

## DANOPOL H

Single Ply PVC-p membrane.



BBA 14/5118 (1)

DANOPOL H 1.5 COOL ROOFING is a synthetic PVC plasticized membrane. Designed for flat roof waterproofing, U.V. resistant.

### Presentation

- Length (cm): 2000
- Length measurement standard: EN 1848-2
- Width (cm): 150
- Width measurement standard: EN 1848-2
- Colour: Anthracite
- Thickness (mm): 1.5
- Product code: 210044

### Technical Data

Concept	Value	Standard
Mass per unit area (nominal) (kg/m <sup>2</sup> )	1.9	-
External fire behaviour	Broof(t1)	EN 13501-5
Longitudinal & transversal dimensional stability	< 3.0	EN 1107-2
Water vapour permeability (m)	20.000 ± 30%	EN 1931
Flexibility at low temperature (°C)	< -30	EN 495-5
Reaction to fire	E	EN 13501-1
Resistance to static loading (kg)	>50	EN 12730 Método B

Concept	Value	Standard
Resistance to root penetration	Pasa	EN 13948
Longitudinal & transversal tensile strength (N/5cm)	>1000	EN 12311-2 Método A
Longitudinal resistance to tearing (nail shank) (N)	> 60	EN 12310-2
Transversal resistance to tearing (nail shank) (N)	> 50	EN 12310-2
Resistance to impact, A (mm)	>1000	EN 12691
Overlaps resistance (Shear of overlaps) (N/50mm)	> 300	EN 12317-2
Overlaps resistance (Peeling of overlap) (N/50mm)	> 40	EN 12316-2
Resistance to root penetration	Pasa	EN 13948

### Additional Technical Data

Concept	Value	Standard
Visible defects	Pasa	EN 1850-2
Nominal minimum thickness	1.5 (-5; +10%)	EN 1849-2
Mass (kg/m <sup>2</sup> )	1.08 (-5%; +10%)	EN 1849-2
Loss of elongation at break (UV 5000 h)	< 10 < 10	EN 1297, EN 12311-2 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

### Environmental Information

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

### Standards and Certification

- In accordance with the UNE-EN 13956 standard for flexible sheets for waterproofing. Plastic and rubber sheets for waterproofing roofs.

## Scope

- Used for the finishing and formation of finishes at singular points of the roof (protruding or incoming angles, corners, drainage cups, skylights, pipe exits, masts, etc.) on flat roofs made with DANOPOL HS and DANOPOL FV type membranes.

## Advantages & Benefits

- High movement capability.
- High tensile strength.
- High resistance to piercing.
- Great elasticity.
- Very high durability with respect to possible degradation due to chemical causes.
- Very good resistance to micro-organisms, rot, mechanical impact, natural ageing and swelling.
- Allows for adaptation to any type of geometry.
- Has good piercing protection from possible mechanical damage, derived from the occasional pedestrian traffic typical of flat roofs.

## 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 grid and without gaps of more than 1 mm between boards.
- Polyester geotextiles, type DANOFELT PY 300 or higher, shall be used as a separating or protective layer.
- Before the membrane is laid out, the membrane shall be mechanically fastened to the horizontal plane and to the vertical face. In the event that the sheet experiences a dimensional stability variation  $\leq 0.09\%$ , anchoring to the horizontal plane would not be necessary.
- The horizontal plane profile shall be installed as close as possible to the angle and shall never be located at a distance greater than 20 cm from the confluence or junction. In the vertical plane the profile is fixed so that the membrane rises a minimum of 20 cm above the surface of the pavement. The membrane is welded to the profile in the horizontal plane. A strip of sheeting is then welded to the profile of the vertical facing and overlapped and welded to the membrane in the horizontal plane. In this solution, the sheeting that goes up the vertical face must have the same characteristics as that of the horizontal plane.
- The joint between the profile fixed to the facing, and the masonry facing, is always sealed with an elastic and rot-proof mastic.

Singular points:

- Where the roof meets vertical faces and elements passing through the membrane, the membrane must rise at least 20 cm above the level of the finished roof, or higher if necessary, so that the upper edge of the membrane is always above the maximum foreseeable water level on the roof.
- Point drains and ventilation pipes must be located at least 50 cm away from any protruding roof elements (vertical walls, coffers, chimneys, etc.).

Laying of the waterproofing membrane:

- The joint between sheets shall be made by means of thermoplastic welding, with a hot air welder. The overlaps shall be at least 5 cm and the welding of the lower sheet with the upper one shall be at least 4 cm. Immediately after welding, the joint shall be pressed with a roller, thus ensuring a homogeneous joint. To verify the joints, a physical check shall be made using a blunt metal needle (with a rounded tip with a radius between 1mm and 3mm), passing it along the edge of the joint.

## 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, GLUE-DAN PVC 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 should not be carried out when the ambient temperature is lower than +5°C for hot air welding.
- 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.
- 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 [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**