GeoShield Verification Report 22

PROJECT REFERENCE:	GEO102862 R022
PROJECT:	Persimmon Homes Site
PROJECT ADDRESS:	150-158 High Road

Weston, Spalding

PE12 6WA

SPECIFICATION: Verified in accordance CIRIA 735.

Design in accordance with BS8485 2015 + 2019 for Methane and Carbon Dioxide.

Substrate prepared in-accordance with manufactures instructions

Visqueen Standard Gas Barrier

Visqueen GRSAM

Visqueen Preformed Top Hats.

GeoShield Verification Report

NAME OF SURVEYOR: Lee Adams

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER: 07795 994117

EMAIL ADDRESS: ladams@geoshield.co.uk

ORDER NUMBER: To be confirmed

PER VISIT:	YES:	✔	NO:		PROJECT:	YES:	✔	NO:	

GeoShield Verification Report

CLIENT DETAILS

CLIENT CONTACT:	Andy Collins
CONTACTS ROLE:	Prestige Air Director
MOBILE PHONE:	07780 223116
EMAIL ADDRESS:	Andy@prestigeair.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	

GeoShield Verification Report

APPLICATOR'S DETAILS

APPLICATOR NAME:	Ben
COMPANY:	Prestige Air Technology Ltd
APPLICATOR TEL:	
APPLICATOR EMAIL:	

APPLICATOR NAME:	
COMPANY:	Prestige Air Technology Ltd
APPLICATOR TEL:	
APPLICATOR EMAIL:	

NOTES: The installers from Prestige Air are competent & experienced installers in the installation of ground gas and waterproofing systems. At least 1 person holds the NVQ level 2 qualifications in the installation of gas membranes.

GeoShield Verification Report

AREA SURVEYED:

Plots 113, 114 & 115 - Full Line Out

SITE CONDITIONS:

WEATHER:

Sunny

TEMPERATURE:

19ºc

RELATIVE HUMIDITY:

N/A

MEMBRANE TEMPERATURE:

N/A

TIME: 13:00 - 14:00

DATE: 08.07.2024

REPORT NUMBER: 022

ACCOMPANIED BY:

Ben - Prestige Air

GeoShield Verification Report

Verification Layout



The photograph above shows a plan layout of the site. The areas highlighted in blue show Plots 113, 114 & 115, where the verification inspection took place on site today.

GeoShield Verification Report

OVERVIEW



The photograph above displays an overview of Plot 113 where today's verification inspection took place on site.
A, B, C & D highlighted in the photograph denotes the lap joints.

GeoShield Verification Report

OVERVIEW



The photograph above displays an overview of Plot 114 where today's verification inspection took place on site.
A, B, C & D highlighted in the photograph denotes the lap joints.

GeoShield Verification Report

OVERVIEW



The photograph above displays an overview of Plot 115 where today's verification inspection took place on site.

GeoShield Verification Report

VERIFICATION ITEM ONE

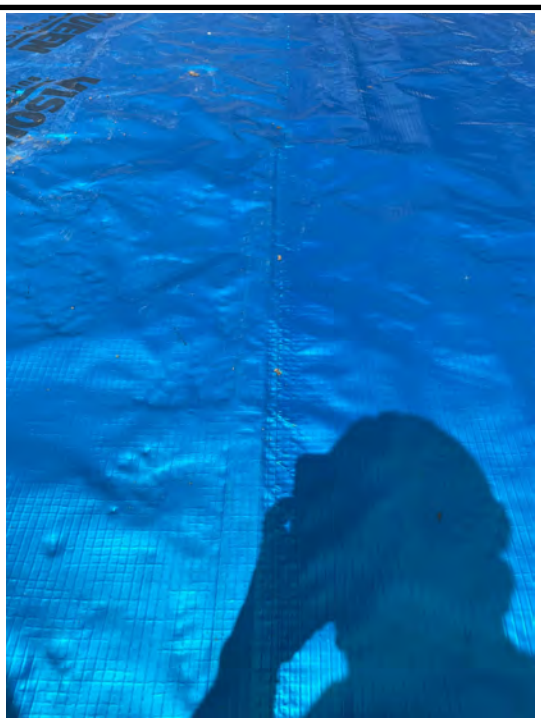
LOCATION/GRID LINE: Plots 113, 114 & 115 - Full Line Out

Installation of Visqueen Standard Gas Barrier



NOTES:

A complete line out of the Visqueen Standard Gas Barrier has been installed across the footprint of Plots 113, 114 & 115. The Visqueen Standard Gas Barrier has been lined out across the entirety of the house plots, taken over the internal party walls and external cavities to ensure continuity throughout.



NOTES:

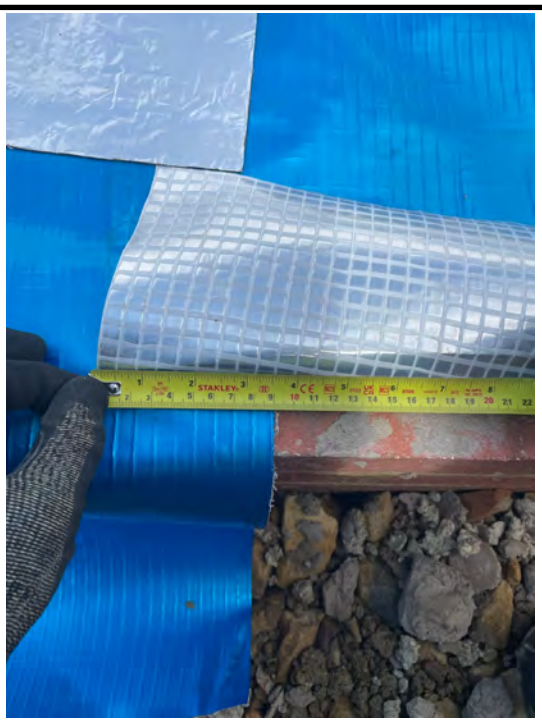
All lap joints between the adjacent sheets of Visqueen Standard Gas Barrier have been heat welded using a hot air leister and a silicone roller with adequate pressure applied to ensure a continuous weld is achieved.

GeoShield Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 113, 114 & 115 - Full Line Out

Lap Joints





NOTES:

Throughout each of the housing plots all overlaps of the Visqueen Standard Gas Barrier were checked to ensure minimum requirements had been met. Across the three plots, two areas were identified where the lap joint measured 90mm, as shown in the image above. Plot 113 (Lap Joint A) & Plot 114 (Lap Joint C) both

NOTES:

measured short of the desired requirement of 100mm however, both lap joints measured in excess of 50mm which is the minimum requirement deemed acceptable. All other lap joint areas had a sufficient amount of overlap of 100mm, evidence of this is shown in the photograph above.

GeoShield Verification Report

VERIFICATION ITEM ONE



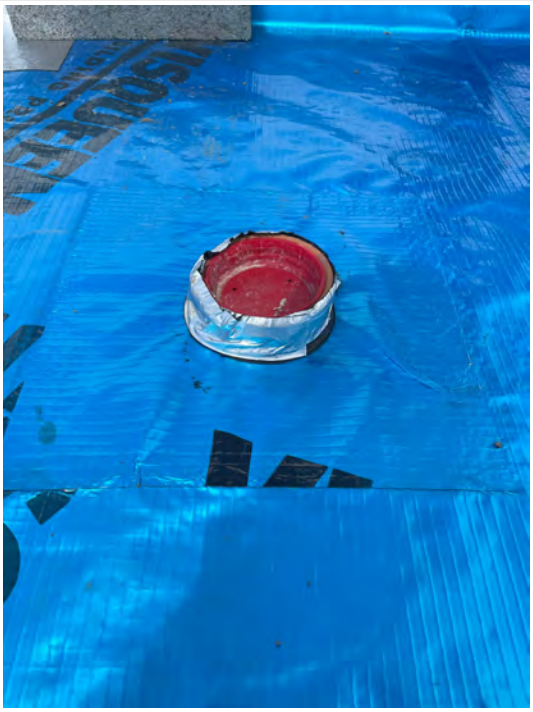
All lap joints of the Visqueen Standard Gas Barrier were subjected to thorough visual inspections, supported by non destructive air lance integrity testing and mechanical point stress testing throughout the installation. No faults or defects were identified at the time of inspection.
Tested and verified in accordance with CIRIA 735.

GeoShield Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 119, 120, 121, 122, 123 & 124 - Full Line Out

Pipe Penetrations





NOTES:

Throughout the complete line out installation of the Visqueen Standard Gas Barrier to the referenced plots, there were a number of pipe penetrations that have been sealed in accordance with manufacturer's specifications and design guidelines. This has been achieved using preformed top hats. The installers have

NOTES:

first cut the Visqueen Standard Gas Barrier tight around the base of each pipe penetration to minimise voided areas. Next, the preformed top hat is placed over the pipe penetration and welded to the existing Visqueen Standard Gas Barrier. Strips of Visqueen GRSAM are then adhered to the cloak of the pipe using heat

GeoShield Verification Report

VERIFICATION ITEM TWO



and firm rolled pressure to aid in the adhesion, creating a secure bond between the pipe penetration and the Visqueen Standard Gas Barrier. Thorough non destructive air lance integrity tested was conducted upon the welded joints around the preformed top hat, along with mechanical point stress testing being conducted upon the cloak of the pipes. No faults or defects were identified during these testing procedures.

GeoShield Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 119, 120, 121, 122, 123 & 124 - Full Line Out

Corner & Threshold Detailing



NOTES:

A number of corners and thresholds throughout the referenced plots have also been sealed correctly using Visqueen GRSAM. Where the Visqueen Standard Gas Barrier has been cut to minimise voided areas and gaps across the footprint of the plot, each corner and threshold junction has been reinforced by heating



NOTES:

strips of Visqueen GRSAM and placed into position around each corner and threshold, onto the Visqueen Standard Gas Barrier. Firm rolled pressure is applied with a silicone roller to aid in the adhesion ensuring the Visqueen GRSAM has fully bonded.

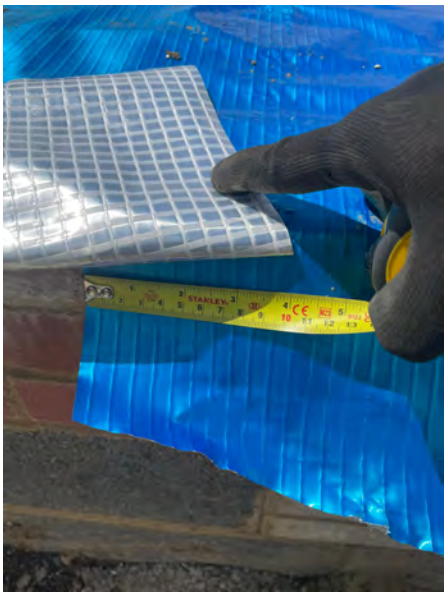
GeoShield Verification Report

VERIFICATION ITEM THREE



As with the pipe penetrations, a probe was run along all edges of the Visqueen GRSAM within the corner & threshold detailing to validate that a gas tight seal had been achieved throughout. No faults or defects were identified with the corners and thresholds during the testing procedures.
Tested and verified in accordance with CIRIA 735.

ADDITIONAL PHOTOGRAPHS



A sufficient 100mm overlap achieved.



A pick and probe test being conducted upon a sealed pipe penetration.



The installers heat welding the membrane to seal a pipe penetration.



An overview of the sealed pipe penetration.

ADDITIONAL PHOTOGRAPHS



Intricate corner detailing.



A pick and probe test being conducted upon a corner detail.



A pick and probe test being conducted upon a pipe penetration.



Intricate corner detailing.

ADDITIONAL PHOTOGRAPHS



Sealed corner details and a pipe penetration.



Visqueen products used during the installation to the plots.



Sealed corner details.



An overview of the installation.

AIR LANCE INTEGRITY TESTING

AIR LANCE TEST: ASTM D4437-08:2013 Inspects all seams for unbonded areas using a 4.8mm air nozzle held not more than 51mm away from the seam. 50 Psi is the minimum requirement. The air nozzle is directed on the upper edge seam, riffles indicate a unbonded seam. Each seam is numbered and failure marked with a F/1 F/2 classification and a description given



Air lance test on a lap joint.



Air lance test on a lap joint.



Air lance test on a lap joint.



Air lance test on a lap joint.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
23/07/2022	001	No faults or defects identified during today's verification inspection.	✔
03/08/2022	002	Two punctures to plot 12 - remediated during verification visit.	✔
		One small mis-weld to lap joint at plot 9 - remediated during	✔
		verification visit	✔
02/09/2022	003	No faults or defects identified	✔
21/09/2022	004	No faults or defects identified during today's verification inspection.	✔
04/10/2022	005	Several holes identified. Remediated on-site.	✔
26/10/2922	006	No faults identified during this verification visit.	✔
01/11/2022	007	No faults identified during this verification visit.	✔
12/12/2022	008	One fault located to a welded lap, this was remediated on site.	✔
07/02/2023	009	X3 faults identified. Remediated on-site.	✔
24/04/2023	010	Two punctures/damage identified and remediated during the	✔
		verification visit.	✔
		Two mis-welded Lap Joints identified but remediated during the	✔
		verification visit.	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
17/05/2023	011	No faults were identified during the verification process.	✔
15/09/2023	012	Seven miswelded lap joints identified and remediated on-site	✔
05/10/2023	013	No faults or defects identified during this visit.	✔
17/10/2023	014	A total of nine miswelded lap joints were identified, all were	✔
		successfully remediated on site.	✔
29/11/2023	015	There were no issues identified during the verification process	✔
12/12/2023	016	One small misweld identified which was remediated on site.	✔
25/01/2024	017	There were no issues identified during the verification process	✔
04/03/2023	018	There was one mis-welded Visqueen Gas Barrier lap joint which	✔
		was remediated during the verification process.	✔
24/04/2024	019	There were no issues identified during the verification process	✔
15/05/2024	020	Four miswelded lap joints were identified, all were remediated.	✔
20/06/2024	021	Three faults were identified, all were remediated.	✔
08/07/2024	022	No faults or defects were identified during the visit.	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	
Testing checklist attached:				YES	✔	NO			

Gridline/Plot Sign off

Gridline/Plot Sign off	Full line outs to Plots: 2-3-4-5-6.	✔
Gridline/Plot Sign off	Plots 7,8,9,10,11,12 &13	✔
Gridline/Plot Sign off	Full line outs to Plots: 14,15,16 and 17.	✔
Gridline/Plot Sign off	Full line outs to Plots: 18-19-20-21-22-23.	✔
Gridline/Plot Sign off	Full line out to Plot 24	✔
Gridline/Plot Sign off	Plot 24 integral garage	✔
Gridline/Plot Sign off	Plots 25, 26, 27, 28 & 29.	✔
Gridline/Plot Sign off	Plots 30 &. 31	✔
Gridline/Plot Sign off	Plots 48, 49, 50, 51, 52 & 53.	✔
Gridline/Plot Sign off	Full line outs to Plots: 32,33,42,43,44 & 45.	✔
Gridline/Plot Sign off	Plots: 34,35,36,37,38 & 39 full line outs	✔
Gridline/Plot Sign off	Plots: 40, 41, 46 & 47 full line outs	✔

GeoShield Verification Report

GAS MEMBRANE TESTING

VISUAL /PICK & PROBE:	✔	SMOKE TEST:	
AIR LANCING:		DILECTIC:	
DESTRUCTIVE:		OTHER:	
INERT GAS TEST:		SPECIFY:	

Testing checklist attached: YES ✔ NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 125, 126, 127, 128, 129 & 130 Full Line Out	✔
Gridline/Plot Sign off	Plots 89, 90, 91, 92, 99, 100, 101 & 102 Full Line Out	✔
Gridline/Plot Sign off	Plots 103, 104, 105 & 106 Full Line Out	✔
Gridline/Plot Sign off	Plots - 95,96,97 & 98 Full Line Out	✔
Gridline/Plot Sign off	Plots 93 & 94 Full Line Out	✔
Gridline/Plot Sign off	Plots 88, 107 & 108 Full Line Out	✔
Gridline/Plot Sign off	Plots 84, 85, 86 & 87 Full Line Out	✔
Gridline/Plot Sign off	Plots 109, 110 & 111 Full Line Out	✔
Gridline/Plot Sign off	Plots 112, 116, 117 & 118 - Full Line Out	✔
Gridline/Plot Sign off	Plots 119, 120, 121, 122, 123 & 124 - Full Line Out	✔
Gridline/Plot Sign off	Plots 113, 114 & 115 - Fulll Line Out	✔

GeoShield Verification Report

VERIFICATION SUMMARY

This was the 22nd visit to the site where verification was required for the complete line out installation of the Visqueen Standard Gas Barrier to Plots 113, 114 & 115.

All overlaps between the adjacent sheets of Visqueen Standard Gas Barrier have been successfully welded using a hot air leister and silicone roller creating continuous welded joints throughout. Two lap joints across the three plots measured less than the desired 100mm however, these were within the acceptable requirements of 50mm.
All details throughout the installation, such as pipe penetrations, internal and external corners and thresholds have been successfully sealed using Visqueen GRSAM, a self adhesive membrane which has been heated down to aid in the adherence.

Thorough mechanical point stress testing, as well as non destructive air lance integrity testing were conducted throughout the inspection today.
No faults or defects were identified at the time of the inspection.
The installation has been conducted to a good NVQ standard and in accordance with manufacturer's specifications.

This was passed and verified in accordance with CIRIA 735 and installed to BS8485:2015+2019.

GEOSHIELD SIGNATURE:



DATE: 08-Jul-2024