

Product technical information

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TERANAP 431 TP - 4 m wide
Elastomeric bitumen geomembrane

DESCRIPTION

TERANAP 431 TP is a large width waterproofing geomembrane with SBS elastomeric bitumen for civil engineering and tanking applications. It is manufactured with a special blend and a special reinforcement to resist to chemical aggressions and to high sea water pressure. This allow the membrane to have superior physical properties (see characteristics table).

TERANAP 431 TP in 4 m wide is certified by ASQUAL.

ADVANTAGES

High mechanical properties.

- Tensile strength
- Resistance to static puncturing.

Chemical resistance.

Easy to install and repair.

- Due to the flexibility (visco elastic behaviour) of SBS modified bitumen, TERANAP 431 TP will easily take the shape of the soil profile.
- Its low thermal expansion coefficient allows keeping TERANAP 431 TP flattened on the soil profile.
- Manual torching with gas burner.
- Easy to anchor and connect.
- Can be installed at low temperature ($T > 1^{\circ}\text{C}$).

Ageing

- Strong and weather resistant.



SCOPE OF APPLICATION

- Environmental protection sites :
 - Tailings, Industrial waste containment ponds, Industrial waste water basins, ...
- Hydraulic and civil works :
 - Dams, Canals, Irrigation works.
 - Tunnels.

COMPOSITION

Top surface	Sanded
Blend	Filerized (Styrene-Butadiene-Styrene) elastomeric bitumen
Reinforcement	Non-woven polyester + glass mat
Bottom surface	Root resistant polyester film

DIMENSIONAL CHARACTERISTICS

	Nominal value	Critical value
Thickness (mm)	4.1	3.9
Length (m)	80 or 90	79.2 or 89.1
Width (m)	4	3.96
Selvedge width (mm)	225	200
Weight (kg/m ²)	4.85	4.49

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CARACTERISTICS

	Unit	Standard	TERANAP 431 TP - 4m	
			Nominal values	Critical values
Strength at break (MD x CMD) ¹	N/5cm	NF EN 12311-1	1300 x 1100	1100 x 960
Elongation at break	%		49 x 53	42 x 45
Static puncture:		NF EN ISO 12236		
- Force	kN		3.4	3.32
- Displacement	mm	47	45	
Cold temperature flexibility	°C	NF EN 1109	- 20	- 15
Flow resistance (100 °C, 2h)	mm	NF EN 1110	100	100
Water tightness	m ³ /m ² /j	EN 14150	≤ 1 x 10 ⁻⁸	-
Gas tightness	m ³ /m ² /j	ASTM D 1434	≤ 27.6 x 10 ⁻⁶	-
Resistance to oxidation		NF EN 14575	Very Good	-
Resistance to weathering ²		NF EN 12224	No loss in properties	

¹ MD: Machine Direction; CMD: Cross Direction

² Test-conditions: 5 hours UV cycle at 50 °C followed by 1 hour condensation at 20 °C; Total: 3000 hours.

PACKAGING

	Length	Width	Nominal weight/roll	Roll diameter
TERANAP 431 TP - 4 m	80 m	4 m	1700 kg	700 mm
	90 m	4 m	1900 kg	700 mm

- Products are rolled up with a plastic intercalated film.
- Each roll wears a data sheet indicating the trademark, the product name and the serial number. Rolls are piled up (prismatic volume) during transport.
- Rolls are equipped with metallic mandrels of 4.8 m long and internal diameter of 159 mm (+/- 0.5).
- **TERANAP 431 TP** is not classified as dangerous according to the international regulation of transport.

GENERALITIES ABOUT APPLICATION

This product is a part of a waterproofing and draining system using geosynthetic or geomembrane. Generally, the product rolling is carried out to have the polyester film in contact with the deck when directly unrolled (film face exterior of the roll). The overlappings are welded with a propane gas torch and roll pressed. The longitudinal overlappings are torched on 150mm edge mini when unrolling or on 200mm mini for hidden welding. The endlaps are torched on 200mm edge mini. This product must be applied in accordance with the relevant technical specifications.

Our company reserves the right to modify products composition as a result of technologic improvements. This product data sheet supersedes the previous edition. To obtain the updated technical data sheet, please contact our technical department.

This product is not classified as dangerous according to the international regulation (ADR, RID, IATA, RTMDR).