

Bituthene® 4000 / 4000S membranes

Self-adhesive, cross-laminated HDPE waterproofing membrane with enhanced bonding characteristics

Description

Bituthene® 4000/4000S is a flexible fully bonded waterproof membrane combining a high performance cross laminated, HDPE carrier film with a unique super sticky self-adhesive rubber bitumen compound.

Installation

At air temperatures below +5°C measures should be taken to ensure that all surfaces are free from ice or frost. All surfaces except those below ground bearing slabs and Preprufe® R membranes should be primed with one coat of GCP's solvent based quick drying, damp and green concrete tolerant, rubberised primer Bituthene® Primer S2. Primer S2 can be applied by brush or roller. Primer S2 is pink in colour to ensure proper coverage, to aid identification and to avoid substitution of proper recommended primer.

Bituthene® 4000/4000S membranes shall be laid by peeling back the protective release paper and applying the adhesive face onto the prepared surface, free from ice, frost, condensation or any contaminants which could adversely effect adhesion. Once the membrane is applied, cover with a protection board as soon as possible. On "green" concrete or damp surfaces, cover the membrane immediately. Bituthene® LM to be applied at all internal and external corners, penetrations etc. prior to applying the overall membrane.

Bituthene® 4000/4000S membrane should be brushed onto the surface to ensure good initial bond and exclude air. Adjacent rolls are aligned and overlapped 50 mm minimum at side and ends

and well rolled with a firm pressure, using a lap roller to ensure complete adhesion and continuity between the layers. On high walls it may be necessary to batten fix the membrane to prevent slippage.

Repairs, Protection & Drainage

- Damaged areas to be repaired with an oversize patch applied to a clean dry surface extending 100 mm beyond damage and firmly rolled.
- Protect Bituthene® membranes immediately after application to avoid damage from other trades, construction materials or backfill, using only Protection O3 boards.
- If the area around the substructure can be drained to a low level outlet then GCP recommends the Hydroduct® range of drainage membranes.

Performance

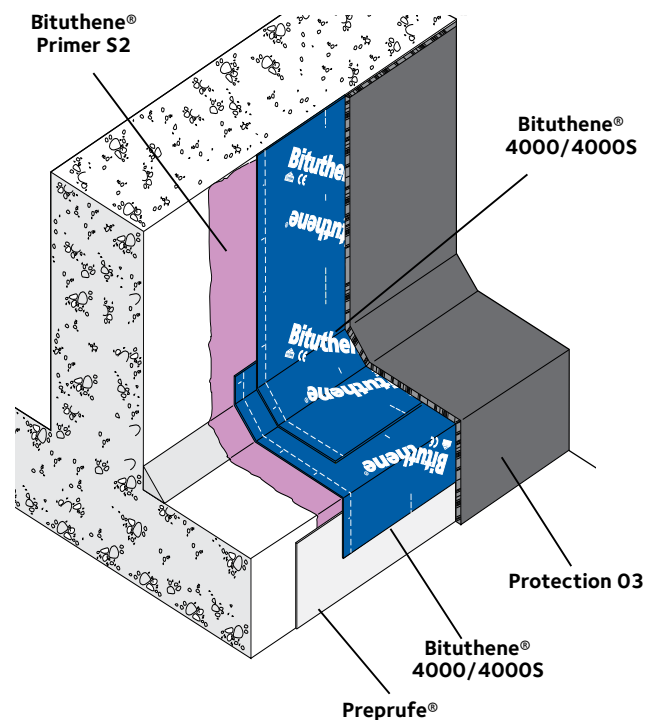
Bituthene® 4000/4000S membrane complies with the following national standards: BS 8102: 2009, The Building Regulations (as amended) (England and Wales) 2000, The Building Regulations (Northern Ireland) 2000 (as amended), Building Standards (Scotland) Regulations 2004 (as amended).

Health and Safety

There is no legal requirement for a Safety Data Sheet for Adcor® 500S, Adcor® 550MI, Bituthene® 4000/4000S, Protection O3 board, Bitustik™ or Hydroduct®. For Bituthene® Primer S2 and Bituthene® LM read the product label and Safety Data Sheet (SDS) before use. Users must comply with all risk and safety phrases. SDS's can be obtained from GCP Applied Technologies or from our web site at gcpat.com.

Advantages

- **Cold applied** – fast, safe and simple application to substrates especially at low temperatures and saves application time.
- **Suitable for application to "green" concrete** – reduces programme schedules.
- **Moisture tolerant primer system** – allows application in damp or marginal weather conditions.
- **Wide application temperature range** – excellent bond to self and substrate from -5°C to +35°C.
- **Twin seal laps** – adhesive and film sealing provides enhanced bond and additional security.
- **Cross laminated high density polyethylene carrier film** – provides high tear strength, puncture and impact resistance
- **Pre-marked overlaps** – ensures quality of the overlaps and saves application time
- **Gas resistance** – contributes to methane, carbon dioxide and radon gas protection according to BS 8485 (see section 7.2.4), BRE Reports 211 (radon) and 212 (methane and carbon dioxide). Independent test reports available upon request.



Details shown are typical illustrations only and not working drawings. For assistance with working drawings and additional technical advice please contact GCP Technical Services.



Supply	
Bituthene® 4000/4000S	1 m x 20 m roll (20 sq m) Weight 36 kg
Storage	Store upright in dry conditions below +30°C
Bituthene® Primer S2	5 & 25 litre can
Coverage	9-11 sq m per litre application, (depending on surface porosity and ambient temperature)
Ancillary Products	
Bituthene® LM	5.7 litre packs
Protection® O3 board	3 mm x 0.9 m x 2.03 m (± 6%)
Adcor® 500S	6 x 5 m rolls
Adcor® 550MI	8 x 5 m rolls
Bitustik™ 4000	150 mm x 12 m roll
Pak Adhesive	5 litre can
Hydroduct®	Refer to Hydroduct® Vertical Drainage Sheets datasheet

Equipment by Others: Lap Roller

Note: As per specification and/or local site requirements a low VOC, water-based primer Bituthene® Primer W2 can be used as an alternative to Bituthene® Primer S2.

Specification Clause

Refer to NBS Clause 180 and 190

Declared values according to EN 13967			
Property	Declared Value		Test Method
	4000	4000S	
Bituthene®			
Visible defects - MDV	None	None	EN 1850-2
Straightness - MDV	Pass	Pass	EN 1848-2
Length (m) - MDV	20.15 ± 0.15	20.15 ± 0.15	EN 1848-2
Thickness (mm) - MDV	1.52 ± 0.08	1.52 ± 0.08	EN 1849-2
Width Carrier Sheet (m) - MDV	0.987 ± 0.007	0.987 ± 0.007	EN 1848-2
Width Overall (roll) (m) - MDV	1.000 ± 0.010	1.000 ± 0.010	EN 1848-2
Mass per unit area (g/m²) - MDV	1490 ± 90	1490 ± 90	EN 1849-2
Water tightness to liquid water (at 60 kPa)	Pass	Pass	EN 1928
Resistance to impact (Al-board (mm) - MLV)	≥ 150	≥ 150	EN 12691
Resistance to tearing (Nail Shank) - unreinforced sheets (N) - MLV	≥ 120	≥ 120	EN 12310-1
Joint strength (N/50mm) - MLV	≥ 150	≥ 150	EN 12317-2
Water vapour transmission (μ= sD/d) - MDV	110.000 ± 30%	140.000 ± 30%	EN 1931 Method B

Footnotes: 1. Longitudinal - related to the roll direction 2. Transversal - related to the roll direction 3. MDV: Manufacturer Declared Value 4. MLV: Manufactured Limiting Value 5. NPD: No Performance Declared. All declared values shown in this data sheet are based on test results determined under laboratory conditions and with the product sample taken directly from stock in its original packing without any alteration or modification of its component parts.

Physical Properties			
Property	4000	4000S	Test Method
Colour	Dark grey-black	Dark grey-black	
Application Temp.	-5 °C to +20 °C	+15 °C to +35 °C	
Resistance to hydrostatic head	>70 m of water	>70 m of water	ASTM D5385

 0836	GCP Applied Technologies (UK) Ltd Ipswich Road, Slough, Berkshire SL1 4EQ United Kingdom 06 09/F017
	EN 13967 Bituthene® 4000/4000S Flexible Sheets for Waterproofing, Type T Reaction to fire: E Watertightness: Pass at 60 kPa

Declared values according to EN 13967			
Property	Declared Value		Test Method
	4000	4000S	
Bituthene®			
Durability of water tightness against ageing/ degradation (at 60 kPa)	Pass	Pass	EN 1296 EN 1928 Method B
Durability of water tightness against chemicals (at 60 kPa)	Pass	Pass	EN 1847 Method B EN 1928 Method B
Durability of tensile properties against chemicals	Pass	Pass	EN 13967 Annex C
Compatibility with bitumen	Pass	Pass	EN 1548
Resistance to static loading	≥ 20 - Pass	≥ 20 - Pass	EN 12730
Tensile properties - unreinforced sheets (N/50mm) - MLV	Long ¹ ≥ 200 Trans ² ≥ 240	Long ¹ ≥ 200 Trans ² ≥ 240	EN 12311-2 Method A
Tensile properties - unreinforced sheets (Elongation %) - MLV	Long ¹ ≥ 270 Trans ² ≥ 220	Long ¹ ≥ 270 Trans ² ≥ 220	EN 12311-2 Method A
Reaction to fire (Class; test conditions)	E	E	EN 13501-1

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