

## ESTERDAN 48 P ELAST

Tough SBS elastomeric 4,8 kg/m<sup>2</sup> underlay. Torch applied.



BBA 10/4787 (1)

ESTERDAN 48 P ELAST is a waterproofing bituminous sheet with non self-protected surface of 4.8 kg/m<sup>2</sup>. Composed of a non-woven polyester felt reinforcement and covered on both sides with SBS modified bitumen mastic. A polyethylene film is used as anti-adherent material on both sides. Tested according to standard EN test methods.

### Presentation

- Length (cm): 800
- Width (cm): 100
- Thickness (mm): 4.0
- Product code: 141138

### Technical Data

| Concept   | Value     | Standard                    |
|---|-----------|-----------------------------|
| Mass per unit area (nominal) (kg/m <sup>2</sup> ) | 4.8       | -                           |
| 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) | NPD          | UNE-EN 12310-1                 |
| Transversal resistance to tearing (nail shank) (N)  | NPD          | 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) (%)  | <0.6  | UNE-EN 1107-1 |
| Dimensional stability at high temperatures (transversal) (%)       | <0.6  | 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

- BBA 10/4787 Product Sheet 1 "GLASDAN ELAST, ESTERDAN ELAST AND POLYDAN ELAST ROOF WATERPROOFING MEMBRANES".
- 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.
- DIT 550R/16 "ESTERDAN PENDIENTE ZERO".

## Scope

- Tanking membrane.
- Underlay for self-protected double-layer bonded membranes.
- Bottom or top sheet in two-ply membranes with heavy bonded protection).
- Bottom or top sheet in two-ply membranes with heavy unbonded or floating protection.
- Bonded single-layer membrane for the waterproofing of roofs with heavy protection.
- Bonded single-layer membrane for waterproofing slabs and foundation slabs with hydrostatic pressure.
- Bonded single-layer membrane for waterproofing wet areas (bathrooms, toilets, changing rooms, etc.) in all types of buildings.
- Unbonded or floating single-layer membrane for the waterproofing of roofs with heavy protection.
- It can replace the Esterdan 40 P Elast sheet in all systems where this sheet is used, especially when the durability of the waterproofing membrane is to be improved and the installation of the sheet is to be facilitated.

## Advantages & Benefits

- High movement capability.
- Good performance in nailed systems.
- Helps to increase the durability of the sheet.
- It retains its properties better over time.
- It has a nominal mass of  $4.8 \text{ kg}/\text{m}^2$ , which is higher than the  $4.0 \text{ kg}/\text{m}^2$  of LBM-40-FP). The higher mass of plastomeric bitumen increases the durability of the waterproofing and makes it easier to lay the sheet.
- A membrane for instances where high waterproofing performance is required.
- Suitable for zero fall roofs (see related certificates).
- 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.
- 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

- Deck surfaces must be dry, clean and free from sharp projections such as nail heads and concrete nibs.
- When bonding the substrate should be prepared using a primer either IMPRIDAN 100, CURIDAN, MAXDAN or MAXDAN CAUCHO at the recommended rate prior to installation of the waterproofing system.
- Where the membranes are adhered to insulation boards, the resistance to wind uplift will be dependent on the cohesive strength of the insulation and the method by which it is secured to the roof deck. This should be taken into account when the insulation material is selected.
- At falls in excess of 5° (1:11) precautions against slippage, and requirements for mechanical fixing should be observed.
- The membrane may be laid in conditions normal to roofing work and must not be laid in rain, snow or heavy fog, nor if the temperature falls below 5°C, unless precautions against condensation have been taken.
- The roofing layers must always be installed with staggered overlaps and in such a manner that no counter-seams in the direction of the outlets are made.
- Attachment of reinforced bituminous membrane roofing maybe achieved by full bonding, by partial bonding or loose laid (ballasted); the choice should depend upon the type of substrate and the required resistance to wind uplift pressure. BR>- The first layer is installed over the substrate, full bonded, partially bonded, or loose laid (ballasted).
- Fully bonded torch-applied membranes should only be used with non-combustible substrates and with surfaces designed to enable the torch application of subsequent layers. It is possible to install a torch-receivable first layer in hot bitumen, and then torch apply the second or capping sheet, which should be specifically designed for torching. Bonding is achieved by melting the lower surface by torching and pressing the membrane down. Care must be taken not to overheat the membrane. The first layer is installed with side laps of 60 mm and end laps of 75 mm. The top layer/cap sheet is laid over the first layer in the same direction, and fully bonded. The top layer/cap sheets are installed with side laps for the mineral surfaced membranes determined by the selvedge edge and for sanded or plastified top layers a minimum of 75 mm and end laps 100 mm wide.
- When partially bonded either a layer of GLASDAN 800 P PERFORADO or other suitable venting layer is loose-laid across the substrate edge to edge. The first layer is fully bonded over the venting layer in the direction with side laps of 80 mm and end laps of 75 mm. The top layer/cap sheet is laid over the first layer in the same direction, and fully bonded. The top layer/cap sheets are installed with side laps for the mineral surfaced membranes determined by the selvedge edge and for sanded or plastified top layers a minimum of 75 mm and end laps 100 mm wide.
- Loose-laid is possible in ballasted systems. A separating layer is loose-laid over the substrate to act with overlaps of 100 mm. The first layer is loose-laid over the separation layer with side laps of 60 mm and end laps of 80 mm wide. The laps are sealed by torch welding. The top layer is laid over the first layer in the same direction, and fully bonded. The top layer/cap sheets are installed with side laps for the mineral surfaced membranes determined by the selvedge edge and for sanded or plastified top layers a minimum of 75 mm and end laps 100 mm wide. The waterproofing system is ballasted with a proper finishes.

- In all systems, laps between the membrane and any base sheets should be offset by a minimum of 300 mm.

#### ADEVERTISMENT:

- Attachment of reinforced bituminous membrane roofing can also be achieved by mechanical fastening with screws and stress plates or by nailing.
- Mechanical fastening of membranes is possible by installing a specially manufactured membrane mechanically fastened with screws and stress plates along the lap, with joints then sealed by torching, with subsequent layers fully bonded.
- Nailing fastening of membranes is possible by installing a sacrificial specially manufactured layer mechanically fastened with screws and stress plates, or alternatively nails, with subsequent layers fully bonded.

## 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.
- There is no chemical incompatibility between the Danosa range of SBS elastomeric bitumen and APP plastomeric bitumen membranes.
- Not suitable as cap sheet on green roofs; use GARDEN variant.
- Possible incompatibility between thermal insulation and waterproofing shall be checked.
- A separating layer (DANOFELT or DANODREN) shall be laid before laying the heavy protection (paving, gravel, topsoil, etc).
- 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 as indicated on the pallet label.
- Danosa recommends consulting the safety data sheet for this product, which is permanently available at [danosa.com](http://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**