

## DANODREN H15

DANODREN H15 is a high density polyethylene (HDPE) brown nodular sheet. Its main use is for protection and eventual vertical drainage.



### TECHNICAL DATA

TECHNICAL DATA	VALUE	UNIT	STANDARD
Reaction to fire	E	-	EN 13501-1
Liquid water watertightness (10 kPa)	Pasa	-	EN 1928
Longitudinal tensile strength	>400	N/50mm	EN 12311-2
Transversal tensile strength	>300	N/50mm	EN 12311-2
Longitudinal elongation	>30	%	EN 12311-2
Transversal elongation	>25	%	EN 12311-2
Tear resistance (by nail)	300 ± 100	N	EN 12310-2
Peel resistance	NPD	N/50 mm	EN 12317-2
Shear resistance	170 ± 30	N/50mm	-
Impact resistance	>300	mm	EN 12691
Resistance to static loading	>20	kg	EN 12730
Durability of watertightness against artificial aging (10 kPa)	Pasa	Pasa	EN 1296 / EN 1928
Durability of watertightness against chemical agents (10 kPa)	Pasa	Pasa	EN 1847 / 1928
Dangerous substances	NPD	-	-

### ADDITIONAL TECHNICAL DATA

ADDITIONAL DATA	VALUE	UNIT	STANDARD
Compressive strength	180 ±20%	kN/m <sup>2</sup>	UNE-EN-ISO 604
Air volume between nodules	5,9	l/m <sup>2</sup>	-
Temperature range	-30 a 80	°C	-
Nodules number	1907	-	-

### ENVIRONMENTAL INFORMATION

PARAMETERS	VALUE	UNIT	NORM
Pre-consumer recycled content	20	%	-
Post-consumer recycled content	80	%	-
Manufacturing Location	Fontanar, Guadalajara (España)	-	-
Volatile organic compounds (VOC)	PND	-	-
Solar reflectance index (SRI)	PND	-	-

## STANDARDS AND CERTIFICATION

### Main regulatory

1. EN 13967: Flexible sheets for waterproofing. Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet. Definitions and characteristics.

### CE marking

1. In accordance with standard UNE-EN 13967 for all high density polyethylene products manufactured by DANOSA.
2. AENOR marking granted to DANODREN H, in accordance with standard EN 13967.

### Quality management

Company registration BUREAU VERITAS according to EN-ISO 9001 granted to DANOSA manufacturing plant in Fontanar (Guadalajara).

### Environmental management

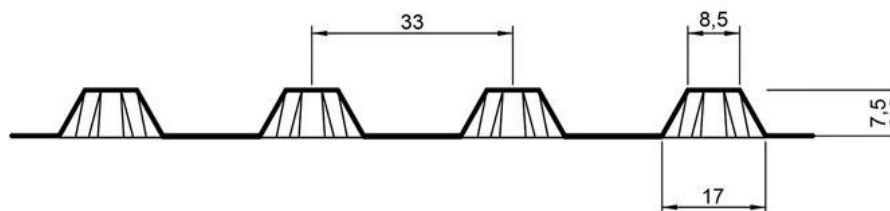
Company registration BUREAU VERITAS according to EN ISO 14001 granted to DANOSA manufacturing plant in Fontanar (Guadalajara).

## SCOPE

1. Drainage and protection of the waterproofing of buried walls in building and civil works, such as false tunnels and underpasses.
2. Floors drainage and protection, when there is not hydrostatic pressure or the floor is over the phreatic level.
3. Rehabilitation of basements and underground constructions affected by humidity.
4. Drainage for inverted roofs with continuous pavements. The drainage is placed between the thermal insulation and the pavement.

## PRESENTATION

PRESENTATION	VALUE	UNIT
Length	28 ± 0,56	m
Width	2,1 ± 0,04	m
Roll surface	58,8	m <sup>2</sup>
Rolls per pallet	6	rolls
Product Code	314304	-



## ADVANTAGES AND BENEFITS

1. Quick and easy installation.
2. Resistant to breakage, impact and deformation.
3. Resistant to chemical agent of the soil. Rot.
4. Provides great durability of the building and the structures against humidity and external factors.
5. It protects the wall avoiding direct contact with the humidity and it allows the drainage of the water, thus limiting the hydrostatic pressure.
6. Protection of the waterproofing against punching of soil.
7. In rehabilitation cases, it creates an air chamber between the underground basement affected by the humidity and the new finish, allowing its ventilation and drying.

## 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 can be a waterproofing membrane.
3. DANODREN H is placed with the nodules against the support. The nodular sheet must be overlapped 12 cm in horizontal and 20 cm in vertical way.
4. DANODREN H 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.
5. The corners should be made by folding the membrane.
6. Lay the drain pipe.

### Floors

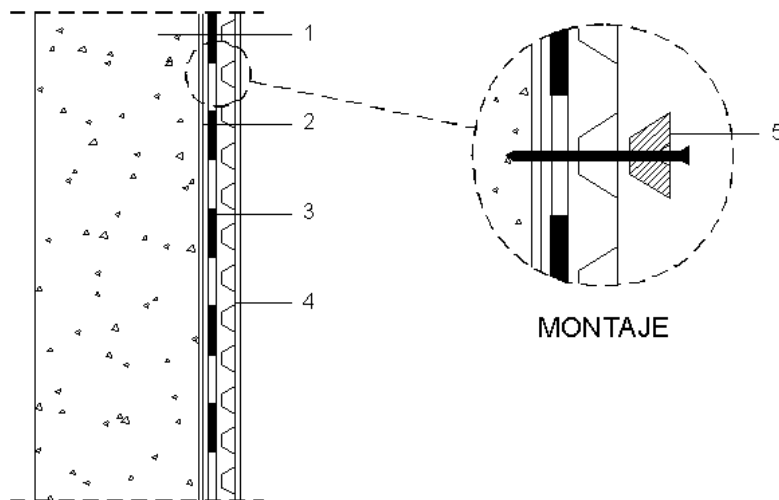
1. Where there is not hydrostatic pressure or the floor is over the phreatic level, DANODREN H is extended with the nodules against the ground. Layers must be overlapped 12 cm.

### Humid areas

1. In rehabilitation cases, DANODREN H rolls are extended with the nodules against the wall.

### Walkable inverted roofs with a continuous pavement

1. In walkable inverted roofs with a continuous pavement, DANODREN H must be placed on the thermal insulation with the nodules against it.



## INDICATIONS AND IMPORTANT RECOMMENDATIONS

1. DANODREN H drains and protect.
2. DANODREN H does not waterproof, therefore, it does not replace in any case the waterproofing membrane.
3. DANODREN fixations must be used when placing DANODREN H.
4. DANODREN metallic profile must be used when placing DANODREN H.
5. Appropriate precautions must be taken not to puncture the waterproofing during the placement of DANODREN H.
6. It must be verified that the product is at the site with its original packaging, duly labeled with CE marking and in perfect conditions.
7. It is recommended to check the existence of Declaration of Performance.
8. It is recommended to check the existence of the voluntary quality mark.

## HANDLING, STORAGE AND CONSERVATION

1. This product is not toxic or inflammable.
2. The product should be stored in a dry place protected from rain, sun, heat and low temperatures and upright position.
3. For further information, check the security data sheet.

**WARNING**

The information that appears in the following document makes reference to the uses and utilities of TIKIDAN's products and systems, and it is based on the knowledge that have been learnt until present, by TIKIDAN. This is only possible if products have been stored and used in an appropriate way.

Nevertheless, TIKIDAN is not responsible for unsuitable uses of the products neither any other facts, such as meteorological facts. So TIKIDAN is just responsible for the quality related to the provided products. TIKIDAN reserves the right to carry out modifications without previous notice.

The values that appear in the technical sheet are the results of the tests that have been performed in our laboratory. May 2016.