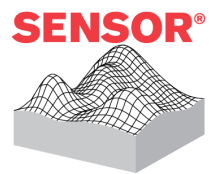


SENSOR (UK) Limited

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Burnage Road

Gas Membrane Validation Report

Lainton Services Ltd

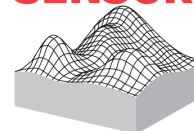
07 July 2021



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PREFACE

General Project Information

Client:	Lainton Services Ltd
Project:	Burnage Road
Project ID Number:	19.042
Description of Work:	Gas Membrane Validation
Start Date:	17 June 2019
Completion Date:	07 July 2021
Total Number Of Site Visist:	7no. (See dates below)
Report Compiled by:	Gareth Jackson / Allen Smith
Report Approved by:	Jon Crowther MRICS

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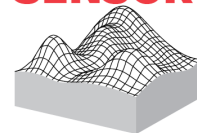
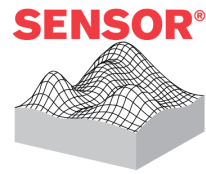


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1 Introduction

1.1 Site Address

Rowlinson Construction Ltd, Burnage Road, Manchester M19 1FL



Site location map

1.1 Scope

Sensor was instructed by Lainton Services Ltd (our Client) to carry out the site inspections throughout the gas membrane installation process and at the end produce a Gas Membrane Validation report.

After each visit to the Site, Sensor provided a Confirmation of Inspection (COI) sheet detailing compliance, in which case the construction process continued.

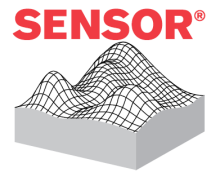
Sensor are validating against the gas membrane design produced by others and have had no input as to the selection, suitability, or detailing of the membrane system.

During the construction phase at the Burnage Road site, the main contractor changed hands from Bardsley Construction Ltd to Rowlinson Construction Ltd, this had no impact on the validation process.

1.2 Training

Sensor is a Corporate Member of the BGA (British Geomembrane Association) and has 31-years' experience over 29-million square metres of membrane in 44 countries. All technicians receive regular training and hold the following current cards / certification:

- CSCS
- Company Competency Certificate – Integrity Testing
- CSWIP - Plastic Welding
- CL:ARE – Verification of Gas Membranes
- Property Care Association - Ground Gas Protection Measures Installation & Verification
- City & Guilds – Confined Space Access Level 2
- QA Level 3 Award in Emergency First Aid at Work (RQF)



2 SITE & GENERAL INFORMATION

2.1 Technicians / Engineers

Allen Smith / Simon Cockcroft / Gareth Jackson

2.2 Date of Site Inspections and Weather Conditions

Site visit 01: 17/06/2019 / 15° Rain / Humidity 81%

Site visit 02: 03/07/2019 / 22° Sunny / Humidity 40%

Site visit 03: 02/08/2019 / 22° Sunny Intervals / Humidity 80%

Site visit 04: 06/08/2019 / 21° Cloudy / Humidity 75%

Site visit 05: 10/09/2019 / 18° Cloudy / Humidity 55%

Site visit 06: 12/09/2019 / 20° Cloudy / Humidity 76%

Site Visit 07: 07/09/2021 / 19° Sunny / Rain / Humidity 72%

2.3 Substructures (as stated on the construction drawings)

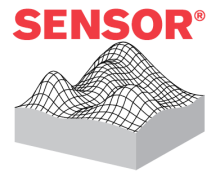
- i) Block and Beam

2.4 Specified Membrane, Tapes & Coatings

- i) Proofex Total
- ii) Proofex 3000MR
- iii) Proofex Total Tape
- iv) Bituthene Liquid Membrane

2.5 Membrane Inspection Methods.

- i) Visual inspection.
- ii) Pick Test of Joints & Detailing.
- iii) Air Lance of Joints & Detailing.



3 VISUAL INSPECTION

3.1 Gas Membrane Sheet

3.1.1 Condition / type of sub-grade

The membrane was installed over block and beam, thereby providing a smooth flat surface for the membrane to be installed over.

3.1.2 Installed Membrane

Fosroc Proofex Total, loose laid polyethylene gas barrier containing an integral aluminium foil developed to overcome the health and safety risks associated with building on land contaminated by methane, CO₂ or radon gases. To be deployed in a concrete ground floor construction where it can be incorporated either above or below the slab.

3.1.3 Installation

The installation carried out by Lainton Services Ltd was of a high standard. All precautions and good practice were adhered to during the installation of the membrane.

3.1.4 Post-Installation

Any membrane installed on an active construction site has a high risk of post-installation damage, mainly from following trades. The site management agreed to adopt preventative action as follows:

- i) Access to exposed membrane to be restricted;
- ii) Any operatives who were granted access were to carefully check boot soles for stones / sharps;
- iii) No plant, vehicular, or wheeled equipment traffic would be permitted over the membrane surfaces.

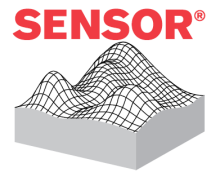
3.2 Gas Membrane Lapping & Jointing

3.2.1 Lapping:

All joints / lapping was individually pick tested and air lanced to check all overlapping membranes were correctly sealed.

3.2.2 Penetrations:

All pipes, ducts and any other penetrations were checked individually to confirm they were correctly sealed.



3.3 Results of Visual Membrane Inspections

The installed membrane Fosroc Proofex Total as set out in section 3.1.2.

Over the seven site visits, a visual inspection was carried out to 100% of the membrane system made available to us at the time of inspection.

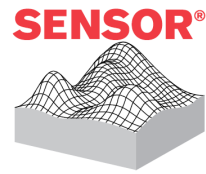
It was noted that after each site visit the validated areas were segregated to prevent unauthorised access by other site operatives until covered.

Over the 7no. site visits there were 150 instances of damage located on the installed membrane. All damage located was repaired and rechecked.

The overall installation was in-line with manufacturers guidelines and good practice. 100% of the installation was visually inspected over the seven site visits including all penetrations.

Photos During Visual Membrane Inspections





3. AIR LANCE TESTING

3.4 Methodology

In order to test the adhesion of detailing (such as penetrations and corners) and sheet jointing work (such as joining between two rolls in main flat areas) an Air Lance Test was employed.

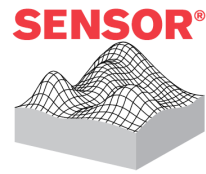
An air lance is attached to the compressor allowing pressurised airflow of 345kpa from the lance head. The lance is then directed around the edges of lapping at no more than 50mm. This is used to test adhesion between sheets of membrane, at terminations and around any detailing. Damage is discovered by the vibration of any unbonded / poorly bonded seams.

3.5 Area Tested

The air lance system was used on **all** the joints between sheets of membrane and also wherever self-adhesive detailing tape was used (e.g. penetration detailing).

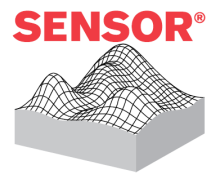
3.6 Air Lance Test Results

All defects located when doing the Air Lance testing were repaired and retested to confirm there were no penetrative gaps or defects in the lapping of the membrane.



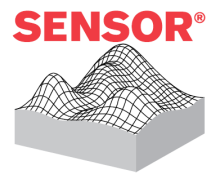
4 CONCLUSION

1. Over the 7no. site visits there were 150no. instances of accidental damage to the membrane was identified during the inspections.
2. All areas inspected during the site visits were well installed.
3. The installation was in line with both the manufacturers recommendation and good industry practice.
4. Post-validation in order to avoid further damage to the installation, it is important that foot traffic is restricted and controlled, and all other traffic is prohibited within the validated area until after covering with the specified permanent structural topping.
5. The validation process and the sensitivity of the membrane was discussed with the Main Contractor in terms of how best to avoid accidental damage post validation. The Main Contractor agreed to take care and that trades working in and around the membrane would be closely monitored.
6. The validated area is approved from the date a positive COI is issued in respect of the area in question.
7. The validated areas are approved from the date a positive COI is issued in respect of the area in question.

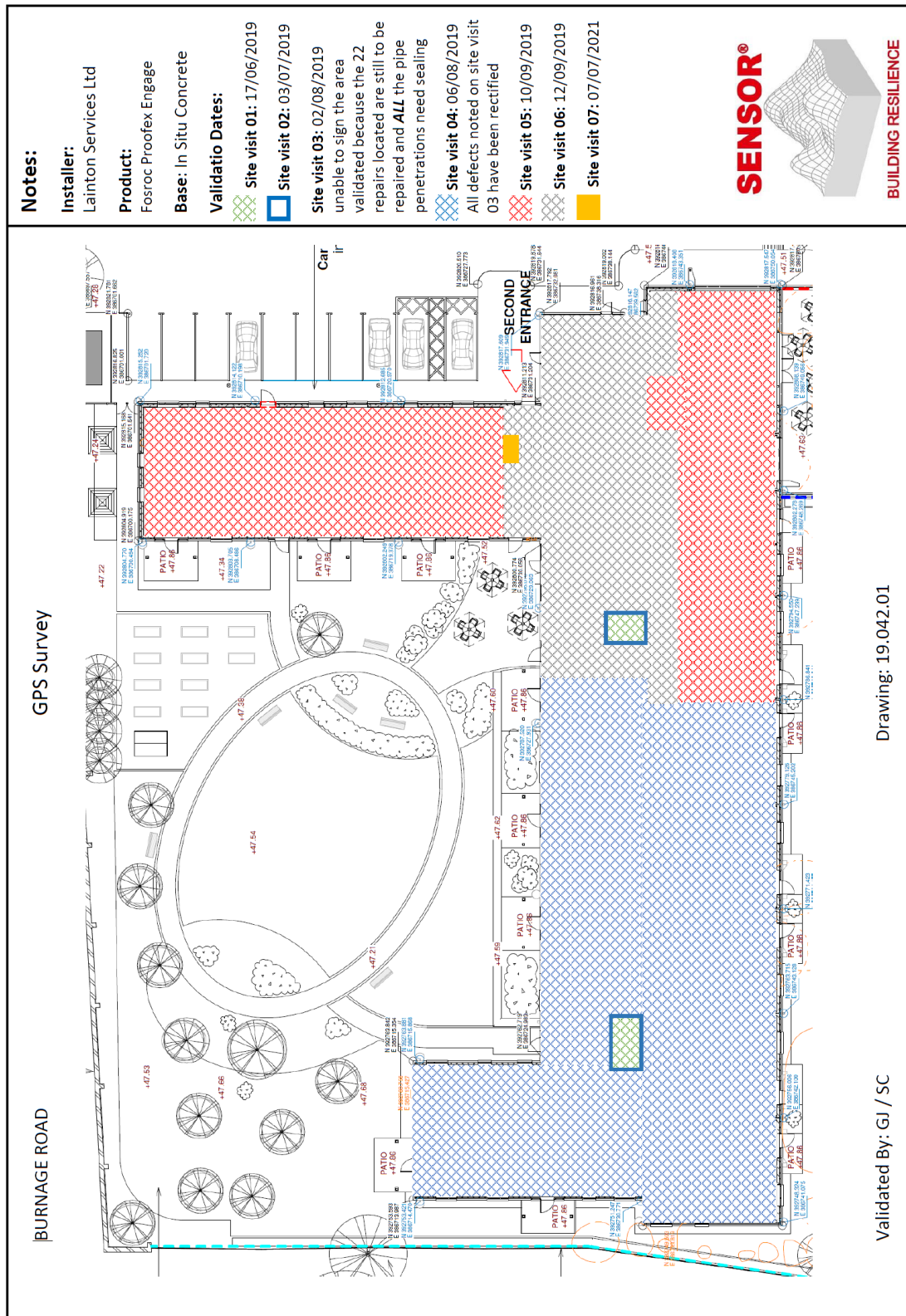


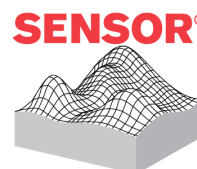
APPENDIX 1: Record Images





APPENDIX 2: Sensor Site Plan





APPENDIX 3: Product Data Sheet Proofex Total

Fosroc® Proofex Total



constructive solutions

19
C11510: (13.9)Ln6
June 2010

High performance, totally gas-impervious, reinforced membrane

Uses

Reinforced gas membrane designed to protect buildings and their occupants from the effects of methane, radon, carbon dioxide and other harmful gases. Like conventional ground membranes, Proofex Total also acts as a damp-proof membrane to help protect the building against the ingress of moisture from the ground.

Advantages

- 5-layer product design for maximum gas protection.
- Polyester reinforcing grid for puncture resistance during application.
- Loose-laid system for ease of application.
- Can be used on ground-bearing concrete floors or on suspended concrete or beam and block floors.
- Can be used to form a cavity tray, eradicating the need for a separate product.

Description

Proofex Total is a black/silver, 5-layer, reinforced, gas impermeable membrane comprising an aluminium foil layer and a polyester reinforcing grid sandwiched between three layers of polyolefins.

Maintenance

Proofex Total is extremely robust and will resist puncture during and after installation providing adequate care is taken to protect the membrane directly after installation. The membrane should be inspected prior to pouring a ground slab or screed and, should any holes or tears be found, these should be repaired using patches of Proofex Total taped in place using Proofex Total adhesive tape with at least a 150mm lap beyond the extremity of the puncture.

Properties

Membrane thickness	0.45 mm
Weight	300 g/m ²
Roll weight (2m x 25m)	17.5 kg
Water vapour permeability (ISO 9932)	0.01 g/m ² /24hr
Methane gas transmission rate (BR212)	<0.01 mls/m ² /24hr
Bursting strength (ISO 2759)	>900 kPa
Radon permeability	2.3 (10 ⁻¹² m ² /24hr)

Standard compliances

BRE Digest 211 Radon : Guidance on protective measures for new buildings

BRE Digest 212: Construction of new buildings on gas contaminated land.

Application instructions

Preparation

Underslab ground membranes

The hard-core bed should be blinded with soft sand and consolidated to provide a smooth bed free of sharp projections.

Overslab ground membranes

The top surface of the concrete slab should be free from ridges, undulations and sharp projections. If this is not the case a sand bed may be necessary to reduce the risk of puncturing the membrane.

Laying

The membrane should be laid neatly and tucked well into angles to prevent bridging, with the black surface facing upwards. At corners in upstands folded welts should be formed.

Lapping and jointing

Rolls of Proofex Total should be lapped by a minimum of 150mm and sealed with a continuous strip of Proofex Total Tape. Ensure that the membrane is clean and dry at the time of jointing. For increased performance, seal the edge of the upper sheet with Proofex Detail Strip or strips of Proofex 3000MR.

Proofex Total can also be heat welded by a specialist installer.

Protection

Protect the completed membrane adequately to prevent puncturing using a geotextile or Proofex Protection Board. Alternatively, the overlying construction, such as insulation, can be installed prior to pouring of concrete. If used in an overslab situation, unbonded screeds should be at least 50mm thick and laid as soon as possible after completing the membrane to reduce the risk of puncture.

Penetrations

Where possible services should be routed such that they do not pass through the membrane, thus reducing the number of penetrations.

Where penetrations are required, Proofex Top Hats are recommended and these should be stuck to membrane using Proofex Total Tape and sealed to pipe with Nitoseal MS50

Ancillary products

Proofex Total Tape

Double-sided butyl tape for sealing of side and end laps and for use in detailing work.

Proofex Top Hats

MDPE sheathing, which encapsulates an aluminium foil layer.

**19**C1/S18: (13.9) L6
June 2010

Fosroc® Proofex Total

Estimating

Proofex Total

Roll width:	2m
Roll length:	25m

Proofex Total Tape

Tape width:	50mm
Tape length:	30m

Storage

Store in original unopened packaging, in cool dry conditions, away from direct sunlight.

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet.

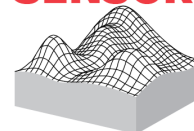


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Product Data Sheet Proofex 3000MR

Proofex 3000MR

FOSROC



constructive solutions

19

C1/S18: Ln2
March 2007

High performance methane, radon and CO₂ resisting waterproof membrane for basements and structures

Uses

A high performance self adhesive membrane for resisting methane, radon and CO₂, and preventing water entering buildings. Proofex 3000MR also provides a vapour and waterproof membrane to water excluding structures and protects concrete from attack by aggressive ground salts.

Advantages

- Aluminium film provides methane, radon and CO₂ resistance, protection against damage and gives dimensional stability
- Combines toughness with flexibility for detailing around corners, pipes, etc.
- Self adhesive layer system makes installation quick, simple and reliable
- Resistant to ground water, soluble sulphates and chlorides
- Suitable for waterproofing basements grades 2, 3 and 4 as defined in BS 8102:1990, 'Protection Of Structures Against Water From The Ground'

Description

Proofex 3000MR is a cold applied, flexible, methane resisting and waterproof high performance membrane incorporating an aluminium layer and a polymer modified bitumen compound on a high strength polymer backing film.

Where methane, radon or CO₂ is present, a comprehensive site survey must be carried out and the building constructed accordingly. Refer to Building Research Establishment Report 212 and CIRIA Guide 149 for further information.

Proofex 3000MR should be laid in accordance with the provisions of BS 8102:1990.

Typical properties

Membrane thickness:	1.2 mm
Methane gas resistance:	<5cm ³ /m ² 24h bar
Radon permeability (SP Sweden):	0.56 10 ⁻¹² m ² /s
Adhesion to primed concrete (ASTM D1000):	4.9 N/mm ²
Tensile strength (BS EN 12311-1):	
Longitudinal:	230 N/50mm
Transverse:	235 N/50mm
Elongation (BS EN 12311-1)	
Longitudinal:	33 %
Transverse:	37 %
Hydrostatic test (BS EN 1928):	≥60 kPa
Water vapour permeability (BS EN 1931):	Impermeable to ISO 12572

Application instructions

Surface preparation

All concrete surfaces must be a wood float or shutter finish and free from cavities or projections.

Masonry surfaces must be flush pointed.

All surfaces must be clean, dry and free from contamination, ice and frost.

Priming

Vertical and suspended slab surfaces shall be primed with Proofex Primer. Ensure complete coverage and allow to dry. Only prime an area to which the Proofex 3000MR can be applied the same day. Very porous surfaces may require more than one coat of primer.

Angle and corner details

Use Proofex Angle Fillet strips fixed using 6 mm beads of Plastiseal at all wall to floor junctions.

All internal and external angles should be reinforced with Proofex Engage Detail Strip or a 300 mm wide strip of Proofex 3000MR. Where possible, a 25 mm chamfer should be provided to external angles.

Application

Application temperature range 5°C to 35°C.

Vertical application:

Cut the Proofex 3000MR to length allowing 150 mm for the end laps and position by peeling back the release paper and applying the self adhesive face to the prepared surface.

Start at the top of the wall and work down by progressively removing the release paper in stages. Proofex 3000MR should be applied to ensure that all end laps are weathered.

In cold weather temporary batten support of the Proofex 3000MR membrane is recommended.

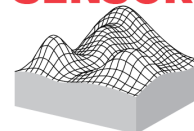
Horizontal application:

Completely unroll the Proofex 3000MR membrane and place against a chalk line. One half of the roll should then be rolled up to the mid point, the release paper carefully cut without damaging the Proofex 3000MR membrane and progressively removed from the mid point out to the end of the roll.

This process should be repeated on the other half of the roll. The Proofex 3000MR membrane should be brushed onto the surface to ensure good bonding.

The next roll or length is aligned against the previously applied piece allowing for the 50 mm minimum (or as specified) edge laps and 150 mm end laps and applied as stated previously. The edge and end laps should be rolled to ensure complete adhesion and continuity between the layers.

Page 1



19
C1/SFB: Ln2
March 2007

Proofex 3000MR

Penetrations

Penetrations e.g. pipe entries through the Proofex 3000MR membrane require special attention to detail. Proofex Top Hats are recommended and should be stuck to membrane using Proofex Total Tape and sealed to pipe with Nitoseal MS50.

Protection

Proofex 3000MR membrane should be protected from physical damage and weathering as soon as possible after application. Surfaces should be protected from damage by Proofex Protection Board.

Proofex 3000MR can also be covered with Proofex Sheetdrain to give both protection and a drainage layer.

Ancillary products

Proofex Protection Board

Bitumen impregnated board, designed to protect membranes from damage through backfilling and trafficking.

Proofex Engage Detail Strip

A reinforced, double sided waterproof adhesive tape for use as reinforcing at all floor and wall junctions. 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

MDPE sheathing, which encapsulates an aluminium foil layer.

Proofex Angle Fillet

Strips fixed at all floor and wall junctions with a 6mm bead of Plastiseal.

Estimating

Proofex 3000MR

Roll size:	1 m x 20 m
Roll area:	20 m ²
Edge laps:	50 mm minimum
End laps:	150 mm minimum
Roll weight:	25 kg

Proofex Primer

Storage life:	2 years
Coverage:	6 to 8 m ² /litre
Minimum installation temperature:	+4°C rising
Drying time @ 20°C:	1 to 2 hours
Pack size:	5 ltr and 25 ltr drums

Proofex Engage Detail Strip

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

Proofex Protection Board

2.0 mm Thickness:	1000 mm x 2000 mm
3 mm Thickness:	1000 mm x 2000 mm
Coverage:	2.0 m ²

Storage

Proofex 3000MR must be stored in dry conditions, away from sunlight, in an upright position at a temperature between 5°C and 40°C.

Precautions

Health and safety

For information on Proofex Primer refer to Product Safety Data Sheet.

Proofex Primer is flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO₂ or foam. Do not use a water jet.

Flash Point

Proofex Primer:	>39°C
-----------------	-------



Fosroc Limited

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Coleshill Road, Tamworth,
Staffordshire B78 3TL, UK

www.fosroc.com

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 it.

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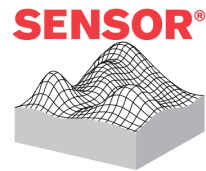
fax:
+44 (0) 1827 262444

email:
uk@fosroc.com



Certificate number 15415

Page 2



APPENDIX 4: Confirmation of Inspection (COI)

Sensor (UK) Limited

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T: +44 (0)1253 794 400
E: office@sensor-uk.com

SENSOR®


building resilience

CONFIRMATION OF INSPECTION

Date: 17th June 2019 C.O.I. Reference: 00032
 Project: Burnage Road Plots/Sub-Sections: Lift pits
 Reference: 19.042 (See Sensor Site Plan)
 Installer: Lainton Services

Inspection Type (tick as appropriate):

MIT Arc Test ☐ MOBILE ☐ Air Lance ☐ Pick Test ☐ Visual & Photos ☒

Materials Inspected:

- Fosroc Proofex Engage
- Fosroc LM

Defects Found:

- No Defects found
- Staples have been used to hold the Proofex Engage Membrane in place, they will be removed and the membrane cut back on the next stage of the installation

Sensor (UK) Limited hereby confirm that it has inspected the membrane installation and can confirm that installation has been carried out inline with good practice and the manufacturers guidelines.

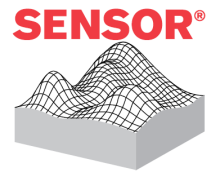
The defects noted above have been rectified to our satisfaction: YES ☒ NO ☐

The inspected work section is ready for covering: YES ☒ NO ☐

This confirmation of inspection does not represent validation, which can only be demonstrated by the issue of the Validation Report for the project which will be issued under separate cover.

On behalf of Sensor (UK) Limited:

Name: Gareth Jackson Sign: GJL Date: 17/06/2019

**Sensor (UK) Limited**

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Lytham, Lancashire. FY8 5NL.
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building resilience

CONFIRMATION OF INSPECTION

Date: 3-7-19 C.O.I. Reference: 00189
 Project: BURNAGE ROAD Plots/Sub-Sections: _____
 Reference: 19.042 2nd LIFT PITS
 Installer: LAWTON SERVICES

Inspection Type (tick as appropriate):

MIT Arc Test ☐ MOBILE ☐ Air Lance ☐ Pick Test ☒ Visual & Photos ☒

Materials Inspected:

PROOFEX 3000 MR
PROOFEX LM

Defects Found:

NO DEFECTS FOUND

Sensor (UK) Limited hereby confirm that it has inspected the membrane installation and can confirm that installation has been carried out inline with good practice and the manufacturers guidelines.

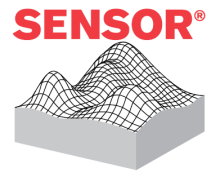
The defects noted above have been rectified to our satisfaction: YES ☒ NO ☐

The inspected work section is ready for covering: YES ☒ NO ☐

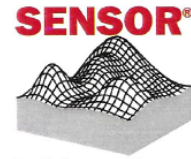
This confirmation of inspection does not represent validation, which can only be demonstrated by the issue of the Validation Report for the project which will be issued under separate cover.

On behalf of Sensor (UK) Limited:

Name: SIMON COCKROFT Sign: [Signature] Date: 3-7-19

**Sensor (UK) Limited**

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Lytham, Lancashire. FY8 5NL.
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building resilience

CONFIRMATION OF INSPECTION

Date: 02/08/2019 C.O.I. Reference: 00091
 Project: BURNAGE ROAD Plots/Sub-Sections: _____
 Reference: 19.042 SEE SENSOR
 Installer: LAWTON SERVICES DRAWING

Inspection Type (tick as appropriate):

MIT Arc Test ☐ MOBILE ☐ Air Lance ☒ Pick Test ☒ Visual & Photos ☒

Materials Inspected:

PROOFEX TOTAL
 PROOFEX 3000mm
 PROOFEX TOTAL TAPE

Defects Found:

X 22 REPAIRS LOCATED
 STILL TO BE REPAIRED
 PIPE ENTRIES IN HALLWAY
 STILL TO BE SEALED

Sensor (UK) Limited hereby confirm that it has inspected the membrane installation and can confirm that installation has been carried out inline with good practice and the manufacturers guidelines.

The defects noted above have been rectified to our satisfaction:

YES ☐ NO ☒

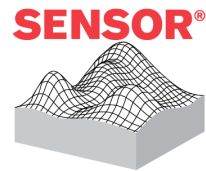
The inspected work section is ready for covering:

YES ☐ NO ☒

This confirmation of inspection does not represent validation, which can only be demonstrated by the issue of the Validation Report for the project which will be issued under separate cover.

On behalf of Sensor (UK) Limited:

Name: NIEN SMITH Sign: C. SMITH Date: 02/08/19

**Sensor (UK) Limited**

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Lytham, Lancashire. FY8 5NL.
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E: office@sensor-uk.com

SENSOR®

building resilience

CONFIRMATION OF INSPECTION

Date: 06/08/2019 C.O.I. Reference: 00092
 Project: BURNAGE ROAD Plots/Sub-Sections: _____
 Reference: 19.042 SEE SENSOR DRAWING
 Installer: CAINTON SERVICES LTD

Inspection Type (tick as appropriate):

MIT Arc Test ☐ MOBILE ☐ Air Lance ☐ Pick Test ☒ Visual & Photos ☒

Materials Inspected:

PROOFEX TOTAL
 PROOFEX 3000MR
 PROOFEX TOTAL TAPE
 BITUTHENE LIQUID MEMBRANE

Defects Found:

NONE
 FOLLOWING ON FROM FRIDAYS SITE VISIT
 ALL XZZ REPAIRS HAVE BEEN REPAIRED
 ALL PIPES HAVE NOW BEEN SEALED

Sensor (UK) Limited hereby confirm that it has inspected the membrane installation and can confirm that installation has been carried out inline with good practice and the manufacturers guidelines.

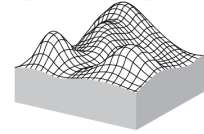
The defects noted above have been rectified to our satisfaction: YES ☒ NO ☐

The inspected work section is ready for covering: YES ☒ NO ☐

This confirmation of inspection does not represent validation, which can only be demonstrated by the issue of the Validation Report for the project which will be issued under separate cover.

On behalf of Sensor (UK) Limited:

Name: ALLEN SMITH Sign: A. SMITH Date: 06/08/19



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 E: office@sensor-uk.com



building resilience

CONFIRMATION OF INSPECTION

Date: 10-9-19 C.O.I. Reference: 00207
 Project: BURNAGE ROAD Plots/Sub-Sections: _____
 Reference: 19.042 SEE SENSOR DRAWING
 Installer: LAWTON SERVICES

Inspection Type (tick as appropriate):

MIT Arc Test ☐ MOBILE ☐ Air Lance ☒ Pick Test ☒ Visual & Photos ☒

Materials Inspected:

PROOFEX TOTAL
PROOFEX 3000 MR

Defects Found:

111 NO DEFECTS FOUND, REPAIRED AND RETESTED.

Sensor (UK) Limited hereby confirm that it has inspected the membrane installation and can confirm that installation has been carried out inline with good practice and the manufacturers guidelines.

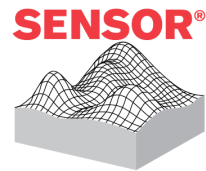
The defects noted above have been rectified to our satisfaction: YES ☒ NO ☐

The inspected work section is ready for covering: YES ☒ NO ☐

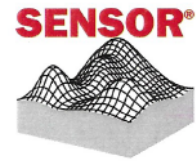
This confirmation of inspection does not represent validation, which can only be demonstrated by the issue of the Validation Report for the project which will be issued under separate cover.

On behalf of Sensor (UK) Limited:

Name: Simon Cockcroft Sign: S. Cockcroft Date: 10-9-19

**Sensor (UK) Limited**

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Lytham, Lancashire. FY8 5NL.
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building resilience

CONFIRMATION OF INSPECTION

Date: 12/09/2019 C.O.I. Reference: 00098
 Project: BURNAGE RD Plots/Sub-Sections: _____
 Reference: 19.042 SEE SENSOR DRAWING
 Installer: LAINTON SERVICES

Inspection Type (tick as appropriate):

MIT Arc Test ☐ MOBILE ☐ Air Lance ☒ Pick Test ☒ Visual & Photos ☒

Materials Inspected:

PROOFEX TOTAL
 PROOFEX 3000 MR
 BITUTHENE LIQUID MEMBRANE
 PROOFEX DOUBLE SIDED LAPPING TAPE

Defects Found:

X 17 INSTANCES OF DAMAGE/
 DEFECTS LOCATED

Sensor (UK) Limited hereby confirm that it has inspected the membrane installation and can confirm that installation has been carried out inline with good practice and the manufacturers guidelines.

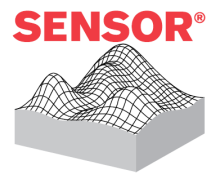
The defects noted above have been rectified to our satisfaction: YES ☒ NO ☐

The inspected work section is ready for covering: YES ☒ NO ☐

This confirmation of inspection does not represent validation, which can only be demonstrated by the issue of the Validation Report for the project which will be issued under separate cover.

On behalf of Sensor (UK) Limited:

Name: ALLEN SMITH Sign: A. Smith Date: 12/09/19



Sensor (UK) Limited
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SENSOR
 building resilient

CONFIRMATION OF INSPECTION

Date: 7 July 2021 C.O.I. Reference: 00039
 Project: Barnage Rd Plots/Sub-Sections: _____
 Reference: 19.042 See Sensor Site
 Installer: Lantern Services drawing

Inspection Type (tick as appropriate):
 MIT Arc Test ☐ MOBILE ☐ Air Lance ☐ Pick Test ☒ Visual & Photos ☒

Materials Inspected:
Protek Total
Protek 3000R

Defects Found:

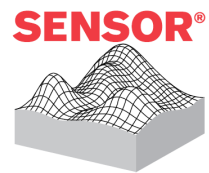

Sensor (UK) Limited hereby confirm that it has inspected the membrane installation and can confirm that installation has been carried out inline with good practice and the manufacturers guidelines.

Are defects noted above have been rectified to our satisfaction: YES ☒ NO ☐
 Is inspected work section is ready for covering: YES ☒ NO ☐

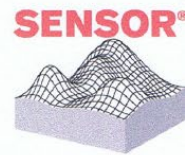
This confirmation of inspection does not represent validation, which can only be demonstrated by the issue of the Validation Report for the project which will be issued under separate cover.

On behalf of Sensor (UK) Limited:
 Name: G Jackson Sign: G J Date: 7/7/21
MARK Cox dlc Cox 07/07/21

COMPANY REGISTRATION No. 7130916



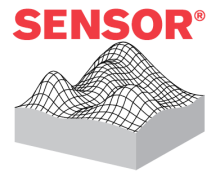
APPENDIX 5: Copy of Daily Record Sheet

**SENSOR (UK) Limited**

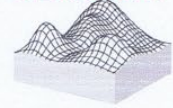
Quatro House, School Lane, Lytham, Lancashire. FY8 5NL
 Tel: +44 161 850 0926 Fax: +44 161 850 0927
 e-mail: office@sensor-uk.com, web: www.sensorgroup.com

DAILY SITE RECORD SHEET

Site: <u>Burnage Road</u>	Date: <u>17th June 2019</u>
Client: <u>Lantern Services</u>	
Start: <u>8:00</u>	Finish: <u>10:00</u>
<u>Weather Observations</u> <u>15° rain / Humidity 81%</u>	
<u>Works Carried Out</u> • Inspected 2 x lift pits • No defects found • Staples holding the membrane in place Will Will be removed on next Site Visit	
<u>Delays / Disruption / Unproductive Working (Cause & Effect)</u> 	
Sensor Engineer: <u>Gareth Jackson</u>	Signed: <u>GJ</u> Date: <u>17/06/2019</u>
Client Representative:	Signed: _____ Date: _____

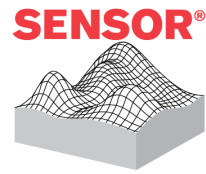
**SENSOR (UK) Limited**

Irwell House, The Grove, Eccles, Manchester. M30 0ET.
 Tel: +44 161 850 0926 Fax: +44 161 850 0927
 e-mail: office@sensor-uk.com, web: www.sensor-uk.com

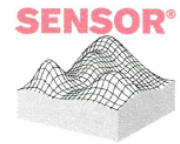
SENSOR®**DAILY SITE RECORD SHEET**

19.042

Site: BURNAGE ROAD	Date: 3-7-19
Client: LAINTON SERVICES	
Start: 12-00	Finish: 14-30
<u>Weather Observations</u> DRY SUNNY - 22° PRECIPITATION - 0% HUMIDITY - 40%	
<u>Works Carried Out</u> VALIDATE PROOFEX 3000 MR INSTALLED ON VERTICAL + HORIZONTAL WALLS AND JOINED ONTO PREVIOUS PROOFEX ENGAGE INSTALLED ON EARLIER VISIT. NOTE:- STAPLES REMOVED FROM PROOFEX ENGAGE BEFORE PRIMING AND OVER LAYING WITH PROOFEX 3000 MR 2ND LIFT PITS INSPECTED AND TESTED. NO DEFECTS FOUND	
<u>Delays / Disruption / Unproductive Working (Cause & Effect)</u>	
Sensor Engineer: SIMON COCKEROTT Signed: Date: 3-7-19	
Client Representative: JAS DUFFY Signed: Date: 3-7-19	

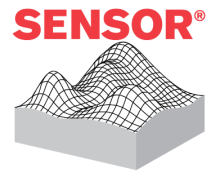
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e-mail: office@sensor-uk.com, web: www.sensor-uk.com

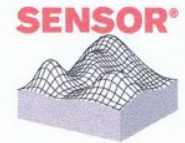
**DAILY SITE RECORD SHEET**

19.042

Site: BURNAGE ROAD	Date: 02/08/2019
Client: LAINTON SERVICES LTD	
Start: 10.00	Finish: 15.30
<u>Weather Observations</u> 22° SUNNY INTERVALS HUMIDITY 80%	
<u>Works Carried Out</u> GPS SURVEY PRODUCT INSPECTED PROOFEX TOTAL PROOFEX 3000MR PROOFEX TOTAL TAPE UNABLE TO PASS OFF DUE TO ONGOING WORKS, PIPE ENTRIES IN CORRIDOR/HALLWAY X22 REPAIRS LOCATED, NOT YET REPAIRED SEE SENSOR DRAWING	
<u>Delays / Disruption / Unproductive Working (Cause & Effect)</u> INCOMPLETE WORKS	
Sensor Engineer: ALLEN SMITH	Signed: <i>A. Smith</i> Date: 02/08/19
Client Representative: Daniel Lainton	Signed: <i>Daniel Lainton</i> Date: 2/8/19

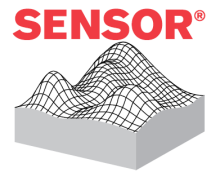
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**DAILY SITE RECORD SHEET**

19.042

Site: BURNAGE ROAD	Date: 06/05/2019
Client: LAINTON SERVICES LTD	
Start: 7.30	Finish: 8.35
<u>Weather Observations</u> 21° CLOUDY Humidity 75%	
<u>Works Carried Out</u> GPS SURVEY FOLLOWING ON FROM FRIDAY'S SITE VISIT ALL X22 REPAIRS HAVE NOW BEEN REPAIRED & RETESTED ALL THE PIPE WORK HAS BEEN SEALED WITH AREA ON SITE HAS NOW BEEN PASSED OFF	
<u>Delays / Disruption / Unproductive Working (Cause & Effect)</u>	
Sensor Engineer: ALLEN SMITH Signed: <i>a.smith</i> Date: 06/05/19 Client Representative: IAN DUFFY Signed: <i>I.Duffy</i> Date: 6/05/19	

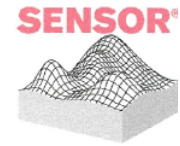
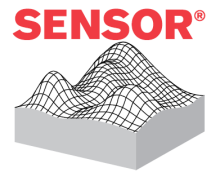
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DAILY SITE RECORD SHEET

19.042

Site: BURNAGE ROAD	Date: 10-9-19
Client: LAINTON SERVICES	
Start: 7.45	Finish: 14.30
Weather Observations DRY CLOUDY - 18° PRECIPITATION - 0% HUMIDITY - 55%	
Works Carried Out GPS SURVEY PROOFEX TOTAL LAID ONTO BLOCK & TEAM. PROOFEX 3000 ML TO SEAL PIPE ENTRY'S AND CORNERS. 111 NO DEFECTS FOUND. REPAIRED AND RETESTED. 23 NO PIPE ENTRY'S SEE SENSOR DRAWING FOR AREAS TESTED.	
Delays / Disruption / Unproductive Working (Cause & Effect)	
Sensor Engineer: Simon Cockcroft Signed: <i>S. Cockcroft</i> Date: 10-9-19	
Client Representative: Daniel Lainton Signed: <i>Daniel Lainton</i> Date: 10-9-19	

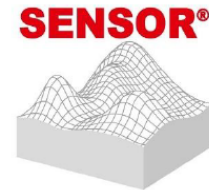
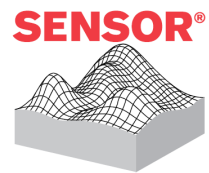
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DAILY SITE RECORD SHEET

19.042

Site: BURNAGE RD	Date: 12/09/2019
Client: CAINTON SERVICES	
Start: 11.30	Finish: 14.35
<u>Weather Observations</u> 20° CLOUDY HUMIDITY 76%	
<u>Works Carried Out</u> GAS MEMBRANE VALIDATION AIRLANCE, VISUAL & PICK TEST PRODUCTS TESTED PROOFEX TOTAL, PROOFEX 3000 MR, LIQUID MEMBRANE X 12 COLUMNS & 34 PIPE ENTRIES SMALL AREA ON SITE WHERE THE MEMBRANE IS IN COMPLETE (MAIN CONTRACTOR NEEDS TO BACKFILL/CONCRETE) SEE SENSOR DRAWING X 17 INSTANCES OF DAMAGE/DEFECTS LOCATED, REPAIRED & RETESTED	
<u>Delays / Disruption / Unproductive Working (Cause & Effect)</u>	
Sensor Engineer: Allen Smith Signed: A. Smith Date: 12/09/19 Client Representative: Daniel Lainton Signed: D. Lainton Date: 12/09/19	

**SENSOR (UK) Limited**

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e-mail: office@sensor-uk.com, web: www.sensor-uk.com

DAILY SITE RECORD SHEET (GPS VALIDATION)**BUILDING RESILIENCE**

Site: Burnage Rd		Job No: 19.042		Date: 07/07/2021	
Client: Lainton Services Ltd					
Start: 10:30am			Finish: 11:30am		
Weather Observations					
Temperature: 19°		Condition: Sunny / rain		Humidity: 72%	
Works Carried Out ALL BOXES MUST BE FILLED IN					
MIT Arc Test	Mobile	Air Lance	Pick Test	Y	
Plots / Area Inspected: See Sensor site drawing					
COI Reference Number: 00039		Site Drawing Complete		Y	
Number of Penetrations Inspected:		Damage Logged		Y	
Product Inspected: Proofex Total / Proofex 3000 MR		Photographs / Visual		Y	
Total Defects Located: None		Works Complete		Y	
Type of Protection Used After Validation:					
NOTES:					
Sensor on site at Burnage Road validating the remaining area as shown on the Sensor site drawing					
All Installation works are now complete					
Delays / Disruption / Unproductive Working (Cause & Effect)					
Sensor Engineer: Gareth Jackson		Signed:		Date: 07/07/2021	
Client Representative: Mark Cox		Signed:		Date: 07/07/2021	

Sensor (UK) Limited
UK Company Registration Nr: 7130916
VAT Nr: GB984 4214 03

Registered Office:
Quatro House, School Lane,
Lytham, Lancashire. FY8 5NL.



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