



BBA 10/4787 (2)

EPD[®]



EPD S-P-01493



ETE 06/0058

POLYDAN PLUS FM-50/GP ELAST

High Performance SBS elastomeric
5 kg/m² capping sheet.
Mechanically fixed.



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

Presentation

- Length (cm): 800
- Width (cm): 100
- Colour: Grey
- Thickness (mm): 3.5(SOLAPO)
- Product code: 141364

Technical Data

Concept	Value	Standard
Mass per unit area (nominal) (kg/m ²)	5	-
External fire behaviour	Broof(t1)	UNE-EN 1187; UNE-EN 13501-5
Durability flexibility	-5 ± 5	-
Creep durability (°C)	100 ±10	UN-EN 1110

Concept	Value	Standard
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
Reaction to fire	E	UNE-EN 11925-2; UNE-EN 13501-1
Resistance to static loading (kg)	>20	UNE-EN 12730
Resistance to root penetration	No pasa	UNE-EN 13948
Longitudinal tensile strength (N / 5cm)	900 ± 250	UNE-EN 12311-1
Transverse tensile strength (N / 5cm)	650 ± 250	UNE-EN 12311-1
Longitudinal resistance to tearing (nail shank) (N)	280 ± 30	UNE-EN 12310-1
Transversal resistance to tearing (nail shank) (N)	320 ± 20	UNE-EN 12310-1
Resistance to impact, A (mm)	>2000	UNE-EN 12691
Resistance to impact, B (mm)	2000	-
Joint Strength: Welding Shear	650 ± 250	UNE-EN 12317-1
Hazardous substances	PND	-
Resistance to root penetration	No pasa	UNE-EN 13948

Additional Technical Data

Concept	Value	Standard
Density (kg/m³)	1428	-
Adhesion of granules (%)	<30	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)	-5 ± 5	-

Concept	Value	Standard
Durabilidad UV; calor y agua: Fluencia a alta temperatura (°C)	100 ± 10	-

Environmental Information

Concept	Value	Standard
Volatile organic compounds (COV's) (µg/m³)	50 (A+)	ISO 16000-6:2006
Post-consumer recycled content (%)	35	-
Solar reflectance index (IRS) with WHITE REIMPER COATED	101	-
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'.
- Complies with CE marking requirements.
- ETE 06/0058 "Polydan Plus FM".

Scope

- Capsheet in multi-layer waterproofing systems.
- Self-protected single-layer membrane mechanically fixed on deck roof, both in new construction and renovation.
- Capsheet in single-layer waterproofing systems.

Advantages & Benefits

- High resistance to static and dynamic piercing.
- Self-healing and rot-proof.
- Good absorption of structural movements.
- The mineral finish gives the membrane UV resistance.
- High dimensional stability.
- High tensile strength and high elongation at break.
- High resistance to tearing.
- Total impermeability to water and water vapour.
- Allows for adaptation to any type of geometry.

Support

- Old bitumen membranes.
- Compatible thermal insulation products.
- Concrete substrates.

- Mortar substrates.

Instruction for Use

Preparation of the substrate: The surface of the base substrate must be resistant, uniform, smooth, clean, dry and free of foreign bodies.

In the case of thermal insulation, the boards shall be laid in a grid and without gaps of more than 0.5 cm between boards.

Self-protected single-ply membrane mechanically fixed on deck, both in new construction and renovation (GF-3 membrane according to the UNE 104-402/96 standard). The rolls are laid loosely on the waterproofing support (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 sheet, forming a row of sheeting. The transverse overlap of the rolls in each row shall be 12 ± 1 cm and shall be fully welded with a blowtorch. It is mechanically fixed in the area of the longitudinal overlap 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 12 ± 1 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 rows of fixings will be 88 cm. The recommended fixing will be the one used in the DITE Polydan Plus FM system and will consist of a double thread self-drilling screw, diameter 4.8 mm, with a length of 65-75-90-110-140 mm (depending on the thickness of the thermal insulation board), with a flat head of 12 mm diameter, made of Supracote 2C treated galvanised steel, with a corrosion resistance of 15 Kasternich cycles and a galvanised steel split 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.

At parapets and raised expansion joints, the bottom reinforcement sheet (Esterdan 30 P Elast Reinforcing Strip 0.30 or 0.48 cm wide) shall cover and overlap 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 due to 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 will be laid with the extra rows of fixings and to which the Esterdan FM 30 P Elast will be welded. If a calculation of the fastener density is required, please contact our Technical Department.

Multilayer membrane top sheet with mineral self-protection. The sheet is laid in the same direction as the bottom sheet, with the overlap line offset by approximately half the roll. The sheet is fully welded to the bottom sheet with a blowtorch. The overlaps are to be welded and shall be 12 cm in both the longitudinal and transverse directions. To join the transverse overlap at the ends of the rolls, it is necessary to heat the transverse edge of the lower sheet in a strip of 12 cm, eliminating or embedding the protective aggregate in the bituminous mass and then weld the end of the next piece.

Self-protected single-layer membrane, adhered system. The adhesion of the membrane to the substrate is done with a blowtorch. In the case of mortar or concrete substrates, a bituminous primer (Curidán, Imprimán 100, Maxdán or Maxdán Caucho) must be applied beforehand. If the substrate is a weldable thermal insulation board, i.e. finished in asphalt (Rocdán A or Rocdán PIR VA), the primer is not necessary. The overlaps are to be welded, and shall be 12 cm in both longitudinal and transverse directions. To join the transverse overlap at the ends of the rolls, it is necessary to previously heat the transverse edge of the lower sheet in a strip of 12 cm, eliminating or embedding the protection aggregate in the bituminous mass and then weld the end of the following piece

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.
- On exposed self-protected roofs, occasional water retention that could lead to sediment accumulation and damage to the waterproofing membrane shall be avoided.
- 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.
- Self-protected sheets finished in light colours perform better thermally.
- Self-protected sheets in coloured mineral or ceramic granules may have different colour shades depending on the different production batches. The mineral granule may darken naturally over time.
- Not suitable as cap sheet on green roofs; use GARDEN variant.
- 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'

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

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