

FLAGON P 2.0 and 3.0 mm

TWO-COLOURED TPO MEMBRANE FOR UNDERGROUND WORKS

USE

FLAGON P is a two-coloured membrane used as a waterproofing layer in civil engineering and building structures, such as:

- Tunnels and buried galleries,
- Cut and cover tunnels,
- Underground works,
- Coverings of buried structures,
- Underground car parks.

FLAGON P membrane can be used as part of a single-layer waterproofing system, compartmentalised or not, and in Flag Vacuum system.



APPLICATION

The waterproofing membrane FLAGON P includes a thin colored layer on the visible face of the membrane that allows a quick visual check of any damage occurred to the membrane during the application. This layer is called the "signal-to-layer".

The sheets are welded together by applying hot air, with manual or automatic welder. The welding can be made either with a single track that with double track. The double track allow to perform a pneumatic test with air.

SUGGESTED INSTALLATION EQUIPMENT

- Manual welding with hot air
- Automatic welding machine with hot air
- Automatic welding machine with double track

DESCRIPTION

FLAGON P membrane is a synthetic TPO membrane made by co-extrusion with an insert of glass fibre. It is highly resistant to attack by micro-organisms and perforation by roots. It is a different colour on each side:

- The upper surface (light green), which accounts for less than 20% of the total thickness, forms the "signal layer".
- The underside (black) is highly resistant to puncture and perforation by roots.

FLAGON P is not UV resistant.

SOPREMA prides itself in working with the highest quality products. We operate with quality assurance systems, and are certified ISO 9001.

✓ Excellent weldability

✓ Signal layer

✓ Flag Vacuum system



CHARACTERISTICS

ESSENTIAL CHARACTERISTIC	Standard	P 2.0 mm	P 3.0 mm	
Reaction to fire	EN 13501-1	E		EN 13967
Water tightness at 2kPa and 60kPa	EN 1928 (B)	Watertight		
Tear strength (N)	EN 12310-1	≥ 150	≥ 225	
Joint strength (N/50mm)	EN 12317-2	≥ 600	≥ 900	
Resistance to impact (mm)	EN 12691	≥ 750	≥ 1 100	
Tensile strength (N/mm ²)	EN 12311-2	≥ 10		
Elongation at break (%)	EN 12311-2	≥ 550		
Resistance to static loading (kg)	EN 12730	≥ 20		
Durability After thermal ageing After immersion in chemicals	EN 1296 EN 1847	Watertight at 2kPa and 60 kPa Watertight at 2kPa and 60 kPa		
Tensile strength (N/mm ²)	EN ISO 527-3	≥ 10		EN 13491
Static puncture resistance (kN)	EN ISO 12236	≥ 1,35	≥ 2,2	
Water permeability	EN 14150	< 10 ⁻⁶ m ³ m ⁻² d ⁻¹		
Durability - Oxidation, variation in tensile properties (%) - Environmental stress cracking (h)	EN 14575 ASTM D 5397	≤ 25 ≥ 200		

ADDITIONAL CHARACTERISTIC	Standard	P 2.0 mm	P 3.0 mm
Thickness (mm)	EN 1849-2	2.0 (±5%)	3.0 (±5%)
Mass per unit area (kg/m ²)	EN 1849-2	2.10	3.15
Cold bending (°C)	EN 495/5	≤ - 40	
Resistance to perforation by roots	CEN TS 14416	No perforation	

PACKAGING

Thickness	2.0mm	3.0mm
Number of rolls on each pallet	18	11
Roll length / width	20ml (other lengths available on request) / 2.10ml	
Available colours	Light green (surface)/ Black (underside)	

CE MARKING

Unique identification code of the product-type: WPSIT0037. FLAGON P membranes are produced by SOPREMA srl in Chignolo d'Isola (Italy) and are CE marked in accordance with EN 13491, certificate no. 1085-CPR-0013 and with EN 13967, certificate no. 1085-CPR-0037.