

## BRE Global Test Report

**BS 476-6: 1989 + A1: 2009 Fire propagation test on K-FINISH RAL 7035 applied to a steel substrate**

**Prepared for:** L'Isolante K-Flex Srl

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Prepared for:  
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Via Leonardo da Vinci, 36  
20040 RONCELLO (mi)  
Italy





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## 1 Objective

To determine the fire propagation index of the sample specified in Section 2 using the test method specified in British Standard 476-6: 1989 + A1: 2009<sup>1</sup>.

## 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 the 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  | L'Isolante K-Flex Srl<br>Via Leonardo da Vinci, 36<br>20040 RONCELLO (mi)<br>Italy  |
| Manufacturer of sample  | As above  |
| Sample name/reference   | K-FINISH RAL 7035 applied to a steel substrate.   |
| Sample description (as provided by test sponsor/manufacturer) | Colour:- Grey RAL 7035<br>Product- Acrylic paint<br>Adhesive used- applied directly to the steel substrate<br>Application method- brush<br>Application rate- not given. |
| Description of sample (as received)                           | Grey coated metal sheet.  |
| Mean sample weight per unit area (kg/m <sup>2</sup> )         | 7.9   |
| Sample thickness (mm)   | 1.03  |
| Sample receipt date   | 22 <sup>nd</sup> October 2009   |
| Test face   | Grey coated face.   |
| Date of test  | 11 <sup>th</sup> November 2009  |



### 3 Conditioning

The specimens were conditioned as required by the standard.

### 4 Results

#### 4.1 Temperature measurement

Table 1 shows the Temperature rise for calibration sheet and specimens

Table 2 shows the Index of performance for each specimen

**Table 1 – temperature rise**

| Time<br>t<br>min | Temperature rise - °C |           |       |       |
|------------------|-----------------------|-----------|-------|-------|
|                  | Calibration<br>sheet  | Specimens |       |       |
|                  |                       | a         | b     | c     |
| 0.5              | 14.5                  | 17.0      | 18.5  | 18.5  |
| 1                | 19.9                  | 21.9      | 24.3  | 23.4  |
| 1.5              | 24.0                  | 27.1      | 30.6  | 27.4  |
| 2                | 27.7                  | 31.2      | 36.6  | 31.7  |
| 2.5              | 31.2                  | 35.5      | 42.1  | 36.1  |
| 3                | 34.2                  | 39.9      | 46.6  | 39.5  |
| 4                | 58.9                  | 63.7      | 71.5  | 64.1  |
| 5                | 89.1                  | 91.4      | 100.2 | 92.1  |
| 6                | 111.4                 | 113.8     | 118.7 | 115.5 |
| 7                | 131.1                 | 132.2     | 138.4 | 133.9 |
| 8                | 147.1                 | 147.0     | 160.5 | 148.7 |
| 9                | 163.1                 | 164.2     | 167.9 | 166.0 |
| 10               | 176.7                 | 177.8     | 185.2 | 178.3 |
| 12               | 197.6                 | 197.5     | 203.6 | 196.7 |
| 14               | 211.1                 | 209.8     | 215.9 | 210.3 |
| 16               | 222.2                 | 220.8     | 225.8 | 220.1 |
| 18               | 228.3                 | 227.0     | 234.4 | 227.5 |
| 20               | 234.5                 | 231.9     | 239.3 | 232.4 |

t - time in minutes from the time at which the gas jets were ignited.  
a, b and c - represent individual specimens giving valid test results.

**Table 2 Index of performance**

| Specimen | S   | s <sub>1</sub> | s <sub>2</sub> | s <sub>3</sub> |
|----------|-----|----------------|----------------|----------------|
| a        | 1.6 | 1.4            | 0.2            | 0              |
| b        | 4.3 | 3.0            | 1.1            | 0.2            |
| c        | 2.4 | 2.0            | 0.4            | 0              |

## 4.2 Observations

No intumescence or deformation of any specimen occurred that affected the required gas input.

No melting or slumping occurred that prevented the material from being exposed to the heating conditions.

Air flow through the apparatus was not restricted by fallen material or by soot accumulation in the chimney.

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## 5 Conclusions

A sample as described in this report, when tested in accordance with BS 476-6: 1989 + A1: 2009, achieved:

fire propagation index  $I = 2.8$   
 sub-indices  $i_1 = 2.1$   
 $i_2 = 0.6$   
 $i_3 = 0.1$

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## 6 Validity

This report is a reissue of report 257802 and dated 13 November 2009. The product has not been retested and this report does not involve technical change to the original report.

The report has been reviewed and reissued in accordance with Fire Test Study Group resolution 72(2)<sup>2</sup>

The test standard, BS 476: Part 6: 1989 + A1: 2009<sup>1</sup> remains current.

The manufacturer has made a declaration, which is held on file, that the product placed in the marketplace, named in section 2.2 of this report, are exactly the same as the product that was tested.

The test results relate only to behaviour of the test specimens of the product under the particular conditions of test, they are not intended to be the sole criteria 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 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.



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## 7 Reference

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- 1 British Standard 476: Part 6: 1989 + A1: 2009 Fire tests on building materials and structures. Part 6. Fire propagation test for products. British Standards Institution, London 2009.
- 2 FTSG Resolutions 12/02/13