



DANODREN GARDEN

HDPE Nodular drainage and geotextile geocomposite for green roofs.



BBA 14/5118 (1)



S-P-01896

DANODREN® JARDIN is a 7.5mm deep green nodular membrane made of high density polyethylene (HDPE) with a pre-bonded non-woven polypropylene geotextile. Its main use is for protection and horizontal drainage.

Presentation

- Length (cm): 1800
- Width (cm): 210
- Surface (m²): 37.8
- Product code: 314203

Technical Data

Concept	Value	Standard
Compression strength (kPa)	250 ±20%	UNE EN ISO 604
Water permeability perpendicular to the plane (m/s)	0,11 - 0,033	UNE EN ISO 11058
Dynamic puncture resistance (cone drop test) (mm)	10 +5	UNE EN 13433
Longitudinal tensile strength (kN/m)	19, -4	UNE EN ISO 10319
Tranversal tensile strength (kN/m)	15, -4	UNE EN ISO 10319
Hazardous substances	NPD	-
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 ² /s)	0,002 -0,0002	UNE-EN ISO 12958
Durability (years)	>25;suelo natural;4< pH<9;T<25°C	ANEXO B DE LA NORMA APLICABLE
Resistance to static punching (CBR) (kN)	2.5 -0.5	UNE EN ISO 12236
Volumen de aire entre nódulos (L/m ²)	5.9	-

Environmental Information

Concept	Value	Standard
Volatile organic compounds (COV's) (µg/m ³)	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"
- 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, filtration and waterproofing protection for intensive green roofs on all types of buildings.

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).
- Allows for the transformation of traditionally concrete or asphalt surfaces into green spaces that positively influence the urban microclimate.
- Provides permanent drainage.
- Protects the waterproofing sheet from possible piercing caused by fill earth.
- Resistant to breakage, impact and does not deform.

Instruction for Use

- Intensive green roofs
- The surface of the substrate and singular points must be uniform, clean, dry and free of foreign bodies.
- The substrate for DANODREN Garden is DANOPREN TR extruded polystyrene (XPS), so a geotextile layer of DANOFELT PY 200 polyester must be laid to avoid chemical incompatibility between materials. If the roof is not insulated, the substrate is an asphalt or synthetic waterproofing membrane with root penetration properties.
- DANODREN GARDEN is laid with the geotextile facing upwards.
- The width of the geotextile is 5 cm less than that of the drainage sheet to facilitate the overlapping of roll to roll. To make the overlap, the geotextile is peeled off 7 cm, leaving 12 cm of drainage sheet exposed, where the overlap will be made with the next sheet.
- The topsoil is then spread and placed directly on top of the geotextile layer.
- Construction of a manhole for gardening.

Indications and Important Recommendations

- Store in a dry place, protected from rain, sun, high and low temperatures.
- The product is not toxic or flammable.
- 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: **www.danosa.com** E-mail: **info@danosa.com** Telephone: **+34 949 88 82 10**