

## POLYDAN PLUS FM 180-60/GP ELAST

High Performance SBS elastomeric  
5,6 kg/m<sup>2</sup> capping sheet.  
Mechanically fixed.



BBA 10/4787 (PS2)



ETE 06/0058

POLYDAN Plus FM 180-60/GP ELAST is a waterproofing bituminous membrane with self-protected surface of 5.6 kg/m<sup>2</sup>. Composed of a reinforced and stabilised polyester felt reinforcement, covered on both sides with SBS modified bitumen mastic. On the upper side of the sheet, slate in light grey colour is used as protective material. The anti-adhesive material used on the lower side is polyethylene film.

### Presentation

- Length (cm): 800
- Width (cm): 100
- Thickness (mm): 4.0
- Colour: Light grey
- Product code: 141284

### Technical Data

Concept	Value	Standard
Mass per unit area (nominal) (kg/m <sup>2</sup> )	5.6	-
Density (kg/m <sup>3</sup> )	1400	-
Thermal compatibility. Part I. (N/mm <sup>2</sup> )	>3,0E-09	-
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

Concept	Value	Standard
Elongation at transverse break (%)	45 ±15	UNE-EN 12311-1
Watertightness at 10 kPa (Type A)	Pasa	UNE-EN 1928
Water vapour resistance factor ( $\mu$ )	>20.000	UNE-EN 1931
Low temperature flexibility ( $^{\circ}$ 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
Diffusion resistance (GPa·s·m <sup>2</sup> /kg)	400 ± 50	-
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)	>1000	UNE-EN 12691
Resistance to impact, B (mm)	2000	-
Joint Strength: Welding Shear	650 ± 250	UNE-EN 12317-1
Hazardous substances	PND	-

## Additional Technical Data

Concept	Value	Standard
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 ( $^{\circ}$ C)	>100	UN-EN 1110

## 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

- Avis Technique 5/03-1698 "Polydan Plus FM".
- 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

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

## Advantages & Benefits

- It absorbs structural movements efficiently, resisting the stresses resulting from large spans and the high expansions of deck roofs.
- Helps to increase the durability of the sheet.
- It retains its properties better over time.
- It has a reinforced and stabilised polyester felt reinforcement of high grammage, a higher value than LBM-(SBS)-50/G-FP sheets.
- It has a nominal mass of 5.6 kg/m<sup>2</sup>, which is higher than the 5.0 kg/m<sup>2</sup> of LBM-(SBS)-50/G-FP. The higher mass of SBS elastomeric bitumen increases the durability of the waterproofing and makes it easier to lay the sheet.
- The higher grammage of the polyester reinforcement gives the sheet higher mechanical performance in tensile, static and dynamic piercing and tearing.
- This membrane is particularly suitable for mechanically fastened systems.
- High dimensional stability.
- High tensile strength and high elongation at break.
- High resistance to tearing.
- High resistance to static and dynamic piercing.
- Rot-proof.
- The sheet, being made of a bitumen mastic modified with SBS-type elastomeric polymers, substantially improves other bituminous mastics, providing much better performance in terms of reaction at high and low temperatures, elasticity and resistance to ageing, which leads to greater durability of the sheet and greater safety of the waterproofing membrane.
- Limits deformations and stresses in the waterproofing membrane resulting from the high temperatures and thermal jumps to which mechanically fastened self-protected roofs will be subjected.
- Improves the performance of mechanically fastened sheets by providing a high wind suction resistance value and optimising the density of fastenings.

- Very stable in the long term.
- Has good piercing protection from possible mechanical damage, derived from the occasional pedestrian traffic typical of flat roofs.

## Instruction for Use

- The substrate surface must be solid, uniform, smooth, cleaned, dry and free from foreign bodies. It is placed on the support by mechanical fasteners spaced approximately 20 cm. maximum. Danopol range is welded to the colaminated profile by hot air, resulting in high reliability welding and finish.

## 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.
- The design and installation of the roof structure and finishes shall be in accordance with the falls prescribed in BS 6229. Ponding of water on the surface of the waterproofing is to be avoided through effective design of roof falls and drainage systems. Throughout the life of the roof, periodic maintenance inspections should be conducted in line with the manufacturer's recommendations.
- 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.
- The product will be used on a first-come, first-served basis.
- This product should not be installed when the temperature is below -5°C.
- This product is not toxic or flammable.
- Waterproofing work must not be carried out when weather conditions may be detrimental, in particular when it is snowing or there is snow or ice on the roof, when it is raining or the roof is wet, surface dampness >8% according to NTE QAT, or when a strong wind is blowing.
- Pallets shall not be stacked on top of each other.
- For high storage, the racks must have three cross members, or braces under the wooden pallet skids.
- For handling with a crane, use a protective net.
- Danosa recommends consulting the safety data sheet for this product, which is permanently available at [www.danosa.com](http://www.danosa.com), Knowledge Portal, or it can be requested from our Technical Department.
- In all cases, the Occupational Safety and Hygiene standards, as well as the standards of good construction practice, must be taken into account.
- For further information, please contact our Technical Department.

## 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](http://www.danosa.com)** E-mail: **[info@danosa.com](mailto:info@danosa.com)** Telephone: **+34 949 88 82 10**