GeoShield Verification Report 20

PROJECT REFERENCE:	GEO102862 R020
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: Brett Hattle

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER: 07387 373167

EMAIL ADDRESS: bhattle@geoshield.co.uk

ORDER NUMBER: To be confirmed

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

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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: Daryl

COMPANY: Prestige Air

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME:

COMPANY: Prestige Air

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.

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AREA SURVEYED:

Plots 112, 116, 117 & 118 - Full Line Out

SITE CONDITIONS:

WEATHER:

Light Rain

TEMPERATURE:

15ºc

RELATIVE HUMIDITY:

N/A

MEMBRANE TEMPERATURE:

N/A

TIME: 09:30 - 12:30

DATE: 15.05.2024

REPORT NUMBER: 020

ACCOMPANIED BY:

Prestige Air

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Verification Layout



The photograph above shows a plan layout of the site. The areas highlighted in red show Plots 112, 116, 117 & 118, where the verification inspection took place on site today.

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OVERVIEW



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

GeoShield Verification Report

OVERVIEW



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GeoShield Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 112, 116, 117 & 118 - 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 112, 116, 117 & 118. The Visqueen Standard Gas Barrier has been taken over the internal party walls and external cavities of the plots to ensure continuity throughout.



NOTES:

All lap joints between the adjacent sheets of Visqueen Standard Gas Barrier have been overlapped a minimum of 100mm and heat welded using a hot air leister and a silicone roller with adequate pressure applied to ensure a continuous weld is achieved.

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VERIFICATION ITEM ONE

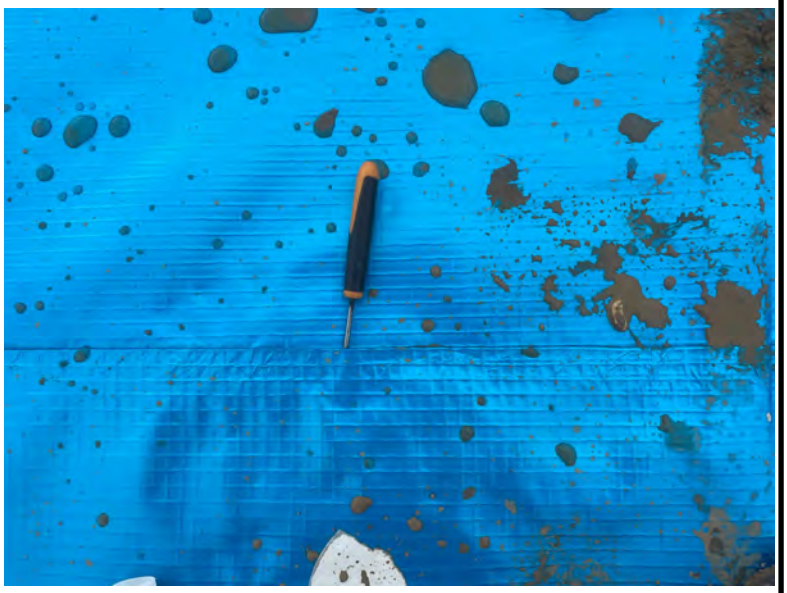


All lap joints of the Visqueen Standard Gas Barrier were subjected to thorough visual inspections, supported by non destructive air lance integrity testing and mechanical point stress testing throughout the installation. A total of four miswelded lap joints were identified at the time of the inspection, which were successfully remediated on site in the presence of GeoShield.

VERIFICATION ITEM ONE

REMEDIATIONS:

Miswelded Lap Joints - Remediations



NOTES:

As mentioned, four miswelded lap joints were identified during the testing procedures conducted today. The faults were brought to the attention of the installers and remediated on site in the presence of GeoShield. The installers from Prestige Air opted to



NOTES:

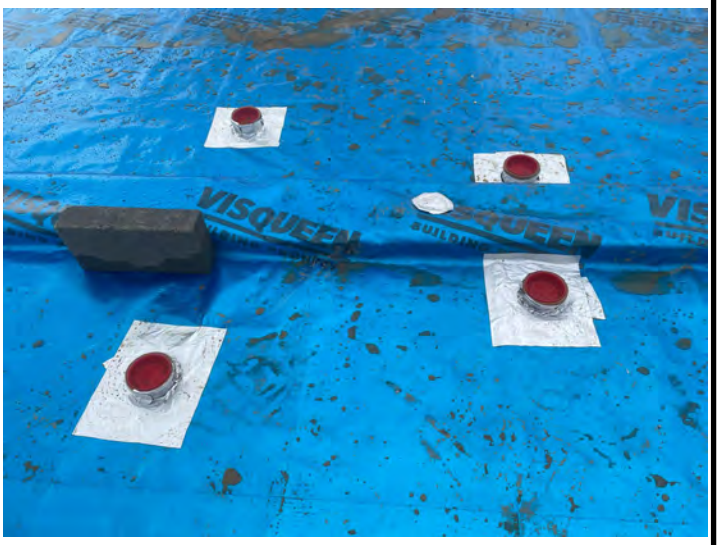
apply additional heat with a hot air leister to activate the bitumen backing, and firm rolled pressure to ensure the lap joint fully bonded, as shown in the photograph above. No further faults or defects were identified during the testing of the lap joints.

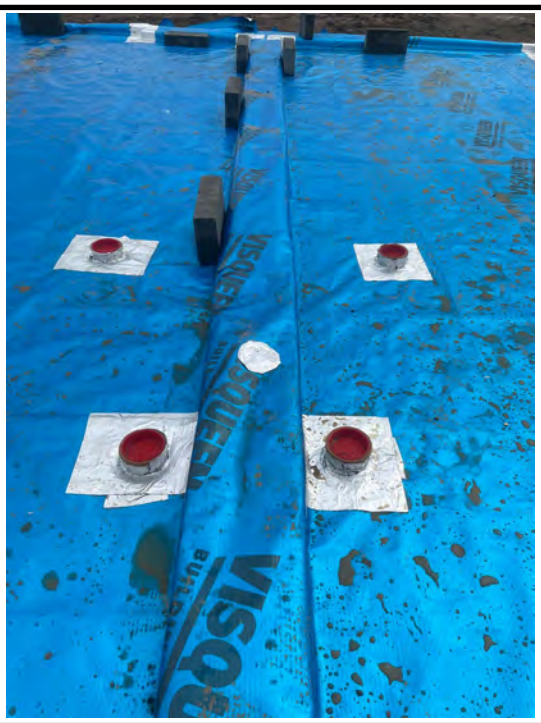
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VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 112, 116, 117 & 118 - Full Line Out

Pipe Penetrations





NOTES:

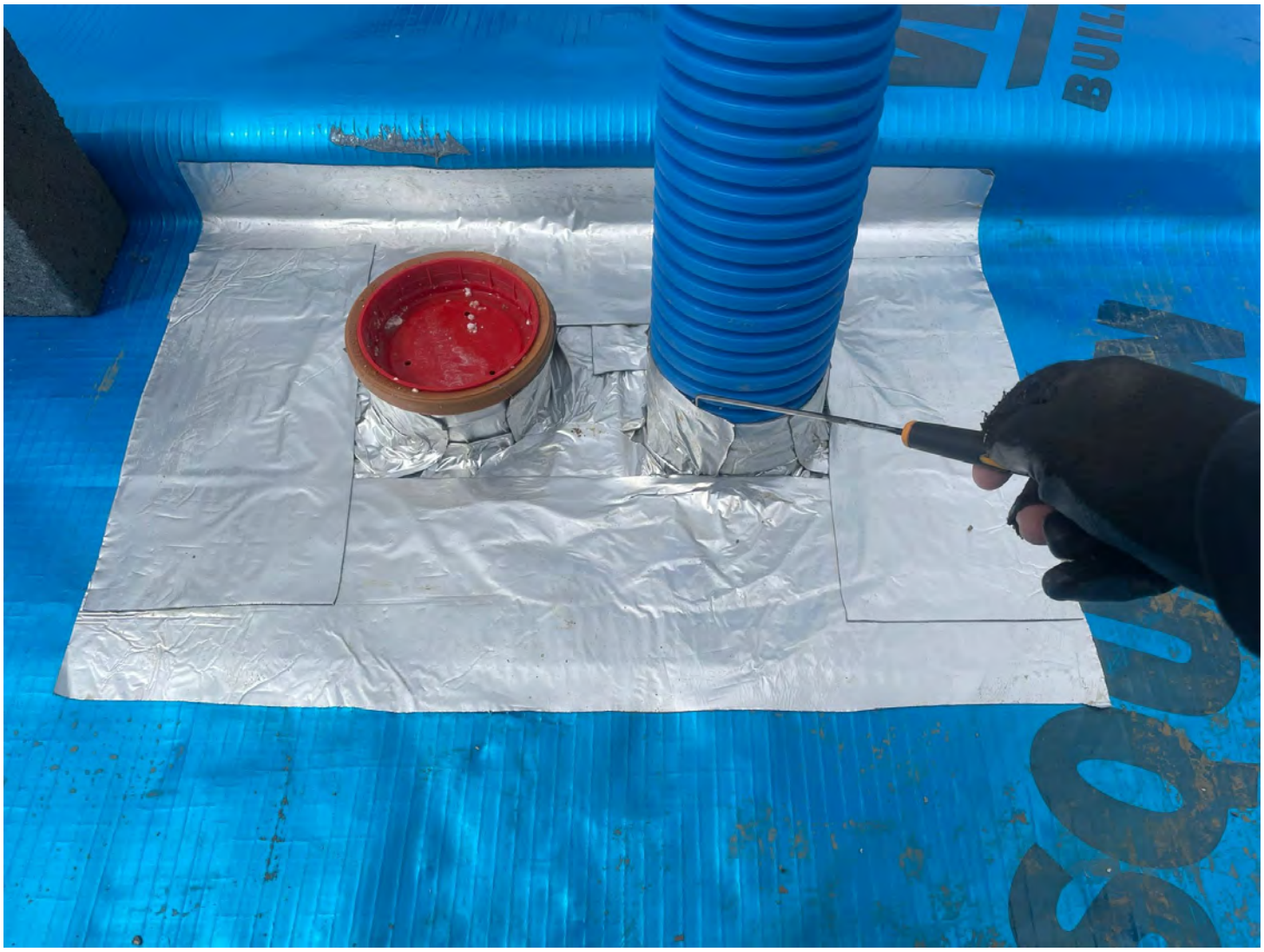
Throughout the complete line out installation of the Visqueen Standard Gas Barrier to the referenced plots, there were a number of pipe penetrations that have been sealed in accordance with manufacturer's specifications and design guidelines. This has been achieved using Visqueen GRSAM, which is a self

NOTES:

adhesive membrane. The installers have first cut the Visqueen Standard Gas Barrier tight around the base of each pipe penetration to minimise voided areas. Next, patches of Visqueen GRSAM are placed intricately in a top hat formation around the pipe penetration and onto the Visqueen Standard Gas Barrier. Heat and

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VERIFICATION ITEM TWO



pressure is applied to activate the bitumen backing, creating a secure bond between the pipe penetration and the Visqueen Standard Gas Barrier. All pipe penetrations throughout the referenced plots were subjected to thorough mechanical point stress testing where a probe was run along all edges of the Visqueen GRSAM. No faults or defects were identified with the pipe penetrations during these testing procedures.

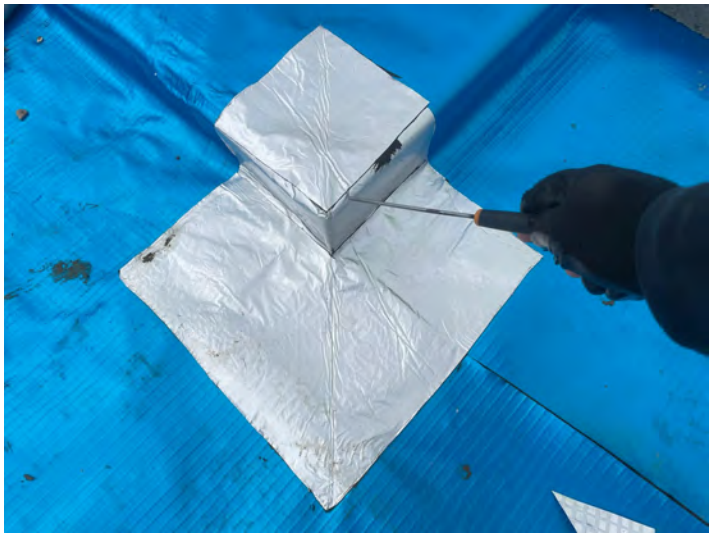
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VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 112, 116, 117 & 118 - Full Line Out

Corner & Threshold Detaililng





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.

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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



The Visqueen Standard Gas Barrier taken over the external cavity of the plots.



The hot air tool used on site to seal lap joints and detailing.



The installer sealing a corner detail.



A pick and probe test being conducted upon a welded lap joint.

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 pipe penetration.



Air lance test on a pipe penetration.



Air lance test on a corner detail.



Air lance test on a lap joint.

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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.	✔

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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	✔

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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		
Gridline/Plot Sign off		

GeoShield Verification Report

VERIFICATION SUMMARY

This was the 20th visit to the site where verification was required for the complete line out installation of the Visqueen Standard Gas Barrier to Plots 112, 116, 117 & 118.

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.
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. A total of four miswelded lap joints were identified, all of which were successfully remediated on site in the presence of GeoShield.
The installation has been conducted to a good NVQ standard and in accordance with manufacturer's specifications.
The installation has been carried out to a very good standard.

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

GEOSHIELD SIGNATURE:



DATE: 15-May-2024