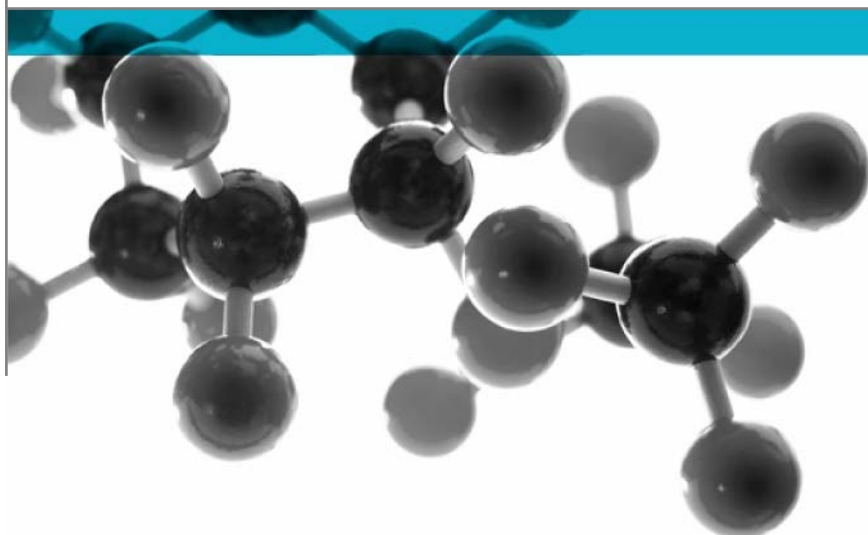


BS 476: Part 6: 1989+A1:2009



Method Of Test For Fire Propagation For Products

A Report To: Pristine Specialist Ceilings Ltd

Document Reference: 429840

Date: 1st July 2020

Issue No.: 1

Page 1



Executive Summary

Objective To determine the performance of the following product when tested in accordance with BS 476: Part 6: 1989+A1: 2009.

Generic Description	Product reference	Thickness	Weight per unit area or density
Airtight coating for blockwalls	"Elite Airtight"	50.25mm* (thickness tested)	77.34kg/m ² * (thickness tested)
Individual components used to manufacture composite:			
Water based coating	"Elite Airtight"	Not applicable	1.5m ² /l
Substrate	"Hollow dense concrete block"	50mm	Unable to provide
*determined by Warringtonfire			
Please see page 5 of this test report for the full description of the product tested			

Test Sponsor Pristine Specialist Ceilings Ltd, Unit 10 Phoenix Workshops, Station Road, Mochdre, Conwy, LL28 5EF



Test Results:

Fire propagation index, I	=	0.1
Sub index, i ₁	=	0.1
Sub index, i ₂	=	0.0
Sub index, i ₃	=	0.0

An uncertainty of measurement estimation has been conducted in relation to the fire propagation index, I and the sub index, i₁. The findings are as detailed in Annex A of this report.

Date of Test 23rd June 2020

Signatories

	
Responsible Officer C. Jacques * Senior Technical Officer	Authorised T. Deluce * Senior Technical Officer

* For and on behalf of [Warringtonfire](#).

Report Issued: 1st July 2020

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Author: C Jacques
Client: Pristine Specialist Ceilings Ltd

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Test Details

Purpose of test	<p>To determine the performance of a product when it is subjected to the conditions of the test specified in BS 476: Part 6: 1989+A1: 2009, "Fire tests on building materials and structures, method for fire propagation for products".</p> <p>The test was performed in accordance with the procedure specified in BS 476: Part 6: 1989+A1: 2009, and this report should be read in conjunction with that British Standard.</p>
Scope of test	<p>BS 476: Part 6: 1989+A1: 2009 specifies a method of test, the result being expressed as a fire propagation index, that provides a comparative measure of the contribution to the growth of fire made by an essentially flat material, composite or assembly. It is primarily intended for the assessment of the performance of internal wall and ceiling linings.</p>
Fire test study group/EGOLF	<p>Certain aspects of some fire test specifications are open to different interpretations. The Fire Test Study Group and EGOLF have identified a number of such areas and have agreed Resolutions which define common agreement of interpretations between fire test laboratories which are members of the Groups. Where such Resolutions are applicable to this test they have been followed.</p>
Instruction to test	<p>The test was conducted on the 23rd June 2020 at the request of Pristine Specialist Ceilings Ltd, the sponsor of the test.</p>
Provision of test specimens	<p>The specimens were supplied by the sponsor of the test. Warringtonfire was not involved in any selection or sampling procedure. The results stated in this report apply to the samples as received.</p>
Conditioning of specimens	<p>The specimens for testing to BS 476: Part 6: 1989+A1: 2009 together with the specimens for testing to BS 476: Part 7: 1997 were received on the 15th June 2020.</p> <p>Prior to the tests, all of the specimens were conditioned to constant mass at a temperature of $23 \pm 2^{\circ}\text{C}$ and a relative humidity of $50 \pm 5\%$. One specimen from the total sample submitted for test was selected for constant mass verification.</p>
Form in which the specimens were tested	<p>.Composite - Combination of materials which are generally recognised in building constructions as discrete entities e.g. coated or laminated materials. Each specimen was tested in direct contact with a nominally 12mm thick non-combustible backing board.</p>
Exposed face	<p>The coated face of the specimens was exposed to the heating conditions of the test.</p>

Description of Test Specimens

The description of the specimens given below has been prepared from information provided by the sponsor of the test. This information has not been independently verified by Warringtonfire. All values quoted are nominal, unless tolerances are given.

General description		Airtight coating for blockwalls
Product reference of coating system		"Elite Airtight"
Name of manufacturer		See Note 1 Below
Thickness tested		50.25mm (determined by Warringtonfire)
Weight per unit area		77.34kg/m ² (determined by Warringtonfire)
Coating product	Generic type	Water based coating
	Product reference	"Elite Airtight"
	Name of manufacturer	See Note 1 Below
	Number of coats	2
	Application rate	1.5m ² /l
	Specific gravity	
	Application method	Airless spray machine & roller
	Flame retardant details	See Note 2 Below
Curing process		24 hours
Substrate	Generic type	Concrete breeze blocks
	Product reference	"Hollow Dense Concrete Block"
	Name of manufacturer	Build for less – Huwes Grey
	Thickness	50mm
	Density	See Note 3 Below
Flame retardant details		See Note 2 Below
Brief description of manufacturing process of coatings		See Note 3 Below

Note 1: The sponsor of the test was unwilling to provide this information.

Note 2: The sponsor of the test has confirmed that no flame retardants were used in the production of this product.

Note 3: The sponsor of the test was unable to provide this information.

Test Results

Results

A total of three specimens were tested. The laboratory record sheet relating to each of the test specimens is appended to this report (refer to Tables 1, 2 and 3).

Throughout the test on each specimen careful observation was made of the product's behaviour within the apparatus and special note was taken of any of the phenomena listed in clause 9.2 of the Standard. None of the listed phenomena was observed and the test results on all three specimens tested were valid.

The following test results were obtained for the product.

Fire propagation index, I	=	0.1
Sub index, i_1	=	0.1
Sub index, i_2	=	0.0
Sub index, i_3	=	0.0

An uncertainty of measurement estimation has been conducted in relation to the fire propagation index, I and the sub index, i_1 . The findings are as detailed in Annex A of this report.

NOTE: If a suffix 'R' is included in the above fire propagation index, I, then this indicates that the results should be treated with caution.

Applicability of test result

The test results relate only to the behaviour of the test specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any product which is supplied or used is fully represented by the specimens which were tested.

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

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Table 1

Laboratory Record Sheet

FIRE PROPAGATION TEST - BS476:PART 6:1989+A1:2009

Specimen No. : 1

Date : 23-Jun-20

Time mins t	Specimen Temperature Deg C Ts	Calibration Temperature Deg C Tc	Ts- Tc/10t	Sub Index Of Performance
0.50	11	15	0.00	
1.00	15	20	0.00	
1.50	17	24	0.00	
2.00	20	30	0.00	
2.50	24	34	0.00	
3.00	26	37	0.00	0.00
4.00	49	69	0.00	
5.00	80	108	0.00	
6.00	104	138	0.00	
7.00	128	159	0.00	
8.00	145	175	0.00	
9.00	154	189	0.00	
10.00	164	197	0.00	0.00
12.00	177	213	0.00	
14.00	187	224	0.00	
16.00	195	233	0.00	
18.00	202	236	0.00	
20.00	206	240	0.00	0.00
Total Index of Performance S			=	0.00

SubIndex s1 0.00

SubIndex s2 0.00

SubIndex s3 0.00

Index of Performance S 0.00

Table 2

Laboratory Record Sheet

FIRE PROPAGATION TEST - BS476:PART 6:1989+A1:2009

Specimen No. : 2

Date : 23-Jun-20

Time mins t	Specimen Temperature Deg C Ts	Calibration Temperature Deg C Tc	Ts- Tc/10t	Sub Index Of Performance
0.50	16	15	0.20	
1.00	21	21	0.00	
1.50	25	27	0.00	
2.00	29	32	0.00	
2.50	32	35	0.00	
3.00	36	39	0.00	0.20
4.00	67	69	0.00	
5.00	102	105	0.00	
6.00	127	134	0.00	
7.00	140	160	0.00	
8.00	155	175	0.00	
9.00	166	189	0.00	
10.00	175	199	0.00	0.00
12.00	189	215	0.00	
14.00	198	225	0.00	
16.00	209	235	0.00	
18.00	214	238	0.00	
20.00	218	244	0.00	0.00
Total Index of Performance S			=	0.20

SubIndex s1 0.20

SubIndex s2 0.00

SubIndex s3 0.00

Index of Performance S 0.20

Table 3

Laboratory Record Sheet

FIRE PROPAGATION TEST - BS476:PART 6:1989+A1:2009

Specimen No. : 3

Date : 23-Jun-20

Time mins t	Specimen Temperature Deg C Ts	Calibration Temperature Deg C Tc	Ts- Tc/10t	Sub Index Of Performance
0.50	10	16	0.00	
1.00	13	21	0.00	
1.50	16	27	0.00	
2.00	20	30	0.00	
2.50	23	35	0.00	
3.00	25	38	0.00	0.00
4.00	50	63	0.00	
5.00	76	108	0.00	
6.00	98	135	0.00	
7.00	117	157	0.00	
8.00	131	174	0.00	
9.00	142	190	0.00	
10.00	152	202	0.00	0.00
12.00	165	219	0.00	
14.00	177	228	0.00	
16.00	185	237	0.00	
18.00	192	242	0.00	
20.00	197	248	0.00	0.00
Total Index of Performance S			=	0.00

SubIndex s1 0.00

SubIndex s2 0.00

SubIndex s3 0.00

Index of Performance S 0.00

Annex A

Uncertainty of measurement

Specimen No.	1	2	3	Average
Fire propagation index, I	± 0.00	+ 0.70 -0.20	± 0.00	+0.23 -0.07
Sub index i_1	± 0.00	+ 0.70 -0.20	± 0.00	+0.23 -0.07

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Revision History

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Revised By:	Approved By:
Reason for Revision:	

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