

Appendix 5 – Verification Proforma

Copied Directly From Appendix A5 CIRIA C735

Marlett, N, Cox (nee Taffin-Andunewa), L, Wilson, S, Curken, M (2014) Good practice on the testing and verification of protection systems for buildings against hazardous ground gases. CIRIA, C735, London (ISBN: 978 0 86017 735 5). Go to: www.ciria.org

VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHapel WALK		Gas characteristic situation: low risk CS1 to CS2
Job number:		Type of development and building (block checked: residential/ commercial/ other): RESIDENTIAL
Date: 04/08/21		Building description: PLOT 1
Visit by: MARK GUNCE		Foundation type: (suspended floor, raft, other): INSULATED BLOCK & BEAM.
Weather at time of inspection: DBT - CLOUDY		Gas protection type: passive/active: PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub grade and underside of gas membrane	CONCRETE BEAM WITH INSULATION BETWEEN AND ABOVE (70mm)
1.2	Gas membrane type	VISQUEEN
1.3	Gas membrane condition	GOOD CONDITION. - LAYED NEATLY
1.4	Joining tape product	VISQUEEN
1.5	Lapping design	200mm LAP DOUBLE TAPED.
1.6	Leak, welds and joints seals	DOUBLE SIDED TAPE BETWEEN SHEETS & FOIL TAPED TO ROCK.
1.7	Service entries seals	W/ MAT FITTED WITH MEMBRANE TAPED TO THE TOP.
2 Passive venting		
2.1	Sub floor void	200mm CLEAR
2.2	External wall airbricks	✓
2.3	Internal sleeper walls	SOLID BRICK WALL - CROSS VENTED WHERE REQUIRED.
2.4	External vent trenches/ducts	NATURAL BY THERMOPIE BRICK VENT
3 Active venting		
3.1	System details	NATURAL - 50mm VENTS AT ROOF } 40mm VENTS AT BASE } GOOD.
Additional notes:		

Notes: inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces. It appropriately clean and that there are no hard/sharp objects. That protective sand blinding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/lot numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken membrane? Protection plan in place to restrict access to lean gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of jubilee clip?
2.1	Sub-floor void	Is a check possible? Void former? Gravel type/specification? Height of void space? Is it clear?
2.2	External wall sitbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings?) - size, spacing, location in accordance with design?
2.4	External vent trenches/ducts	Located and constructed in accordance with design drawings? If open-topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlet? Provision of air-cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under-floor void?

Photographs

No.	Description

The gas protection measures inspected:	a All 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: **Mark Cope**Signature: **Mark Cope**Date: **04/08/21**

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Mallett, H. Cox (nee Taffel-Andersson), L. Wilson, S. Corbin, M (2014) Good practice on the testing and verification of protection systems for buildings against hazardous ground gases, CIRIA, C735, London (ISBN: 978-0-86117-735-5). Go to: www.ciria.org

VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHURCH WALK		Gas characteristic situation: LOW RISK C51 TO C52
Job number:		Type of development and building (block checked: residential/ commercial/other): RESIDENTIAL
Date: 26/07/2021		Building description: Plot 2
Visit by: TOM CANN		Foundation type: (suspended floor/raft/other): INSULATED BLOCK + BEAM
Weather at time of inspection: DRY		Gas protection type: passive/active: PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	Concrete Block + Beam with foam styrene infill. Concrete walls topped with SMD sludge
1.2	Gas membrane type	VISQUEEN
1.3	Gas membrane condition	GOOD CONDITION - Laid TODAY.
1.4	Joining tape product	VISQUEEN
1.5	Lapping design	200mm min lap - DOUBLE SIDED TAPE TO LAP - SEAL TAPE TO EDGE
1.6	Seals, welds and joints seals	DOUBLE SIDED TAPE AT TOP - SEAL TAPE AT EDGE AT TOP
1.7	Service entries seals	TOP WAS FITTED WITH TIGHT GASKET CLIP + TAPED TO TOP EDGE
2 Passive venting		
2.1	Sub-floor void	200mm CLEAR
2.2	External wall airbricks	
2.3	Internal sleeper walls	Solid Support wall - VENTED EACH SIDE WITH AIRS
2.4	External vent branches/ducts	NATURAL BY TELESCOPIC BRICK VENT
3 Active venting		
3.1	System details	NATURAL - 2ND VENTS AT FRONT 2ND VENTS AT REAR
Additional notes:		

Notes: inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand (padding or geotextile (if specified)) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gaugs, colour, brand/name, material batch/lot numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as ravel or sunken indentations? Protection plan in place to restrict access to tan gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of airtiles clips?
2.1	Sub-floor void	Is it check possible? Void former? Gravel (type/specification)? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings)? - size, spacing, location in accordance with design?
2.4	External vent trunks/ducts	Located and constructed in accordance with design drawings? If open-topped gravel - gravel type, presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of filters? Provision of air-cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in whole floor void?

Photographs

No.	Description

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: **Tom Calk**Signature: Date: **26/7/2021**

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VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CYNTEL WALK		Gas interference situation: LOW RISK CS1 TO CS2
Job number: —		Type of development and building/block checked (residential/commercial/other): RESIDENTIAL
Date: 17/08/21		Building description: PLOT 3
Visit by: MARK COOPER		Foundation type: (suspended floor/slab/other): INSULATED BLOCK & BEAM
Weather at time of inspection: DRY CLOUDY		Gas protection type: passive/active: PASSIVE
No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CLEAN SMOOTH CONCRETE BEAM + INSULATION BLOCKS BETWEEN
1.2	Gas membrane type	VISQUEEN
1.3	Gas membrane condition	GOOD CONDITION - NO HOLES
1.4	Joining tape product	VISQUEEN SYSTEM
1.5	Lapping design	200MM + LAP DOUBLE TAPED
1.6	Laps, welds and joints seals	DOUBLE SLOD TAPED BETWEEN TOP JOINT FOR TAPED
1.7	Service entries seals	TG1 HAS FITTED & TAPED TO MEMBRANE
2 Passive venting		
2.1	Sub-floor void	200MM CLEAR
2.2	External wall airbricks	✓
2.3	Internal window wells	SOLID SHAPE WALL CROSS VENTED WHERE REQUIRED
2.4	External vent trenches/ducts	60° TOTAL. THREE SCORE WTS
3 Active venting		
3.1	System details	NATURAL VENTS 60° FITTED TO EXTERIOR WALLS
Additional notes:		

Notes: Inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand binding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/lot numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken indentations? Protection plan in place to restrict access to laid gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/ specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of airtight stops?
2.1	Sub-floor void	Is a check possible? Void former? Gravel (type/specification)? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings?) - size, spacing, location in accordance with design?
2.4	External vent trenches/ducts	Located and constructed in accordance with design drawings? If open topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, contained? Location/condition/number of fans and vents? Location and size of inlets? Provision of air-cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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: **Mark Gace**Signature: **[Signature]**Date: **17/08/21**

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VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHapel WALK		Gas characteristics/ situation: Low Risk C51 to C52
Job number: —		Type of development and building block checked (residential/ commercial/other): RESIDENTIAL
Date: 17/08/21		Building description: Plot 4
Visit by: MARE COVE		Foundation type: (suspended floor/raft/other): INSULATED BLOCK & BEAM
Weather at time of inspection: DM CLOUDY.		Gas protection type: passive/active: PASSIVE
No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CLEAN SMOOTH CONCRETE BEAM + INSULATION BLOCKS
1.2	Gas membrane type	VISQUEEN
1.3	Gas membrane condition	GOOD CONDITION - NO ROOM
1.4	Joining tape product	VISQUEEN SYSTEM
1.5	Lapping design	200MM LAP DOUBLE TAPE
1.6	Laps, welds and joints seals	DOUBLE STAPLED TAPE BETWEEN DPM & TO WALL FULL TAPE
1.7	Service entries seals	1st FATS FITTED & DOUBLE TAPE TO DPM.
2 Passive venting		
2.1	Sub-floor void	200MM CLEAR.
2.2	External wall airbricks	✓
2.3	Internal sleeper walls	SOLID GREASE WASH CROSS VENTED WHERE REQUIRED
2.4	External vent trenches/ducts	60° TELESCOPIC VENTS
3 Active venting		
3.1	System details	NATURAL VENTS 60° FITTED TO ELEVATIONS
Additional notes:		

Notes: inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand bedding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken, indentations? Protection plan in place to restrict access to test gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints taped and sealed in accordance with manufacturer's requirements/ specification? Maximum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Tap hole seal arrangements fixed around service entries? Use of Autolan strips?
2.1	Sub-floor void	Is a check possible? Void format? Gravel type/specification? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings?) - size, spacing, location in accordance with design?
2.4	External vent branches/bells	Located and constructed in accordance with design drawings? If open-topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void formed to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply, mechanical, natural, controlled? Location, condition, number of fans and vents? Location and size of inlets? Provision of air-cleaning devices and air filters? Supply and exhaust ductwork? Alarm provision/monitoring? Gas monitoring system in under floor void?

Photographs

No.	Description

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: Mark CookSignature: Mark CookDate: 17/08/21

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VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPPEL WALK		Gas characteristic situation: Low risk CS1 to CS2
Job number: -		Type of development and building block checked (residential/commercial/other): RESIDENTIAL
Date: 17/08/21		Building description: Floor 5
Visit by: MARK COSE		Foundation type (suspended floor/slab/other): Insulated Block & Beam
Weather at time of inspection: DRY CLOUDY		Gas protection type: passive/active: PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	Clear smooth concrete beam + Insulated Blocks
1.2	Gas membrane type	VISQUEEN
1.3	Gas membrane condition	GOOD CONDITION - LAYED TO PLAN
1.4	Joining tape product	VISQUEEN SYSTEM
1.5	Lapping design	200mm LAP DOUBLE TAPED.
1.6	Laps, welds and joints seals	DOUBLE SIDED TAPE BETWEEN OPM & TOP FACE FOR TAPES.
1.7	Service entries seals	TOP HATS FITTED & DOUBLE TAPED.
2 Passive venting		
2.1	Sub-floor void	200mm CLEAR
2.2	External wall airbricks	✓
2.3	Internal sleeper walls	SOLID BRICK WALL CROSSING VOID WHERE REQUIRED
2.4	External vent branches/ducts	6th FLOOR SCOPE.
3 Active venting		
3.1	System details	NATURAL VENTS 6th FLOOR TO TERRACE
Additional notes:		

Notes: inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand blinding or protective (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken indentations? Protection plan in place to restrict access to lean gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/ specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of jubilee clips?
2.1	Sub floor void	Is a check possible? Void former? Gravel type/specification? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings?) - size, spacing, location in accordance with design?
2.4	External vent trenches/ducts	Located and constructed in accordance with design drawings? If open-topped gravel - gravel type/absence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
2.5	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air-cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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: *Mike Auld*Signature: *[Signature]*Date: *17/08/21*

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VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPEL WALK		Gas characteristic situation: Low Risk CS1 & CS2
Job number: —		Type of development and building/Block checked: (residential/ commercial/other) Residential
Date: 10/09/21		Building description: Plot 6
Visit by: MARK COVE		Foundation type: (suspended floor/slab/other) Insulating Block & Beam
Weather at time of inspection: 041/09/21 PM		Gas protection type: (passive/active) Passive

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CLEAN 75 mm POLYSTYRENE
1.2	Gas membrane type	VISQUEEN
1.3	Gas membrane condition	GOOD CONDITION LAP & JOINT
1.4	Joining tape product	VISQUEEN TAPE SYSTEM.
1.5	Lapping design	200 LAP DOUBLE TAPED.
1.6	Laps, welds and joints sound	DOUBLE TAPED BARRELS DFM & JOINTS ALL PASS
1.7	Service entries sealed	TOP HATS FITTED TIGHT.
2 Passive venting		
2.1	Sub-floor void	200mm CLEAR
2.2	External wall airbricks	✓
2.3	Internal sleeper voids	SOLID SLEEPER WITH CROSS WITHIN 100mm
2.4	External vent trenches/drafts	6 NO THERMOSTATIC BRICK VENTS
3 Active venting		
3.1	System details	NATURAL VENTS 6 NO FITTED & ELEVATIONS.
Additional notes:		

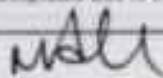
Notes: Inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sward bedding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken indentations? Protection plan in place to restrict access to laid gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of jubilee clips?
2.1	Sub-floor void	Is a check possible? Void former? Gravel type/specification? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeyscomb) brickwork/pipe crossings? – size, spacing, location in accordance with design?
2.4	External vent trenches/ducts	Located and constructed in accordance with design drawings? If open topped gravel – gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air-cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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: **Mark Cavan**Signature: Date: **10/09/21**

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VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPEL WALK		Gas characteristics situation: Low Risk
Job number: —		Type of development and building/stock check (residential/ commercial/other): RESIDENTIAL
Date: 10/09/21		Building description: Flat 7
Visit for: MARK CONDE		Foundation type: (suspended floor/raft/other): Insulating Block & Beam
Weather at time of inspection: DR AM IN SHADE		Gas protection type: (passive/active): PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	clean 75mm Polystyrene.
1.2	Gas membrane type	Visqueen
1.3	Gas membrane condition	Good - no discernible
1.4	Joining tape product	Visqueen TAPE SYSTEM
1.5	Lapping design	200mm LAP DOUBLE MATS
1.6	Laps, welds and joints seals	DOUBLE TAPED BETWEEN DPM & TOP FACE 6mm TAPED
1.7	Service entries seals	TAP MATS LAPPED TO ALL
2 Passive venting		
2.1	Sub-floor void	200mm void
2.2	External wall structure	✓
2.3	Internal sleeper walls	Solid brick wall with glass unit under floor slab.
2.4	External vent trenches/ducts	6mm Thermoseal vents
3 Active venting		
3.1	System details	NATURAL VENT 6mm FITTED TO EXTERIORS
Additional notes:		

Notes: inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard, sharp objects. That protective sand bedding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?).
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as ravel or surface indentations? Protection plan in place to restrict access to laid gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap assured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hole seal arrangements fixed around service entries? Use of jubilee clips?
2.1	Sub-floor void	Is a check possible? Void former? Gravel (type/specification)? Height of void specified? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/type crossings?) - size, spacing, location in accordance with design?
2.4	External vent branches/ducts	Located and constructed in accordance with design drawings? If open-topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand loading of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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. x.x
	c. Are not acceptable due to the issues related to item no. x.x

Name: Mark CaineSignature: [Signature]Date: 10/09/21

Appendix 5 – Verification Proforma

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Mallett, H, Cox (Jirek Taffel-Andrusiew, L, Wilson, S, Corbett, M (2014) Good practice on the setting and verification of protection systems for buildings against hazardous ground gases, CIRIA, C735, London (ISBN: 978 0 85217 735 5). Go to: www.ciria.org

VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPEL WALK		Gas characteristic situation: LOW RISK C61 TO C52
Job number: —		Type of development and building (block checked: residential/ commercial/ other): RESIDENTIAL
Date: 26/10/21		Building description: PLOT 8
Visit by: MARK COUPE		Foundation type (suspended floor/raft/other): INSULATED BLOCK & BEAM
Weather at time of inspection: DRY		Gas protection type: passive/active: PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CLEAN INSULATED BLOCK/BEAM.
1.2	Gas membrane type	VISQUEEN
1.3	Gas membrane condition	GOOD LAY & INSULATED SAME DAY
1.4	Joining tape product	VISQUEEN TAPE SYSTEM
1.5	Lapping design	200mm + LAP & DOUBLE TAPE
1.6	Laps, welds and joints seals	DOUBLE TAPES BETWEEN DPM & TOP FACE FILL TAPE.
1.7	Service entries seals	161 HAS BEEN FITTED.
2 Passive venting		
2.1	Sub-floor void	200mm CLEAR
2.2	External wall airbricks	✓
2.3	Internal stairer walls	SOLID BRICK WORK, CLOSE VENTED WHERE REQUIRED.
2.4	External vent tranches/ducts	6m TOTAL VENTS (TELESCOPIC)
3 Active venting		
3.1	System details	NATURAL VENTS 6m FITTED
Additional notes:		

Notes: Inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand (blinding or gersette) (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken indentations? Protection plan in place to restrict access to join gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of jubilee clips?
2.1	Sub-floor void	Is a check possible? Void former? Gravel (type/specification)? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork, pipe crossings)? - size, spacing, location in accordance with design?
2.4	External vent tranches/ducts	Located and constructed in accordance with design drawings? If open topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air-cleaning devices and air filters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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: Mark CaineSignature: Mark CaineDate: 26/10/21

Appendix 5 – Verification Proforma

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Mallett, H, Cox (nee Telford-Andersen), L, Wilson, S, Corbett, M (2014) Good practice on the testing and verification of protection systems for buildings against hazardous ground gases, CIRIA, C735. London (ISBN: 978-0-86017-729-5). Go to: www.ciria.org

VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPEL WALK		Gas characteristic situation: CS1 TO CS2
Job number:		Type of development and building/stock checked (residential, commercial, other):
Date: 29/06/21		Building description: PLOT 53
Visit by: MARK COOPER		Foundation type: (suspended floor/raft, etc): INSULATED BRAM CON.
Weather at time of inspection: OVERCAST.		Gas protection type: passive/active: PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CONCRETE BRAM WITH POLYSTYRENE BLOCK INFILL. CONCRETE DRAIN ON WALL WITH SAND BENCHES
1.2	Gas membrane type	VISQUEAN
1.3	Gas membrane condition	GOOD CONDITION - LAID TODAY
1.4	Joining tape product	VISQUEAN
1.5	Lapping design	200mm MIN LAP - DOUBLE SIDE TAPE TO LAP - TAPE TAPE TO ROCK AT TOP
1.6	Laps, welds and joints seals	DOUBLE STRIPS AT LAP - TAPE TAPE TO ROCK AT TOP.
1.7	Service entries seals	TOP HAT FITTED & MEMBRANE TAPPED TO TOP HAT.
2 Passive venting		
2.1	Sub-floor void	200mm CLEAR SPACE
2.2	External wall airbricks	5 NO VENT BRICKS.
2.3	Internal sleeper walls	300mm SLEEPER WALLS. VENTS EACH SIDE WITH CAPS.
2.4	External vent trenches/ducts	NATURAL VENTING BY TERRACE VENTS.
3 Active venting		
3.1	System details	NATURAL 3rd FLOOR AT HOUSE 2nd FLOOR OF HOUSE.
Additional notes:		

Notes: Inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand bedding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/lot numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken indentations? Protection plan in place to restrict access to laid gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of subles clip?
2.1	Sub-floor void	Is a check possible? Void former? Gravel (type/specification)? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe coverings?) - size, spacing, location in accordance with design?
2.4	External vent trenches/ducts	Located and constructed in accordance with design drawings? If open-topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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: MARK SEWELL

Signature: 

Date: 29/06/21.

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Mallett, H, Cox (Jee Taffer-Andrusel), L, Wilson, S, Curben, M (2014) Good practice on the testing and verification of protection systems for buildings against hazardous ground gases, CIRIA, C735, London (ISBN: 978-0-85017-719-5). Go to: www.ciria.org

VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPEL WALK		Gas characteristic situation: LOW RISK CS1 & CS2 -
Job number:		Type of development and building (block checked, residential, commercial, other): RESIDENTIAL - HOUSE
Date: 29/06/21		Building description: Plot 54
Visit by: MARK COOPE		Foundation type: (suspended floor/raft/other): INSULATED BEAM FLOOR
Weather at time of inspection: OVERCAST		Gas protection type: passive/active: PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CONCRETE BEAM WITH POLYSTYRENE BULK INSUL. CONCRETE INSUL TOPPED WITH SAND (BURNING)
1.2	Gas membrane type	VISOURMAN
1.3	Gas membrane condition	GOOD CONDITION - LAID TO PLAN
1.4	Joining tape product	VISOURMAN.
1.5	Lapping design	200MM MIN LAP - DOUBLE SIDED TAPE TO LAP - FILL TAPE 3 TO EDGE
1.6	Laps, welds and joints seals	DOUBLE SIDED AT LAP - FILL TAPE AT JOINT AT TOP
1.7	Service entries seals	T&P HAT FITTED & MEMBRANE TAPPED TO TOP ROCK
2 Passive venting		
2.1	Sub-floor void	200MM CLEAR
2.2	External wall airbricks	5th FLOOR BRICKS
2.3	Internal stairer walls	SOLID STAIRER WALL - VENTED EACH SIDE WITH CAPS
2.4	External vent trenches/ducts	NATURAL BY THE 5th FLOOR BRICK VENT
3 Active venting		
3.1	System details	NATURAL - 2nd VENTS AT ROOF 2nd VENTS AT BASE
Additional notes:		

Notes: Inspection checklist

1.1	Underside of gas membrane	Check that the sub-grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand blinding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as rised or sunken indentations? Protection plan in place to restrict access to tan gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of jubilee clips?
2.1	Sub-floor void	Is a check possible? Void former? Gravel (type/specification)? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings?) - size, spacing, location in accordance with design?
2.4	External vent branches/ducts	Located and constructed in accordance with design drawings? If open-topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand loading of the superstructure?
3.1	Active venting	Type of air scoop: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under-floor void?

Photographs

No.	Description

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: Nick CookSignature: Nick CookDate: 27/06/21

Appendix 5 –Verification Proforma

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Mallett, H, Cox (Hes Taffel-Andrusau), L, Wilson, S, Corban, M (2014) Good practice on the testing and verification of protection systems for buildings against hazardous ground gases, CIRIA, C735, London (ISBN: 978-0-86017-735-5). Go to: www.ciria.org

VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPPEL WALK		Gas characteristic situation: LOW RISK CS1 to CS2
Job number:		Type of development and building (check checked: residential/ commercial/ other): RESIDENTIAL / HOUSE
Date: 29/06/21		Building description: PLOT 55
Visit by: MARK COSE		Foundation type: (suspended floor/ other): INSULATED BEAM FLOOR
Weather at time of inspection: OVERCAST		Gas protection type: passive/ active: PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CONCRETE BEAM WITH POLYSTYRENE KEROSENE INSULATION
1.2	Gas membrane type	VISQUELON
1.3	Gas membrane condition	GOOD CONDITION - LAYED TODAY
1.4	Joining tape product	VISQUELON
1.5	Lapping design	200MM OVERLAP - DOUBLE SIDE TAPE TO LAP
1.6	Laps, welds and joints seals	COMBIBLADAP TAPE TO LAPS - SEAL TAPE TO TOP ROOF
1.7	Service entries seals	TOP HAT CUTTED & TAPED TO MEMBRANE
2 Passive venting		
2.1	Sub-floor void	200MM CLEAR
2.2	External wall airbricks	5 NO BRICK VENTS
2.3	Internal sleeper walls	SOLID SLAB WALL WITH CAPS
2.4	External vent trenches/ducts	5 NO - 3 NO FLEET 2 NO @ BASE
3 Active venting		
3.1	System details	NATURALLY VENTED
Additional notes:		

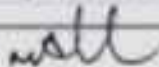
Notes: inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand blinding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken indentations? Protection plan in place to restrict access to tan gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of jubilee clips?
2.1	Sub-floor void	Is a check possible? Void former? Gravel (type/specification)? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings)? - size, spacing, location in accordance with design?
2.4	External vent troughs/ducts	Located and constructed in accordance with design drawings? If open topped gravel - gravel type/absence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air-cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/Installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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: **MARC CROWE**Signature: Date: **29/06/21**

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VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name: CHAPEL WALK	Gas characteristic situation: LOW RISK CS1 TO CS2
Job number:	Type of development and building block checked: (residential/ commercial/ other) RESIDENTIAL
Date: 02/07/21	Building description: PLOT 5B
Visit by: MARK COOPER	Foundation type: (suspended floor/ other) INSULATED BEAM FLOOR
Weather at time of inspection: BLEAKY / OVERCAST	Gas protection type: passive/ active PASSIVE

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	CONCRETE BEAM WITH POLYSTYRENE INSULATION CONCRETE INSULATION JOINTS - BLINDED WITH SAND OK
1.2	Gas membrane type	VISQUAREN
1.3	Gas membrane condition	GOOD CONDITION LAYED YESTERDAY 01/07/21 UFM STUCK TO SURFACE N° HOURS.
1.4	Joining tape product	VISQUAREN
1.5	Lapping design	200MM MIN LAP - DOUBLE SIDED TAPE TO JOINTS + FIL TAPE TO TOP & AROUND TOP HATS
1.6	Laps, welds and joints seals	DOUBLE TAPE TO LAPS - FULL TAPES TO TOP ROOF.
1.7	Service entries seals	TOP HATS FITTED & TAPES TO MEMBRANE.
2 Passive venting		
2.1	Sub-floor void	200mm CLEAR
2.2	External wall airbricks	12 th
2.3	Internal sleeper walls	BLOCK WALLS WITH VENTILATION CAPS
2.4	External vent trenches/ducts	12 th AIR BRICKS - 6 RAIN SIDE
3 Active venting		
3.1	System details	NATURALLY VENTED
Additional notes:		

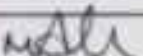
Notes: Inspection checklist

1.1	Understate of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand blinding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as ravel or sunken indentations? Protection plan in place to restrict access to test gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap measured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of jubilee clips?
2.1	Sub-floor void	Is a check possible? Void former? Gravel type/specification? Height of void space? Is it clear?
2.2	External wall airtricks	Numbers, size, position as design drawing?
2.3	Internal sleeper walls	Ventilation holes (holocomb brickwork/slate crossings)? - size, spacing, location in accordance with design?
2.4	External vent trenches/ducts	Located and constructed in accordance with design drawings? If open topped gravel - gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under floor void?

Photographs

No.	Description

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: **MARK CONR**Signature: Date: **02/07/24**