

## DANODREN H15 PLUS

HDPE Nodular drainage and geotextile geocomposite.



**EPD**<sup>®</sup>



S-P-01896

DANODREN<sup>®</sup> H PLUS is a brown nodular membrane with a 7.5mm depth, made of high density polyethylene (HDPE) with a pre-bonded nonwoven polypropylene geotextile. Its main use is for protection and vertical drainage.

### Presentation

- Length (cm): 1800
- Width (cm): 210
- Surface (m<sup>2</sup>): 37.8
- Product code: 314204

### Technical Data

Concept	Value	Standard
Compression strength (kPa)	180 ±20%	UNE EN ISO 604
Water permeability perpendicular to the plane (m/s)	0,11 - 0,033	UNE EN ISO 11058
Longitudinal tensile strength (kN/m)	15, -4	UNE EN ISO 10319
Tranversal tensile strength (kN/m)	11, -4	UNE EN ISO 10319
Hazardous substances	NPDPND	-
Characteristic aperture size (µm)	87,5 +/- 42,5	UNE EN ISO 12956

### Additional Technical Data

Concept	Value	Standard
Flow capacity in the plane; $q=20$ kPa; $i=1$ (m <sup>2</sup> /s)	0,002 -0,00020.54142	UNE-EN ISO 12958 UNE-EN ISO 12958
Durability (years)	>25;suelo natural;4< pH<9;T<25°C	ANEXO B DE LA NORMA APLICABLE
Number of nodules (nodules/m <sup>2</sup> )	1907	-
Resistance to static punching (CBR) (kN)	2.0 -0.5	UNE EN ISO 12236
Volumen de aire entre nódulos (L/m <sup>2</sup> )	5.9	-

## Environmental Information

Concept	Value	Standard
Volatile organic compounds (COV's) (µg/m <sup>3</sup> )	NPD	-
Post-consumer recycled content (%)	80	-
Pre-Consumer recycled content (%)	20	-
Solar reflectance index (SRI)	NPD	-
Manufactured in	Fontanar - Guadalajara (España)	-

## Standards and Certification

- CTE DB-HE: Technical Building Code. Basic Document: Habitability. Energy saving
- Conforms to the UNE-EN 13252 standard for Geotextiles and related products. Characteristics required for use in drainage systems.
- Conforms to UNE-EN 13967 of plastic and rubber anti-capillary sheets, including plastic and rubber sheets used for sealing buried structures.
- DIT 550R/16 "ESTERDAN PENDIENTE ZERO".
- DIT 550R/20 "DANOPOL PENDIENTE ZERO"
- DIT 567R/16 "ESTERDAN - SELF DAN - POLYDAN UNDERGROUND STRUCTURES".
- BUREAU VERITAS company registration according to EN-ISO 14001 granted to DANOSA's manufacturing plant in Fontanar (Guadalajara).
- BUREAU VERITAS company registration according to EN-ISO 9001 granted to DANOSA's manufacturing plant in Fontanar (Guadalajara).
- EU Regulation 305/2011. Construction products.

## Scope

- Drainage in accessible inverted roofs with continuous paving, placed between the thermal insulation and the paving.
- Drainage and protection of the waterproofing of buried walls in buildings and civil works, such as

- cut-and-cover tunnels and subways.
- Drainage and protection of above-ground screeds.

## Advantages & Benefits

- The geotextile fused to the nodules absorbs and filters water from the ground, preventing the system from clogging.
- Easy and quick to install.
- Rot-proof.
- Chemically unchanged when in contact with chemical agents present in the soil (sulphates, chlorides, etc).
- Provides permanent drainage.
- Protects the wall from damp and allows water to drain, limiting its hydrostatic pressure.
- Protects the waterproofing sheet from possible piercing caused by fill earth.
- Resistant to breakage, impact and does not deform.

## Instruction for Use

### Buried walls

1. Surface and singular points must be uniform, clean, dry and free of foreign objects.
2. The support of DANODREN H PLUS can be a waterproofing membrane.
3. DANODREN H PLUS is placed with the geotextile against the ground.
4. The geotextile layer has a width of 5 cm less than the drainage sheet to facilitate the overlap of roll with roll. To perform the overlap, the geotextile is detached 7 cm, exposing 12 cm of drainage sheet, where the overlap will be made with the following sheet.
5. DANODREN H PLUS is fixed every 50 cm along the length and width of the overlap with DANODREN fixings. You can also use HILTI fixings, model X-SW.
6. DANODREN H PLUS is fixed mechanically in their upper part with the DANODREN metallic profile. This protects the drainage layer of land dumping, filling and compacting of the ditch and the water entrance. This fixation must be done 10 cm over the waterproofing membrane.
7. The corners should be made by folding the membrane.
8. Lay the drain pipe.
9. Rolls can be extended from top to bottom or vice versa and from left to right or vice versa, depending of the characteristics of work.

### Floors

1. Where there is hydrostatic pressure or the floor is under the phreatic level, DANODREN H PLUS is extended with the geotextil against the ground. The overlaps are done as same as underground walls

#### Walkable inverted roofs with continuous pavement

1. In walkable inverted roofs with a continuous pavement, DANODREN H PLUS must be placed on the thermal insulation with the geotextile upwards. The overlaps are done as same as underground walls.

## Indications and Important Recommendations

- Store in a dry place, protected from rain, sun, high and low temperatures.
- The product is not toxic or flammable.
- The specific metal profile must be used.
- Specific fixings must be used.
- Can't be used as waterproofing.

## Handling, storage and preservation

- 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.
- This product is not toxic or flammable.
- For further information, please refer to the product safety data sheet.

## 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: **danosa.com/en-gb** E-mail: **info@danosa.com** Telephone: **+44 845 074 0553**