



BBA 14/5118 (1)

**EPD**<sup>®</sup>



EPD S-P-00691



ETE 10/0054



FM Approvals  
PR455736  
RR242640

## DANOPOL HS 1.8

Single Ply PVC-p 1.8 mm  
membrane. Mechanically Fixed.



DANOPOL HS 1.8 is a synthetic PVC plasticized membrane, reinforced with polyester net carrier. Designed for flat roof waterproofing, U.V. resistant.

### Presentation

- Length (cm): 1300
- Length measurement standard: EN 1848-2
- Width (cm): 180
- Width measurement standard: EN 1848-2
- Thickness (mm): 1.8
- Colour: Light grey
- Product code: 210034

### Technical Data

Concept	Value	Standard
Mass per unit area (nominal) (kg/m <sup>2</sup> )	2.3	-
Longitudinal elongation at break (%)	> 120	EN 12311-2 Método A
Transversal elongation at break (%)	> 130	EN 12311-2 Método A
External fire behaviour	Broof (t1) - Broof (t3) - Broof (t4)	EN 13501-5
Longitudinal & transversal dimensional stability	< 0.3	EN 1107-2
Water vapour permeability (μ)	47.000 ± 30%	EN 1931
Flexibility at low temperature (°C)	< -30	EN 495-5
Reaction to fire	E	EN 13501-1
Resistance to static loading (kg)	> 60	-
Resistance to static loading; method B (hard support) (kg)	> 60	EN 12730 Método B
Resistance to root penetration	Pasa	EN 13948
Longitudinal & transversal tensile strength (N/5cm)	> 1100 / 1000	EN 12311-2 Método A
Longitudinal resistance to tearing (nail shank) (N)	> 300	EN 12310-2
Transversal resistance to tearing (nail shank) (N)	> 300	EN 12310-2
Resistance to impact, A (mm)	> 900	EN 12691
Overlaps resistance (Shear of overlaps) (N/50mm)	> 1100	EN 12317-2
Overlaps resistance (Peeling of overlap) (N/50mm)	> 250	EN 12316-2
Hazardous substances	PND	-
Emissivity	0,86±0,02	ASTM C1371-04a(2010)e1

### Additional Technical Data

Concept	Value	Standard
Visible defects	Pasa	EN 1850-2
Nominal minimum thickness	1.8 (-5%; +10%)	EN 1849-2

Concept	Value	Standard
Mass (kg/m <sup>2</sup> )	2,4 (-5%; +10%)	EN 1849-2
Loss of elongation at break (UV 5000 h)	< 10	EN 1297, EN 12311-2
Loss of plasticizers (mass change at 30 days) (%)	< 4.5	EN ISO 177
Flatness (mm)	< 10	EN 1848-2
Straightness (mm)	< 50	EN 1848-2
Hail resistance (soft Support) (m/s)	50	EN 13583
Hail resistance (hard support) (m/s)	28	EN 13583-2012
Resistance to static punching (N)	> 1200	UNE 104416 (b)

## Environmental Information

Concept	Value	Standard
Post-consumer recycled content (%)	NDP	-
Pre-Consumer recycled content (%)	NDP	-
Manufactured in	Fontanar - Guadalajara (España)	-

## Scope

- Channel waterproofing (EN 13362).
- Mechanically fastened roof waterproofing systems (EN 13956).
- Waterproofing of reservoirs and dams (EN 13361).
- Waterproofing against fluids in the construction of tunnels and underground structures (EN 13491).

## Advantages & Benefits

- Good absorption of structural movements.
- High tensile strength.
- High resistance to piercing.
- Hot air welded: Flame-free system
- Great elasticity.
- High resistance to tearing.
- Allows for adaptation to any type of geometry.
- UV resistant.
- System with Environmental Product Declaration (EPD), type 3 ecolabel.
- System fixed by metallic, plastic or induction fixation.

## Support

- Profiled metal decks.
- Overlays\*
- Insulation panels.\*
- Concrete substrates.
- Timber.
- Mortar substrates.

## Indications and Important Recommendations

- Anchorage where two planes meet: anchorage shall be linear. The attachment line shall be installed as close as possible to the angle and shall never be located closer than 20 cm from the junction or meeting.
- Anchoring to the parapet: in the case of membranes fastened with strips or profiles, these must be installed leaving a gap at the junction points so that the sheet can absorb movements due to thermal effects. These gaps shall be covered by a strip of the waterproofing sheet, which shall be loose over the groove.
- When the filler is made by means of laminated profiles fixed on the upper edge of the strip going up the wall, they must be provided with a flap, at least on their upper part, which serves as a base for an elastic and rot-proof bead or seal with Elastydan PU 40 Grey, which covers the groove between the profile and the wall. If there is no flap on the underside, the edge must be completely rounded to prevent damage to the sheet.
- The anchoring of the plates or profiles to the skirt shall be carried out by lag bolts, when the base support is made of stone materials, or by self-tapping screws, in the case of wooden or sheet metal supports. Rivets can also be used in the latter case. The dowels, screws or rivets fixing these profiles shall never be more than 20 cm apart and shall withstand a permissible shear load of 480 N per anchorage point. Where it is not possible to fix the plates to a soft support (insulating panels, aerated concrete, etc.), the perimeter anchorage may be made by means of angle profiles fixed to the wall. In this case the fixings will have to be spaced less than 10 cm apart to compensate for the stress which becomes tensile rather than sharp.
- The fastening element must be suitable for the material of which the support is made. The tensile strength of the fastener to the load-bearing support shall be checked to ensure proper mechanical attachment. The fasteners must withstand a permissible tensile load greater than 600 N per anchorage point. As the membrane is the outermost element of the waterproofing system, its stability against dynamic wind pressure must be calculated according to the shape of the building, its height above ground, its topographical situation, and the specific roof area.
- In renovation projects on old waterproofing, it may be necessary to remove existing materials or to use suitable separating layers.
- 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.
- A range of ancillary products is available for use with the membrane (Elastydan PU 40 Grey sealant, DANOPOL ADHESIVE adhesive, laminated profiles, corners, corners, corners, cups, pipe penetrations, etc.).
- The weldability and quality of the weld depend on atmospheric conditions (temperature, dampness), welding conditions (temperature, speed, pressure, pre-cleaning) and on the surface condition of the membrane (cleanliness, dampness). Therefore, the hot air machine must be adjusted to obtain a correct assembly.
- To avoid chemical incompatibilities, a DANOFELT PY 300 or higher geotextile separating layer shall be placed between the membrane and the geotextile: Bituminous products, synthetic TPO/FPO and EPDM, extruded (XPS) or expanded (EPS) polystyrene-based products, rigid or foamed PU, etc.

- After the surface has cooled down, the welds shall be carefully checked by means of a punch. If any irregularity is detected in a hot air weld, it shall be reworked with the same procedure as described above.
- 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.
- Appropriate safety measures must be taken as welding work can give off fumes which can be irritating.

## Handling, storage and preservation

- The product must be stored in a dry place protected from rain, sun, heat and low temperatures.
- The product will be used on a first-come, first-served basis.
- This product is not toxic or flammable.
- Easy to cut to adapt the dimensions to the work.
- 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.
- No welding work should be carried out when the ambient temperature is lower than -5°C for hot air welding, nor lower than + 5°C for welding with THF or with Adhesives.
- It shall be kept in its original packaging, in a horizontal position and all rolls parallel (never crossed), on a flat and smooth support.
- 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**