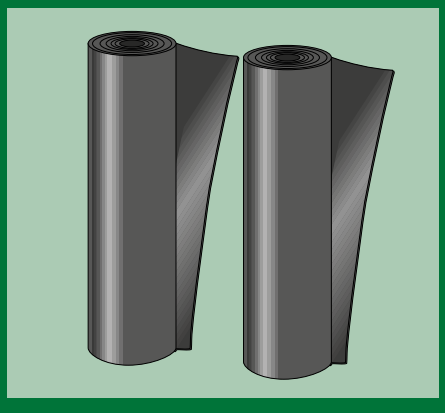

HELASTO ROAD 250
HELASTO ROAD 150

DISTILLED POLYMER BITUMEN ELASTOMERIC WATERPROOFING MEMBRANES, SBS THERMOPLASTIC RUBBER

Autonomous Province of Bolzano

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

Autonomous Province of Bolzano

• References of specifications. Compliant with "MANUAL ON WATERPROOFING BRIDGES WITH DOUBLE BITUMEN SHEATHS" edited by the Autonomous Province of Bolzano
Data sheet I1 rev. 0 - Roads service Dep. 12.0 - Bridges service.

DESCRIPTION

HELASTO ROAD are MBDP membranes (polymer-modified bitumen membranes) reinforced with Spunbond non-woven polyester fabric which is rot-proof, isotropic and thermally sealed with very high mechanical resistance, remarkable ultimate elongation and excellent resistance to punching and perforation. **HELASTO ROAD** membranes are made up of distilled bitumen selected for industrial use with a high content of SBS
elastomeric polymers, which create a "phase inversion" alloy whose continuous phase is formed of the elastomer in which the bitumen is dispersed, where the characteristics are determined
by the polymeric matrix and not by the bitumen, even though this constitutes the main ingredient. Compared to unmodified bitumen its durability and resistance to low and high temperatures are improved and the already excellent waterproof qualities of the bitumen are increased. In fact, the SBS-bitumen mix has excellent qualities of elasticity, adhesion and compatibility with other oxidised and modified bitumens and it guarantees long lasting and strong joints with a resistance to peeling which increases over time, from 2 to 3 times higher than normal membranes based on polymer modified bitumen. Compared to low thickness non-reinforced coatings, the very high elasticity, also at low temperatures, of the elastomeric mix, along with the mechanical resistance of the polyester reinforcement and the high thickness that distinguishes the **HELASTO ROAD** membrane, give it higher resistance to fatigue allowing it to absorb the cyclic opening and closing movements of any cracks that should form on the application surface onto which it is bonded. For these reasons in the Manual of the Bridges and Roads Service of the Province of Bolzano, SBS elastomeric bitumen membranes, such as **HELASTO ROAD**, are specified as the first layer of a two-layer system onto which APP plastomeric bitumen membranes, such as TESTUDO ROAD 250, are bonded *(see relative technical data sheet)*.

HELASTO ROAD made in different thicknesses, is coated on both faces with Flamina, a hot-melt plastic film with high shrinkage that ensures quick and secure application.

APPLICATION FIELDS

The exceptional fatigue resistance of **HELASTO ROAD** membranes, due to the very high elasticity maintained over time even at low temperatures, make them suitable for use in more demanding waterproofing installations: fractional application surfaces or ones which are subject to cracking and vibrations, even in particularly cold climates and both for new jobs and repairs, as well as civil engineering works such as:
- waterproof covering of road decking
- waterproof covering on the external surface (extrados) of artificial tunnels and open trenches also in the presence of water-bearing strata.

HELASTO ROAD membranes have EC marking compliant with UNI EN 14695 for application as the first layer of a two-layer system, under asphalt concrete.

METHOD OF USE

Autonomous Province of Bolzano

• References of specifications. Compliant with "MANUAL ON WATERPROOFING BRIDGES WITH DOUBLE BITUMEN SHEATHS" edited by the Autonomous Province of Bolzano
Data sheet I1 rev. 0 - Roads service Dep. 12.0 - Bridges service.
mentioned previously, the waterproofing is applied in 4 successive steps:

A - For: Packet of 1st category membranes, on epoxy or bitumen primer
- Preparing the surface to be treated
- Coat of primer
- 1st layer with membrane **HELASTO ROAD 250** thickness ≥ 4 mm
- 2nd layer with membrane TESTUDO ROAD 250 thickness ≥ 4 mm

B - For: Packet of 2nd Category membranes, over a bituminous primer
- Preparing the surface to be treated
- Coat of primer
- 1st layer with membrane **HELASTO ROAD 150** thickness ≥ 3 mm
- 2nd layer with membrane TESTUDO ROAD 250 thickness ≥ 4 mm

CE 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
- HELASTO ROAD 250 *
- HELASTO ROAD 150 *

(*) 1st layer in a double-layer system under bituminous conglomerate

The layer of binder is applied later.
The steps of preparing and testing the surface, and those of applying and testing the primer, are compliant with the specifications of the Manual of the Province of Bolzano. After the primer has dried completely, the sheets of the first layer, arranged parallel to the deck, are fully and carefully bonded onto the application surface with the flame of a propane gas burner and longitudinal overlaps of 10 cm and transversal overlaps of 15 cm are torch bonded. 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 in the same way as indicated above. The projecting parts, up to the height envisaged by the tender specifications are covered separately from the general covering of the structure, with membrane sheets torch bonded onto the surface previously painted with the primer until they descend at least 10 cm onto the covering of the flat part.

CERTIFICATIONS

BUREAU VERITAS

TECHNICAL CHARACTERISTICS

	Standard	T	HELASTO ROAD 250		T	HELASTO ROAD 150
Reinforcement			Non-woven Spunbond polyester			Non-woven Spunbond polyester
Thickness	EN 1849-1	≥	4 mm	5 mm	≥	3 mm
Roll size	EN 1848-1		1×10 m	1×10 m	≥	1×10 m
Mass per unit area	EN 1849-1	≥	4 200 g/m²	5 300 g/m²	≥	3 100 g/m²
Mass per unit area woven non woven reinforcement		≥	250 g/m²	250 g/m²	≥	150 g/m²
Softening point		≥	110°C	110°C	≥	110°C
Watertightness	EN 1928 – B	≥			≥	500 kPa 500 kPa
Shear resistance L/T	EN 12317-1	–20% (*)	1200/1000 N/50 mm		–20% (*)	650/500 N/50 mm
Maximum tensile force L/T	EN 12311-1	≥800/800	1300/1100 N/50 mm		≥500/400	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 - A	≥	30 kg		≥	15 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	100°C 90°C		≥ –10°C	100°C 90°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 (1st layer)	EN 13596	≥	0.7 N/mm²		≥	0.7 N/mm²
Resistance to shear stress	EN 13653	≥	0.30 N/mm²		≥	0.30 N/mm²
Resistance to compaction	EN 14692		Test passed			Test passed
Crack bridging ability - Type 1 Crack bridging ability - Type 3	EN 14224 EN 14224	≤ ≤	–20°C –20°C		≤ ≤	–20°C –20°C
Water absorption	EN 14223	≤	0.5%		≤	0.5%

(*) Or breaks occur out of joint

PRODUCT FINISHING

"FLAMINA" PE FOIL. Plastic protection film helping prevent coils from sticking to the roll. As it withdraws under the action of the flame right during its installation, it signals the best melting point in order to correctly glue the membrane to the brackets and rises. When not heated, it can be used as a sliding layer.

• 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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