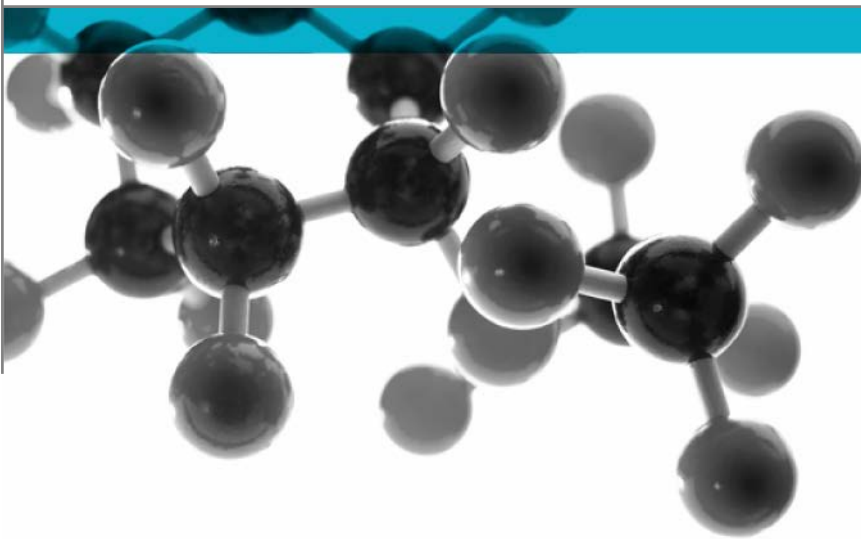


Exova Warringtonfire
Holmesfield Road
Warrington
WA1 2DS
United Kingdom

T : +44 (0) 1925 655116
F : +44 (0) 1925 655419
E : warrington@exova.com
W: www.exova.com



BS 476: Part 6: 1989+A1:2009



Method Of Test For Fire Propagation For Products

A Report To: Sanglier Ltd.

Document Reference: 392970

Date: 19th December 2017

Issue No.: 1

Page 1

Testing
Advising
Assuring



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 / application rate	Weight per unit area or density
Calcium Silicate Board coated with adhesive	"Tuskbond ONE Test Panels"	9.54mm *	9.34kg/m ² *
Individual components used to manufacture composite:			
Adhesive	"Tuskbond ONE"	50g/m ²	Not stated
Substrate	"Supalux"	9mm	950 kg/m ³
*Determined by Exova Warringtonfire			
Please see page 5 of this test report for the full description of the product tested			


Test Sponsor Sanglier Ltd., Shelley Close, Lowmoor Business Park, Kirkby in Ashfield, Nottingham, NG17 7JZ


Test Results:

Fire propagation index, I	=	1.0
Sub index, i₁	=	0.4
Sub index, i₂	=	0.4
Sub index, i₃	=	0.2

Date of Test 13th December 2017

Signatories


Responsible Officer C. Meachin * Technical Officer


Authorised B. Dean * Technical Leader

* For and on behalf of **Exova Warringtonfire**.

Report Issued: 19th December 2017

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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 13th December 2017 at the request of Sanglier Ltd., the sponsor of the test.</p>
Provision of test specimens	<p>The specimens were supplied by the sponsor of the test. Exova Warringtonfire was not involved in any selection or sampling procedure.</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 5th December 2017.</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.</p>
Exposed face	<p>The adhesive 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 **Exova Warringtonfire**. All values quoted are nominal, unless tolerances are given.

General description		Calcium Silicate Board coated with adhesive
Product reference		"Tuskbond ONE Test Panels"
Name of manufacturer		Sanglier Ltd
Thickness		9.54mm (determined by Exova Warringtonfire)
Weight per unit area		9.34kg/m ² (determined by Exova Warringtonfire)
Adhesive (test face)	Generic type	Styrene butadiene rubber copolymer contact adhesive
	Product reference	"Tuskbond ONE"
	Name of manufacturer	Sanglier Ltd
	Colour reference	"Pale Amber"
	Application rate per coat	50g/m ²
	Application method	Spray
	Flame retardant details	See Note 1 below
Curing process per coat		Solvent evaporation
Substrate	Generic type	Calcium silicate board
	Product reference	"Supalux"
	Name of manufacturer	Promat UK Ltd
	Thickness	9mm
	Density	950 kg/m ³
	Colour reference	"Off-White"
Flame retardant details		See Note 2 below
Brief description of manufacturing process		<ol style="list-style-type: none"> 1. A web of adhesive was spray applied, from a canister, on to a clean, dust free calcium silicate panel of known weight. 2. The adhesive solvent was allowed to evaporate and the dry weight of adhesive calculated. 3. The process was repeated until a dry coat weight of 50 g/m² was achieved.

Note 1: The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the component.

Note 2: The sponsor 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	=	1.0
Sub index, i_1	=	0.4
Sub index, i_2	=	0.4
Sub index, i_3	=	0.2

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 : 13-Dec-17

Time mins t	Specimen Temperature Deg C Ts	Calibration Temperature Deg C Tc	Ts- Tc/10t	Sub Index Of Performance
0.50	12	12	0.00	
1.00	18	17	0.10	
1.50	24	22	0.13	
2.00	28	26	0.10	
2.50	32	30	0.08	
3.00	35	35	0.00	0.41
4.00	67	65	0.05	
5.00	104	101	0.06	
6.00	132	128	0.07	
7.00	152	150	0.03	
8.00	170	166	0.05	
9.00	183	180	0.03	
10.00	193	191	0.02	0.31
12.00	214	210	0.03	
14.00	223	216	0.05	
16.00	233	228	0.03	
18.00	240	235	0.03	
20.00	245	241	0.02	0.16
Total Index of Performance S			=	0.88

SubIndex s1 0.41

SubIndex s2 0.31

SubIndex s3 0.16

Index of Performance S 0.88

Table 2

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

Specimen No. : 2

Date : 13-Dec-17

Time mins t	Specimen Temperature Deg C Ts	Calibration Temperature Deg C Tc	Ts- Tc/10t	Sub Index Of Performance
0.50	13	13	0.00	
1.00	19	18	0.10	
1.50	25	23	0.13	
2.00	28	26	0.10	
2.50	31	31	0.00	
3.00	34	35	0.00	0.33
4.00	66	64	0.05	
5.00	105	97	0.16	
6.00	135	125	0.17	
7.00	155	147	0.11	
8.00	169	164	0.06	
9.00	183	174	0.10	
10.00	192	187	0.05	0.70
12.00	208	203	0.04	
14.00	218	204	0.10	
16.00	226	213	0.08	
18.00	232	218	0.08	
20.00	239	230	0.05	0.35
Total Index of Performance S			=	1.38

SubIndex s1 0.33

SubIndex s2 0.70

SubIndex s3 0.35

Index of Performance S 1.38

Table 3

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

Specimen No. : 3

Date : 13-Dec-17

Time mins t	Specimen Temperature Deg C Ts	Calibration Temperature Deg C Tc	Ts- Tc/10t	Sub Index Of Performance
0.50	13	13	0.00	
1.00	21	19	0.20	
1.50	27	25	0.13	
2.00	30	30	0.00	
2.50	33	34	0.00	
3.00	37	38	0.00	0.33
4.00	64	69	0.00	
5.00	109	105	0.08	
6.00	134	134	0.00	
7.00	157	155	0.03	
8.00	175	171	0.05	
9.00	189	182	0.08	
10.00	199	194	0.05	0.29
12.00	217	212	0.04	
14.00	231	224	0.05	
16.00	240	232	0.05	
18.00	246	238	0.04	
20.00	253	244	0.05	0.23
Total Index of Performance S			=	0.85

SubIndex s1 0.33

SubIndex s2 0.29

SubIndex s3 0.23

Index of Performance S 0.85

Revision History

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