

# TESTUDO ROAD HP250 TESTUDO ROAD 200

WATERPROOFING ELASTOPLASTOMERIC POLYMER DISTILLED BITUMEN MEMBRANE, BASED ON DISTILLED BITUMEN, PLASTOMERS AND ELASTOMERS

Società VENETO STRADE S.p.A.

CATEGORY	CHARACTERISTICS	ENVIRONMENTAL						METHOD OF USE	
									
ELASTOPLASTOMERIC	WATERPROOF	ECO GREEN	ASBESTOS FREE	TAR FREE	CHLORINE FREE	RECYCLABLE	NON DANGEROUS WASTE	EXHAUSTED OIL FREE	TORCH APPLICATION

## TESTUDO ROAD HP250

Società VENETO STRADE S.p.A.

• References of specifications. As per Entry no. 1070 12 VS. 009. 0 9, 2012 PRICE LIST of the company VENETO STRADE S.p.A.

## TESTUDO ROAD 200

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• References of specifications. As per Entry no. 1070 12 VS. 009. 0 4, 2012 PRICE LIST of the company VENETO STRADE S.p.A.

## DESCRIPTION

**TESTUDO ROAD** are MBDP membranes (polymer-modified bitumen membranes) reinforced with high basic weight Spunbond non-woven polyester fabric which is rot-proof, isotropic and thermally sealed with high mechanical resistance, remarkable ultimate elongation and excellent resistance to punching and perforation. **TESTUDO ROAD** membranes are made up of distilled bitumen selected for industrial use with a high added content of elastomeric and plastomeric polymers such as to obtain a "phase inversion" amalgam. The continuous phase of this amalgam consists of the polymer in which the bitumen is dispersed, where the characteristics are determined by the polymer matrix and not by the bitumen, even if it is the largest ingredient.

The performance of bitumen is therefore increased, durability and resistance to low and high temperatures are improved, thus maintaining the bitumen's already excellent adhesion and waterproofing qualities.

**TESTUDO ROAD** membranes, which are produced in various thicknesses, have their upper face coated with fine screen-printed talcum, uniformly distributed, a patented treatment that allows the roll coils to be easily unwound, along with the secure and quick sealing of joints and excellent adhesion to road asphalt applied hot. The bottom face is covered with Flamina, a plastic hot-melt film and is embossed to obtain both the pretension (consequently the excellent heat-shrinkage of the film) and to ensure a larger flame surface (consequently more secure and quicker application).

## APPLICATION FIELDS

Its very high resistance to punching is a great feature of **TESTUDO ROAD** which is particularly suitable for waterproofing civil engineering works for which mechanical resistance is the main specification, such as decks of bridges and viaducts, tunnels, underground railways, geological works and hydraulic works.

**TESTUDO ROAD HP 250** as per Entry no. 1070 12 VS. 009. 0 9 of the 2012 Veneto Strade S.p.A. Price List, in the 4 mm thickness, is used for making very high performance double-layer waterproof coverings.

The same applies to **TESTUDO ROAD 200**, as per Entry no. 009. 0 4 of the 2012 Veneto Strade S.p.A. Price List, which is intended for double-layer waterproof coverings 3 mm thick.

The torch application of a 3 mm thick membrane straight onto the concrete surface treated with primer only, can be used on flat and carefully smoothed surfaces only.

**TESTUDO ROAD** membranes have EC marking compliant with UNI EN 14695 for application under asphalt concrete.

## METHOD OF USE


Società VENETO STRADE S.p.A.

• Reference to the 2012 PRICE LIST of the company VENETO STRADE S.p.A. - INTRODUCTORY REPORT, previously mentioned, according to the method described below:


- Preparing the surface to be treated
- Coat of primer
- Double layer of membrane **TESTUDO ROAD 200**, th.  $\geq 3$  mm, or alternatively **TESTUDO ROAD HP250** th.  $\geq 4$  mm

The first membrane is applied parallel to the road deck previously prepared with radical cleaning of the surfaces through washing and blowing, on a support with humidity  $\leq 4\%$  measured with the "calcium carbide method", and treated with a coat of bitumen primer using 0.35-0.50 kg/m<sup>2</sup>.

After the primer has dried completely, the sheets are fully and carefully bonded onto the application surface with the flame of a propane



**INTENDED USE OF "CE" MARKING SPECIFIED ACCORDING TO SITEB**



**EN 14695 - REINFORCED BITUMINOUS MEMBRANES FOR WATERPROOFING THE DECKS OF CONCRETE BRIDGES AND OTHER CONCRETE SURFACES SUBJECT TO TRAFFIC**

- Under bituminous conglomerate
- TESTUDO ROAD HP250
- TESTUDO ROAD 200


gas burner and longitudinal overlaps of 10 cm and transversal overlaps of 15 cm are torch bonded.

The covering of projecting parts, unless otherwise indicated in the specifications, must exceed the height of the road paving by at least 10 cm and must be performed separately from the general covering of the deck, with membrane sheets torch bonded onto the support previously painted with the primer until they descend at least 10 cm onto the covering of the deck.


The sheets of the second layer are arranged in the same direction but staggered, straddling the overlaps of the previous layer and are torch bonded with complete adhesion. The overlaps between the sheets, torch bonded, must be 10 cm in the longitudinal direction and 15 cm in the transversal direction.

Projecting parts must be covered in the same way as indicated for the previous layer.

## CERTIFICATIONS



**BUREAU VERITAS**



## TECHNICAL CHARACTERISTICS

	Standard	T	TESTUDO ROAD HP250	T	TESTUDO ROAD 200
Reinforcement			Non-woven Spunbond polyester		Non-woven Spunbond polyester
Thickness	EN 1849-1	≥	4 mm	≥	3 mm
Roll size	EN 1848-1		1x10 m	≥	1x10 m
Mass per unit area	EN 1849-1	≥	4 100 g/m <sup>2</sup>	≥	3 400 g/m <sup>2</sup>
Mass per unit area woven non woven reinforcement		≥	250 g/m <sup>2</sup>	≥	200 g/m <sup>2</sup>
Softening point		≥	150°C	≥	150°C
Top coating thickness			approx 0.5÷1 mm		approx 0.5÷1 mm
Puncture resistance at 40°C with a 5 mm ø puncturing tool		≥	12 kg	≥	10 kg
Watertightness	EN 1928 - B	≥	500 kPa	≥	250 kPa
Shear resistance L/T	EN 12317-1	-20% (*)	900/800 N/50 mm	-20% (*)	650/500 N/50 mm
Maximum tensile force L/T	EN 12311-1	≥900/800	1 100/1 000 N/50 mm	-20%	750/600 N/50 mm
Elongation L/T	EN 12311-1	±15% V.A.	50/50%	±15% V.A.	50/50%
Resistance to impact	EN 12691 - A	≥	1 750 mm	≥	1 000 mm
Resistance to static loading	EN 12730 - B	≥	30 kg	≥	20 kg
Resistance to tearing (nail shank) L/T	EN 12310-1	-30%	250/250 N	-30%	150/150 N
Dimensional stability L/T	EN 1107-1	≤	0.50%	≤	0.50%
Flexibility to low temp.	EN 1109	≤	-20°C	≤	-10°C
Flow resist. at high temp. • after ageing	EN 1110 EN 1296-1110	≥ -10°C	140°C 140°C	≥ -10°C	120°C 100°C
Specific characteristics for waterproofing systems under surfaces subject to traffic (EN 14695)					
Dynamic impermeability	EN 14694	≥	500 kPa	≥	500 kPa
Compatibility for thermal conditioning	EN 14691	≥	80%	≥	80%
Adhesive force	EN 13596	≥	0.4 N/mm <sup>2</sup>	≥	0.4 N/mm <sup>2</sup>
Resistance to shear stress	EN 13653	≥	0.30 N/mm <sup>2</sup>	≥	0.30 N/mm <sup>2</sup>
Resistance to compaction	EN 14692		Test passed		Test passed
Crack bridging ability - Type 1	EN 14224	≤	-20°C	≤	-20°C
Crack bridging ability - Type 3	EN 14224	≤	-20°C	≤	-20°C
Water absorption	EN 14223	≤	0.5%	≤	0.5%

(\*) Or breaks occur out of joint

## 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 •

**index**  
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