www.bre.co.uk

BRE Global Test Report

EN ISO 1716 Gross heat of combustion (calorific value) test on Bebbington Colour Tint (Solid Black)

Prepared for: Bebbington Brick Services Limited

Date: 03 December 2019

Report Number: Q100985-1001 Issue 1

BRE Global Ltd
Watford, Herts
WD25 9XX

Customer Services 0333 321 8811

From outside the UK:
T + 44 (0) 1923 664000
F + 44 (0) 1923 664010
E enquiries@bre.co.uk
www.bre.co.uk

Prepared for:

Bebbington Brick Services Limited
Rock Farm, Bradley Lane,
Bradley in the Moor, Cheadle,
Staffordshire,
ST10 4DQ
United Kingdom

UKAS TESTING
0578

Prepared by

Name C A Rock

Position Senior Consultant

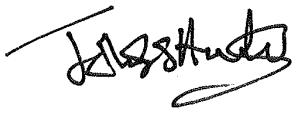
Signature 

Authorised by

Name J Hunter

Position Section Leader, Reaction to Fire

Date 03 December 2019

Signature 

bre

Table of Contents

1 Objective 3
2 Sample 3
2.1 Traceability 3
2.2 Description of sample and test format 3
3 Conditioning 4
4 Results 4
4.1 Tabulated data 4
4.2 Validation of test results 5
4.3 Observations 5
5 Conclusions 5
6 Validity 5
7 Reference 5

1 Objective

The requirement of the work was to assess the performance of the sample described in Section 2 of this report when subjected to the tests specified in EN ISO 1716[1].

2 Sample

2.1 Traceability

The test samples were supplied by the test sponsor. BRE Global were not involved in the sample selection process and therefore cannot comment upon the relationship between samples supplied for test and the product supplied to market. The liquid-applied sample was reduced to finely divided test specimen by a representative of BRE Global.

2.2 Description of sample and test format

Unless otherwise stated all measurements are nominal.

Parameter	**Details**
Test sponsor	Bebbington Brick Services Limited Rock Farm, Bradley Lane, Bradley in the Moor, Cheadle, Staffordshire, ST10 4DQ United Kingdom
Manufacturer of sample	Bebbington Brick Services Limited Rock Farm, Bradley Lane, Bradley in the Moor, Cheadle, Staffordshire, ST10 4DQ United Kingdom
Place of manufacture	Note 1
Trade name (as provided by test sponsor)	Bebbington Colour Tint (Solid Black)
Sample reference	BLK2010
Sample description (as provided by test sponsor)	Liquid applied tint containing water-based potassium silicate and mineral pigments
Description of sample (as received)	Black liquid contained in a 150 ml bottle. The dried and ground sample consisted of a black powder.
Test sponsor's product data	
Generic type of product	Colour tint
Nominal thickness (mm)	Not applicable
Nominal mass per unit area (kg/m²)	Note 1
Nominal density (kg/m³)	Note 1
Nominal application rate	8-10 m²/l

Parameter	Details
Application method	Brush
Colour	Black
Flame retardant treatment added or organic content limited during production	Note 1
European product standard, if applicable	Note 1
Test information	
Orientation aspects	Not applicable
Test sponsor's sampling identification	BLK2010
BRE Global sample number	E12280
Sample receipt date	13 September 2019
Date into conditioning	13 September 2019
Date of test	04 October 2019
Additional information	None

Note 1: This information was not supplied by the test sponsor.

3 Conditioning

The test specimens were conditioned as required by the test standard.

4 Results

4.1 Tabulated data

Table 1: Gross heat of combustion (Q_{PCS})

Method: Crucible Combustion aid: Paraffin oil Operator: C A Rock

Number of test runs: Three Mass ratio (sample: combustion aid): 1:1

Deviations: There were no deviations from the test standard

Parameter	Data			Calculated data
Run Number	1	2	3	
Calorimeter code	E12280-01	E12280-02	E12280-03	-
Q_{PCS}, MJ/kg	-0.1226	-0.1124	-0.1512	-
Data used to calculate Q_{PCS}, MJ/kg	-0.1226	-0.1124	-0.1512	-
Mean Q_{PCS} value, MJ/kg				**-0.1287**
Maximum Q_{PCS} value - minimum Q_{PCS} value of the 3 replicate tests, MJ/kg				**0.0388**
Maximum Q_{PCS} value - minimum Q_{PCS} value of the 3 replicate tests, expressed as a percentage of the mean Q_{PCS} value, %				**30.14**

bre

4.2 Validation of test results

To be validated, the test results shall comply with the criteria specified in Clause 11 of the standard. The following criteria apply.

Gross heat of combustion	Max-min of the 3 replicated tests	Range of validity
Q_{PCS} (MJ/kg)	≤ 0.2 MJ/kg	Up to 3.2 MJ/kg
	Within 5 %	From 3.2 MJ/kg to 20.0 MJ/kg
	Within 10 %	Greater than 20.0 MJ/kg
Q_{PCS} (MJ/m²)	≤ 0.1 MJ/m²	Up to 4.1 MJ/m²
	Within 5 %	From 4.1 MJ/m² to 20.0 MJ/m²
	Within 10 %	Greater than 20.0 MJ/m²

4.3 Observations

A dark solid residue was visible in the base of the crucible post-test.

5 Conclusions

A sample as described in this report, when tested in accordance with EN ISO 1716[1], achieved a gross heat of combustion (Q_{PCS}) of -0.13 MJ/kg.

EN ISO 1716[1] does not contain acceptance criteria and therefore this test report does not indicate a pass or fail of the product

6 Validity

The differences between the maximum and minimum Q_{PCS} values were within the range of validity specified in Clause 11 of the test standard.

These test results relate to the behaviour of the sample in the form in which it was tested; the results do not necessarily relate to products produced as a result of further processing or refinement of the sample under test.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

7 Reference

1. EN ISO 1716: 2018. Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value). CEN, Avenue Marnix 17, B-1000 Brussels. 2018.