

Our Ref: D3817/GVL  
Bellway Homes  
Bellway House  
Kingsway North  
Team Valley,  
Gateshead  
Tyne and Wear  
NE11 0JH

Date: 7<sup>th</sup> January 2016

**Bellway, Cleadon, South Shields**

**Cleadon Phase 10 – Gas Membrane Verification Report – Apartment Blocks**

Dear Emma,

At the request of Bellway Homes Dunelm attended site on 31<sup>st</sup> July 2015, 27<sup>th</sup> August and 28<sup>th</sup> August 2015 and inspected the installation of gas protection measures within the apartment blocks at the locations identified to Dunelm on site by a Bellway representative.

During the visit the installation of the gas membrane was witnessed and a photographic record of the works was taken.

Gas protection validation record sheets completed during the site visits are enclosed which provide details of the development and the gas protection measures installed.

A 1200g damp proof membrane was installed, with no breaks and all of the joints taped and sealed with a minimum 150mm overlap. For full details please refer to the enclosed Gas Protection Validation Record.

Selected photographs are enclosed.

The above confirms that the gas protection measures have been satisfactorily installed in line with current guidance.

We trust that the above is satisfactory to your present needs however, if we can be of further assistance please do not hesitate to get in touch.

Yours sincerely,

James Nairn  
On behalf of Dunelm Geotechnical and Environmental Ltd



## Gas Protection Validation Record

**One record sheet to be completed for each plot inspected by a SUITABLY QUALIFIED independent consultant/engineer**

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job number	D3817		design source/ref:			specification source/ref:			other documents attached	✓ / ✗
site name / location	London		building use:	residential <input checked="" type="checkbox"/>	commercial <input type="checkbox"/>	other (describe)				
plot number/s	Apartments		building description:	no. of storeys = 3		detached <input type="checkbox"/>	semi-detached <input type="checkbox"/>	terrace <input type="checkbox"/>	apartment block <input checked="" type="checkbox"/>	
compiled by:	JN		gas protection type:	active / passive		foundation type:	suspended floor / raft / other			

Ventilated sub-floor (if present)	inspection date/time:	inspected by:	photographed:	✓ / ✗
✓ / ✗	31/7/15	JN		<input checked="" type="checkbox"/>

void former type	✓	1.	Polystyrene
height of void space	<input checked="" type="checkbox"/>	2.	350mm
gravel type	<input checked="" type="checkbox"/>	3.	Polystyrene.
pipe size and spacing	<input checked="" type="checkbox"/>	4.	<del>As per Design Drawings.</del>
external wall airbricks	<input checked="" type="checkbox"/>	5.	As per Design Drawings.
internal sleeper walls	<input checked="" type="checkbox"/>	6.	AIR BRICKS PRESENT
external vent trenches / ducts	<input checked="" type="checkbox"/>	7.	N/A

Gas barrier	inspection date/time:	inspected by:	photographed:	✓ / ✗
✓ / ✗	31/7/15	JN		<input checked="" type="checkbox"/>

membrane type	<input checked="" type="checkbox"/>	8.	RHINOPLAST SUPPL.
extent of coverage	<input checked="" type="checkbox"/>	9.	COMPLETE OVER AREA.
underside of membrane	<input checked="" type="checkbox"/>	10.	N/A
slab/membrane condition	<input checked="" type="checkbox"/>	11.	ALL TAPPED/LAPPED + SEALED OVER CAVITY.
taps and joints	<input checked="" type="checkbox"/>	12.	ALL LAPPED/TAPPED + SEALED IN GOOD CONDITION. NO OBVIOUS FAULTS.

## Gas Protection Validation Record

damp-proof course	<input checked="" type="checkbox"/>	13. TO GO ABOVE MEMBRANE.
service entries and seals	<input checked="" type="checkbox"/>	14. ALL TAPED/LAPPED/SEALED.
cavity inspection	<input checked="" type="checkbox"/>	15. CAVITY BRIDGED BY MEMBRANE.

### Guide notes:

1	void former type	proprietary type - manufacturer and specification, in accordance with design?, installed properly without damage?
2	height of void space	height of proprietary former or constructed ventilation space below suspended floor - note any debris on void / obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), any evidence of flooding
3	gravel type	gravel type, if used (limestone / granite etc.) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging / contamination by clay, organic matter, other debris. Take photographs of stockpile close up shot of stone with tape measure. Alternatively check details on delivery tickets for stone. Take photographs of adjacent plots if at this stage of construction. Check depth of stone conforms to at least 300mm if visible.
4	pipe size and spacing	diameter in mm, material type (e.g. PVC), slotted or perforated; positioning and spacing / separation and joining as on design drawing - if not sketch arrangement - do pipes connect with external (telescopic / swan-neck) vents? Take photographs of vents on external walls for each plot. (May be possible to photograph other plots on site which are at stage of installing vents. Will be useful for these plots later on).
5	external wall airbricks	check numbers, size and positions as design drawing (if not shown, make sketch; check for blockage, e.g. by mortar, or soil / pavings etc.
6	internal sleeper walls	check for ventilation holes - e.g. honeycombe brickwork or pipe crossings - note size, spacing and location - in accordance with design?
7	external vent trenches / ducts	check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines / contamination; if pipe or other vents - check positions and construction for functionality and absence of blockages - vents may be built over
8	membrane type	note manufacturer and product specification, including batch / roll numbers if present - in accordance with specification? Check stock storage arrangements - protected from dirt and damage?
9	extent of coverage	if membrane is incomplete, further inspection will be required - note areas completed / incomplete - is membrane fully visible or have internal walls been constructed over membrane / screed placed?
10	underside of membrane	Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50mm no fines concrete blinding layer or appropriate geo-textile (see also below)

## Gas Protection Validation Record


11	slab/membrane condition	record presence of debris / rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic / tools and equipment / materials, and temporary weighting down of membrane, e.g. use of boards - record evidence of footprints / tracks on membrane surface, creases or water/wind damage. Take photographs of each plot inspected.
12	laps and joints	check the all joints are lapped and sealed in accordance with manufacturer's requirements / specification, particularly where creases/folds are present (usually minimum 150mm laps with double-sided tape between sheets, and single-sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot.
13	damp-proof course	record DPC manufacturer and product code - usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC - note any potential stress points and tension between the two; check for damage to DPC
14	service entries and seals	note number, position and diameter of service entries - check top hat seal arrangements in accordance with design / specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150mm) check, with jubilee clips to secure top hat seal to pipe - note presence of clips and tightness of connections. Take photographs for all plots inspected.
15	cavity inspection	check gas membrane or gas resistant dpc is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant dpc or membrane across cavity to main membrane. Take photographs for all plots inspected.

**This plot has PASSED / FAILED\* inspection.**

(Any proposed remedial works will be noted in the 'Remarks' column on this form).

An addition inspection visit IS / IS NOT\* required for this plot.

Qualified Engineer: J MARRIN  
 (Print Name) .....

Signed:  .....

\* Delete as appropriate

## Gas Protection Validation Record

**One record sheet to be completed for each plot inspected by a SUITABLY QUALIFIED independent consultant/engineer**

job number	D3817		design source/ref:			other documents attached	✓ / ✗ <input type="checkbox"/>
site name / location	Cleddon		building use:	residential <input checked="" type="checkbox"/>	commercial <input type="checkbox"/>	other (describe)	
plot number/s	Apartments		building description:	no. of storeys =	3	detached <input type="checkbox"/>	semi-detached <input type="checkbox"/>
completed by:	JN		gas protection type:	active <input type="checkbox"/> (passive)		foundation type:	suspended floor / raft / other <input checked="" type="checkbox"/>

Ventilated sub-floor (if present)	✓ / ✗	inspection date/time:	27/8/15 + 31/7/15		inspected by:	JN	photographed:	✓ / ✗ <input checked="" type="checkbox"/>
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void former type	✓	Notes/recommendations (see guide below)
height of void space	✓	1. POLYSTYRENE
gravel type	✗	2. 350mm
pipe size and spacing	✗	3. POLYSTYRENE
external wall airbricks	✓	4. N/A
internal sleeper walls	✓	5. AS PER DESIGN DRAWINGS.
external vent trenches / ducts	✗	6. AIR BRICKS PRESENT.
	✗	7. N/A

Gas barrier	✓ / ✗	inspection date/time:	28/8/15	inspected by:	JN	photographed:	✓ / ✗ <input checked="" type="checkbox"/>
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membrane type	✓	Notes/recommendations
extent of coverage	✓	8. RHINOPLAST SUPER
underside of membrane	✗	9. COMPLETE
slab/membrane condition	✓	10. N/A
laps and joints	✓	11. GOOD, ALL TAPED/LAPPED + SEALED, OVER CAVITY.
	✓	12. ALL TAPED + SEALED IN SOUND CONDITION. NO OBVIOUS FAULTS *

\* NOTE - WINDY AT TIME OF INSPECTION - ITEMS USED TO WEIGH MEMBRANE DOWN -

NO SHARP ITEMS USED FOR THIS.

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## Gas Protection Validation Record

damp-proof course	<input type="checkbox"/>	13. TO GO ABOVE MEMBRANE.
service entries and seals	<input checked="" type="checkbox"/>	14. ALL TAPED + LAPPED - ADDITIONAL TAPE USED TO PROVIDE PROTECTION.
cavity inspection	<input type="checkbox"/>	15. CAVITY BUILT BY GAS MEMBRANE - WINDY AT TIME OF INSPECTION - MEMBRANE TUCKED INTO CAVITY - REQUESTED IT WAS PULLED OUT FOR PHOTOGRAPHS.

### Guide notes:

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15	cavity inspection	check gas membrane or gas resistant dpc is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant dpc or membrane across cavity to main membrane. Take photographs for all plots inspected.

This plot has PASSED / ~~FAILED~~\* inspection.

(Any proposed remedial works will be noted in the 'Remarks' column on this form).

An addition inspection visit ~~IS~~ IS NOT\* required for this plot.

Qualified Engineer: JAMES NARRN  
 (Print Name)

Signed: 

\* Delete as appropriate





Photograph 1: Looking north at northeastern part of the apartment blocks



Photograph 2: Looking north west at the north western wing of the apartment blocks.


 <p>TEL: 0191 378 3151 FAX: 0191 378 3157</p>	<b>Contract:</b> Cleadon Park		<b>Contract No:</b> D3817
	<b>Client:</b> Bellway Homes NE Ltd		
	<b>Site Photographs</b>	<b>Date:</b> January 2016	<b>Sheet 1 of 6</b>



Photograph 3: Looking east at the eastern wing of the apartments.



Photograph 4: Looking west along the central area of the apartment blocks.


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Photograph 5: Characteristic air brick with membrane pulled back from cavity.



Photograph 6: View south of the central part of the apartments.


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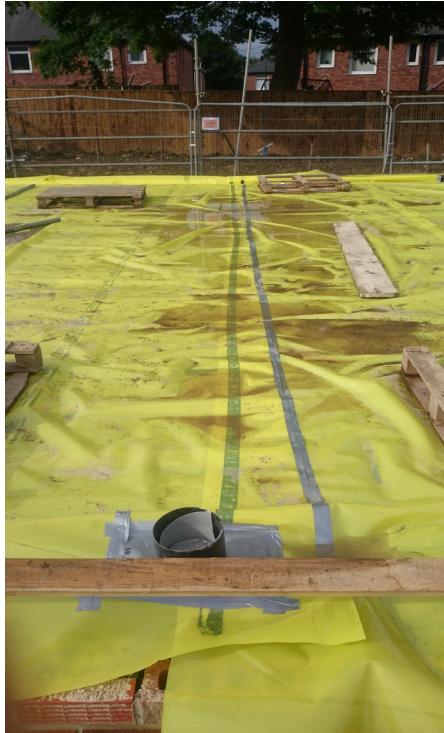


Photograph 8: Central area of apartment blocks.



Photograph 9: View south of the eastern part of the northern apartment block.


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Photograph 8: View south of the southern apartments showing the taped and lapped membrane.

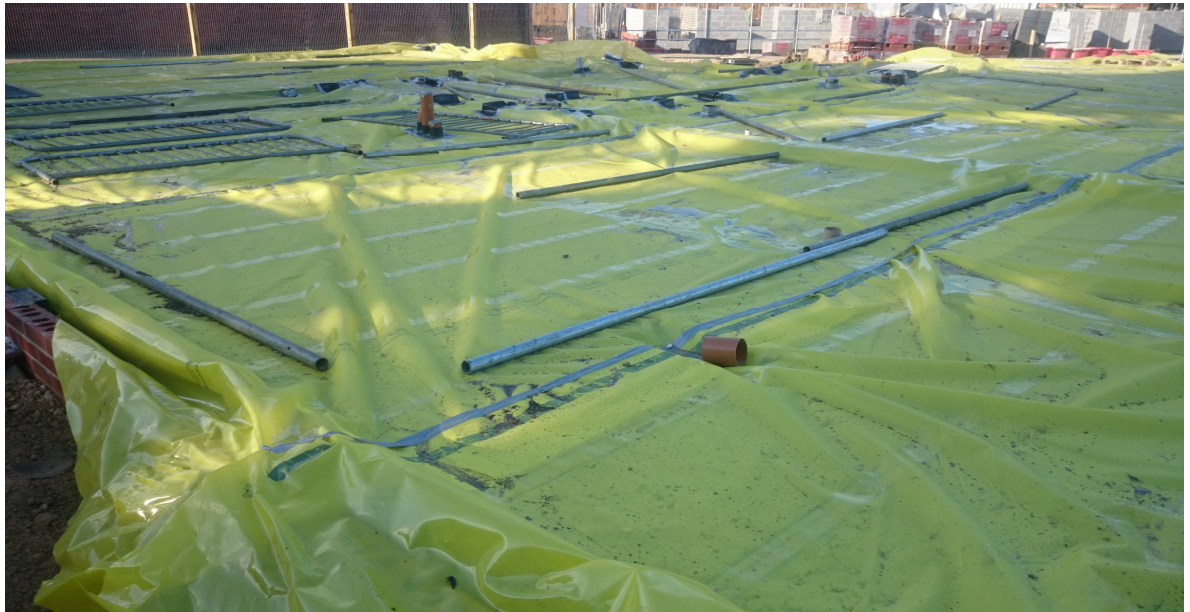


Photograph 9: South eastern area of apartment block.


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	<b>Client:</b> Bellway Homes NE Ltd	
	<b>Site Photographs</b>	<b>Date:</b> January 2016



Photograph 8: Looking west along the central part of the apartment block.



Photograph 9: Looking south from the western part of the apartment block.

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