPa	
Peel resistance	EN 12316-1	-20 N	–	NPD	–	
Shear resistance L/T	EN 12317-1	-20%	–	650/500 N/50 mm	–	
Maximum tensile force L/T • after ageing	EN 12311-1	-20%	750/600 N/50 mm –	750/600 N/50 mm –	750/600 N/50 mm NPD	
Elongation L/T • after ageing	EN 12311-1	-15% V.A.	50/50% –	50/50% –	50/50% NPD	
Resistance to impact	EN 12691 – A		NPD	1 000 mm	–	
Resistance to static loading	EN 12730 - A		NPD	15 kg	–	
Resistance to tearing (nail shank) L/T	EN 12310-1	-30%	150/150 N	150/150 N	140/140 N	
Dimensional stability L/T	EN 1107-1	≤	-0.5/+0.5%	-0.5/+0.5%	-0.3/+0.3%	
Flexibility to low temp. • after ageing	EN 1109 EN 1296-1109	≤ +15°C	-15°C –	-15°C -5°C	-15°C -5°C	
Flow resist. at high temp. • after ageing	EN 1110 EN 1296-1110	≥ -10°C	120°C –	120°C 110°C	120°C 110°C	
Res. to water penetration • after ageing	EN 1928 EN 1296-1928		– –	– –	W1 W1	
UV ageing	EN 1297		–	Test passed	–	
Reaction to fire Euroclass	EN 13501-1		E	E	E	
External fire performance	EN 13501-5		F roof	F roof	F roof	
Thermal specifications						
Thermal conductivity			0.2 W/mK	0.2 W/mK	0.2 W/mK	0.2 W/mK
Heat capacity			3.90 KJ/K	5.20 KJ/K	4.80 KJ/K	5.40 KJ/K

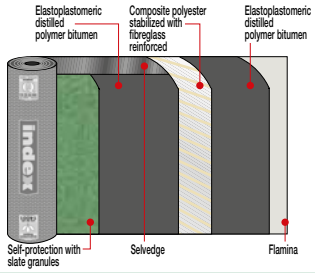
Compliant with EN 13707 in terms of the resistance factor to steam penetration for reinforced polymer-bitumen membranes, the value of μ = 20 000 may be considered, unless declared otherwise.

COMPOSITION OF THE MEMBRANE

TESTUDO SPUNBOND POLYESTER 16

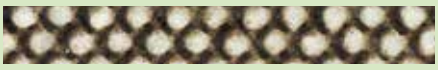


MINERAL TESTUDO SPUNBOND POLYESTER 16



PRODUCT FINISHING

EMBOSSING FLAMINA. The embossing on the lower surfaces of the membranes finished with Flamina film makes it possible to lay the product precisely and quickly; forming a smooth surface when melted with the torch. It indicates the correct melting temperature and lets the film retract faster. The embossing also enables optimal vapour diffusion; in spot bonded and loose laid installation, in the points where it remains intact, preventing blisters and swelling.



TALC SURFACING. The talcing of the top face is carried out with a technique which evenly spreads the very thin talc over the top surface with a special pattern, preventing accumulation or zones without talc. This new system allow a quick unroll and gives the surface a pleasant aspect, which enable to torch it faster if compared to the other coarser mineral finishes.

SELF-PROTECTION WITH SLATE GRANULES. On the visible face of the membrane, a protective coating made up of slate granules of various colours is hot bonded. This mineral shield protects the membrane from ageing caused by UV rays.

the numerous possible uses and the possible interference of conditions or elements beyond our control, we assume no responsibility regarding the results which are obtained. The purchasers, of their own accord and under their own responsibility, must establish the suitability of the product for the envisaged use.

The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX at any time without previous warning. The advice and technical information provided, is what results from our best knowledge regarding the properties and the use of the product. Considering

• FOR ANY FURTHER INFORMATION OR ADVICE ON PARTICULAR APPLICATIONS, CONTACT OUR TECHNICAL OFFICE • IN ORDER TO CORRECTLY USE OUR PRODUCTS, REFER TO INDEX TECHNICAL SPECIFICATIONS •

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Construction Systems and Products
Via G. Rossini, 22 - 37060 Castel D'Azzano (VR) - Italy - C.P.67
T. +39 045 8546201 - F. +39 045 518390

Internet: www.index-spa.com
Informazioni Tecniche Commerciali
tecom@indexspa.it
Amministrazione e Segreteria
index@indexspa.it
Index Export Dept.
index.export@indexspa.it

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