Gas Membrane Installation
Validation Report
RP Tyson
Plant Hill Road
Blackley
Manchester
M9 8LY

Rev 2 – Amendments, Blue Text

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1. INTRODUCTION

1.1 Purpose

MB Membranes are installing a gas protection membrane to the aforementioned site. MEC Environmental Ltd (MEC) has been appointed by MB Membranes to carry out independent validation of the installation of the membrane on the site as per our terms of engagement. The frequency of independent inspections has been determined by the client, comprehensive CQA should be forwarded by the installer to cover any data gaps for areas that have not been subjected to independent inspections.

The **SOLE** purpose of the works undertaken by MEC Environmental is to provide independent inspections and a factual report as and when requested to assist the client in gaining regulatory approval with regards to the gas membrane installation. This is as per the scope of work section within our term's engagement.

1.2 Limitations

This report is limited to providing lines of evidence to the regulatory authority for the areas components inspected by MEC only in support of the discharging of the relevant planning conditions only and cannot be used or relied upon for any other purpose. No professional liability shall be extended to any other parties by MEC, the report should explicitly not be relied on by any future vendor or tenant as proof that the gas protection measures are sufficient for the site and functioning at the time of purchase or start of any tenancy. Gas protection systems are not solely reliant on the gas membrane as points are scored under BS8485 for the floor slab, membrane and venting, these components work collaboratively to provide a gas protection system. This is as per the conditions within our term's engagement.

The report has been provided on the assumption that no damage or works that may have compromised the components and integrity of the gas membrane have been made after our inspections, failure to report any such occurrences will invalidate any liability and render the report and contents invalid. This is as per the conditions within our term's engagement.

This report has been prepared in accordance with the best available practice and the relevant guidance documents listed below of which the author of the report was a contributor and member of the steering committees:

Mallett H, Wilson S, Corban M (2014) "Good practice on the testing and verification of protection systems for buildings against hazardous ground gases". CIRIA Report C735

1.3 Compliance with Regulation 7 of Building Regulations

Regulation 7 of the building regulations requires that building work shall be carried out in a workmanlike manner. Approved document 7 suggests installation can comply with the regulation if workmanship is such that, where relevant, materials are adequately mixed or prepared and applied, used or fixed so as to perform adequately the functions for which they are intended.

A reasonable standard may be demonstrated by:

Compliance with a standard and independent certification - The relevant standard for gas protection measures is BS8485:2015 +A1:2019, Table 7 of the standard requires that gas membranes are verified as per CIRIA C735.

Past experience – The installers qualifications are checked by MEC Environmental to ensure that the installation supervisor holds the NVQ Level 2 in gas membrane installations.

Integrity Testing methods. – are carried out as prescribed in CIRIA C735, unless stated elsewhere Frequency of Visits – MEC have not been employed to prepare a validation plan for this project, the frequency of visits is as per the instructions of the client, in essence MEC inspected the available membrane that could be inspected each time an inspection visit was requested. The area inspected on each visit is noted on the survey sheets in appendix 1. This report should be read in conjunction with the installers CQA report.

1.4 Method of Inspection (Per Visit)

All seams and non-seam areas of the available gas membrane were inspected/tested by the Validation Surveyor for identification of defects, protruding and penetrating objects, lack of subgrade support, overheating, holes, blisters, undispersed raw materials, scratches and gouges, and any sign of contamination by foreign matter.

Any portion of the gas membrane exhibiting a flaw or failing a visual inspection/testing was repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure was agreed upon between the Validation Consultant and the Installer at the time of the repair and is noted in the survey sheets.

Major repairs are visually inspected/tested, repairs passing the inspection/testing were considered acceptable. In some cases minor repairs maybe carried out under contractor CQA and photographic evidence supplied to the verifier for inclusion in the report.

1.5 MEC Staff Competency

All site inspections have been carried out by suitably qualified staff as defined in CIRIA C735, the qualification held by all MEC inspection surveyors is either the NVQ Level 4 in gas protection verification or the NVQ Level 2 in gas membrane installation

The author of this report is also a CL:AIRE accredited Specialist in Gas Protection Verification (SGPV) and holds both the NVQ Level 2 in gas membrane installation and the NVQ Level 4 in gas protection verification.

1.6 Conclusion

During our inspections to the areas denoted in Appendix 1 (Site Surveys Sheets) we witnessed the installer carrying out the installation in a workmanlike manner, the materials were adequately prepared and applied, used and fixed so as to perform adequately the functions for which they are intended as per Regulation 7 of the building regulations. In instances were 100% of the installation has not been independently inspected/tested then this report should be read in conjunction with the gas membrane installers CQA records.

The installers all hold the NVQ Level 2 “Gas membrane Installations” qualification and as such are classed as a qualified and experienced installer. MEC Environmental have checked the CSCS Trade Cards of the installers, which confirms the holder has attained the qualification.

Signed  Date: Rev 2 Issue 29 April 2026

Michael Corban S.G.P.V.
Director
MEC Environmental Ltd

1.7 Rev 2 Addendum: Contractor Provided Construction Quality Assurance Information

Construction Quality Assurance (CQA) information has been provided to MEC as follows:

- **Tyson Construction Limited:** Photographs of the typical sub-floor void construction on site, demonstrating depth of void, cross-venting provision to sleeper walls and general arrangement of as-built telescopic vents to air bricks. This information is provided as Appendix 2.
- **MB Membranes Limited:** Handover Certificate for Plots 7 to 12 Inclusive, plus photos which demonstrate materials and workmanship generally consistent with MEC's observations of Plots 1 to 6. This information is provided as Appendix 3.

Appendix 1 – Site Survey Sheets

Site Name: Plant Hill Road. Blackley. Manchester	**Weather: 8 °C Dry**

Plot Number	**Building Type**	**Extent of Inspection**	**Result**

Gas Membrane Name: Juta GP1 gas barrier membrane & Juta GP1 SAM
Annulus to Water Pipe Duct: The annulus of pipe duct has not been sealed at the time of our inspection, this wi require sealing to an approved method, this is outside the remit of the result of todays inspection
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of hand welding with a hot air gun and neoprene roller, the width of welded joint is a minimum of 30mm.
(Section 2, Testing and Inspection Method)

Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, fie seams, masonry abutments, tanking, door thresholds and the like

Plot Number	(Section 3, Defects List)	Action Requi

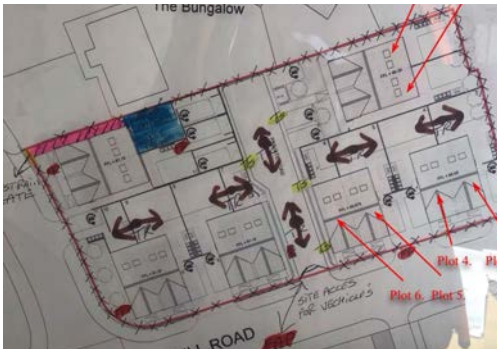
Plot Overview Photographs



Plot 5 & 6 full line out installation



& 4 full line out installation



Site layout with plot locations

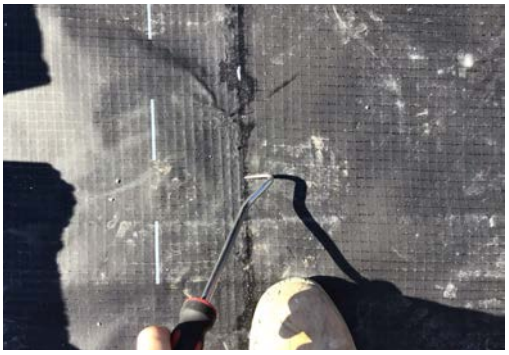


I & 2 full line out installation

Detailing Sample Photographs



Plot 1 testing threshold detailing



testing hand welded membrane lap joint







Plot 2 testing threshold detailing



testing hand welded membrane lap joint



Plot 2 testing corner detailing



testing pipe detailing



Plot 3 testing corner detailing



testing threshold detailing



Plot 3 testing hand welded membrane lap joint



testing pipe detailing



Plot 4 testing threshold detailing



testing hand welded membrane lap joint



Plot 4 testing corner detailing



testing pipe detailing



Plot 5 testing hand welded membrane lap joint



testing corner detailing



Plot 5 testing threshold detailing



testing pipe detailing



Plot 6 testing corner detailing



testing threshold detailing



Plot 6 testing hand welded membrane lap joint



testing pipe detailing



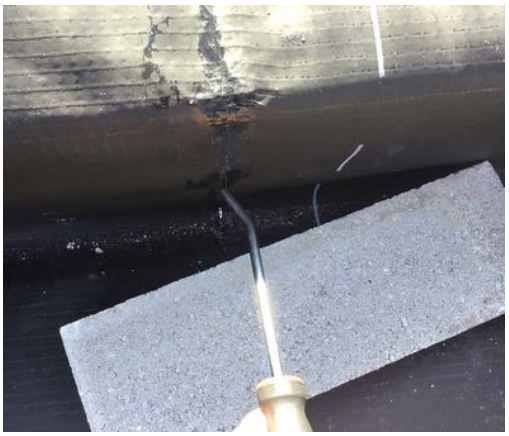
Perimeter cavity vents installed under the membrane



'P1 SAM used on the detailing work



Testing the thickness of the membrane



recorded defect



Plot 4 defect repair



recorded defect



Plot 6 defect repair

Appendix 2 – Contractor Provided CQA Information, Tyson Construction: Sub-Slab Voids



PLOTS 1 & 2

Assigned To Contractor
Provided CQA For Sub-Floor Void Construction



PLOTS 3 & 4

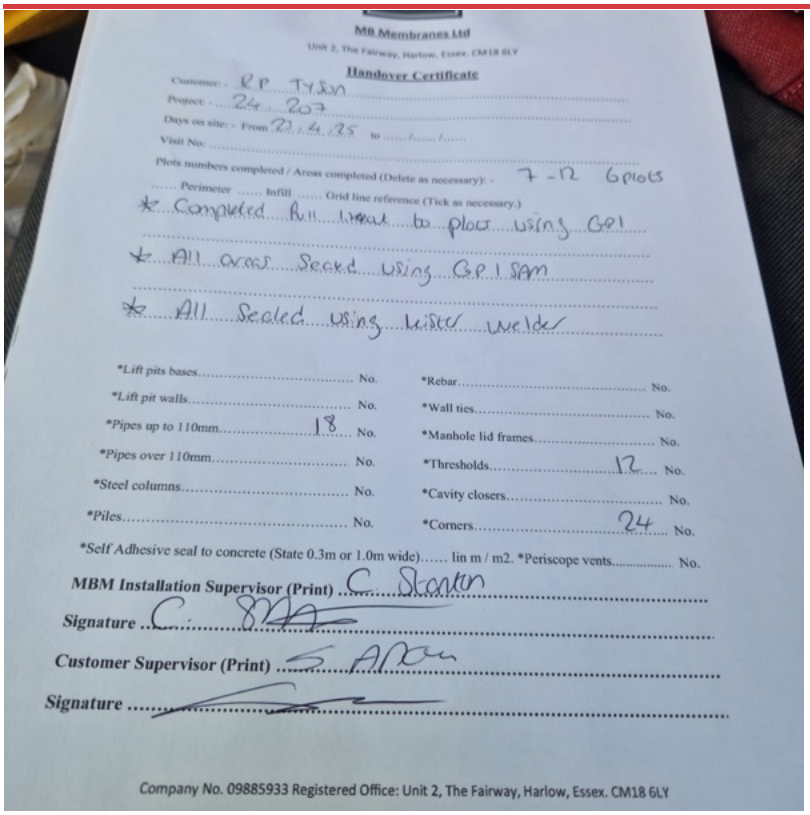
Assigned To Contractor
Provided CQA For Sub-Floor Void Construction



PLOTS 5 & 6

Assigned To Contractor
Provided CQA For Sub-Floor Void Construction

Appendix 3 – Contractor Provided CQA Information, MB Membranes: Gas Membrane, Plots 7 to 12



MB Membranes Ltd
Unit 2, The Fairway, Harlow, Essex. CM18 6LY

Handover Certificate

Customer:- R P TYSON
Project:- 24207
Days on site:- From 27/4/25 to ...../...../.....
Visit No:
Plots numbers completed / Areas completed (Delete as necessary):- 7-12 6plots
..... Perimeter ..... Infill ..... Grid line reference (Tick as necessary.)
* Completed Full Install to plot using GP1
* All areas Seald using GP1 SAM
* All Sealed Using Leister welder

*Lift pits bases	No.	*Rebar	No.
*Lift pit walls	No.	*Wall ties	No.
*Pipes up to 110mm	18 No.	*Manhole lid frames	No.
*Pipes over 110mm	No.	*Thresholds	12 No.
*Steel columns	No.	*Cavity closers	No.
*Piles	No.	*Corners	24 No.

*Self Adhesive seal to concrete (State 0.3m or 1.0m wide)..... lin m / m2. *Periscope vents..... No.

MBM Installation Supervisor (Print) C. Stanton
Signature C. Stanton
Customer Supervisor (Print) S. Allen
Signature

Company No. 09885933 Registered Office: Unit 2, The Fairway, Harlow, Essex. CM18 6LY

MB MEMBRANES (MBM) - HANDOVER CERTIFICATE

Assigned To Contractor
Provided CQA - Plots 7 To 12 Inclusive



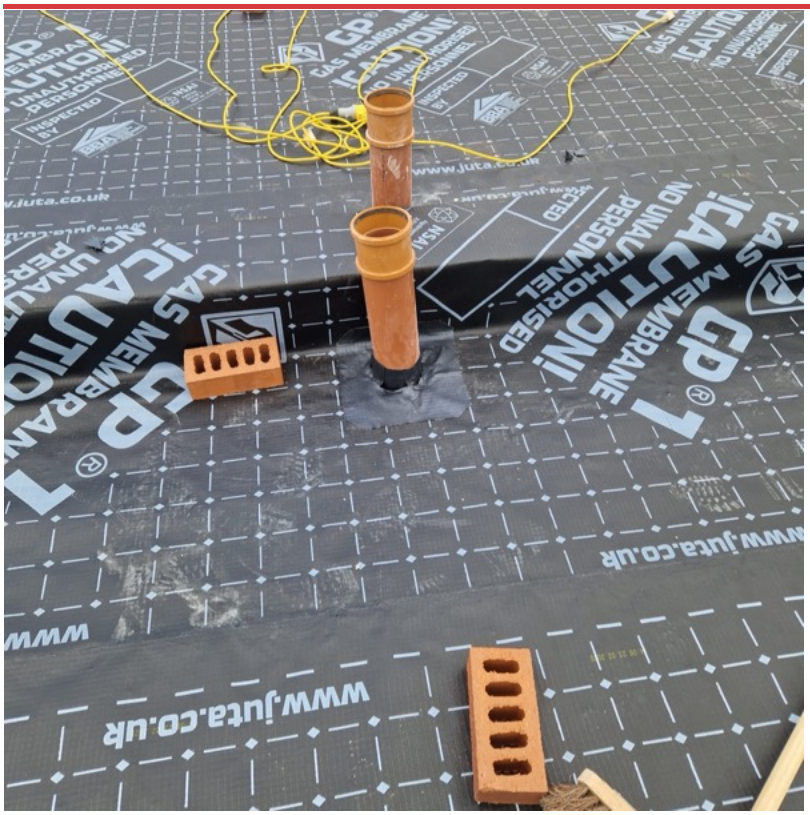
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Assigned To Contractor
Provided CQA - Photos: Plots 7 To 12 Inclusive



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Assigned To Contractor Provided CQA - Photos: Plots 7 To 12 Inclusive



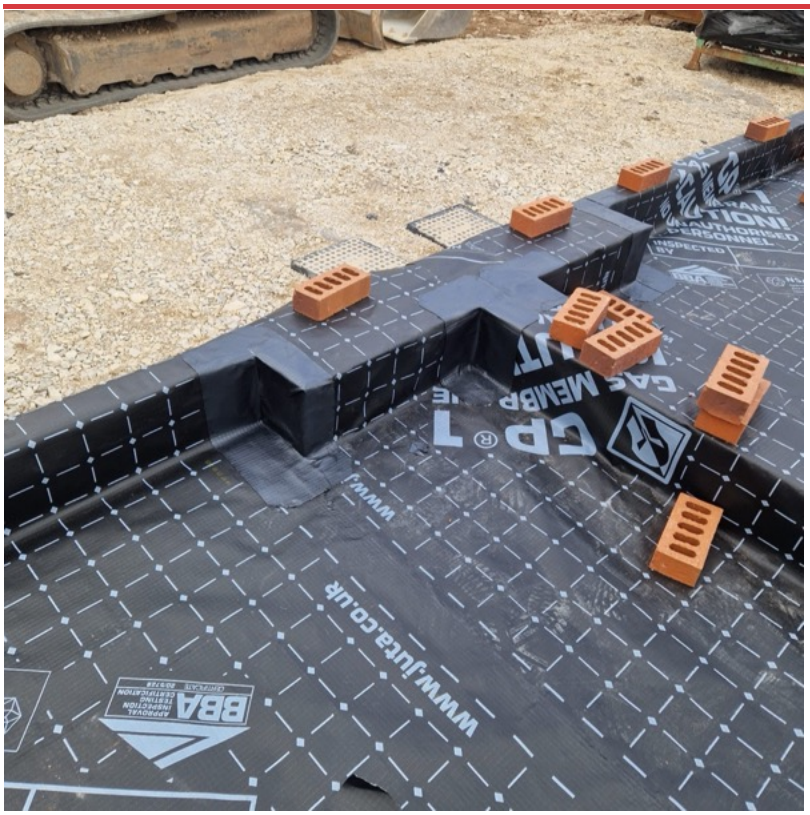
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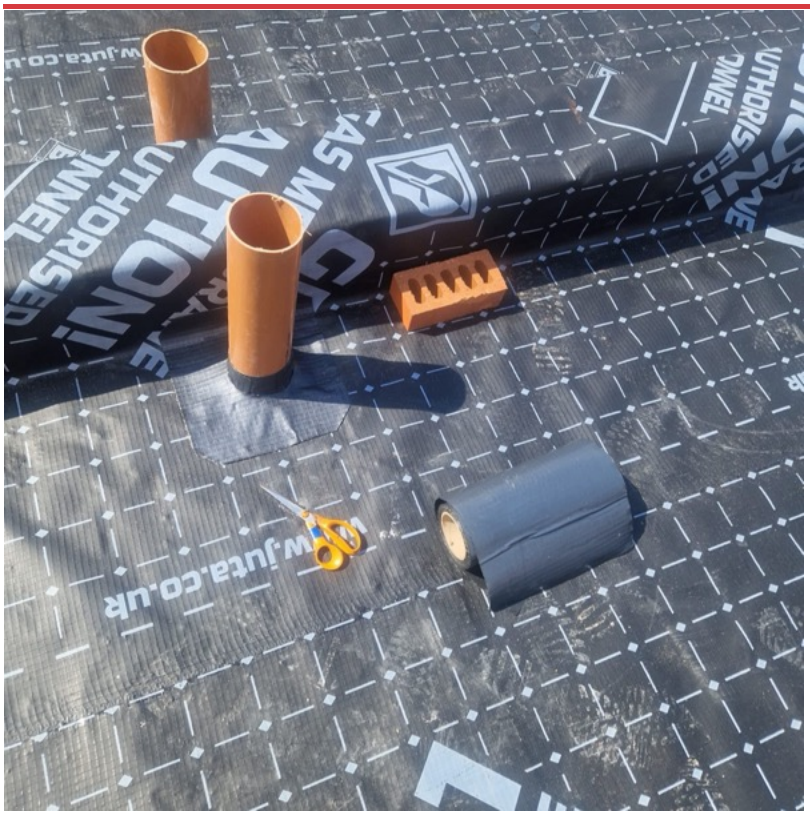
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Assigned To Contractor Provided CQA - Photos: Plots 7 To 12 Inclusive



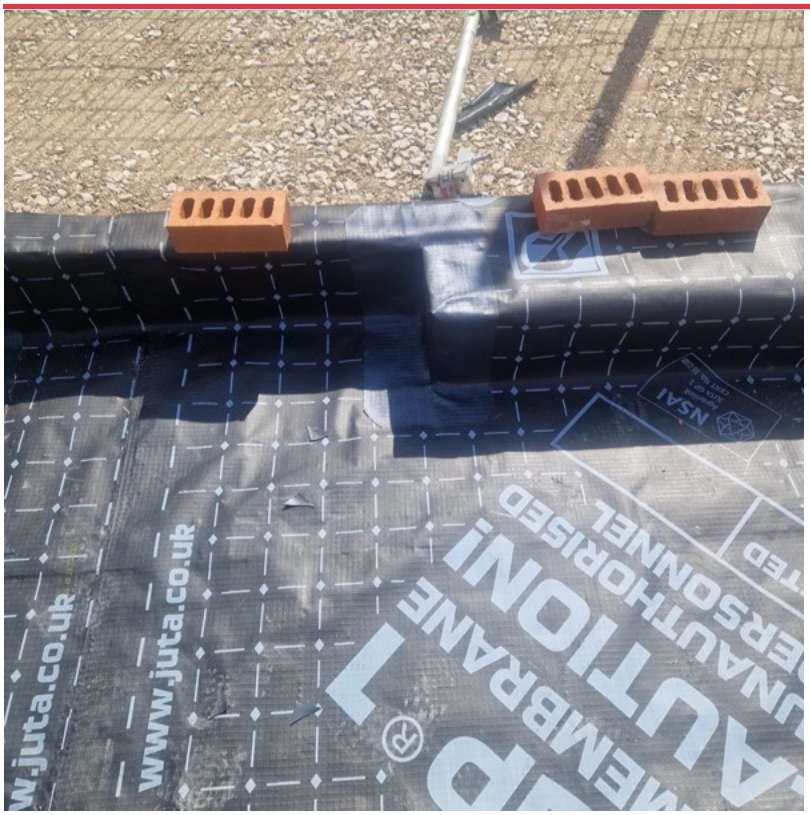
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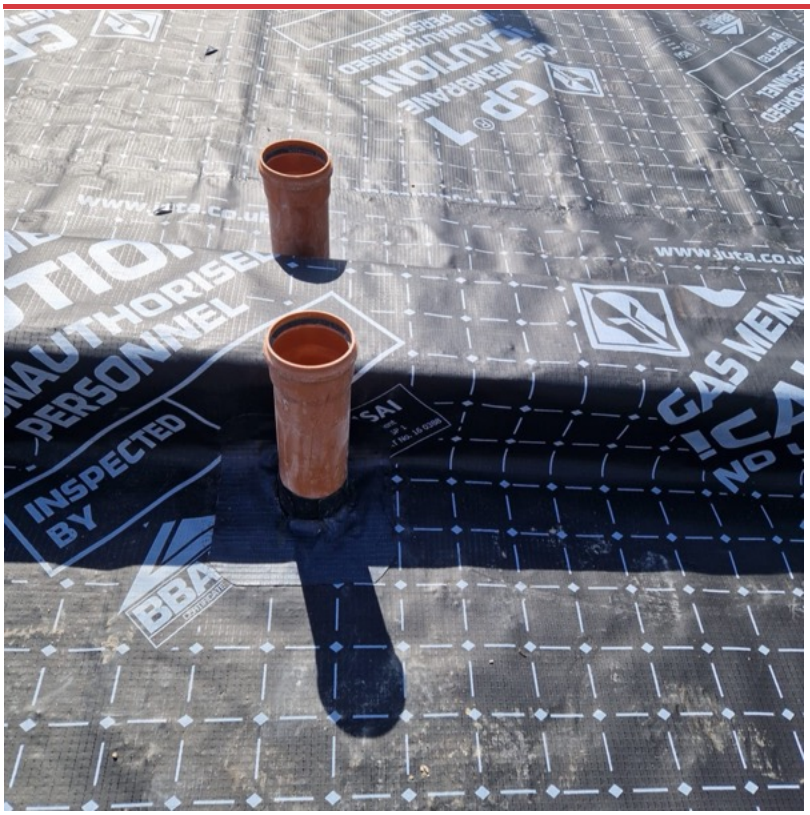
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