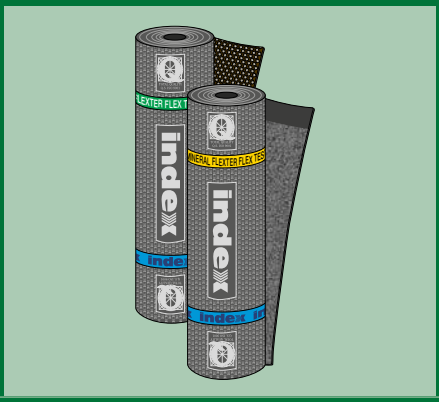


FLEXTER FLEX TESTUDO SPUNBOND POLYESTER
MINERAL FLEXTER FLEX TESTUDO SPUNBOND POLYESTER

ELASTOPLASTOMERIC ECMB DISTILLED POLYMER-BITUMEN WATERPROOFING MEMBRANES BASED ON DISTILLED BITUMEN AND POLYOLEFIN COPOLYMERS

GRANTS *LEED* CREDITS

CATEGORY	CHARACTERISTICS		ENVIRONRMENTAL							METHOD OF USE				
EP		Reazione al fuoco		ASBESTOS FREE	TAR FREE	CHLORINE FREE								
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 TEXFLAMINA underface finish only

1 PROBLEM

The –APP bitumen membranes are fine for hot and temperate climates while -SBS bitumen membranes should be used in cold climates.

2 SOLUTION

FLEXTER FLEX is the INDEX membrane, ITC Agreement certificated with "DVT" (Technical approved), that combines the qualities of the –SBS bitumen membranes with those of the –APP bitumen membranes, all in one product. The membrane offers cold flexibility at –25°C just like the best membranes in –SBS bitumen and just like these, passes the fatigue strength test at –20°C both before and after thermal ageing. Just like the best –APP bitumen membranes, **FLEXTER FLEX** does not melt at 140°C, but, being superior to both types, the cold flexibility of **FLEXTER FLEX** does not deteriorate with the ageing test. **FLEXTER FLEX** is the ECMB distilled polymer-bitumen membrane that annuls and exceeds the differences between membranes in -APP bitumen and membranes in –SBS bitumen.

DESCRIPTION

FLEXTER FLEX TESTUDO is a prefabricated waterproofing membrane based on ECMB, a "phase inversion" compound containing controlled molecular weight metallocene elastomeric co-polymers and bitumen, where the elastomers form the continuous polymeric matrix and the bitumen the dispersed phase. ECMB is an elastoplastomeric compound with a high polymer content. It is flexible at low temperatures (–25°C) like SBS modified bitumen and it has a heat-resistance (140°C) which is equal or higher than bitumen modified with APP. Unlike the latter however, it remains flexible and heat resistant in time, it does not wrinkle or crease when exposed to light like SBS bitumen and does not become brittle like standard APP bitumen. The durability of ECMB easily exceeds the limits of UEATc directives for SBS and APP membranes.

The high adhesion of the compound guarantees the bonding to the substrate and on the overlaps which have a resistance to peeling, both for the new and aged product, which is higher than the provisions of the UEATc directives of March and April 1991 concerning single layer membranes for mechanical fixing under the overlaps. The membrane is reinforced with an elastic, resistant, rot proof, high weight, stabilized, single strand spunbond polyester fabric. Furthermore, it guarantees a resistance to tearing higher than the provisions of the above-mentioned UEATc directives concerning membranes suitable for mechanical fixing. The top face of the **FLEXTER FLEX** membrane is 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 fast welding of the joints. **MINERAL FLEXTER FLEX** has the top face self-protected with hot bonded and pressed slate granules, with the exception of an overlapping side strip, protected by a strip of Flamina film which is torched to weld the joints. The underside of both 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

The optimal long-lasting stability at both high and low temperatures makes these membranes suitable for use in cold and tropical climates. The excellent adhesion to the surface to be covered and the optimal strength of the joints makes it possible to torch bond or mechanically fix the joints. The long lasting strength and elasticity make **FLEXTER FLEX** ideal for use as a **single** or **double layer** waterproofing membrane for new building work or for various types of refurbishment both in the building trade and Civil Engineering:

- **On all sloping surfaces**, on flat, vertical and curved surfaces;
- **On different types of substrates**: site-cast or prefabricated concrete substrates, on metal or timber roofing, on the most widely used thermal insulation used in the building trade;
- **For the most varied uses**: terraces, flat and sloping roofs, under tile, foundations (also earthquake proof), car park roofs, water works, ecological works, tunnels, subways, bridges and tarmac, dielectric and acid-proof coatings.

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

EN 13707 - REINFORCED BITUMEN SHEETS FOR ROOF WATERPROOFING

- **Under layer or intermediate layer in multi-layer systems without permanent heavy surface protection**
  - FLEXTER FLEX TESTUDO SP. POL.
- **Upper layer in multi-layer systems without permanent heavy surface protection**
  - FLEXTER FLEX TESTUDO SP. POL.
  - MINERAL FLEXTER FLEX TEST. SP. POL.
- **Exposed single-layer**
  - FLEXTER FLEX TESTUDO SP. POL.
  - MINERAL FLEXTER FLEX TEST. SP. POL.
- **Single-layer under heavy protection**
  - FLEXTER FLEX TESTUDO SP. POL.
- **Under heavy protection in multi-layer systems**
  - FLEXTER FLEX TESTUDO SP. POL.

EN 13969 - BITUMEN DAMP PROOF SHEET INCLUDING BITUMEN BASEMENT TANKING SHEETS

- **Membranes for foundations**
  - FLEXTER FLEX TESTUDO SP. POL.

CERTIFICATIONS

Technical Approved for Use Document DVT-0006

ITC

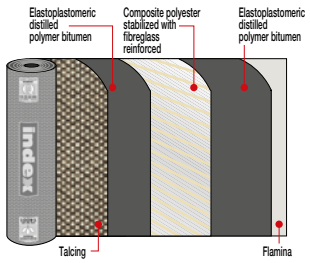
TECHNICAL CHARACTERISTICS

	Standard	T	FLEXTER FLEX TESTUDO POLYESTER	MINERAL FLEXTER FLEX TESTUDO POLYESTER
Reinforcement			"Non-woven" Spunbond polyester fabric stabilized with fibreglass	"Non-woven" Spunbond polyester fabric stabilized with fibreglass
Thickness	EN 1849-1	±0,2	4 mm	4 mm
Roll size	EN 1848-1	-1%	1x10 m	1x10 m
Watertightness • after ageing	EN 1928 – B EN 1926-1928	≥ ≥	60 kPa 60 kPa	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		1250 mm	1250 mm
Resistance to static loading	EN 12730 - A		20 kg	20 kg
Resistance to tearing (nail shank) L/T	EN 12310-1	-30%	200/200 N	200/200 N
Dimensional stability L/T	EN 1107-1	≤	-0.30/+0.30%	-0.30/+0.30%
Flexibility to low temp. • after ageing	EN 1109 EN 1296-1109	≤ +15°C	-25°C -25°C	-25°C -25°C
Flow resist. at high temp. • after ageing	EN 1110 EN 1296-1110	≥ -10°C	140°C 140°C	140°C 140°C
UV ageing	EN 1297		Test passed	-
Reaction to fire Euroclass	EN 13501-1		E	E
External fire performance	EN 13501-5		F roof	F roof
Thermal specifications				
Thermal conductivity			0.2 W/mK	0.2 W/mK
Heat capacity			5.20 KJ/K	4.80 KJ/K

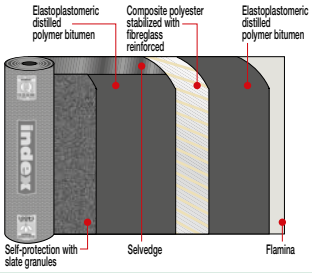
Compliant with EN 13707 in terms of the resistance factor to steam penetration for reinforced polymer-bitumen membranes, the value of μ = 20 000 may be considered, unless declared otherwise.

COMPOSITION OF THE MEMBRANE

FLEXTER FLEX TESTUDO SPUNBOND POLYESTER



MINERAL FLEXTER FLEX TESTUDO SPUNBOND POLYESTER



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.

SELF-PROTECTION WITH SLATE GRANULES. On the visible face of the membrane, a protective coating made up of slate granules of various colours is hot bonded. This mineral shield protects the membrane from ageing caused by UV rays.

• 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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