



WATERPROOFING SYSTEMS

## GECO BRIDGE S.T.A.

*Thermal activated composite waterproofing membrane with high performance*



### DESCRIPTION

Prefabricated thermal activated composite waterproofing membrane, composed of distilled bitumen and special synthesis polymers, which provide thermal adhesion properties to the lower face waterproofing compound. The waterproofing compound of the upper face allows for fast heat transmission to the lower face. The thermal activated waterproofing compound allows the product to be positioned and applied without the initial use of heat. GECO BRIDGE S.T.A. is specifically developed for use on bridges, viaducts, parking decks and for all those applications where the use of road asphalt is required. GECO BRIDGE S.T.A. has a rot proof composite woven non woven continuous single strand heavy weight polyester with very high mechanical characteristics. The upper face is self protected with a woven non woven polypropylene mat. The lower face is provided with a thermoplastic removable film.

### AREAS OF USE

GECO BRIDGE S.T.A. can be used with success as a waterproofing element in a wide range of both civil and industrial works, particularly for those which undergo considerable stress of mechanical nature such as bridges, viaducts, hydraulic works, parking decks, etc. The particular formulation of the membranes of the GECO BRIDGE S.T.A. makes it compatible with all GECO membranes, be they either APP or SBS based. The particular thermal activated waterproofing compound of GECO BRIDGE S.T.A. will activate and develop its full adhesive power binding to the substrate when the asphalt is applied. If applying two layers, the adhesion will be obtained during the torching of the second layer. The substrate must be dry, clean, exempt from irregularities higher than 1,5 mm and with the correct proper slopes. The concrete will have aged at least two weeks and the water content cannot be higher than 5%. The cohesion of the concrete: tablet test: 1 MPA. When waterproofing road works, the hot asphalt will be applied directly on the membrane without any slip sheet. The thickness of the binder course must be minimum 6 cm with a granulometry of 0-15 mm, while for the surface course the thickness must be minimum 4 cm and granulometry of 0-12 mm. If used on a new laying surface with a residual humidity of more than 5% or in case of refurbishing an existing driveway cover, before laying the membrane GECO BRIDGE S.T.A., it is necessary to remove all the existing waterproofing layers and PRIMER EPOX must be applied. For further information and news it is recommended to consult the GECO technical literature; our Technical office is always available to evaluate particular problems and to provide the necessary assistance to best apply our waterproofing membranes.

Technical Characteristics	Measure units	Reference norm	P		Tolerance
Type of compound			Special		
Type of reinforcement			Polyester		
Upper face finish			Polypropylene mat		
Lower face finish			Silicon release film		
Length	m	EN 1848-1	10 -1%	8 -1%	
Width	m	EN 1848-1	1 -1%		
Thickness	mm	EN 1849-1	4	5	±5%
Cold flexibility	°C	EN 1109	NPD		
Cold flexibility after ageing	°C	EN 1296 - EN 1109	NPD		+15°C
Flow resistance	°C	EN 1110	NPD		
Flow resistance after ageing	°C	EN 1296 - EN 1110	NPD		-10°C
Shear resistance L/T	N/5 cm	EN 12317-1	1100/900		-20%
Tensile strength L/T	N/5 cm	EN 12311-1	1200/1000		-20%
Elongation at break L/T	%	EN 12311-1	45/45		-15
Nail tear strength L/T	N	EN 12310-1	300/300		-30%
Static puncture resistance	kg	EN 12730	25		
Dynamic puncture resistance	mm	EN 12691	1750		
Dimensional stability	%	EN 1107-1	-0,5		
Fire resistance		EN 13501-5	F ROOF		
Fire reaction		EN 13501-1	F		
Watertightness	kPa	EN 1928	60		
Watertightness after ageing	kPa	EN 1296 - EN 1928-B	60		
Vapour transmission	μ	EN 1931	100000		
Bond strenght	N/mm <sup>2</sup>	EN 13596	0,42		≥
Shear strenght	N/mm <sup>2</sup>	EN 13653	0,24		≥
Compatibility by heat conditioning	%	EN 14691	180		≥
Crack Bridging Ability	°C	EN 14224	-20		≥
Resistance to dynamic water pressure		EN 14694	pass		
Resistance to compaction of an asphalt layer		EN 14692	pass		
Behaviour of bitumen sheets during application of mastic asphalt	% , mm , %	EN 14693	NPD		

NPD = No Performance Declared in accordance with the EU Construction Products Directive.

# TECHNICAL DATA SHEET



## APPLICATION & RECOMMENDATIONS


- Apply by roller or airless the solvent based bituminous primer PRIMERTEC AD, approx. consumption 300 g/m<sup>2</sup>.
- Apply at site, by torch or hot air gun, all parapets/verticals with a 25 cm strip of GECO BRIDGE S.T.A.
- Position the GECO BRIDGE S.T.A. rolls on the application surface.
- Provide for side & head laps respectively of 10 & 15 cm between the sheets, making sure to also remove the side overlap thermoplastic film on the upper face.
- Remove the thermoplastic film from the lower face.
- Carry out thermal activation by torch or hot air gun of the head overlaps.
- After having positioned the rolls, apply pressure over the surface using a suitable roller to promote adhesion.
- Apply the membrane on the verticals by overlapping those on the horizontal surface by at least 10 cm, thermal activating by torch or hot air gun.
- Apply directly on to the GECO BRIDGE S.T.A. the hot bituminous asphalt.
- The adhesion of the GECO BRIDGE S.T.A. will occur with the heat of the sun and that of the bituminous asphalt.

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.**
- 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 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.
- For information concerning storage and application of Geco membranes, please refer to the "Installation manual".

## FIELDS OF USE

### EN14695 VIADUCTS 0958-CPR-2045/1

CERTIFICATION 	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	THERMOADHESIVE / SELF-ADHESIVE	FULLY BONDED	PARTIALLY BONDED	LOOSE LAID	COMPLEMENTARY LAYER	TOP LAYER	HEAVY PROTECTION	ANTI-ROOT
<b>GECO BRIDGE S.T.A. P 4 MM</b>	<b>X</b>								<b>X</b>	<b>X</b>			<b>X</b>		<b>X</b>	
<b>GECO BRIDGE S.T.A. P 5 MM</b>	<b>X</b>								<b>X</b>	<b>X</b>			<b>X</b>		<b>X</b>	