



WATERPROOFING

SYNTHETIC

FOUNDATIONS

M I D D L E E A S T

FLAGON BSL

1.5, 2.0, 2.2, 2.5, 3.0 mm

TWO-COLOURED PVC-P MEMBRANE FOR UNDERGROUND WORKS

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.

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

USER APPLICATIONS

In vertical and horizontal applications for:

- Basements and below-grade waterproofing works
- Cut and cover tunnels
- Tunnels and buried structures
- Coverings of buried structures
- Underground car parks

INSTALLATION GUIDELINES

- Refer to the systems installation manual.

SUSTAINABILITY, HEALTH & ENVIRONMENT

All our activities & growth target sustainable development to minimize the impact on the environment. FLAGON BSL does not contain any substances that might be detrimental to health or to the environment and complies with generally accepted health standards. Please refer to the product's Safety Data Sheet for more information.

■ SOPREMA may modify the composition and/or utilization of its products without prior notice.
 ■ All products manufactured by SOPREMA for Manufacturing Waterproofing Materials LLC. comply with the description and properties indicated in the technical data sheet that was current on the date of manufacture.



SOPREMA MWM L.L.C.
 Mussafah Industrial Zone, ICAD
 Abu Dhabi, U.A.E.,
 P.O Box 39196
 TEL: +971 2550 3383,
 FAX: +971 2550 3382
 www.soprema.ae ,
 info@soprema.ae

SOPREMA srl
 Via Industriale dell'Isola, 3 - 24040
 Chignolo d'Isola (BG) , Italia
 Tel. : +39 035 095.10.11
 Fax : +39 035 494.06.49
 www.flag-on.com
 www.soprema.it

SOPREMA GROUP HQ:
 SUBSIDIARY OF SOPREMA S.A.S.,
 14 Rue de Saint Nazaire
 CS 60121, F-67025, STRASBOURG
 CEDEX, France
 Tel: +33 (0)3 88 79 84 00,
 Fax: +33 (0)3 88 79 84 01
 www.soprema.com



WATERPROOFING

SYNTHETIC

FOUNDATIONS

M I D D L E E A S T

FLAGON BSL

1.5, 2.0, 2.2, 2.5, 3.0 mm

TWO-COLOURED PVC-P MEMBRANE FOR UNDERGROUND WORKS

TECHNICAL DATA SHEET - FOBSL-190827IE001

PACKAGING & SUPPLY

PROPERTY	FLAGON BSL				
Thickness (mm)	1.5	2.0	2.2	2.5	3.0
Roll dimensions (m)	2.10 x 20 (other lengths available on request)				
Roll weight (kg)	81.90	109.20	124.99	136.50	163.80
Rolls per pallet	23	18	14	11	11
Top face	Light green				
Underface	Dark grey				

QUALITY CONTROL

FLAGON BSL membranes are manufactured in ISO-9001 certified SOPREMA factories which are audited by Third-Party organizations. Our products are manufactured to meet SOPREMA's Quality Management Manual.

STORAGE & HANDLING

Rolls must be stored upright with the selvedge side upwards. For outdoor storage, protect the membrane with an opaque protective cover after removal of the delivery packaging.

- SOPREMA may modify the composition and/or utilization of its products without prior notice.
- All products manufactured by SOPREMA for Manufacturing Waterproofing Materials LLC. comply with the description and properties indicated in the technical data sheet that was current on the date of manufacture.



SOPREMA MWM L.L.C.
Mussafah Industrial Zone, ICAD
Abu Dhabi, U.A.E.,
P.O Box 39196
TEL: +971 2550 3383,
FAX: +971 2550 3382
www.soprema.ae,
info@soprema.ae

SOPREMA srl
Via Industriale dell'Isola, 3 - 24040
Chignolo d'Isola (BG), Italia
Tel. : +39 035 095.10.11
Fax : +39 035 494.06.49
www.flag-on.com
www.soprema.it

SOPREMA GROUP HQ:
SUBSIDIARY OF SOPREMA S.A.S.,
14 Rue de Saint Nazaire
CS 60121, F-67025, STRASBOURG
CEDEX, France
Tel: +33 (0)3 88 79 84 00,
Fax: +33 (0)3 88 79 84 01
www.soprema.com



WATERPROOFING

SYNTHETIC

FOUNDATIONS

M I D D L E E A S T

FLAGON BSL

1.5, 2.0, 2.2, 2.5, 3.0 mm

TWO-COLOURED PVC-P MEMBRANE FOR UNDERGROUND WORKS

TECHNICAL DATA SHEET - FOBSL-190827IE001

TECHNICAL PROPERTIES

PROPERTY	STANDARDS	FLAGON BSL	
Tensile strength, MD/CMD	EN 12311- 2	> 15 / > 14 N / mm ²	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 ²	EN 13491
Water permeability	EN 14150	< 10 ⁻⁶ m ³ m ⁻² d ⁻¹	
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 ²	
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	

(All values are nominal)
 All values are subject to UEAtc tolerance.
 This product does not contain asbestos or tar constituents
 MD = Machine Direction. CMD = Cross Machine Direction



SOPREMA MWM L.L.C.
 Mussafah Industrial Zone, ICAD
 Abu Dhabi, U.A.E.,
 P.O Box 39196
 TEL: +971 2550 3383,
 FAX: +971 2550 3382
 www.soprema.ae ,
 info@soprema.ae

SOPREMA srl
 Via Industriale dell'Isola, 3 - 24040
 Chignolo d'Isola (BG) , Italia
 Tel. : +39 035 095.10.11
 Fax : +39 035 494.06.49
 www.flag-on.com
 www.soprema.it

SOPREMA GROUP HQ:
 SUBSIDIARY OF SOPREMA S.A.S.,
 14 Rue de Saint Nazaire
 CS 60121, F-67025, STRASBOURG
 CEDEX, France,
 Tel: +33 (0)3 88 79 84 00,
 Fax: +33 (0)3 88 79 84 01
 www.soprema.com

■ SOPREMA may modify the composition and/or utilization of its products without prior notice.
 ■ All products manufactured by SOPREMA for Manufacturing Waterproofing Materials LLC. comply with the description and properties indicated in the technical data sheet that was current on the date of manufacture.