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**BS 476: Part 3: 2004 test  
on NewTech Roofing  
Slates over Firefly  
Vulcan Membrane on an  
OSB deck**

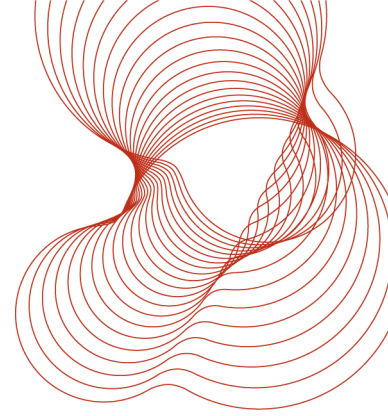
Prepared for:  
Ecodecking Systems Ltd  
Highgates  
Cambridge Mews  
Rylstone Road  
Eatbourne  
East Sussex  
BN22 7HN

24<sup>th</sup> February 2011

Test report number 268229



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**Prepared on behalf of BRE Global by**

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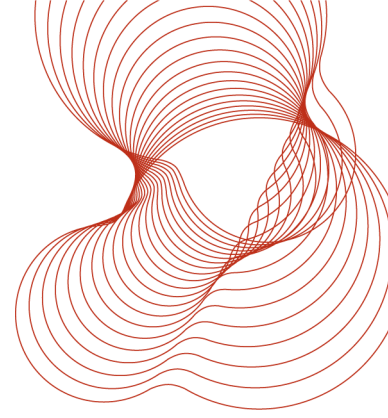
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## 1 Objective

To classify the sample specified in Section 2 according to its capacity to resist penetration by fire and its spread of flame characteristics, as shown by the external fire exposure roof test and criteria of BS 476: Part 3: 2004<sup>1</sup>.

## 2 Sample

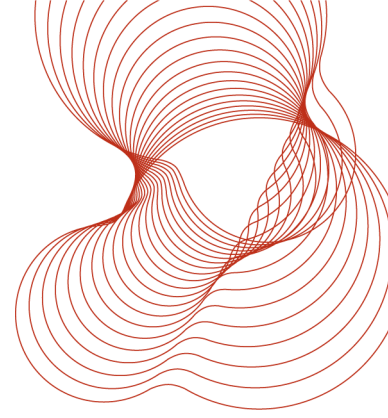
### 2.1 Traceability

The test samples were supplied by the client. 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.

### 2.2 Description of sample and test format.

Unless otherwise stated all measurements are nominal.

Test Sponsor	Ecodecking Systems Ltd Highgates, Cambridge Mews, Rylstone Road, Eatbourne, East Sussex, BN22 7HN
Specimens constructed by	As above
Sample name/reference	NewTech Roofing Slates over Firefly Vulcan Membrane on an OSB deck
Sample description (as provided by test sponsor/manufacturer)	NewTech Roofing Slates are a polymeric plastic based product manufactured using recycled plastics and fillers including UV stabilisers, fire retardants and pigments  Firefly Vulcan Cavity Barrier, 6mm thick, manufactured by TBA textiles Ltd.  11mm OSB deck
Description of sample (as received)	OSB, 10mm thick  Multi layer membrane, 6mm thick  Flexible roofing slates, reddish brown in colour. Each slate measured, 420mm x 300mm x 5-10mm thick with an exposed slate area of 170mm x 300mm  One specimen had a joint in the OSB and Firefly Vulcan layers. The membrane was wrapped around the edges of the OSB through the joint and fastened on the rear. The sections were held in place by battens on the rear.  The test specimen is shown on plates 1 and 2.
Sample receipt date	5 <sup>th</sup> January and 8 <sup>th</sup> February 2011



Test face	NewTech Roofing Slates
Test format	The test was carried out in the sloping position
Date of test	13 <sup>th</sup> January, 2 <sup>nd</sup> and 10 <sup>th</sup> February 2011

### 3 Conditioning

The specimens were conditioned as required by the standard.

### 4 Results

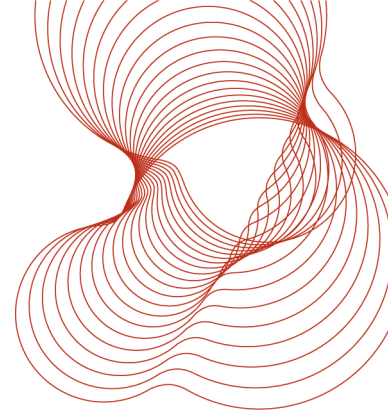
#### 4.1 Preliminary ignition test

Specimen reference	Joint	Flame spread mm	Flame duration min:s	Penetration min:s
E3396/1	NewTechSlates	0	0:27	None

#### 4.2 Spread of flame test

Specimen reference	Joint	Flame spread mm	Flame duration min:s
E3396/3	NewTechSlates	0	5:28
E3396/7	NewTechSlates	0	4:46
E3396/2	NewTechSlates	0	5:03

The mean flame spread was 0mm



#### 4.3 Penetration test

Specimen reference	Joint	Penetration min:s	Observations
E3396/6	NewTechSlates	None	Flaming to end of test From 29 minutes – sections of slates falling to floor and continuing to flame
E3396/5	NewTechSlates	None	Flaming to end of test 47 minutes – section of slates falling to floor,
E3396/4	NewTechSlates Firefly Barrier OSB	None	Flaming ceased 24 minutes 44 minutes – section of slates falling to floor,

4.4 No dripping of material occurred from the underside of any specimen tested, nor was any mechanical failure, or development of holes, observed.

## 5 Designation of specimens

5.1 The designation of specimens subject to conditions of external fire shall be according to both the time of penetration and the distance of spread of flame along their external surface.

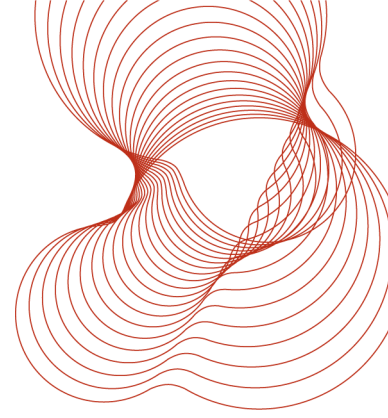
5.2 Each category designation shall consist of two letters, e.g. AA, AC, BB, these being determined as follows:

#### First letters:

- A. Those specimens which have not been penetrated within 1 hour.
- B. Those specimens which are penetrated in not less than ½ hour.
- C. Those specimens which are penetrated in less than ½ hour.
- D. Those specimens which are penetrated in the preliminary flame ignition test.

#### Second letters:

- A. Those specimens on which there is no spread of flame.
- B. Those specimens on which there is not more than 533mm spread of flame.
- C. Those specimens on which there is more than 533mm spread of flame.
- D. Those specimens which continue to burn for 5 minutes after the withdrawal of the test flame or spread more than 381mm across the region of burning in the preliminary test.



- 5.3 Attention shall be drawn to dripping from the underside of the specimen, any mechanical failures, and any development of holes, by adding a suffix 'X' to the designation to denote that one or more of these took place during the test.
- 5.4 When it is required to indicate test results obtained on the sample by designation, the following method shall be used:

The designation letter for penetration shall be given followed by that for spread of flame and preceded by the letters EXT.F. or EXT.S. according to whether the flat or inclined test has been made and when necessary the suffix 'X' shall be added. Thus, for example:

EXT.F.AA;      EXT.F.ACX;  
EXT.S.BA;      EXT.S.CCX.

## 6 Conclusion

A sample as described in this report, when tested in accordance with BS 476 : Part 3 : 2004<sup>1</sup>, achieved the designation of EXT.S.AA.

## 7 Validity

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 reports over 5 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 to ensure that they are consistent with current practices, and if required may endorse the test report.

## 8 Reference

- 1 Fire tests on building materials and structures. Part 3. Classification and method of test for external fire exposure to roofs. British Standard 476 : Part 3 : 2004. British Standards Institution, London, 2004.

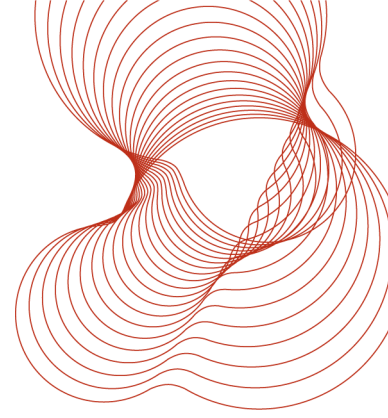


Plate 1 - Face of specimen



Plate 2 – Edge of specimen

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