

**Pre-applied waterproofing membrane conforming to the requirements of BS EN 13967:2004 and BS 8102:2009. Proofex Engage mechanically bonds to poured concrete, remaining in place if settlement of substrate occurs.**

## Uses

Waterproofing and gas proofing membrane for concrete basements, lift pits, car parks and other water excluding structures. Proofex Engage can be used to achieve waterproofing to grades 1, 2 and 3 as defined in BS 8102:2009.

## 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
- Basement waterproofing protection to grades 1, 2 and 3 as defined in BS 8102:2009
- Methane and CO<sub>2</sub> protection as defined in BRE Report 212
- 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

## Standard Compliance

BRANZ Appraised:  
Appraisal No. 1035 (2018)

Independently certified performance,  
BBA Certificate No. 03/4042.

BS EN 13967:2004 - Flexible sheets for waterproofing - Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet. Type A and Type T.

British Standard 8102:2009 - Code of Practice for 'Protection of Structures against Water from the Ground' classes 1, 2 and 3.

Green Label Singapore labelling scheme - approved as "environmentally preferred coating".



## Description

Proofex Engage is a unique patented waterproof membrane system comprising a cell mesh bonded to a blended polyethylene/polypropylene membrane which allows poured concrete to interlock, forming a tenacious mechanical bond.

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

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



## Specification Clause

The waterproof tanking membrane shall be Proofex Engage, consisting of a blended polyethylene / polypropylene membrane incorporating a cell mesh, enabling the membrane to mechanically bond with the poured concrete. The membrane shall be supplied with one self-adhesive seldedge to provide sealed laps and comply with British Standard 8102:2009 - Code of practice for "Protection of Structures Against Water from the Ground" to provide basement waterproofing protection to grades 1, 2 and 3. The product shall comply with the requirements of BS EN 13967:2004, type A and Type T, "Flexible sheets for waterproofing- Plastic and rubber damp proof sheets including plastic and rubber basement tanking". The product shall have a current British Board of Agreement Certificate.

# Fosroc® Proofex® Engage

## Properties

Test Method	Standard	EN13967 Requirement	Result
Watertightness to liquid	EN 1928 Method A	No evidence of water penetration @ 6m head	Pass Also ASTM D5385 passed at 69m
Resistance to static loading	EN 12730 method B	-	20kg
Tensile properties (membrane sheet only): Tensile strength/ elongation at break/ elongation at peak load:	EN 12311-2	-	Transverse: >10.0 N/mm <sup>2</sup> / >600% / >600% Longitudinal: >18.0 N/mm <sup>2</sup> / >800% / >800%
Tensile properties (composite sheet plus mesh): Tensile strength*/ elongation at break/ elongation at peak load:	EN 12311-2 * Tensile strength based on sheet thickness		Transverse: >7.0 N/mm <sup>2</sup> / >120% / >15% Longitudinal: >9.0 N/mm <sup>2</sup> / >140% / >50%
Crack bridging:	ASTM C1305 modified	-	up to 5mm (100 cycles)
Durability of watertightness against ageing	EN 1296 / EN 1928	-	Pass
Resistance to impact Puncture resistance	EN 12691 Method A ASTM E154-08	-	1500 mm. 672N
Resistance to tear (nail shank)	EN 12310-1	-	720 N (longitudinal)
Reaction to fire	EN ISO 11925-2	-	Pass
Joint strength	EN 12317-2	-	≥ 220 N (lap) ≥ 150 N (butt)
Water vapour transmission	EN 1931	-	Water vapour resistance factor u = 580000 Equivalent air layer thickness S = 400 metres
Resistance to alkali	EN 1847 / EN 1928	Watertight @ 2kPa @ 60kPa	Pass Pass
Length Width Thickness  Mass Straightness Visible defects	EN 1848-2	-	30 metres 1.27 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	-	127ml-m <sup>2</sup> -day-1-atm-1(unjointed)
CO <sub>2</sub> permeability	Rilem Report 12	-	<5.12 E <sup>-13</sup> m <sup>2</sup> /sec/Pa

# Fosroc® Proofex® Engage

## 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 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.



← 250mm →

**Up to 50mm movement capability for the Proofex Engage under Supercast Rearguard Waterstop**



Laid directly on top of well compacted gravel base

### Membrane installation

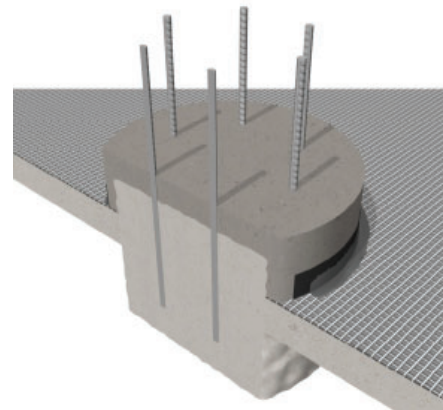
Cut the membrane to a convenient length for installation. Carefully align the membrane and roll it out with the ribbed surface uppermost. Lay adjacent sheets accurately so they overlap the previous sheet 80mm along the adhesive selvedge. When laying adjacent full rolls there should be a stagger of half 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 a 40mm wide strip of Fosroc Polyurea SCS (extending a minimum of 20mm either side of the formed joint), refer to the separate data sheet.

Horizontal to vertical joints - lap Proofex Engage onto Proofex "L" section and over seal with a 40mm wide strip of Fosroc Polyurea SCS (extending a minimum of 20mm either side).

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

If cold or damp conditions prevail the selvedge adhesive and/or Proofex Engage Detail Strip may be tackified by gently warming.



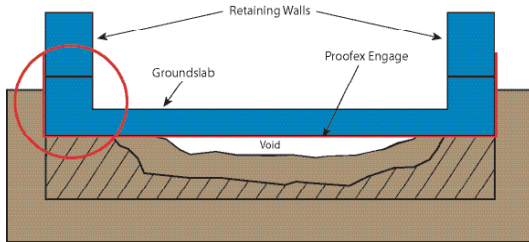
**Epoxy grout encapsulating the pile top and flowing into the Proofex Engage mesh to give assured watertight integrity in deep basements. Finished off with a seam of Polyurea SCS.**

### Removal of formwork

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



# Fosroc® Proofex® Engage



## Penetrations

Penetrations e.g., pipe entries through Proofex Engage, require special attention to detail. Proofex top hat units used in conjunction with Proofex Engage Detail Strip and Fosroc Nitoseal MS400 sealant 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 brick, blocks or boulders larger than 50mm.

Proofex Sheet drain 81 may be installed to provide protection and drainage to the membrane system.

## Contaminated ground

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

## Ancillary products

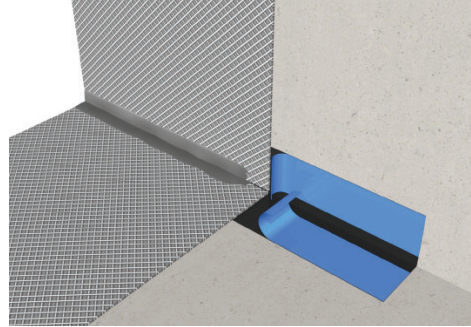
### Proofex corner pieces

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

### Proofex “L” section

This 10m long x 250mm 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.



### Proofex Engage Detail Strip

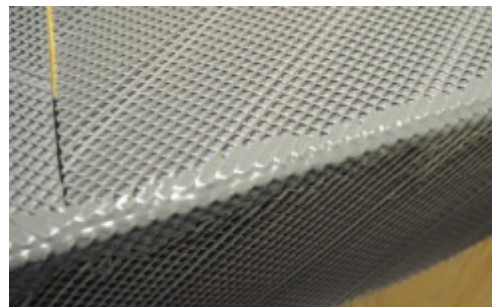
A reinforced, double sided waterproof adhesive tape for sealing and jointing roll ends, cut edges corner pieces. It consists of a strong synthetic fibre fabric impregnated and coated both sides with a bitumen rubber adhesive. Each side of the tape is protected by a removable siliconised paper.

### Proofex Top Hat

Waterproof pipe entry consisting of polyethylene/polypropylene membrane, which includes an aluminium foil layer.

**Polyurea SCS Gun Grade** (Machine Grade available upon request)

Used to seal between joints in Proofex Engage, around pile caps, for sealing around intricate details such as pipe entries and penetrations.



2mm x 40mm seam of Polyurea SCS gun grade using large diameter static mixer (gunned similar style to a sealant) with manual gun. Excellent seam join between 2 adjoining strips of Proofex Engage.

# Fosroc® Proofex® Engage

## Supply

### Proofex Engage

Product Code:	FC007070-UNIT
Roll size:	1.27mtr x 30mtr long
Product Code:	707070
Coverage:	38.10 m <sup>2</sup>
Roll weight:	58Kg

### Proofex "L" section

Product Code:	FC007077-UNIT
Roll size:	125mm x 125mm x 10mtr long

### Proofex Engage 'External' corner

Product Code:	FC007072-UNIT
Corner size:	125mm x 125mm x 125mm

### Proofex Engage 'Internal' corner

Product Code:	FC007073-UNIT
Corner size:	125mm x 125mm x 125mm

### Proofex Detail Strip

Product Code:	FC007071-UNIT
Roll size:	200mm x 10mtr long x 1.5mm

### Proofex Top Hat

Product Code:	FC007078-UNIT
Diameter:	110mm - 330mmx330mm
Product Code:	FC007079-UNIT
Diameter:	160mm - 380mmx380mm

### Fosroc Polyurea SCS Gun Grade

Product Code:	FC007082-600ML
Pack size:	2 x 300ml Cartridge (600ml)
Coverage:	5 linear metres (600ml) (60mm wide x 2mm thick) 7.5 linear meters (600ml) (40mm wide x 2mm thick)

### Fosroc Polyurea SCS - Static Mixing Nozzles

Product Code:	FC007094-UNIT
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### Fosroc Polyurea WCS - Manual Gun

Product Code:	FC007087-UNIT
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### Nitoseal MS400 (Concrete Grey)

Product Code:	FC920181-600ML
Supply:	600ml sausage

## Storage Conditions

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

## 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. In some cases a heated tented working area should be used especially where 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.

## Precautions

### Health and safety

Proofex Engage weighs approximately 60kg and should be lifted by a minimum of three site operatives. For further information refer to the appropriate Safety Data Sheets.

### Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

### Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Fosroc does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.



constructive solutions

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