

## PRODUCT DATA SHEET

TECHNICAL DATA SHEET 812101ME001  
SUPERSEDES: TECHNICAL DATA SHEET FOBSL-190827IE001

### DESCRIPTION

FLAGON® BSL membranes are non-reinforced, two-coloured, synthetic PVC-P membranes made by co-extrusion used as a waterproofing layer in civil engineering and building structures. FLAGON® BSL is highly resistant to attack by micro-organisms and perforation by roots. It has a different colour on each side. Including a coloured thin layer on the visible face of the membrane allowing for a quick visual check-up for probable damages during installation. This layer is called the "signal to layer". 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. However, this side is not UV resistant. FLAGON® BSL membranes can be used as part of a single-layer waterproofing system, compartmentalized or non-compartmentalized, and in Flag Vacuum System. FLAGON® BSL sheets are welded together by hot air or using a hot wedge, with manual or automatic welder following either a track or a double track method. The double-track allows for performing a pneumatic test with air. FLAGON® BSL membranes come in different thickness from 1.5 mm up to 3.0 mm to suit all project specification requirements.

### STORAGE & HANDLING

Rolls must be stored in upright position, with selvedge side on top to prevent damage. Store rolls in a clean dry location and cover as necessary to protect from any environmental impact such as extreme cold, heat, or moisture. Monitor varying environmental conditions during storage, handling and application of FLAGON® BSL.

### USER APPLICATION

FLAGON® BSL can be used in single ply or 2-ply, vertically and horizontally in substructure and superstructure applications. All the application guidelines are described in SOPREMA's Technical Manuals in force.

#### ADVANTAGES

- High resistance to attack by micro-organisms and perforation by roots
- Excellent resistance soil chemicals
- Excellent weldability
- High resistant to hydrostatic pressure
- Distinct colour scheme for application and testing precision

### HEALTH, SAFETY & ENVIRONMENT

The product does not contain any substance likely to be detrimental to health or to the environment and complies with generally admitted Health & Safety Requirements. For further information please refer to relevant Material Safety Data Sheet (MSDS).

### TRACEABILITY

Product traceability is ensured through a manufacturing identification present on the packaging.

### QUALITY MANAGEMENT

SOPREMA always recognises as a high level of importance the quality of the products, the environment and safety. For this reason, we operate independently monitored Quality Management Systems in line with ISO 9001:2015.

## COMPOSITION & PACKAGING

PROPERTY	FLAGON® BSL				
Thickness	1.5 mm	2.0 mm	2.2 mm	2.5 mm	3.0 mm
Roll dimension	2.10 x 20 m				
Roll weight	81.90 kg	109.20 kg	124.99 kg	136.50 kg	163.80 kg
Rolls per pallet	23 Rolls	18 Rolls	14 Rolls	11 Rolls	11 Rolls
Top face	Light green				
Underface	Dark grey				

## TECHNICAL PROPERTIES

PROPERTY	STANDARDS	FLAGON® BSL	
Tensile strength, MD / CMD	EN 12311 - 2	> 15 / > 14 N / mm <sup>2</sup>	EN 13967
Elongation at max load, MD/CMD	EN 12311 - 2	> 300 / 280 %	
Water permeability at 2 kPa & 60 kPa	EN 1928 ( B )	Watertight	
Reaction to fire	EN 13501 - 1	E	
Tear strength	EN12310 - 1	> 500 N	
Joint strength	EN 12317 - 2	> 1 100 N / 50 mm	
Resistance to impact	EN 12691	≥ 750 mm	
Resistance to static loading	EN 12730	> 20 kg	
Durability after thermal ageing	EN 1296	Watertight at 2 kPa and 60 kPa	
Durability after immersion to chemicals	EN 1847	Watertight at 2 kPa and 60 kPa	
Tensile strength, MD / CMD	EN ISO 527 - 3	> 15 / > 14 N / mm <sup>2</sup>	EN 13491
Water permeability	EN 14150	< 10 <sup>-6</sup> m <sup>3</sup> m <sup>-2</sup> d <sup>-1</sup>	
Static puncture resistance	EN ISO 12236	> 2 500 N	
Resistance to oxidation, variation in tensile strength	EN 14575	≤ 25	
Thickness	EN 1849 - 2	2.0 ( ± 5 % )	
Mass per unit area	EN 1849 - 2	2.60 kg / m <sup>2</sup>	
Tear strength	ISO 34 sample fig.2	≥ 45 N / mm	
Cold bending	EN 495 / 5	≤ - 25 °C	
Resistance to perforation by roots	CEN TS 14416	No perforation	

Note: All products manufactured by SOPREMA comply with the description and properties indicated in the technical data sheet that was current at the date of manufacture.  
Data is represented by average values, unless noted otherwise.  
All values are nominal.

## TESTING AND CERTIFICATIONS



## SUSTAINABILITY AND ENVIRONMENT

