

Our Ref: E23/8043/JF/002

16th January 2024

FAO Michael Delaney

michaeldelaneyandsons@hotmail.co.uk



Haigh Huddleston & Associates

Civil & Structural Engineering Consultants

Unit 4, Midgley Business Park, Bar Lane, Midgley WF4 4JJ

t 01924 574074 e info@haighhuddleston.co.uk

Dear Sir,

Re: Development at Dewsbury Moor Rugby Club

Further to your request we have attended the above site to undertake an inspection of the gas membrane to confirm that the quality of the installation is satisfactory.

Following completion of the Site Investigation works on site, and the ground gas risk assessment by Haigh Huddleston & Associates (reference E23/8043/R001), the report recommends that **CS2** gas protection measures are installed. This corresponds to 3.5 points, in accordance with BS8485:2015.

In addition, when consulting BS 8485:2015+A1:2019 Table 2 the site can be characterised as CS2 for a Type B building. Consulting tables 5 - 7 we recommended the following to achieve a score of 4.5:

- Fully vented minimum 150mm deep void below suspended slab. To be increased to 250mm where the proximity of trees affects the foundation construction. 2.5 Points
- Continuous membrane across the cavity/party walls. 0 Points
- Cavity tray in the external walls. 0 Points
- Fully sealed service entries and ducts to manufactures specification. 0 Points
- Beam and block floor slab 0 Points
- A Visqueen Gas Barrier meeting all of the following criteria: 2.0 Points
 - Sufficiently impervious to gasses with a methane gas Transmission rate <40.0ml/day/m2/atm (average) for sheets and joints (tested in accordance with BS ISO 15105-1 manometric method).
 - Sufficiently durable to remain serviceable for the anticipated life of the building and duration of gas Emissions.
 - Sufficiently strong to withstand in-service stresses (eg. Settlement if placed below a flood slab).
 - Sufficiently strong to withstand the installation process And following trades until covered (eg. Penetrations From steel fibres in fibre reinforced concrete, Penetration from reinforcement ties, tearing due to Working above it, dropping tools etc.)

- Capable, after installation, of providing a complete Barrier to the entry of the relevant gas.
- Verified in accordance with CIRIA C735 [N1]

Total

4.5 Points

Installation

In accordance with NHBC requirements, prior to work commencing on site it was agreed with the developer that the gas membrane installation would take place in a 2 stage process by an adequate installer, in accordance with the manufacturer's specification, and the standard foundation details.

Stage 1 – Construct the property up to DPC level and install the membrane across the cavity and party walls, leaving sufficient overlap to allow installation of the floor membrane at a later date.

Stage 2 – Once the property was constructed to roof level the floor membrane was to be installed and sealed against the overlap from the cavity membrane. Following inspection, the floor is to be immediately insulated and screed poured to prevent potential damage to the membrane.

Installation of the membrane should be in accordance with the manufacturers specification and standard details.

Inspection Procedure

Prior to works commencing on site it was agreed between all parties that Haigh Huddleston Associates would inspect the development to ensure a suitable level of workmanship was achieved. The developer should photograph the membrane as evidence of the membrane installation.

In the event that the level of workmanship is noted to drop during the installation, then further inspections may be required until a level of confidence is regained.

The membrane was inspected against the 'Visual Inspection Checklist' in the appendix. In addition, pick testing was carried out to ensure the integrity of the taped joins.

Validation

The gas membrane at the above development has been inspected in accordance with the above procedure. Initial inspections on site found the membrane installation to be satisfactory, with no repair works being required.

A lack of surface preparation was noted beneath the membrane in a small number of areas. However, following a thorough visual & hands-on inspection, we can confirm that there were no rips or tears in the membrane as a result of any debris beneath. Insulation was also installed immediately after the inspection and followed by screed pour to ensure no damage occurred.

We can therefore confirm that the installation of the gas membrane is satisfactory to comply with NHBC Amber 1 conditions for residential properties.

I trust that the above is satisfactory, should you have any queries please do not hesitate to contact me direct.

Enclosures

Yours faithfully,

James Farrar
j.farrar@haighhuddleston.co.uk

Appendix

Inspection Checklist

Site name: Dewsbury Moor Rugby Club		Gas characteristic situation: Amber I
Job number: E23/8043		Type of development and building/block checked: Residential
Date: 15.04.24		Building description: Rugby Club
Visit by: JF		Foundation type: Beam & Block
Weather at time of inspection: Cloudy		Gas protection type: passive
No	Item	Comments
1. Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	Good
1.2	Gas membrane type	Visqueen Gas Barrier
1.3	Gas membrane condition	Good
1.4	Joining tape product	Gas resistant silver foil lap tape. Gas resistant double sided jointing tape.
1.5	Lapping design	In accordance with manufacturers details. 100mm Min overlap between floor and cavity membranes.
1.6	Laps, welds and joints seals	Good. Joints sealed. Where required joints sealed with double sided tape and over taped with silver foil tape.
1.7	Service entries seals	No top hats present.
2. Passive venting		
2.1	Sub-floor void	Min 150mm achieved. Void unobstructed.
2.2	External wall airbricks	Present. No more than 2m spacings
2.3	Internal sleeper walls	Vents present in line with air bricks in accordance with foundation drawings.
2.4	External vent trenches/ducts	N/A
3. Active venting		
3.1	System details	N/A
Additional notes:		
The gas protection measures inspected:	A are acceptable and comply with the specification	
	B are acceptable but attention is drawn to issues related to item no. xxx	
	C are not acceptable due to the issues related to item no. xxx	

Name: James Farrar

Signature:

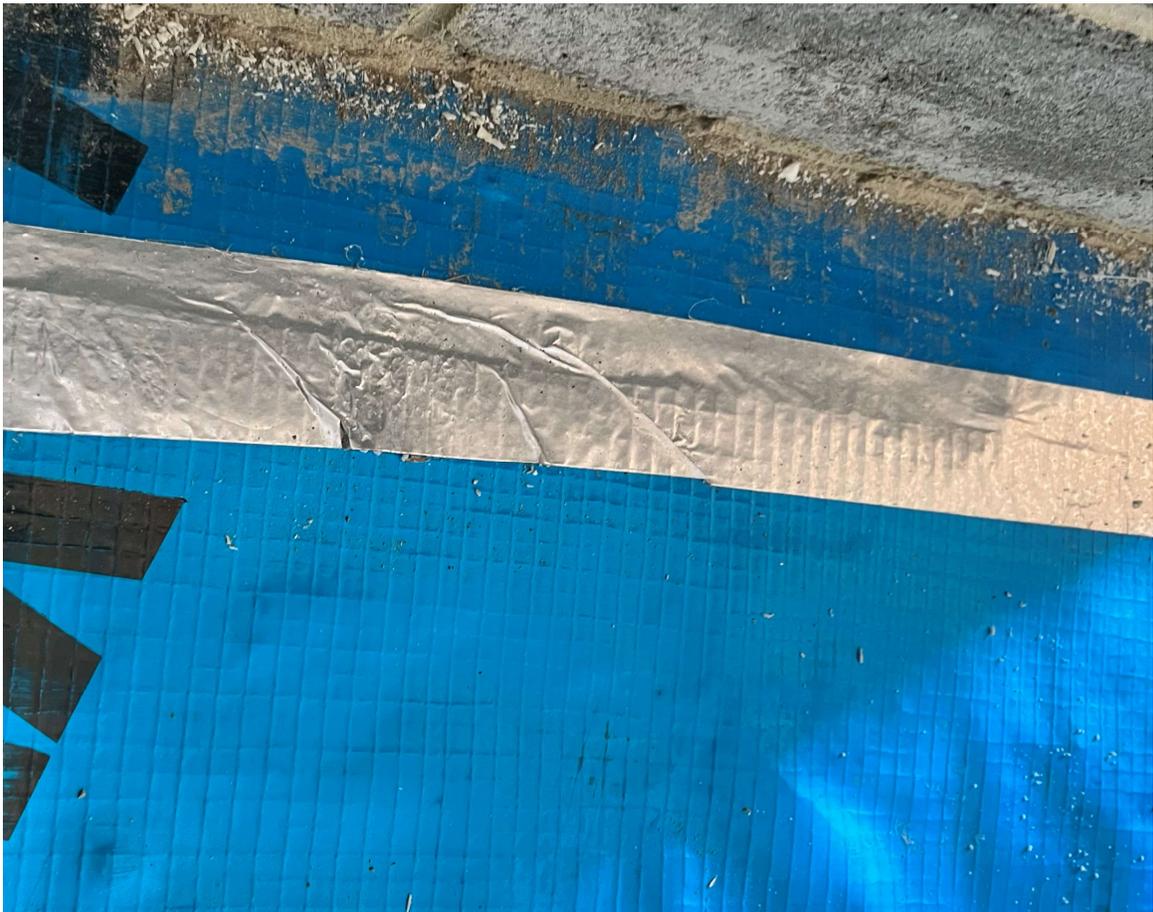


Date: 15.04.24

Photographs



Haigh Huddleston Associates is the trading name of Haigh Huddleston Associates Limited
Registered Office: Firth Buildings, 99-101 Leeds Road, Dewsbury, WF12 7BU
Registered in England Number 6458196



Haigh Huddleston Associates is the trading name of Haigh Huddleston Associates Limited
Registered Office: Firth Buildings, 99-101 Leeds Road, Dewsbury, WF12 7BU
Registered in England Number 6458196