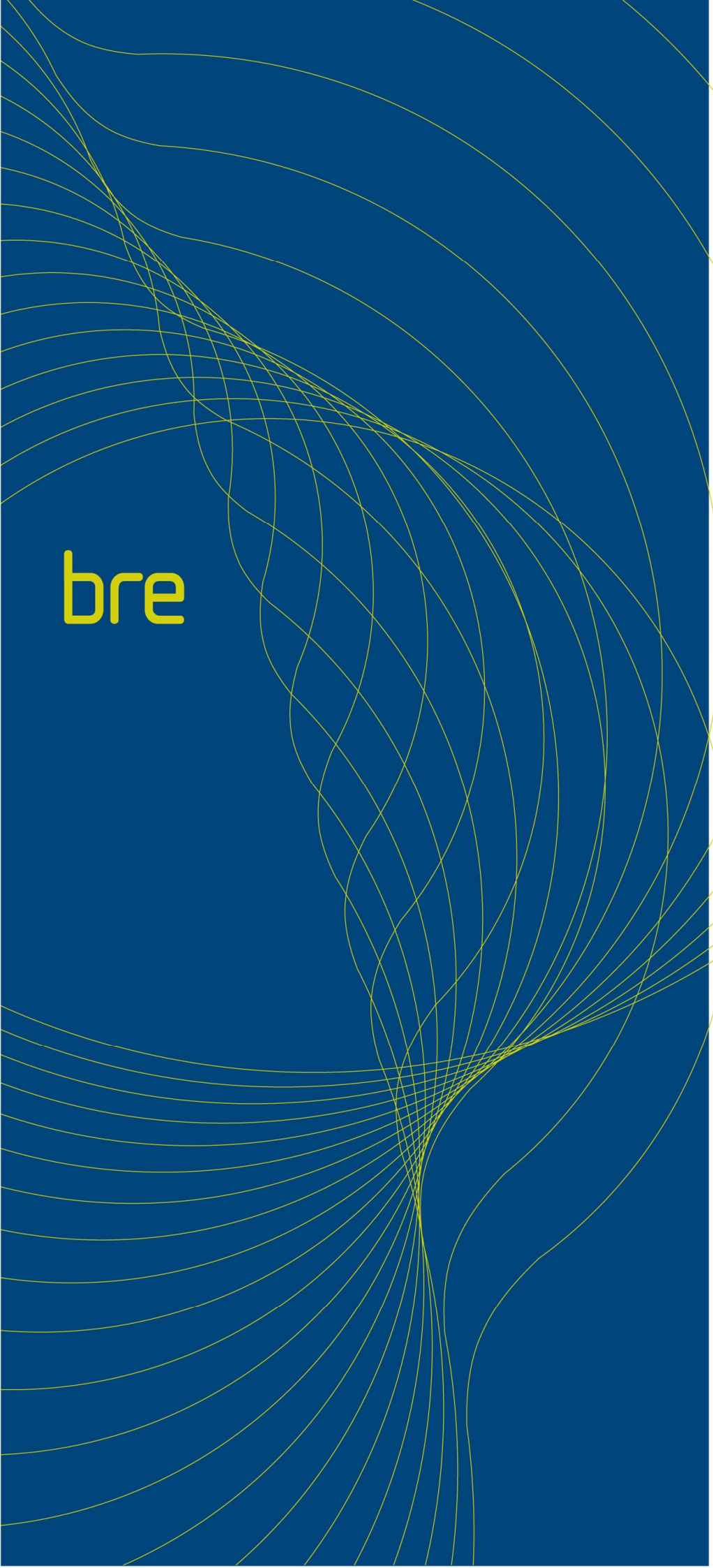


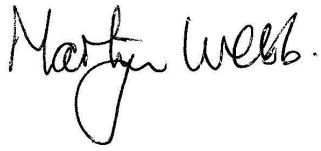
Carbon Dioxide Permeability Testing of TT Vapour Membrane

Prepared for:
Triton Systems
Units 3-5 Crayford Commercial Centre
Greyhound Way
Crayford
Kent
DA1 4HF

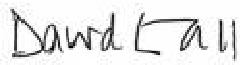
28 March 2014

Test report number 294853/R1

Prepared by

Name	Dr Martyn Webb
Position	Principal Consultant, Building Technology Group, BRE
Date	28/03/14
Signature	

Approved on behalf of BRE

Name	David Gall
Position	Associate Director, Building Technology Group, BRE
Date	28/03/14
Signature	

BRE
Watford
WD25 9XX
T + 44 (0) 1923 664000
F + 44 (0) 1923 664010
E enquiries@bre.co.uk
www.bre.co.uk

Contents

1 Introduction

At the request of Triton Systems, BRE have undertaken a carbon dioxide permeability test on the product described as TT Vapour Membrane.

Testing was carried out following the methodology described in BS EN 1062-6: 2002 – Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete, determination of carbon dioxide permeability. Test method A (gravimetric) was used for the test.

Circular unglazed ceramic tiles of known permeability and 3.75 mm in thickness were supplied to the client for application and subsequent initial curing of the test product. These were then returned to BRE for carbon dioxide permeability testing.

This report contains a factual report of the testing undertaken.

2 Details of tests carried out

The testing followed the methodology described in BS EN 1062-6: 2002, using test method A. This is a gravimetric method utilising a carbon dioxide absorbant in the test cups with the coated face of the test specimens exposed to the test gas – 10 % carbon dioxide in air. The carbon dioxide permeability is calculated from the increase of mass over time until a steady state is reached.

Test specimens were nominally 90 mm in diameter and the product thickness was measured as between 0.34 and 0.50 mm. Testing was carried out between December 2013 and February 2014.

3 Test results

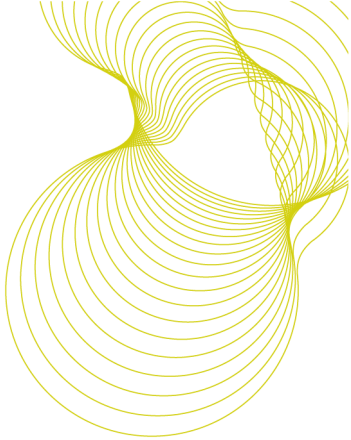
The test results are presented in Table 1 below:

BRE specimen number	291426/3	291426/4	291426/5	291426/6	**Mean**
Specimen thickness in mm:	0.34	0.50	0.48	0.49	0.45
Carbon dioxide permeability in $g/m^2/day$	0.60	0.58	0.56	0.57	0.58
Diffusion-equivalent air layer thickness (S_D) in m:	417	430	443	430	431
Diffusion resistance number (μ) x 10^6	1.23	0.86	0.92	0.89	0.97

Table 1. Summary of test results for TT Vapour Membrane

Specimen thickness (mm)	0.45
Carbon dioxide permeability ($g/m^2/day$)	0.58
Diffusion-equivalent air layer thickness (S_D) in metres	431
Diffusion resistance number (μ) x 10^6	0.97

In relation to carbon dioxide permeability, Table 5 of BS EN 1504-2: 2004 requires the S_D value to be > 50 metres. On the basis of this test result, the product TT Vapour Membrane satisfies this requirement.



4 References

BS EN 1062-6: 2002 – Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete; Determination of carbon dioxide permeability.

BS EN 1504-2: 2004 – Products and systems for the protection and repair of concrete structures; Definitions, requirements, quality control and evaluation of conformity — Part 2: Surface protection systems for concrete.

==========REPORT ENDS==========