

### ESTERDAN FM 30 P ELAST

Tough SBS elastomeric 3 kg/m<sup>2</sup> underlay. Mechanically Fixed.



**EPD**<sup>®</sup>



EPD S-P-01493



ETE 06/0058

Bituminous SBS modified capsheet reinforced with a non-woven polyester felt specifically designed for mechanical fixing. The underside has a quick-melt thermofusible film.

#### Presentation

- Length (cm): 1200
- Width (cm): 100
- Thickness (mm): 2.5
- Product code: 141171

#### Technical Data

Concept	Value	Standard
Mass per unit area (nominal) (kg/m <sup>2</sup> )	3	-
External fire behaviour	Broof(t1)	UNE-EN 1187; UNE-EN 13501-5
Durability flexibility	-5 ± 5	-
Creep durability (°C)	100 ±10	UN-EN 1110
Elongation at break longitudinal (%)	45 ±15	UNE-EN 12311-1
Elongation at transverse break (%)	45 ±15	UNE-EN 12311-1
Water vapour resistance factor (μ)	20.000	UNE-EN 1931
Low temperature flexibility (°C)	<-15	UNE-EN 1109

Concept	Value	Standard
Reaction to fire	E	UNE-EN 11925-2; UNE-EN 13501-1
Resistance to static loading (kg)	>15	UNE-EN 12730
Resistance to root penetration	No pasa	UNE-EN 13948
Longitudinal tensile strength (N / 5cm)	700 ± 200	UNE-EN 12311-1
Transverse tensile strength (N / 5cm)	450 ± 150	UNE-EN 12311-1
Longitudinal resistance to tearing (nail shank) (N)	220 ±40	UNE-EN 12310-1
Transversal resistance to tearing (nail shank) (N)	220 ±40	UNE-EN 12310-1
Resistance to impact, A (mm)	>900	UNE-EN 12691
Resistance to impact, B (mm)	>900	-
Resistencia al pelado (N/mm <sup>2</sup> )	UNE-EN 12691	-
Joint Strength: Welding Shear	450 ±150	UNE-EN 12317-1
Water absorption by freeze-thaw cycling (Vol. %)	1	-
Hazardous substances	PND	-
Resistance to root penetration	No pasa	UNE-EN 13948

## Additional Technical Data

Concept	Value	Standard
Density (kg/m <sup>3</sup> )	1200	-
Adhesion of granules (%)	NPD	UNE-EN 12039
Dimensional stability at elevated temperatures (longitudinal) (%)	<0.3	UNE-EN 1107-1
Dimensional stability at high temperatures (transversal) (%)	<0.3	UNE-EN 1107-1
Creep resistance at high temperatures (°C)	>100	UN-EN 1110
Durabilidad UV; calor y agua: Flexibilidad a baja temperatura (°C)	NPD	-
Durabilidad UV; calor y agua: Fluencia a alta temperatura (°C)	NPD	-

## Environmental Information

Concept	Value	Standard
Volatile organic compounds (COV's) ( $\mu\text{g}/\text{m}^3$ )	50 (A+)	ISO 16000-6:2006
Post-consumer recycled content (%)	35	-
Manufactured in	Fontanar - Guadalajara (España)	-

## Standards and Certification

- In accordance with the UNE-EN 13707 standard 'Flexible sheets for waterproofing - Reinforced bitumen sheets for roof waterproofing - Definitions and characteristics'.
- In accordance with the UNE-EN 13969 standard for 'Flexible sheets for waterproofing - Bitumen damp proof sheets including bitumen basement tanking sheets - Definitions and characteristics'.
- Complies with CE marking requirements.
- DTA "Esterdan FM".
- ETE 06/0062 "Esterdan Plus FM Bilayer".
- EOTA Guide 006.

## Scope

- Two-ply self-protected membrane underlay mechanically fastened to the deck roof.
- Two-layer membrane underlay for waterproofing of self-protected bonded roofs.

## Advantages & Benefits

- High resistance to static and dynamic piercing.
- Self-healing and rot-proof.
- High tensile strength and high elongation at break.
- High resistance to tearing.
- Total impermeability to water and water vapour.
- Very stable in the long term.
- Allows for adaptation to any type of geometry.
- Mechanically fixed system.

## Support

- Deck-type metal roof.
- Roofs with heavy bonded protection.

## Instruction for Use

Preparation of the substrate:

The surface of the base substrate shall be resistant, uniform, smooth, clean, dry and free of foreign bodies. In the case of thermal insulation, the boards shall be laid in a tight fit and without gaps of more than 0.5 cm between boards.

- Bottom sheet in two-layer self-protected membranes mechanically fixed on deck roofing, both in

new construction and renovation (GF-4 membrane according to UNE 104-402/96 standard).

\* The rolls are laid loosely on the waterproofing substrate (thermal insulation or old waterproofing, in the case of renovation), starting at the lowest point of the roof skirt and perpendicular to the ribs of the corrugated sheeting, forming a row of sheeting. The transverse overlap of the rolls in each row shall be 10 cm and shall be fully welded with a blowtorch.

\* It is mechanically fixed in the longitudinal overlap area that will later be covered with the next row of sheeting (highest part of the roof). The distance from the edge of the washer of the fastening to the edge of the sheet shall be between 2 and 3 cm. The minimum distance between fixings shall be 18 cm. and the maximum distance 36 cm. and shall be on the ridge side of the corrugated sheet.

\* The roll of the next row is laid out, welding the overlap where the fasteners are located. The longitudinal overlap width shall be 10 cm. and shall be fully welded with a blowtorch. The transverse overlaps of two consecutive rows shall not coincide.

\* The roll of the next row is mechanically fixed on the other edge, with the same premises as described above. The approximate distance between lines of fixings shall be 90 cm.

\* The recommended fixing will be the one used in the DITE Esterdan Plus FM Bicapa system and will consist of a double thread self-drilling screw, 4.8 mm diameter, with a length of 65-75-90-110-110-110 mm, with a length of 65-75-90-110-140 mm (depending on the thickness of the thermal insulation panel), with a flat head of 12 mm diameter, made of Supracoat 2C treated galvanised steel, with an anticorrosion resistance of 15 Kasternich cycles and a galvanised steel distribution washer, with a 2C protection treatment, square section and dimensions 40×40 mm, with a thickness of 8/10 mm, and with a hole diameter of 4.8 mm. For the use of other types of fasteners, consult the fastener manufacturer.

\* For parapets and raised expansion joints, the bottom reinforcement sheet (Esterdan 30 P Elastomeric Reinforcement Strip 0.30 or 0.48 cm wide) must cover and exceed the edge of the washer by at least 4 cm.

\* The density of fixings is determined by the wind pressure on the roof, which is a function of the geographical area, building height, roof area (corner, edge or central area), type of building (open or closed), etc..., increasing at the perimeter (edges and corners). The distance between fixings within the same row shall be not more than 36 cm and not less than 18 cm. The distance between rows of fixings shall be 90 cm. If it is necessary to increase the density of fixings at edges and corners as a result of wind suction, these shall be arranged in complementary lines or rows (one or two). In this case, an auxiliary layer of Esterdan FM 30 P Elast reinforcement shall be laid with the extra rows of fixings and to which the Esterdan FM 30 P Elast shall be welded.

- In all systems where Esterdan FM 30 P Elast is used: See Esterdan 30 P Elast Technical Data Sheet.

## Indications and Important Recommendations

- In case of new construction and renovation, possible chemical incompatibilities with APP plastomer-modified bitumen sheets shall be taken into account.
- In case of refurbishment, chemical incompatibilities with old waterproofing systems consisting of PVC membranes, modified tar-based mastics or any other, shall be taken into account, and it may be necessary to remove them completely or to use suitable separating layers.
- If it is necessary to adhere to metallic or slightly porous elements, a bituminous primer (IMPRIDAN 100) shall be applied to the entire surface to be welded beforehand.
- This product may form part of a waterproofing system, so all the documents referred to in the Danosa Solutions Manual must be taken into account, as well as all the regulations and legislation that must be complied with in this respect.
- Not suitable as cap sheet on green roofs; use GARDEN variant.
- Do not use in single-layer system.
- Possible incompatibility between thermal insulation and waterproofing shall be checked.
- Special attention must be paid to the execution of the singular points, such as parapets (meetings with vertical and emergent elements), drains, expansion joints, etc.

- Polyurethane foam shall not be sprayed directly on top of the waterproofing without the use of a suitable separating layer (geotextiles, mortar layers, polyethylene film, etc).
- If expansion that could affect the sheet is expected, a geotextile separating layer (Danofelt PY 200) shall be used between the sheet and the extruded polystyrene insulation panels, so that each product expands independently.
- NOTE: For more information on the Danosa systems in which this product is used, please see the document "Waterproofing Solutions".

## Maintenance Recommendations

- Please refer to DANOSA UK Technical Statement 'Flat Roof Waterproofing – Cleaning and Maintenance Recommendations'

## Warning

- Do not apply on wet or frozen surfaces.

## Handling, storage and preservation

- Before moving the pallet, check the condition of the shrink-wrap and reinforce if necessary.
- The product must be stored in a dry place protected from rain, sun, heat and low temperatures.
- The product must be stored in an upright position.
- Handle with a crane with a protective net.
- Pallets shall not be stacked on top of each other.

## Notice

- The information contained in this document and any other advice provided, are given in good faith, based on DANOSA's current knowledge and experience when products are properly stored, handled and applied, in normal situations and in accordance with the recommendations of DANOSA. The information applies only to the application (s) and the product (s) to which reference is expressly made. In case of changes in the parameters of the application, or in case of a different application, consult the DANOSA Technical Service before using the DANOSA products. The information contained herein does not exonerate the responsibility of the building agents to test the products for the application and intended use, as well as their correct application in accordance with current legal regulations. The product images used in our communications are indicative and may differ slightly in color and aesthetic appearance in relation to the final product. Orders are accepted in accordance with the terms of our current General Sales Conditions. DANOSA reserves the right to modify, without prior notice, the data reflected in this documentation. Website: **www.danosa.com** E-mail: **info@danosa.com** Telephone: **+34 949 88 82 10**