



# New Guard Coatings Group

A global reputation to protect.

The information herewith is given with the best of New Guard Coatings Group knowledge.

Rights are reserved to change and update the data without notice.

This information is not exhaustive and it is the user's responsibility to ensure that this data sheet is the most current by contacting their local New Guard Coatings Group branch prior to using the coating/product.

[www.newguardcoatings.com](http://www.newguardcoatings.com)

NORTH • SOUTH EAST • MIDLANDS • NORTH WEST • HULL • SCOTLAND

# Fosroc® Proofex Engage



constructive solutions

**Robust pre-applied, fully bonded, gas-resistant waterproofing membrane for use in below ground, reinforced concrete structures**

## Uses

Waterproofing and ground gas resistant membrane for concrete basements, lift pits, car parks and other water excluding structures.

Proofex Engage provides water, water vapour and gas protection to water excluding structures and protects concrete from aggressive ground salts, chemicals and hydrocarbons.

## Advantages

- Unique mesh system bonds permanently to concrete, remaining in place even if settlement takes place
- Smart anti-tracking design prevents water tracking between membrane and concrete
- Simple and quick to install - no protection film to remove
- Provides Methane and Carbon Dioxide protection as defined in BRE Report 212 and independent assessment report
- Crack bridging up to 5mm (100 cycles) ASTM C1305 modified
- Radon protection as defined in BRE Report 211
- BBA certification
- Protects concrete from attack from chemicals, hydrocarbons and aggressive ground salts in contaminated sites
- Simple application - requires no primer or protection, and blinding concrete may be eliminated
- Inert product - no risk of a reaction with ponded water prior to concrete being poured
- Membrane composition gives excellent flexibility for detailing, combined with high durability and toughness for site trafficking.
- Root resistant
- Long life expectancy

## Description

Type A (Barrier) below ground waterproofing protection as defined in BS8102:2009.

Proofex Engage is a unique patented Type A waterproofing barrier membrane system, as defined in BS8102:2009 'Protection Of Structures Against Water From The Ground', comprising a cell mesh bonded to a blended polyethylene / polypropylene membrane which allows poured concrete to interlock, forming a tenacious mechanical bond. The bonding mechanism eliminates water migration pathways between the membrane and the concrete

Proofex Engage is supplied with a self-adhesive selvedge along one side of the roll to provide sealed laps and a comprehensive range of auxiliary products to simplify the application process.



Where ground gas protection is required Proofex Engage, in conjunction with Supercast Watertight Concrete, has been independently assessed as providing a score of up to 4.5 points sufficient for all building types constructed in ground with a Characteristic Situation 3 hazard potential.

 <b>0809</b>	
<b>Fosroc International Limited</b> Drayton Manor Business Park, Coleshill Road, Tamworth, B78 3XN, UK <b>09</b> <b>DOP: UK9-56</b> <b>0809 – CPR – 20006780</b>	
Proofex Engage EN 13967:2012 Flexible sheets for waterproofing (Class Type A & Type T)	
Watertightness	No evidence of penetration at 6m head
Resistance to impact	1500 mm
Dangerous substances	Conforms with 5.17
Resistance to static load	20kg
Elongation at break	Long. > 300% Trans. >200%
Tensile properties	Long. >10.0 N/mm <sup>2</sup> Trans. >8.0 N/mm <sup>2</sup>
Water vapour resistance after artificial ageing	Pass
Resistance to tearing	>500N (longitudinal)
Shear resistance of joints	> 400 N (lap)
Water vapour properties	Sd= 400m
Length	33m
Width	1.15m
Thickness	4-5mm

# Fosroc® Proofex Engage

## Properties

Test method	Standard	EN13967 Requirement	Result
Watertightness to liquid water	EN 1928 Method A	No evidence of water penetration @ 6 m head	Pass Also ASTM D5385 passed at 69m
Resistance to static loading	EN 12730 method B	-	20kg
Tensile properties (unreinforced membrane): Tensile strength/ elongation at break/ elongation at peak load	EN 12311-2	-	Transverse: >8.0 N/mm <sup>2</sup> / >200% / >65% Longitudinal: >10.0 N/mm <sup>2</sup> / >300% / >60%
Crack bridging	ASTM C1305 modified	-	up to 5mm (100 cycles)
Watertightness after artificial ageing	EN 1296 / EN 1928	-	$\mu = \pm 58718.3$
Resistance to impact	EN 12691 Method A	-	1500 mm
Resistance to tear (nail shank)	EN 12310-1	-	>500N (longitudinal)
Reaction to fire	EN ISO 11925-2	-	Pass
Joint strength	EN 12317-2	-	>400 N (lap)
Water vapour transmission	EN 1931	-	Water vapour resistance factor u = 580000 Equivalent air layer thickness S <sub>d</sub> = 400 metres
Resistance to alkali	EN 1847 / EN 1928	Watertight at 2kPa at 60kPa	Pass Pass
Length Width Thickness Mass Straightness Visible defects	EN 1848-2 EN 1849-2 EN1850-2	-	33 metres 1.15 metres 4 – 5mm (membrane thickness 0.8mm) 1.54 kg/m <sup>2</sup> <75 mm per 10 metre length Free from visible defects
Methane permeability	BS ISO 15105-1: 2007	-	127 ml·m <sup>2</sup> ·day <sup>-1</sup> ·atm <sup>-1</sup> (unjointed)
CO <sub>2</sub> permeability	Rilem Report 12	-	<5.12 E <sup>-13</sup> m <sup>2</sup> /sec/Pa
Permeability to radon gas	-	-	1.6 x 10 <sup>-11</sup> m <sup>2</sup> /s
Life expectancy	BS EN 13251:2016 BS EN 13252:2016	-	125 years

**Clarification of property values:** The typical properties given above are derived from laboratory testing. Results derived from field applied samples may vary.

## Specification clause

The waterproofing membrane shall be Proofex Engage, BBA Certificate 03/4042, mechanically bonded to concrete placed onto it and supplied with an integral selvedge lap detail. The product shall comply with the requirements of BS EN 13967:2012, Flexible sheets for waterproofing (Class Type A & Type T). Installation shall be in accordance with the manufacturer's published instructions.

## Standard compliance

Independently certified performance, BBA certificate (No. 03/4042).

BS EN 13967:2012 - Flexible sheets for waterproofing- Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet. Type A and Type T.



# Fosroc® Proofex Engage

---

British Standard 8102:2009 - Code of Practice for 'Protection Of Structures Against Water From the Ground' Classes 1, 2 and 3.

Proofex Engage complies with LU Standard 1-085 'Fire Safety Performance of Materials'.

## Application instructions

### Substrate preparation

Horizontal application - the membrane must be applied to a smooth, prepared substrate. Concrete blinding is preferred but a well compacted granular fill is acceptable for a level subbase. The substrate shall be free from loose aggregate or other sharp protrusions. Standing water must be removed to prevent contamination of overlaps and subsequent compromise of waterproof properties.

Vertical application - the membrane is applied to temporary or permanent formwork or adjoining structures.

Proofex Engage must not be applied directly onto contiguous or secant piled walls. A plywood sacrificial shutter or spray concrete finish should be used prior to application.

### Membrane installation

Cut the membrane to a convenient length for installation. Carefully align the membrane and roll it out with the ribbed surface uppermost. Lay adjacent sheets accurately so they overlap the previous sheet 65mm along the adhesive selvedge. When laying adjacent full rolls there should be a stagger of half a roll length to avoid a build up of end joints in one area.

End joints and cut edges - Butt join the Proofex Engage sheets onto Proofex Engage Detail Strip. The top surface of the joint can be further sealed with either a 100mm wide strip of Proofex LM reinforced with Proofex LM Mesh (extending 50mm either side of the formed joint), or a 60mm wide strip of Fosroc Polyurea WCS, (refer to separate datasheet).

Horizontal to vertical joints - Lap Proofex Engage onto Proofex "L" section and overseal with either a 40 mm fillet of Proofex LM reinforced with Proofex LM mesh, or a 60mm wide strip of Fosroc Polyurea WCS Gun Grade, refer to separate datasheet. Gun apply and trowel quickly into the net mesh either side of joint.

All overlaps and joints should be firmly rolled to ensure complete adhesion between layers.

If cold or damp conditions prevail the adhesive performance of the selvedge strip, Proofex Engage Detail Strip and Proofex Total Tape may be improved by gently warming.

### Removal of formwork

Where the membrane has been applied to removable shuttering it is recommended that a minimum concrete compressive strength of 10 N/mm<sup>2</sup> is reached before the formwork is stripped.

### Penetrations

Penetrations e.g., pipe entries through Proofex Engage, require special attention to detail. Proofex Top Hat units used in conjunction with Proofex Total Tape and Nitoseal MS60 are recommended. Refer to Fosroc for more information on details.

### Backfilling

Backfilling material must be free from sharp objects and debris that could damage the Proofex Engage. It should not contain house bricks, blocks or boulders larger than 50 mm. The use of a protection board is not normally required.

### Contaminated ground

Proofex Engage is suitable for use in many contaminated ground applications eg hydrocarbons, salts etc. Consult local Fosroc office for specific advice.

### Ancillary products

#### Proofex LM

A two component trowellable membrane for sealing around intricate details such as pipe entries, penetrations, pile caps, etc.

#### Proofex corner pieces

125 mm internal and external corner pieces made from polyethylene membrane with a 100 mm butyl selvedge.

#### Proofex "L" Section

This 10 m long x 250 mm wide section of polyethylene has 2 butyl selvedge strips. It is used by bending at 90° along its length for application between horizontal and vertical membrane to provide waterproofing continuity and it also connects with internal and external corner pieces.

Proofex "L" section is supplied with a butyl "closure" strip at each end, if the "L" section is cut this strip must be replaced with Proofex Engage Detail Strip or Total Tape.

#### Proofex Engage Detail Strip

A reinforced, double sided waterproof adhesive tape for sealing and jointing roll ends, cut edges and corner pieces. It consists of a strong synthetic fibre fabric impregnated and coated both sides with a butyl adhesive, which is protected by a removable siliconised paper.

#### Proofex LM Mesh

A reinforcing mesh for use in conjunction with Proofex LM for angles and pipe penetrations etc.

#### Proofex Top Hat

Preformed pipe collar for use at service penetrations.

#### Proofex Total Tape

Used to adhere Proofex Top Hats to Proofex Engage and as a closure strip to Proofex "L" Section.

# Fosroc® Proofex Engage

## Proofex WG

High performance epoxy resin waterproof grout.

## Fosroc Polyurea WCS Gun Grade

Used to seal between joints in Proofex Engage.

## Estimating

### Proofex Engage

Roll size:	1.15m x 33.1m
Coverage:	38.10m <sup>2</sup> (excluding laps)
Roll weight:	58kg

### Proofex "L" Section

Roll size:	125mm x 125mm x 10 m
------------	----------------------

### Proofex Engage Detail Strip

Roll size:	200mm x 10m x 1.5mm
------------	---------------------

### Proofex LM

Pack size:	28kg
Coverage:	28 linear metres for a 40mm fillet

### Proofex LM Mesh

Dimensions:	100mm x 50m (nominal )
-------------	------------------------

### Proofex Top Hat

Diameter:	110mm	160mm
Flange size:	330mm x 330mm	380mm x 380mm

### Proofex Total Tape

Dimensions:	30mm x 30m x 1.5mm
-------------	--------------------

### Proofex WG

Pack Size 15 litres	1.5m <sup>2</sup> at 10mm thick
---------------------	---------------------------------

### Fosroc Polyurea WCS Gun Grade

Pack Size:	Twin 300ml cartridge (600ml total)
Coverage:	5 linear metres (600ml) (60mm wide x 2mm thick)

For estimating guidance for other listed products refer to the relevant product data sheet.

## Storage

Store in original unopened packaging, in cool dry conditions, away from sunlight, in a flat position.

Proofex "L" Section should be stored vertically as supplied, in cool dry conditions. Do not distort or crush the coil.

## Limitations

For cold weather working below +5°C, Proofex Engage can normally be applied if the following additional measures are taken; apply heat using a hot air blower to all adhesive tapes, store all materials in heated conditions and mix Proofex LM in heated conditions. In some cases a heated tented working area should be used especially where Proofex LM and Proofex self-adhesive membranes are used. Normal precautions for winter working should be adopted when placing concrete.

For high temperature/humidity climates, during installation the membrane should not be left exposed for more than 6 to 8 weeks. Please contact your local Fosroc Office for further project specific assistance, including when laying Proofex Engage directly onto closed cell insulation products.

## Precautions

### Health and safety

Proofex Engage weighs approximately 58kg and should be lifted by a minimum of three site operatives.

For further information refer to appropriate Product Safety Data Sheets available at [www.fosroc.com](http://www.fosroc.com).

Fosroc and Proofex are trade marks of Fosroc International Limited



#### Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by basis. All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.

## Fosroc International Limited

Drayton Manor Business Park  
Colleshill Road, Tamworth,  
Staffordshire B78 3XN. UK

telephone:  
+44 0 (1827) 262222

fax:  
+44 0 (1827) 262444

email:  
[enquiryuk@fosroc.com](mailto:enquiryuk@fosroc.com)



[www.fosroc.com](http://www.fosroc.com)

FM 610 EMS 61113