

GAS MEMBRANE VALIDATION – BELLE VUE

Project Name: Belle Bue Stadium
Project Number: 12-123
Client: Countryside Properties
Date: 01-03-2023
Project Manager; S. Ellis – FGS, CEnv
E3P Engineer & Qualifications: T.Newall
Gas Membrane Installers Chandos Civils
Ground Gas Risk Assessment: Amber 1 / Vapour Proof
Plots: 208-209

OVERVIEW

The membrane comprised a Visqueen HC BLOK (Gold) resistant to radon, carbon dioxide, vapours and low methane levels. E3P can confirm there were no holes or rips at the inspection time. Upon being laid, the membrane is to be covered with a Celotex (closed Cell) floor insulation material which is considered to provide a high degree of protection.

E3P inspected all external joints, and E3P can confirm that the membrane was overlapped and double-taped. The membrane was taped using double-sided jointing tape. All the overlaps were then additionally taped using foil-backed girth tape.

Each unit has a service duct located at the front and outer edge of the property. E3P inspected each one and can confirm that the top hats have been adequately sealed against the membrane.

Based on the information provided within this report, the site inspections and validation checklists, E3P can confirm that plots 208-209 have been installed with gas protection measures to an acceptable level of workmanship.

A list of plots requiring validation and their associated validation letters is presented in Table 1.



Geo-Environmental



Acoustics

Remediation and
Enabling Earthworks
Design

Arboriculture

Compliance
& Due Diligence

Ecology



Industrial Permitting



Geotechnical

MEMBRANE SPECIFICATION: VISQUEEN HC BLOK (GOLD)

Technical Datasheet - Product Overview



Technical support: +44 (0) 333 202 6800
Date Published: 05/06/2023

Visqueen Ultimate HC BLOK

Features and benefits

- Agreement certified - third party accreditation
- Complies with CIRIA C748:2014 - industry standard for volatile organic compounds (VOC) protection
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Flexible - easy to detail and install on site
- Multi functional - also acts as a radon and damp proof membrane
- Dual jointing methods - lap joints can be taped or heat welded

Product description

Visqueen Ultimate HC Blok is a 0.5mm thick, chemically resistant co-extruded volatile organic compound barrier and gas barrier. It is coloured gold on the upper surface and white on the reverse. The product is supplied in single wound rolls (not folded), 2.44m x 41m.

Approvals and standards

- Third party accreditation (BDA certificate BAF-18-051-P-A-UK)
- Complies with CIRIA C748:2014
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019
- Suitable for all Characteristic Gas Situation (CS) ground gas regimes
- Conforms to the specification requirements of NHBC Amber 1 and Amber 2 applications
- Conforms to the specification requirements of BR 211:2015
- CE Mark EN 13967:2012
- Quality Management System ISO 9001:2015
- Occupational Health and Safety System ISO 45001:2018
- Environmental Management System ISO 14001:2015

Usage

Visqueen Ultimate HC Blok is suitable for use in all types of buildings to prevent the ingress of harmful levels of volatile organic compounds (VOCs). The barrier can be positioned above or below a solid concrete ground floor slab or above a precast suspended segmental ground floor system, e.g. beam and block floor.

The barrier can also be used in all types of buildings to prevent the ingress of harmful levels of ground gases e.g. methane, carbon dioxide and radon. The barrier also acts as a damp proof membrane. In this application, the barrier can be positioned above or below a solid concrete ground floor slab or above a precast suspended segmental ground floor system, e.g. beam and block floor.

The product is not intended for use where there is a risk of hydrostatic pressure.

System components

- Visqueen Ultimate Double Sided Jointing Tape, 100mm x 15m
- Visqueen GR Lap Tape, 150mm x 10m
- Visqueen Ultimate Top Hat Units
- Visqueen Preformed Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m

Find your local stockist





• Visqueen Class B FR Vapour Check is a fire resistant AVCL (air and vapour control layer)

• Surpasses all national Building Regulations and Standards for air and vapour control layers

• Fire classification B - s1, d0

• Competitive, efficient and fully tested system (including tapes) for fire resistance



ANOTHER FIRE PROTECTION PRODUCT FROM VISQUEEN

To discover the Visqueen difference visit www.visqueen.com or call us on +44 (0) 333 202 6800



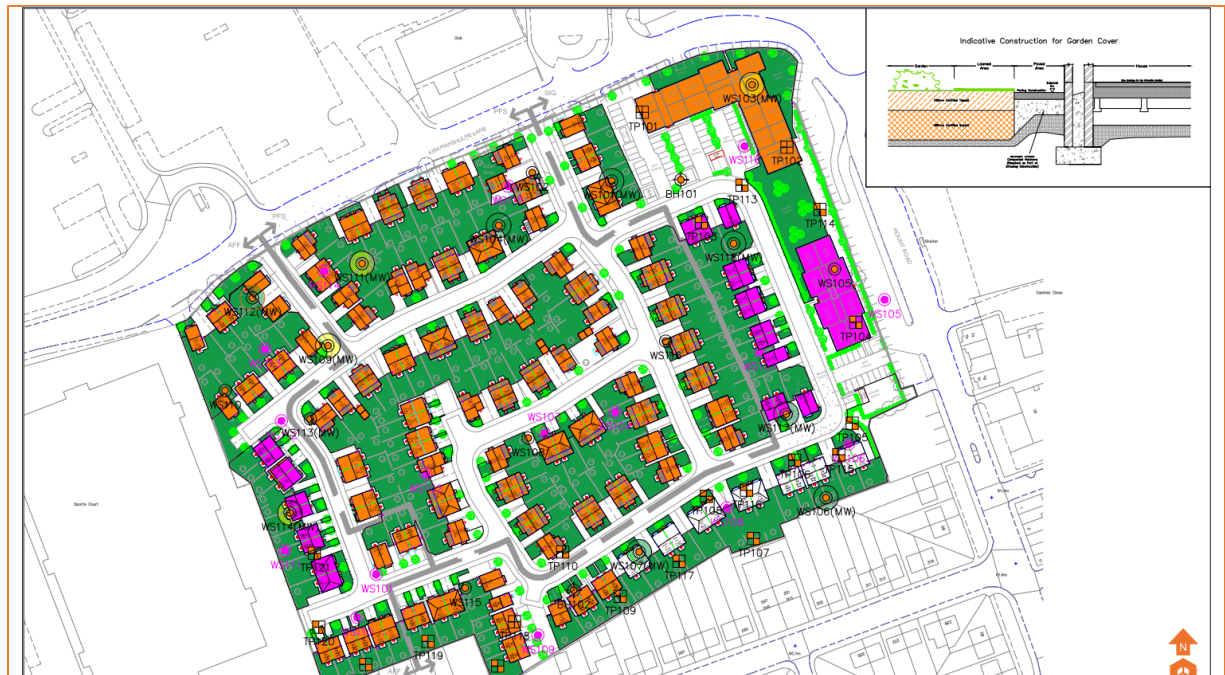
NEW
VISQUEEN CLASS B FR
VAPOUR CHECK

- Visqueen Class B FR Vapour Check is a fire resistant AVCL (air and vapour control layer)
- Surpasses all national Building Regulations and Standards for air and vapour control layers
- Fire classification B - s1, d0
- Competitive, efficient and fully tested system (including tapes) for fire resistance

NEW ANOTHER FIRE PROTECTION
PRODUCT FROM VISQUEEN

To discover the Visqueen difference visit
www.visqueen.com or call us on +44 (0) 333 202 6800

GAS MITIGATION MEASURES PLAN



The gas membrane validation photographs are enclosed within this letter. For information, Table 1 includes references and validation dates of previously validated plots.

TABLE 1 – VALIDATION LETTER REFERENCE

PLOT NUMBER	DATE	REPORT NUMBER
1	3 rd March 2022	V4
2	3 rd March 2022	V4
3	3 rd March 2022	V4
4	29 th March 2022	V5
5	29 th March 2022	V5
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7		
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86	27 th May 2022	V9
87	27 th May 2022	V9
88	27 th May 2022	V9
89	25 th May 2022	V8

90	25 th May 2022	V8
91	25 th May 2022	V8
92	8 th June 2022	V12
93	8 th June 2022	V12
94	28 th June 2022	V15
95	28 th June 2022	V15
96		
97		
98		
99	30 th May 2022	V10
100	31 st May 2022	V11
101	31 st May 2022	V11
102	15 th June 2022	V13
103	15 th June 2022	V13
104	22 nd June 2022	V14
105	22 nd June 2022	V14
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107		
108	4 th July 2022	V15
109	4 th July 2022	V15
110	19 th July 2022	V18
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125	8 th September 2022	V23
126	8 th September 2022	V23
127	8 th September 2022	V23
128	8 th September 2022	V23
129	8 th September 2022	V23
130	23 rd August 2022	V20
131	23 rd August 2022	V20
132	23 rd August 2022	V20
133	23 rd August 2022	V20
134	5 th September 2022	V21
135	15 th September 2022	V25

136	23 rd August 2022	V20
137	23 rd August 2022	V20
138	23 rd August 2022	V20
139	23 rd August 2022	V20
140	4 th August 2022	V19
141	15 th July 2022	V17
142	15 th July 2022	V17
143	11 th July 2022	V16
144	11 th July 2022	V16
145	11 th July 2022	V16
146	9 th May 2022	V6
147	9 th May 2022	V6
148	9 th May 2022	V6
149	9 th May 2022	V6
150	13 th May 2022	V7
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163	7 th February 2023	V40
164	7 th February 2023	V40
165	7 th February 2023	V40
166	7 th February 2023	V40
167	4 th November 2022	V31
168	24 th September 2022	V26
168	24 th September 2022	V26
169		
170	5 th October 2022	V27
171	21 st November 2022	V33
172	21 st November 2022	V33
173	23 rd November 2022	V34
174	12 th December 2022	V35
175	12 th December 2022	V35
176	15 th December 2022	V36
177	15 th December 2022	V36
178	4 th November 2022 10 th November 2022	V31 V32
179	4 th November 2022	V31
180	4 th November 2022	V31

181	27 th October 2022	V30
182	27 th October 2022	V30
183	27 th October 2022	V30
184	24 th October 2022	V29
185	24 th October 2022	V29
186	24 th October 2022	V29
187	24 th October 2022	V29
188		
189	21 st November 2022	V33
190	21 st November 2022	V33
191	1 st September 2022	V22
192	1 st September 2022	V22
193	1 st September 2022	V22
194	22 nd September 2022	V24
195	22 nd September 2022	V24
196	24 th September 2022	V26
197	24 th September 2022	V26
198	12 th October 2022	V28
199	12 th October 2022	V28
200	24 th October 2022	V29
201	24 th October 2022	V29
202	24 th October 2022	V29
203	24 th October 2022	V29

Belle Vue
Gas Validation
March 2023

204	23 rd February 2023	V40
205	23 rd February 2023	V40
206	23 rd February 2023	V40
207	23 rd February 2023	V40
208	1 st March 2023	V41
209	1 st March 2023	V41
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236	24 th Jan 2022	V1
237	24 th Jan 2022	V1
238	24 th Jan 2022	V1
239	24 th Jan 2022	V1
240		
241		
242	15 th February 2022	V3
243	15 th February 2022	V3
244		
245		
246	24 th January 2022	V2
247	24 th January 2022	V2
248		
249		

Belle Vue
Gas Validation
March 2023

250		
Apartment Block 1	15 th September 2022 5 th October 2022	V25 V27
Apartment Block 1 Stairwell	19 th January 2023 20 th January 2023	V38 V39
Apartment Block 2	23 rd August 2022	V20

GAS MEMBRANE VALIDATION

Complete

Site Name	Belle vue
Location	267 Stanley Grove Manchester England M18 7DP United Kingdom (53.460571810182905, - 2.184782374670097)
Project Manager	Stuart ellis
Project number	12123
Developer	Country side
Site representative Signature	1 Mar 2023 1:41 PM GMT
Conducted on	1 Mar 2023 1:33 PM GMT
Prepared by	Tobey Newall

Inspection Gas Membrane

Plot Inspection

Plot Inspection 1

Plot Number	208
Type of Development: Other add note	House
Foundation Type: Other add note	Suspended Floor
Gas Membrane Type: Manufacturer, gauge, and colour.	GOLD



Photo 1

Gas Membrane Condition: Open punctures, tears, rips, stretching, Presence of debris, Repairs, Signs of weakness such as raised or sunken indentations, Protection plan in place to restrict access to lain gas membrane? IF FAIL DESCRIPTION IN ACTIONS AND PHOTOS REQUIRED

Pass



Photo 2

Laps, welds, and joints seals: Joints lapped and sealed in accordance with manufacturer's requirements/ specification? Minimum overlap insured? Sections taped twice? Are welds complete? Appropriate joining/double-sided tape used, Folds running in line with joints? (no joints cutting across folds)

Pass



Photo 3

Service entries seals: Top hats seal arrangements fixed around service entries? Use of Jubilee clips?

Yes



Photo 4

Photo 5

Type of joints/ Lapping

Taped

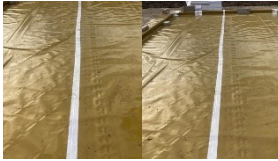


Photo 6

Photo 7

Corners / Internal joints: Check all corners are correctly formed or contractor has used performed corners.

Pass

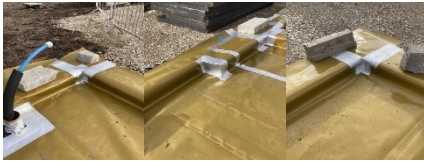


Photo 8

Photo 9

Photo 10

Extent of Coverage: Is the membrane covering the entire plot? Does membrane span over outside walls?

Yes



Photo 11

Condition of sub-grade and underside of gas membrane: Check that the subgrade 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.

Pass

Slab / membrane condition (is membrane clear of debris or insulation): Can membrane be fully seen and photographed – ask contractor to remove an debris so membrane can be fully seen an inspected – this is a requirement of NHBC and local authorities.

Pass



Photo 12

External Wall Air bricks: Numbers, size. positions as design drawing? (Minimum of 3 walls)

Pass



Photo 13



Photo 14

Plot Inspection 2

Plot Number 209

Type of Development: Other add note

House

Foundation Type: Other add note

Suspended Floor

Gas Membrane Type: Manufacturer, gauge, and colour.

GOLD



Photo 15

Gas Membrane Condition: Open punctures, tears, rips, stretching, Presence of debris, Repairs, Signs of weakness such as raised or sunken indentations, Protection plan in place to restrict access to lain gas membrane? IF FAIL DESCRIPTION IN ACTIONS AND PHOTOS REQUIRED

Pass

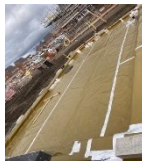


Photo 16

Laps, welds, and joints seals: Joints lapped and sealed in accordance with manufacturer's requirements/ specification? Minimum overlap insured? Sections taped twice? Are welds complete? Appropriate joining/double-sided tape used, Folds running in line with joints? (no joints cutting across folds)

Pass



Photo 17

Service entries seals: Top hats seal arrangements fixed around service entries? Use of Jubilee clips?

Yes

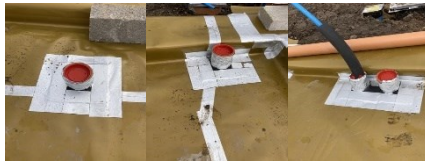


Photo 18

Photo 19

Photo 20

Type of joints/ Lapping

Taped



Photo 21

Photo 22

Corners / Internal joints: Check all corners are correctly formed or contractor has used performed corners.

Pass



Photo 23

Photo 24

Extent of Coverage: Is the membrane covering the entire plot? Does membrane span over outside walls?

Yes



Photo 25

Condition of sub-grade and underside of gas membrane: Check that the subgrade 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.

Pass

Slab / membrane condition (is membrane clear of debris or insulation): Can membrane be fully seen and photographed – ask contractor to remove an debris so membrane can be fully seen an inspected – this is a requirement of NHBC and local authorities.

Pass



Photo 26

External Wall Air bricks: Numbers, size. positions as design drawing? (Minimum of 3 walls)

Pass



Photo 27

Photo 28

Passive Venting

Sub-floor Void: Is a check possible on future plots (insert Plot number or NO in text box)

NO

Appendix



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21



Photo 22



Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28