

# FLAGON BSL

TECHNICAL DATA SHEET ANZ-TDS-27-FLAGON BSL

## DESCRIPTION

**FLAGON BSL** membrane is a non-reinforced, synthetic PVC-P membrane made by co-extrusion. 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 (dark grey) is highly resistant to puncture and perforation by roots.

FLAGON BSL is not UV resistant.

It's also available FLAGON BSL/300, having a non-woven geotextile 300 g/m<sup>2</sup> coupled on the lower face of the membrane.

CIVILROCK attaches the highest importance to the quality of its products. This is why we operate a quality assurance system according to ISO 9001 BSI certified.

## MAIN ADVANTAGES

- Excellent weldability
- Includes a signal layer
- High resistance to attack by micro-organisms and perforation by roots
- Can be used in the Flag Vacuum system

## USE - APPLICATION

FLAGON BSL 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

## SUGGESTED INSTALLATION EQUIPMENT

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

## PRODUCTION STANDARDS

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

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## PROPERTIES

Properties	FLAGON BSL		
	BSL 2.0	BSL 3.0	Test method
Thickness (mm)	2.0 (±5%)	3.0 (±5%)	EN 1849-2
Mass per unit area (kg/m <sup>2</sup> )	2.60	3.90	EN 1849-2
Tensile strength (N/mm <sup>2</sup> )	-Longitudinal -Trasversal	> 15 > 14	EN ISO 527-3 EN 12311-2
Elongation at break (%)	-Longitudinal -Trasversal	> 300 > 280	EN ISO 527-3 EN 12311-2
Water permeability after 6 hrs at 0.5Mpa	Watertight < 10-6m3m-2d-1		EN 1928 (B) EN 14150
Static puncture resistance (N) (kg)	> 2200 > 20	> 3400 > 20	EN ISO 12236 EN 12730
Tear strength (N) (N/mm)	> 150 ≥ 45	> 225 ≥ 45	EN 12310-1 ISO 34 sample fig.2
Cold bending (°C)	≤ - 25		EN 495/5
Resistance to perforation by roots	No perforation		CEN TS 14416
Resistance to oxidation variation in tensile strength (%)	≤ 25		EN 14575
Reaction to fire	E		EN 13501-1
Joint strength (N/50mm)	≥ 20	≥ 20	EN 12317-2
Resistance to impact (mm)	≥ 750	≥ 1100	EN 12691
Durability After thermal ageing After immersion in chemicals	Watertight at 2kPa and 60 kPa Watertight at 2kPa and 60 kPa		EN 1296 EN 1847

(All values are nominal)

## CE MARKING

Unique identification code of the product-type: WPSIT0013

FLAGON BSL membranes are produced by the FLAG Spa factory (SOPREMA group) in Chignolo d'Isola (Italy) and are CE marked in accordance with EN 13491:2013, certificate no. 1085-CPR-0012 and with EN 19367:2012, certificate no. 1085-CPR-0036.

## CERTIFICATIONS

FLAGON BSL is used for the following certifications:

### Russia:

- NPO Fire Center Certification



WATERPROOFING

APPLICATIONS

UNDERGROUND

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## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this publication is based on the present state of our best knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, their representative or the contractor is responsible for checking the suitability of products for their intended use.

Note: Field service where provided, does not constitute supervisory responsibility. Suggestions made by Soprema Australia Pty Ltd either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Soprema Australia Pty Ltd are responsible for carrying out procedures appropriate to a specific application.

DOCUMENT CONTROL	
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Amendment	
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