

GAS MEMBRANE VALIDATION – BELLE VUE

Project Name: Belle Vue Stadium

Project Number: 12-123

Client: Countryside Properties

Date: 29-09-2023

Project Manager: S. Ellis – FGS, CEnv

E3P Engineer: J. James – GGS Training

Gas Membrane Installers : Chandos Civils

Ground Gas Risk Assessment: Amber 1

Plots: Apartment Block 2 – Plots 62-85 (Re-visit for Patio Doors)

OVERVIEW

A further inspection was required in the location of the proposed patio doors after the membrane had been damaged and subsequently repaired.

The membrane comprised the Visqueen Ultimate HC Blok (Gold) resistant to radon, carbon dioxide, methane and VOCs. E3P can confirm there were no holes or rips at the inspection time.

Based on the information provided within this report, the site inspections and validation checklists, E3P can confirm that the gas membrane has been repaired to the required standard.

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 GAS MEMBRANE (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

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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
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

PLOT NUMBER	DATE	REPORT NUMBER
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
106		
107		
108	4 th July 2022	V15
109	4 th July 2022	V15
110	19 th July 2022	V18
111		
112		
113		
114		
115		
116		

PLOT NUMBER	DATE	REPORT NUMBER
117		
118		
119		
120		
121		
122		
123		
124		
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

PLOT NUMBER	DATE	REPORT NUMBER
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
151	9 th May 2023	V43
152	9 th May 2023	V43
153	2 nd June 2023	V44
154	2 nd June 2023	V44
155	8 th June 2023	V46
156	8 th June 2023	V46
157		
158		
159	19 th July 2023	V48
160	19 th July 2023	V48
161	2 nd August 2023	V50
162	9 th August 2023	V51
163	7 th February 2023	V40
164	7 th February 2023	V40

PLOT NUMBER	DATE	REPORT NUMBER
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

PLOT NUMBER	DATE	REPORT NUMBER
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
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
210		
211		

PLOT NUMBER	DATE	REPORT NUMBER
212		
213		
214		
215	27 th September 2023	V56
216	27 th September 2023	V56
217	13 th September 2023	V55
218	13 th September 2023	V55
219	13 th September 2023	V55
220	27 th April 2023	V42
221	27 th April 2023	V42
222	27 th April 2023	V42
223	22 nd August 2023	V53
224	18 th August 2023	V52
225	9 th August 2023	V51
226	27 th July 2023	V49
227	27 th July 2023	V49
228	19 th July 2023	V48
229	19 th July 2023	V48
230	7 th July 2023	V47
231	7 th July 2023	V47
232		
233		
234	4 th September 2023	V54
235	4 th September 2023	V54

PLOT NUMBER	DATE	REPORT NUMBER
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	18 th May 2023	V44
241	18 th May 2023	V44
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		
250		
Apartment Block 1 (Plots 6-61)	15 th September 2022	V25
	5 th October 2022	V27
Apartment Block 1 Stairwell	19 th January 2023	V38
	20 th January 2023	V39
Apartment Block 2 (Plots 62-85)	23 rd August 2022	V20
	29 th September 2023	V57

GAS MEMBRANE VALIDATION

Complete

Site Name	Belle Vue
Location	Newton Heath Working Mens Club, 67 Old Church St Manchester England M40 2JN United Kingdom (53.50088178849465, - 2.1792570142866596)
Project Manager	Stuart Ellis
Project number	12123
Developer	Countryside
Site representative Signature	Graham 29 Sep 2023 10:29 AM BST Countryside
Conducted on	29 Sep 2023 9:34 AM BST
Prepared by	Jordan James

Inspection Gas Membrane

Plot Inspection

Plot Inspection 1

Plot Number Apartment block revisit

Type of Development: Other add note Apartment

Foundation Type: Other add note Suspended Floor

Gas Membrane Type: Manufacturer, gauge, and colour. Gold Visqueen

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

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

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

Type of joints/ Lapping Taped/Welded

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

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

2 different locations same block.

Membrane connected to existing membrane

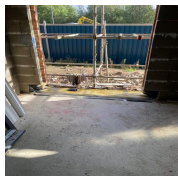


Photo 1

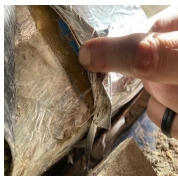


Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14

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 and inspected – this is a requirement of NHBC and local authorities.

Pass

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

Pass

Passive Venting

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

No

Media summary



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