

## BRE Global Test Report

**BS 476-6: 1989 + A1: 2009 Fire propagation test on K-Flex ST, 40mm**

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

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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](mailto:enquiries@bre.co.uk)  
[www.bre.co.uk](http://www.bre.co.uk)

Prepared for:  
L'Isolante K-Flex Srl  
Via Leonardo da Vinci, 36  
20040 RONCELLO (MI)  
Italy





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## Prepared by

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Name S M Warbus

Position Senior Consultant

Signature

A handwritten signature in black ink, appearing to read 'S M Warbus'.

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## Authorised by

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Name R Jones

Position Associate Director

Date 16 May 2016

Signature

A handwritten signature in blue ink, appearing to read 'Richard Jones'.

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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: Part 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 Via Leonardo da Vinci, 36 20040 RONCELLO (MI) Italy
Manufacturer of sample	As above
Sample name/reference	K-Flex ST,
Sample description (as provided by test sponsor/manufacturer)	K-Flex ST closed cell elastomeric, nitrile rubber based foam with inorganic fillers 40mm thick, density 50-60 kg/m <sup>2</sup>  Adhered to steel substrate, 1mm thick, using Loctite Super Glue - Cyanoacrylate
Description of sample (as received)	Black sponge foam adhered to metal sheet
Mean weight per unit area (kg/m <sup>2</sup> )	10.83
Mean thickness (mm)	43.3
Sample receipt date	10 <sup>th</sup> November 2010
Test face	K-Flex ST,
Date of test	17 <sup>th</sup> November 2010



### 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 t min	Temperature rise - °C			
	Calibration sheet	Specimens		
		a	b	c
0.5	13.1	17.6	16.8	17.2
1	18.4	25.5	24.1	24.9
1.5	22.7	33.1	30.7	32.9
2	27.1	38.5	35.6	40.2
2.5	30.1	44.4	41.3	45.5
3	32.8	49.1	46.8	49.5
4	55.1	79.4	73.1	76.8
5	85.1	131.2	121.3	116.7
6	111.9	162.0	165.6	147.5
7	135.3	186.6	193.9	179.5
8	155.0	207.6	213.6	196.7
9	168.5	218.6	224.6	209.0
10	182.1	224.8	238.2	216.4
12	201.8	229.7	251.6	232.4
14	212.8	233.4	261.4	237.3
16	221.5	233.4	261.4	237.3
18	227.6	234.6	260.2	236.1
20	233.7	235.8	259.0	236.1

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	9.2	4.0	4.7	0.5
b	9.3	3.2	4.8	1.3
c	8.3	4.0	3.7	0.6

## 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: Part 6: 1989 + A1: 2009, achieved:

fire propagation index  $I = 8.9$   
 sub-indices  $i_1 = 3.7$   
 $i_2 = 4.4$   
 $i_3 = 0.8$

BS 476: Part 6: 1989 + A1: 2009 does not contain acceptance criteria and therefore this test report does not indicate a pass or fail of the product.

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## 6 Validity

This report is a reissue of report 267161 and dated 09 December 2010. 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<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 Resolutions12/02/13. Fire Test Study Group (UK).