



Gas Membrane Installation
Validation Report
Myra Homes
120 Laund Road
Huddersfield
Salendine Nook
HD3 3TY
Plot 7
Issued 10/03/22



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1. INTRODUCTION

1.1 Purpose

Myra Homes are installing a gas protection membrane to the aforementioned site. MEC Environmental Ltd (MEC) has been appointed by Myra Homes 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.

Signed



Date: 04/02/2022

Michael Corban S.G.P.V.

Director

MEC Environmental Ltd

Appendix 1 – Site Survey Sheets

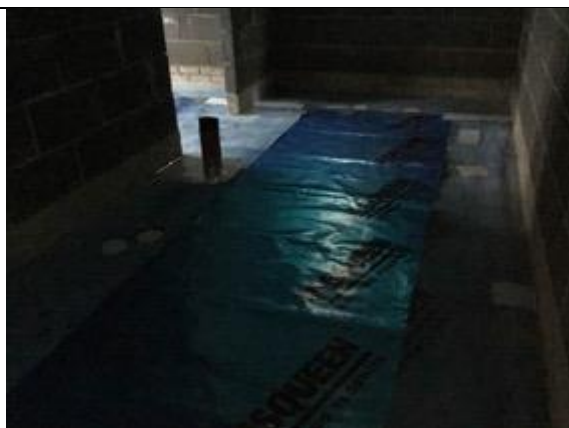
Housebuilder Name: Myra Homes - Laund Road		Plot Number: 7		
Site Name: 120 Laund Road, Huddersfield, Salendine Nook.		Detached House	☐	
		Semi-Detached	☒	
Postcode: HD3 3TY	Weather: 2 °C Dry	Terrace	☐	
Installer: Myra Homes		Apartment Block	☐	
Surveyor: Dan Squire		Detached Garage	☐	
Date: 04/02/2022		Flat Over Garage	☐	
Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐ If other, please describe				
Item	Comments			
Sub-floor void	Inspected by MEC ☐ Not Inspected by MEC contractor advised ☒ N/A ☐			
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐			
	- Contractor advised the venting is installed as per the design ☒ - The venting has failed inspection, see notes in defects section ☐			
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐			
	Number of Vents: 12no			
Materials used:	Membrane Name: Visqueen gas barrier membrane			
	Self-Adhesive Membrane ☒	Preformed Tophats ☐		
	Double Sided Butyl Tape ☒	Preformed Corners ☐		
	Others Please List: N/A			
Type of Joint	Tape Joint ☒	Auto Weld ☐	Hand Weld ☐ Extrusion Weld ☐	
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test	
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)		
Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A
<u>Surveyors Comments</u> The membrane is laid across the full footprint off the building and extends across the cavity. All Pipes and ducts have been sealed with Self Adhesive Gas Membrane that was warmed prior to placing. The sheets of gas membrane have been adequately overlapped to provide a suitable substrate to achieve a gas tight joint. The Joints have been sealed with a 50mm butyl gas tape with all trapped air expunged. All joints and pipes penetrations have been air lanced and pick tested as per the methodology laid down in ASTM D4437 as required in CIRIA C735. During the inspection the installers made 15no patch repairs using SAGM to some minor defects, the patches were also air lance tested. The standard of the installation after visual inspection and testing was deemed "fit for its intended purpose" and therefore the plots have passed our inspection and testing				
<u>Result of Inspection</u> The Plot/Area have passed inspection and no further remedial works are required				
Signed: Dan Squire		Date: 04/02/2022		

Photographs 04/02/2022



Plot 7 infill installation



Plot 7 infill installation



Plot 7 T joint SAGM patch



Plot 7 sealed pipe penetration