

BRE Global Test Report

BS 476-6: 1989 + A1: 2009 Fire propagation test on K-Flex ST, 9mm

Prepared for: L'Isolante K-Flex S.p.A.

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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: 2009¹.

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 S.p.A. Via Leonardo Da Vinci, 36 20877 RONCELLO (MB) Italy
Manufacturer of sample	As above
Sample name/reference	K-Flex ST, 9mm
Sample description (as provided by test sponsor/manufacturer)	A thermal insulation foam product adhered to a steel substrate. Elastomeric Foam Insulation (prEN 14303-basis) Nitrile Rubber Thickness 9mm Density between 45 and 75 kg/m ³ Colour black
Description of sample (as received)	Flexible black foam adhered to metal sheet
Mean weight per unit area (kg/m ²)	8.15
Mean thickness (mm)	11 mm total, steel substrate 0.9 mm
Sample receipt date	25 June 2015
Test face	Foam face
Test format	No air gap
Date of test	09 July 2015



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	13.2	23.6	25.4	21.9
1	16.5	30.1	30.6	29.7
1.5	20.5	33.3	32.9	34.1
2	23.7	37.5	36.1	37.6
2.5	27.0	40.7	38.2	39.0
3	30.7	38.8	38.4	42.0
4	61.4	74.1	71.9	68.6
5	92.8	117.5	119.8	113.2
6	117.3	140.9	144.6	143.3
7	133.9	162.0	163.7	163.2
8	153.1	178.7	182.5	182.0
9	167.7	194.7	199.4	199.3
10	181.0	209.3	214.1	212.5
12	201.3	232.3	235.5	230.6
14	214.5	247.4	246.9	243.5
16	225.9	255.6	254.4	252.6
18	234.6	259.5	261.3	254.4
20	240.0	260.1	263.6	253.6

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 ₁	s ₂	s ₃
a	9.2	5.8	2.5	0.9
b	9.7	6.0	2.7	1.0
c	8.8	5.5	2.5	0.8

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.

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 =	9.3
sub-indices	i ₁ =	5.8
	i ₂ =	2.6
	i ₃ =	0.9

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.

6 Validity

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.

7 Reference

- 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.