

Substructure Waterproofing - Membranes

Bituthene® 3000 HC

Self-adhesive rubber/bitumen polyethylene waterproof membrane for basements and sub-structures in hot climates

Description

Bituthene® 3000 HC is a cold applied, flexible waterproof membrane combining a special high performance cross laminated, HDPE carrier film with a self-adhesive rubber bitumen compound. Bituthene 3000 HC is a hot climate grade, suitable for application at higher ambient temperatures.

Installation

Ensure that all surfaces are clean, dry and free from ice/frost. For lower temperatures or damp surfaces use Bituthene® 8000. All surfaces except those below ground bearing slabs should be primed with one coat of Primer B1 or Primer B3.

Bituthene 3000 HC shall be laid by peeling back the protective release paper and applying the adhesive face onto the prepared surface, free from ice, frost or condensation.

Bituthene LM to be applied at necessary internal and external corners, penetrations etc. prior to applying the overall membrane.

Bituthene 3000 HC should be brushed onto the surface to ensure good initial bond and exclude air. Adjacent rolls are 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

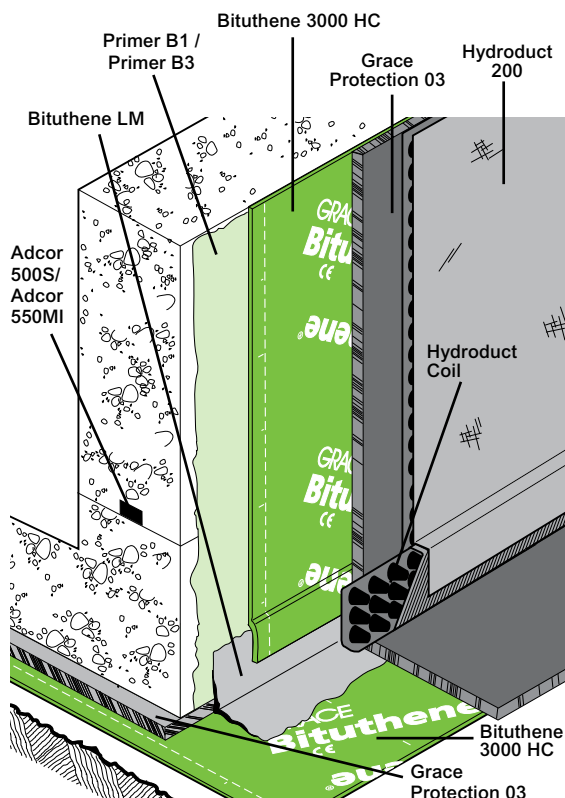
- Damaged areas to be repaired with an oversize patch applied to a clean dry surface extending 100 mm beyond damage and firmly rolled.
- The membrane should be protected against damage using Grace Protection 03 boards bonded to the membrane using Bitustik 4000 double sided tape or Pak Adhesive and firmly rolled.
- If the area around the substructure can be drained to a low level outlet then Grace recommends the Hydroduct range of drainage membranes.

Performance

Bituthene 3000 HC complies with the following national standards: BS 8102: 2009, The Building Regulations (England and Wales) 2000 (2004 edition) clause C2, The Building Regulations (Northern Ireland) 2000 clause C4, Scottish Building Standards, Technical Handbooks 2009.

Advantages

- **Waterproof** - capable of resisting a hydrostatic head when fully supported.
- **Gas resistant** - methane, carbon dioxide and radon gas protection in excess of the standard membrane requirements in BRE Reports 211 (radon) and 212 (methane and carbon dioxide).
- **Cross laminated film** - provides dimensional stability, high tear strength, puncture and impact resistance.
- **Cold applied** - no heating, self-adhesive overlaps ensure continuity.
- **Chemically resistant** - provides effective external protection against aggressive soils and ground water.
- **Flexible** - accommodates minor settlement and shrinkage movement.
- **Controlled thickness** - factory-made sheet ensures constant, non-variable site application.




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



Supply

| | |
|---------------------------|--|
| Bituthene® 3000 HC | 1 m x 20 m roll (20 sq m) Weight 39 kg |
| Storage | Store upright in dry conditions below +40°C |
| Primer B1 Coverage | 5 and 25 litre drums 7-10 sq m per litre (depending upon method of application, surface porosity and ambient temperature) |
| Primer B3 Coverage | 20 and 200 litre units 8-10 sq m per litre (depending upon method of application, surface porosity and ambient temperature) |
| Ancillary Products | |
| Bituthene® LM | 5.7 litre packs |
| Grace Protection 03 | 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 data sheet for Hydroduct Vertical Drainage Sheets. |

Equipment by Others: Soft broom, Stanley knife, brush or roller for priming.

| | |
|--|--|
|  0836 | Grace Construction Products Ltd Ipswich Road, Slough, Berkshire SL1 4EQ United Kingdom 06 06/F017 |
| | EN 13967 Bituthene® 3000 HC Flexible Sheets for Waterproofing, Type T Reaction to fire: E Watertightness: Pass at 60 kPa |

Specification Clause

Refer to Clause 180 and 190.

Health and Safety

There is no legal requirement for a Material Safety Data Sheet for Bituthene 3000 HC, Grace Protection 03, Hydroduct or waterstops. Refer to product carton for additional safety information. For health and safety questions on these products please contact Grace Construction Products Limited.

For Primer B1, Primer B3, Bituthene LM and Pak Adhesive read the product label and Material Safety Data Sheet (MSDS) before use. Users must comply with all risk and safety phrases. MSDS's can be obtained from Grace Construction Products

Physical Properties

| Property | Typical Value | Test Method |
|--------------------------------|---|----------------------|
| Resistance to hydrostatic head | > 60 m | ASTM D5385 |
| Methane Permeability (note 1) | 105.85 ml/m ² .day.atm | Versaperm Ltd |
| Radon Diffusion Coefficient | 1.2 x 10 ⁻¹¹ m ² /s | University of Prague |

Note 1: Typical value for BRE recommended minimum standard (BRE Report 212) is 360 ml/m²/day.

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.

Declared values according to EN 13967

| Property | Declared Value | Test Method | Property | Declared Value | Test Method |
|--|---|---------------------|--|--|--------------------------------------|
| Visible defects - MDV | No | EN 1850-2 | Straightness - MDV | Pass | EN 1848-2 |
| Length (m) - MDV | 20.15 ± 0.15 | EN 1848-2 | Thickness (mm) - MDV | 1.52 ± 0.08 | EN 1849-2 |
| Width Carrier Sheet (m) - MDV | 0.987 ± 0.007 | EN 1848-2 | Mass per unit area (g/m ²) - MDV | 1670 ± 90 | EN 1849-2 |
| Width Overall (roll) (m) - MDV | 1.000 ± 0.005 | EN 1848-2 | Durability of water tightness against ageing/degradation (at 60 kPa) | Pass | EN 1296 EN 1928 Method B |
| Water tightness to liquid water (at 60 kPa) | Pass | EN 1928 | Durability of water tightness against chemicals (at 60 kPa) | Pass | EN 1847 Method B EN 1928 Method B |
| Resistance to impact (AI-board) (mm) - MLV | 50 - Pass | EN 12691 | Durability of tensile properties against chemicals | Pass | EN 13967 Annex C |
| Resistance to impact (base EPS) (mm) - MLV | 1000 - Pass | EN 12691 | Compatibility with bitumen | Pass | EN 1548 |
| Resistance to tearing (Nail Shank) - unreinforced sheets (N) - MLV | Long ¹ 120 Trans ² 130 | EN 12310-1 | Resistance to static loading | Pass | EN 12730 |
| Joint strength (N/50mm) - MLV | 140 | EN 12317-2 | Tensile properties - unreinforced sheets (N/6mm) - MLV | Long ¹ 18 Trans ² 25 | EN 12311-2 Method B |
| Water vapour transmission (μ = sD/d) - MDV | 140.000 - 160.000 | EN 1931 Method B | Tensile properties - unreinforced sheets (Elongation %) - MLV | Long ¹ 110 Trans ² 90 | EN 12311-2 Method B |
| Resistance to deformation under load | NPD ⁵ | EN 13967 Annex B | Reaction to fire (Class; test conditions) | E | EN 13501-1 |

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

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