

AUTOTENE ASFALTICO EP POLYESTER AUTOTENE ASFALTICO STRIP EP POLYESTER

SELF-HEAT-ADHESIVE MEMBRANE IN ELASTOPLASTOMERIC DISTILLED POLYMER BITUMEN USED FOR COLD-STATE WATERPROOFING OF BRIDGES AND CAR PARK SURFACES TO BE PAVED WITH HOT BITUMEN OR ASPHALT

CATEGORY	CHARACTERISTICS		ENVIRONMENTAL						METHOD OF USE		
SPECIAL ELASTOPLASTOMERIC FOR SPECIFIC USES	WATERPROOF	SUPERADHESIVE	ECO GREEN	ASBESTOS FREE	TAR FREE	CHLORINE FREE	RECYCLABLE	NON DANGEROUS WASTE	EXHAUSTED OIL FREE	INDIRECT HEAT APPLICATION	TORCH APPLICATION

1 PROBLEM

SUBSTRATE

- Concrete
- Wood
- Old membrane
- Thermal insulation

HOW TO OBTAIN UNIFORM ADHESION OF UNDER-ASPHALT WATERPROOFING

For waterproofing road decks, it is important to uniformly bond the waterproofing layer to obtain total adhesion and prevent it from detaching due to the action of heavy vehicular traffic. Whereas, for parking area decks, it is important to obtain partial but uniformly distributed adhesion which allows humidity to spread and prevents bubbles from forming. The technique of torch bonding the traditional polymer bitumen membranes depend on the ability of the application, but if the membrane is not bonded well, the operator has no way of finding out, and the above mentioned problems could arise.

2 SOLUTION

AUTOTENE ASFALTICO

hesive properties of the mix which covers the lower face of the membrane in contact with the laying surface, automatically ensuring a secure bond.

Compared to the traditional technique, **AUTOTENE ASFALTICO EP** is quicker to lay. The torch is only used for sealing the front end overlaps.

AUTOTENE ASFALTICO EP is a waterproofing membrane made up of a continuous phase distilled bitumen polymer mix, selected for industrial use, and elastomeric and plastomeric polymers, which is durable and heat resistant. The membrane is reinforced with a single strand "non-woven" elastic polyester fabric which resists penetration.

The lower face of **AUTOTENE ASFALTICO EP POLYESTER** is coated with a special "hot-melt" self-heat-adhesive mix, containing elastomers and tackiness inducing resins.

The mix is elastic even at low temperatures and is protected by a peelable silicone coated film.

On the upper face of the membrane, the same treatment is carried out on a strip of about 60 mm close to its border, protected by a strip

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

EN 13707 - REINFORCED BITUMEN SHEETS FOR ROOF WATERPROOFING

- Sub-layer or intermediate layer in multi-layer systems without permanent heavy upper protection (visible)
- AUTOTENE ASFALTICO EP POLYESTER
- AUTOTENE ASFALTICO STRIP EP POL.

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

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

- Under asphalt concrete
- AUTOTENE ASFALTICO STRIP EP POL.
- Under mastic asphalt
- AUTOTENE ASFALTICO EP POLYESTER
- AUTOTENE ASFALTICO STRIP EP POL.

AUTOTENE ASFALTICO EP is a membrane which bonds with the heat of the bitumen paving laid over it. Its adhesion continues through use and is reinforced by the action of traffic and solar action.

Bonding on the laying surface is no longer determined by the operator, but by the successive hot laying of paving, whether hot bitumen or asphalt is used.

The heat of the paving layer activates the ad-

ADVANTAGES

- Adheres uniformly on its own, hence sealing mistakes are prevented.
- Quicker and cheaper laying, saves gas and saves on gas bottle transport.
- Can be used both under Concrete asphalt and under mastic asphalt.

CERTIFICATION

BUREAU VERITAS

of bi-silicon coated film, whilst the rest of the surface is sanded, which is able, during the application, to stand the job-site traffic very well. The sand is then absorbed by the membrane during the laying of the hot asphalt, securing a

complete adhesion of the layers.

On the lower surface of **AUTOTENE ASFALTICO EP**, the same self-heat-adhesive mix is spread in strips, across an area which corresponds to about 40% of the total surface area, whilst the upper face is produced the same way as the previous membrane.

Both are designed to withstand the laying operations of the bituminous mix at 180°C, including the rolling, the mastic asphalt spread with a wooden spatula up to a temperature of 240°C.

APPLICATION FIELDS

When the hot paving is laid, **AUTOTENE ASFALTICO EP POLYESTER** is automatically bonded to the laying surface giving total adhesion, whereas **AUTOTENE ASFALTICO EP POLYESTER** adheres only partially across 40% of the surface which allows diffusion of the humidity contained in the non-contact areas preventing the formation of vapour bubbles which would cause the waterproofing coat to swell. The first is therefore recommended for dry cement laying surfaces or metallic surfaces of bridges where, due to the high stress caused by vehicular traffic, total adhesion laying cannot be replaced by semi-independent laying, as in the case of car park roofs where the speed is lower and vehicles are lighter.

Total adhesion of the membrane is also necessary on access ramps where **AUTOTENE ASFALTICO EP POLYESTER** has been tested under mastic asphalt up to a 5% slope.

AUTOTENE ASFALTICO EP POLYESTER, is used in a single layer of waterproofing road decks, up to a max. slope of 5%, where it can be paved using heat with Concrete asphalt spread out at 180°C or can be paved with mastic asphalt and even if the latter is spread at 240°C with wooden spatulas, no raised areas of bitumen appear in the asphalt thickness.

AUTOTENE ASFALTICO STRIP EP POLYESTER is used in a single layer for waterproofing roofs for motor vehicle car parks, in combination with a layer of waterproofing and mastic asphalt paving, up to a max. slope of 3%.

However, where hot bitumen mix paving is used, another layer must be laid on the membrane, made up of the TESTUDO SPUNBOND POLYESTER 25/4 membrane which is torch bonded.

AUTOTENE ASFALTICO EP adheres to aluminium, copper, lead, steel and zinc plated steel without using primer as long as the surfaces are clean, dry and degreased.

If there is a possibility of there still being some grease present, it is better to prime with a coat of INDEVER PRIMER E.

METHOD OF USE AND PRECAUTIONS

The laying surface must be smooth, clean and dry and the cement surfaces must be free from anti-evaporation treatment residues and seasoned for at least three weeks. Surfaces that are too rough will not allow complete adhesion of the membrane.

Before proceeding with laying the membrane it is necessary to treat the whole surface, with a coat of primer INDEVER PRIMER E using 0.2-0.4 kg/m².

Once the primer has dried, in normal condition after two hours, the membrane can be laid.

The area around the drains should be covered with a piece of **AUTOTENE ASFALTICO EP**

POLYESTER membrane, at least 20 cm wider than the connector wing of the drain union, which, after the silicone coated film has been removed, is torch bonded onto the laying surface.

The same bonding technique is then used for the connector of the waterproofing layer on the piece of the membrane and on the wing of the drain union, as for the lining of the vertical parts. On road decks the rolls of membrane are laid parallel to the lanes of traffic.

In car parks, before proceeding to cover the general surface of the roofing and regardless of the type of membrane which will be used after, at the foot of the projections along the whole perimeter of the roof and around projections from the roof surface, a sheet of **AUTOTENE ASFALTICO EP POLYESTER** is laid, which is mounted on the vertical parts covering about 10 cm, where, after removing the silicone coated film which protects the lower face, it is torch bonded including a strip of about 25 cm on the surface at the foot of the projection.

The rest of the surface is then covered, unrolling the first roll on the lowest height of the slope, removing the silicone coated film at the same time. The next roll is then unrolled and lined up beside the membrane previously laid down, without removing the silicone coated film, laterally superimposing it on the membrane by about 6-cm. The sheet must be parallel compared to the membrane laid down beside it, but must be staggered by at least 1 meter in order to prevent four fabric pieces overlapping in a cross, the overlaps must be made up of at least three fabric pieces in a "T".

At the top of the sheet overlaps with the following fabric piece by at least 15cm and the corner of the membrane must be chamfered with a cut at least 10-cm long, which will be put in the middle of the "T" junction.

Subsequently, the sheet is re-rolled at both ends until two half length rolls are obtained, then the silicone coated film covering the lower face is cut transversally and the film is removed, unrolling the first half roll at the same time and ensuring it is pushed with your feet. The operation is then repeated for the second half.

The joint is then torch sealed, after removing the silicone coated strip from the side overlap, ensuring correct sealing of the chamfer including the "T" overlap.

It is then possible to proceed with the pre-sealing of the side overlap, which is obtained by pressing the overlap after removing the silicone coated strip which covers it and then the final

sealing, together with the glueing of the laying surface, is carried out with the heat of the paving slab being laid.

The lining of the vertical parts in car parks with mastic asphalt is made up of a strip of **AUTOTENE ASFALTICO EP POLYESTER** membrane, which is torch bonded, and, descends by at least 20 cm on the membrane covering the horizontal plane and vertically by about 20 cm above the paving height which is protected by reinforced plaster with a metal net, applied before proceeding with the bituminous paving.

For car parks paved with hot bitumen mix the lining of the vertical parts is carried out using the same methods but with a strip of TESTUDO SPUNBOND POLYESTER 25/4 membrane.

For double layer laying under hot bitumen mix, the TESTUDO SPUNBOND POLYESTER 25/4 membrane is torch bonded so that it mounts the overlaps of the previous layer.

The thickness of asphalt paving must be at least 25 mm, whereas the hot bitumen paving must be at least 50 mm in order to absorb the thickness of the membrane overlaps and to prevent flaws in the paving above.

The bitumen polymer membranes are thermoplastic products and during the summer they soften and it must be remembered that the surfaces of the membrane spread with the self-heat-adhesive mix show strong adhesive properties and that the silicone coated film must be removed only when the correct positioning of the sheet has been determined.

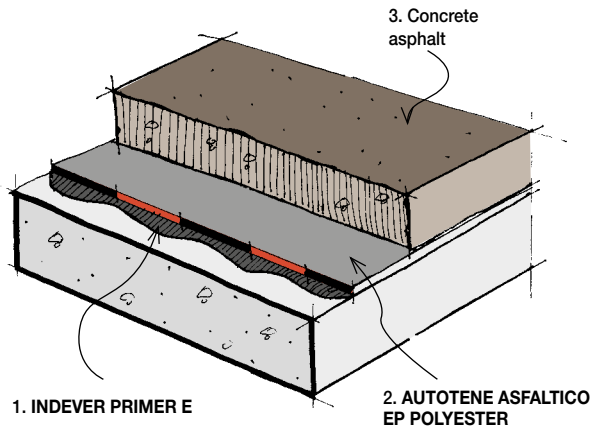
At low temperatures the membranes harden and the adhesive properties decrease, but by heating the adhesive face with a "soft" flame, the adhesive strength is reactivated straight away.

The air temperature during laying must not be less than 10°C but attention must be paid so that condensation is not formed on the laying surface, which could be at a lower temperature than that of the air. If the problem is only slight it may be resolved by heating up the laying surface with a torch, whereas in the case of rain or fog or very damp situations, application must be suspended.

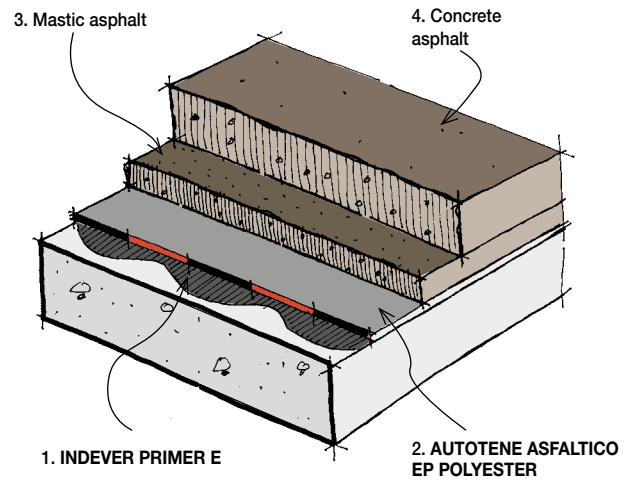
For total adhesion laying using **AUTOTENE ASFALTICO EP POLYESTER** there is always a potential risk of bubbles forming due to the humidity contained in the cement laying surface, hence it is recommended to lay the waterproof covering as soon as possible.



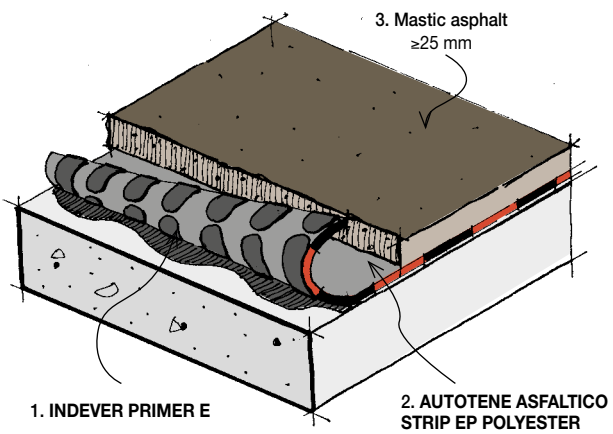
Bridges 1



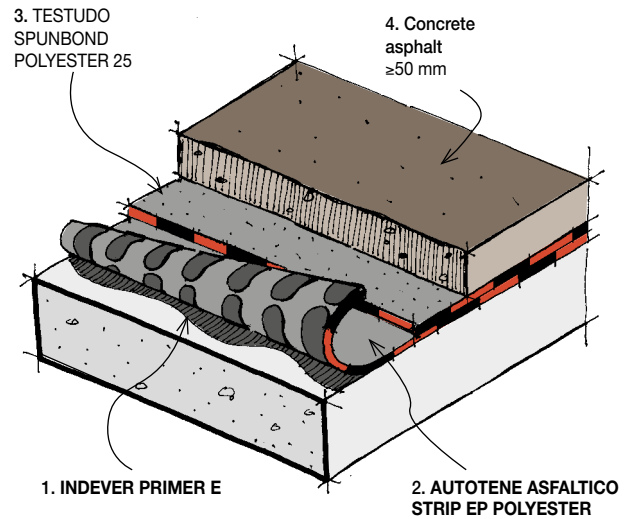
Bridges 2



Parking 1



Parking 2



TECHNICAL CHARACTERISTICS

	Standard	T	AUTOTENE ASFALTICO POLYESTER EP	AUTOTENE ASFALTICO STRIP EP POLYESTER
Reinforcement			Non-woven Spunbond polyester	Non-woven Spunbond polyester
Thickness	EN 1849-1	±0,2	4 mm	4 mm
Roll size	EN 1848-1	-1%	1x10 m	1x10 m
Watertightness	EN 1928 - B	≥	60 kPa	60 kPa
Shear resistance L/T	EN 12317-1	-20%	750/600 N/50 mm	750/600 N/50 mm
Maximum tensile force L/T	EN 12311-1	-20%	850/700 N/50 mm	850/700 N/50 mm
Elongation L/T	EN 12311-1	-15% V.A.	50/50%	50/50%
Resistance to impact	EN 12691 - A		1 250 mm	1 250 mm
Resistance to static loading	EN 12730 - A		20 kg	20 kg
Dimensional stability L/T	EN 1107-1	≤	-0.3/+0.3%	-0.3/+0.3%
Flexibility to low temperature	EN 1109	≤	-15°C	-15°C
Flow resist. at high temp. • after ageing	EN 1110 EN 1296-1110	≥ -10°C	100°C	100°C
Reaction to fire Euroclass	EN 13501-1		E	E
External fire performance	EN 13501-5		F roof	F roof
Caratteristiche specifiche per la posa sotto conglomerato (EN 14695)				
Resistance to dynamic water pressure	EN 14694	≥	500 kPa	500 kPa
Compatibility by heat conditioning	EN 14691	≥	80%	80%
Bond strenght	EN 13596	≥	0.4 N/mm ²	0.4 N/mm ² (*)
Shear strenght	EN 13653	≥	0.15 N/mm ²	0.15 N/mm ² (*)
Resistance to compaction	EN 14692		Test passed	Test passed
Water absorption	EN 14223	≤	1.5%	1.5%
Behaviour under mastic asphalt	EN 14693		Test passed	Test passed

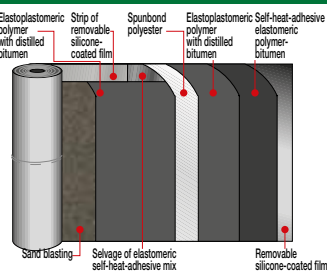
(*) The value is proportional to the surface of the strip (40%)

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.

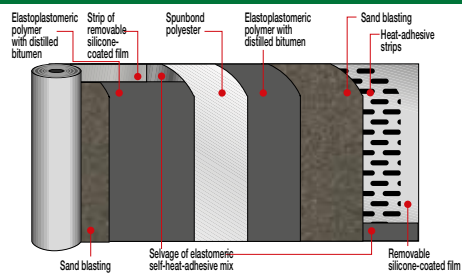
the numerous possible uses and the possible interference of conditions or elements beyond our control, we assume no responsibility regarding the results which are obtained. The purchasers, of their own accord and under their own responsibility, must establish the suitability of the product for the envisaged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

COMPOSITION OF THE MEMBRANE

AUTOTENE ASFALTICO POLYESTER EP



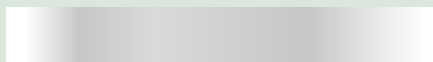
AUTOTENE ASFALTICO STRIP EP POLYESTER



PRODUCT FINISHING



SAND BLASTING. It is carried out by means of the hot adhesion of sand from minerals which are free from free willow, avoids the gluing of the coil turns and acts as adhesion intermediate agent for hot and cold applied paints and adhesives.



REMOVABLE SILICONE-COATED FILM. The lower face of the membrane is covered in a silicone-coated film which preserves the adhesive mix.

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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