

**bre**global

**BS EN ISO 1716: 2010 on  
the core of Enviroboards  
Fireboard**

Prepared for:

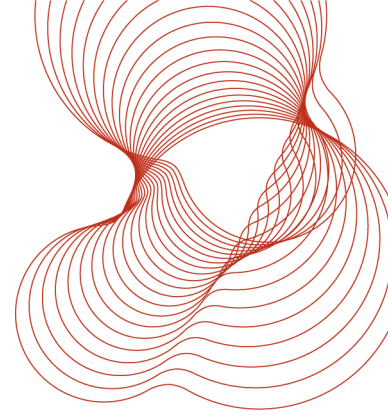
Enviroboards Limited  
New Lodge  
Conholt  
Hampshire Gate  
Andover  
Hampshire  
SP11 9HF, UK

26 September 2011

Test report number 274076



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**Prepared on behalf of BRE Global by**

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Position Senior Consultant

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**Approved on behalf of BRE Global by**

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Date 26/09/11

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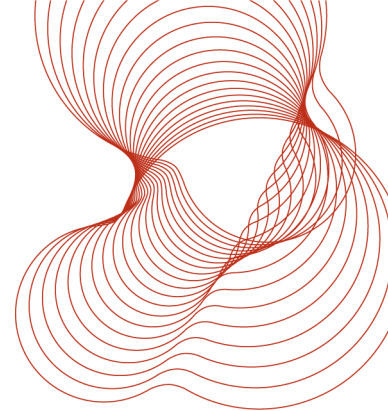
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## 1 Objective

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 BS EN ISO 1716: 2010<sup>1</sup>.

## 2 Sample

### 2.1 Traceability

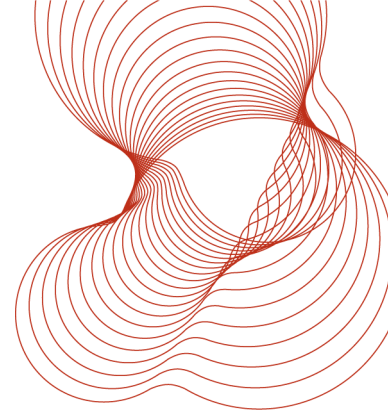
The test sample was supplied by the test sponsor. BRE Testing was not involved in the sampling process and therefore cannot comment upon the relationship between the samples supplied for test and the product supplied to market. BRE Global reduced the sample to a finely divided test specimen.

### 2.2 Sample details

Name and address of test sponsor	Enviroboards Limited, New Lodge, Conholt, Hampshire Gate, Andover, Hampshire, SP11 9HF, UK.
Name and address of manufacturer of product	As above.
Place of manufacture	China.
Description of specimens (as received)	An off-white powder contained within a plastic bag. A photograph of an EN ISO 1182 test specimen is shown in Figure A.1.
Description of specimens (Test sponsor's declaration)	Fireboard.
Product/component tested	Core of Enviroboards Fireboard.
Sponsor's specimen ID	Fireboard.
Type of product / component	Fire resistant board.
Nominal density	750 kg/m <sup>3</sup> .
Measured density	744.59 kg/m <sup>3</sup> . Reference: BRE Global report 273528.
Nominal thickness	12 mm.
Measured thickness	12.17 mm. Reference: BRE Global report 273528.
Colour	White.
<b>Traceability</b>	
Sample receipt date(s)	18 August 2011.
BRE Global sample number	E4065.
Sample test date(s)	22 September 2011 and 26 September 2011.

## 3 Conditioning

The sample was conditioned to constant mass in accordance with the test standard.



## 4 Test results

### 4.1 Tabulated data

Method: Crucible                      Combustion aid: Paraffin oil                      Number of test runs: Three

Mass ratio (sample: combustion aid): 1:1

Water equivalence value, E: 2403.824 Cal/K      Operator: C A Rock

Deviations: There were no deviations from the test standard

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

Run No.	Calorimeter code	$Q_{PCS}$ , MJ/kg	Data used to calculate $Q_{PCS}$ , MJ/kg
1	655	0.7373	0.7373
2	657	0.8087	0.8087
3	658	0.7780	0.7780
<b>Mean <math>Q_{PCS}</math> value</b>			<b>0.7747</b>
<b>Maximum <math>Q_{PCS}</math> value - minimum <math>Q_{PCS}</math> value of the 3 replicate tests, MJ/kg</b>			<b>0.0714</b>
<b>Maximum <math>Q_{PCS}</math> value - minimum <math>Q_{PCS}</math> value of the 3 replicate tests, %</b>			<b>9.22</b>

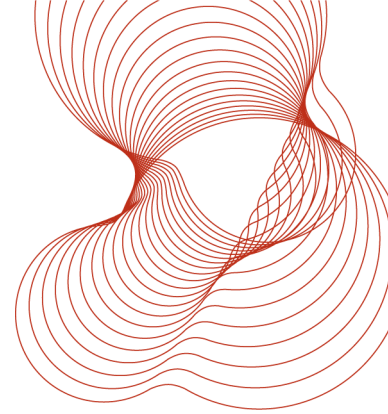
### 4.2 Validation of test results

To be validated, the test results shall comply with the criteria specified in Clause 11 of the standard. For a substantial/homogeneous component the following criteria apply.

Gross heat of combustion	Max-min of the 3 replicated tests	Range of validity
$Q_{PCS}$ (MJ/kg)	$\leq 0.2$ MJ/kg	From 0 MJ/kg 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/m <sup>2</sup> )	$\leq 0.1$ MJ/m <sup>2</sup>	From 0 MJ/m <sup>2</sup> to 4.1 MJ/m <sup>2</sup>
	Within 5 %	From 4.1 MJ/m <sup>2</sup> to 20.0 MJ/m <sup>2</sup>
	Within 10 %	Greater than 20.0 MJ/m <sup>2</sup>

### 4.3 Observations

The specimens fully combusted.



## 5 Conclusions

- The mean  $Q_{PCS}$  of the sample was 0.77 MJ/kg.
- The difference between the maximum and minimum measured  $Q_{PCS}$  values for the three replicate tests was 0.07 MJ/kg, this equated to 9.2 % of the mean  $Q_{PCS}$ .
- The difference between the maximum and minimum  $Q_{PCS}$  values met the criterion specified in Clause 11 of the test standard.

## 6 Validity

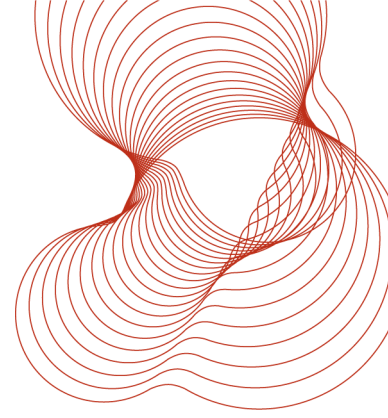
These test results relate to the behaviour of the sample in the form in which it was tested; the results do not necessarily relate to products produced as a result of further processing or refinement of the sample under test.

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.

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons, it is recommended that the relevance of test and classification reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test or classification to ensure that they are consistent with current practices, and if required may endorse the report.

## 7 Reference

1. BS EN ISO 1716: 2010. Reaction to fire tests for building products – Determination of the gross heat of combustion (calorific value) (ISO 1716:2010). BSI, 389 Chiswick High Road, London, W4 4AL. 2010.



## Appendix A

Figure A.1 Photograph of an EN ISO 1182 test specimen as received



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