

TESTUDO®



TESTUDO SPUNBOND POLYESTER 20
 TESTUDO SPUNBOND POLYESTER 25
 TESTUDO SPUNBOND POLYESTER 30

REINFORCED ELASTOPLASTOMERIC DISTILLED POLYMER-BITUMEN
 WATERPROOFING MEMBRANES MADE OF DISTILLED BITUMEN,
 PLASTOMERS AND ELASTOMERS

GRANTS *LEED* CREDITS

CATEGORY	CHARACTERISTICS		ENVIRONMENTAL						METHOD OF USE					
EP														
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 TEXLAMINA underface finish only

DESCRIPTION

These are membranes reinforced with high weight, isotropic, thermally fixed, rot-proof, "non-woven" single strand Spunbond polyester fabric. The reinforcement is very strong, has a notable ultimate elongation and an optimal resistance to puncture and piercing. The **TESTUDO** membranes are made up of distilled bitumen, selected for industrial use, with a high content of elastomeric and plastomeric polymer additives to obtain a phase inversion compound whose continuous phase is formed by polymers in which the bitumen is dispersed, where the characteristics are determined by the polymeric matrix and not by the bitumen even if this is the most consistent ingredient. The performance of the bitumen is therefore incremented along with the durability and the resistance to high and low temperatures while the already optimum adhesive and impermeable qualities of the bitumen remain unchanged. The membranes are produced in various thicknesses and have the top face coated with a uniformly distributed, fine serigraphed talc, a patented treatment which makes it possible to quickly unroll the rolls and install the membranes with the reliable and quick welding of the joints and an optimal adherence to the hot asphalt of a fresh road surface. The underside of the membranes is coated with Flamina, a plastic film that melts when torched and which is embossed both to obtain the pre-tension and therefore the optimal retraction of the film and also to offer the torch a greater surface area for faster and more reliable installation. When the membrane is dry laid or spot bonded, the embossing diffuses the vapour.

APPLICATION FIELDS

TESTUDO membranes are characterized by a high resistance to puncture and are therefore particularly suitable for waterproofing systems where high mechanical resistance is required, such as: Foundations, earthquake-proof foundations, car parks, water works, bridges, viaducts, tunnels, subways, geological works, etc., anti-acid protection, roofing with or without thermal insulation and renovation work. **TESTUDO SPUNBOND POLYESTER 20** is in accordance to the tests of the "Central Labora-

CE INTENDED USE OF "CE" MARKING SPECIFIED ACCORDING TO SITE

EN 14695 - REINFORCED BITUMEN MEMBRANES FOR WATERPROOFING CONCRETE BRIDGE STRUCTURES AND OTHER CONCRETE SURFACES SUBJECT TO TRAFFIC

- Under asphalt concrete
 - TESTUDO SP. POLYESTER 20
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- Under mastic asphalt
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tory for French Bridges and Roads" and is approved by the SNCF (French Railways). **TESTUDO SPUNBOND POLYESTER 25** is in accordance to the tests of the "Central Laboratory for French Bridges and Roads", the Belgian Civil Engineering Test Laboratory and is approved by the SNCF (French Railways). **TESTUDO SPUNBOND POLYESTER 25** has been approved for application both under asphalt concrete and mastic asphalt by Ministry of transport of Czech Republic. **TESTUDO SPUNBOND POLYESTER 30** is in accordance to the Italian Motorways Company's specifications.

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

EN 13707 - REINFORCED BITUMEN SHEETS FOR ROOF WATERPROOFING

- Under layer or intermediate layer in multi-layer systems without permanent heavy surface protection
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 - TESTUDO SP. POLYESTER 30
- Upper layer in multi-layer systems without permanent heavy surface protection
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 - TESTUDO SP. POLYESTER 25
 - TESTUDO SP. POLYESTER 30
- Exposed single-layer
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 - TESTUDO SP. POLYESTER 25
 - TESTUDO SP. POLYESTER 30
- Single-layer under heavy protection
 - TESTUDO SP. POLYESTER 20
 - TESTUDO SP. POLYESTER 25
 - TESTUDO SP. POLYESTER 30
- Under heavy protection in multi-layer systems
 - TESTUDO SP. POLYESTER 20
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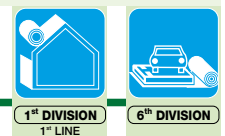
EN 13969 - BITUMEN DAMP PROOF SHEET INCLUDING BITUMEN BASEMENT TANKING SHEETS

- Membranes for foundations
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CERTIFICATIONS

	Horský s.r.o. Zpráva č. R 54/11		BUREAU VERITAS

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 Construction Systems and Products



TECHNICAL CHARACTERISTICS

	Standard	T	TESTUDO SPUNBOND POLYESTER 20		TESTUDO SPUNBOND POLYESTER 25		TESTUDO SPUNBOND POLYESTER 30	
Reinforcement			Non-woven Spunbond polyester		Non-woven Spunbond polyester		Non-woven Spunbond polyester	
Thickness	EN 1849-1	±0,2	4 mm	5 mm	4 mm	5 mm	4 mm	5 mm
Roll size	EN 1848-1	≥	1x10 m	1x10 m	1x10 m	1x10 m	1x10 m	1x20 m
Watertightness	EN 1928 - B	≥	60 kPa		60 kPa		60 kPa	
Peel resistance	EN 12316-1	-20 N	50 N/50mm		50 N/50mm		50 N/50mm	
Shear resistance L/T	EN 12317-1	-20%	750/600 N/50 mm		900/800 N/50 mm		1 000/900 N/50 mm	
Maximum tensile force L/T	EN 12311-1	-20%	850/700 N/50 mm		1 000/900 N/50 mm		1 100/1 000 N/50 mm	
Elongation L/T	EN 12311-1	-15% V.A.	50/50%		50/50%		50/50%	
Resistance to impact	EN 12691 - A		1250 mm		1500 mm		1500 mm	
Resistance to static loading	EN 12730 - A EN 12730 - B		20 kg 25 kg		25 kg 30 kg		25 kg 30 kg	
Resistance to tearing (nail shank) L/T	EN 12310-1	-30%	200/200 N		250/250 N		250/250 N	
Dimensional stability L/T	EN 1107-1	≤	-0.5/+0.3%		-0.5/+0.3%		-0.5/+0.3%	
Flexibility to low temp. • after ageing	EN 1109 EN 1296-1109	≤ +15°C	-15°C -5°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 110°C		120°C 110°C		120°C 110°C	
UV ageing	EN 1297		Test passed		Test passed		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	0.2 W/mK	0.2 W/mK
Heat capacity	5.20 KJ/K	6.50 KJ/K	5.20 KJ/K	6.50 KJ/K	5.20 KJ/K	6.50 KJ/K

Technical specification for waterproofing of trafficked areas (EN 14695)

Resistance to dynamic water press.	EN 14694	≥	500 kPa		500 kPa		500 kPa	
Compatibility by heat conditioning	EN 14691	≥	80%		80%		80%	
Bond strenght	EN 13596	≥	0.4 N/mm ²		0.4 N/mm ²		0.4 N/mm ²	
Shear strenght	EN 13653	≥	0.30 N/mm ²		0.30 N/mm ²		0.30 N/mm ²	
Resistance to compaction	EN 14692		Test passed		Test passed		Test passed	
Crack bridging ability - Type 1	EN 14224	≥	-		-20°C		-	
Crack bridging ability - Type 3	EN 14224	≥	-		-20°C		-	
Water absorption	EN 14223		0.5%		0.5%		0.5%	
Behaviour under mastic asphalt	EN 14693		Test passed		Test passed		Test passed	

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

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.

• 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 •

<p>index Construction Systems and Products</p> <p>Via G. Rossini, 22 - 37060 Castel D'Azzano (VR) - Italy - C.P.67 - Tel. (+39)045.8546201 - Fax (+39)045.518390</p>	<p>Internet: www.indexspa.it For technical and commercial information: tecom@indexspa.it Accounting department: index@indexspa.it Export department: index.export@indexspa.it</p>	<p>TOTAL QUALITY index</p> <p>UNI EN ISO 9001</p>	<p>Environmental Management Systems index</p> <p>UNI EN ISO 14001</p>	<p>index "GBC Italia" Associated</p>	<p>MBDP PRODOTTORE ITALIANO DELLA FILMERA</p>
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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