

Confidential Report

Our Ref: 26/02844B/04/21



Wira House, West Park Ring Road, Leeds, LS16 6QL, UK.
Telephone: +44 (0) 113 259 1999
Email: info@bttg.co.uk
: www.bttg.co.uk

Date: 08 June 2021

Our Ref: 26/02844B/04/21
Your Ref: ---

Client: **Interfloor Limited**

Broadway
Haslingden
Rossendale
Lancashire
BB4 4LS

Job Title: Classification Tests on One Composite Sample of Carpet and Underlay

Clients Order Ref: 25290

Date of Receipt: 08 April 2021

Description of Sample: One sample of underlay, referenced Black Pearl. Also received a sample of Axminster Carpet.

Work Requested: We were asked to make the following test(s):

BS EN 13501-1

Test on a composite sample of carpet and underlay, using the double stick system. Where the underlay is tackified to the backing board with Stikatak STK950 and the carpet is permanently adhered to the underlay with Stikatak STK900.

* subcontracted test, UKAS accredited
** subcontracted test, EN ISO/IEC 17025 accredited
*** not UKAS accredited

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Note: This report relates only to the samples submitted and as described in the report.

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FIRE TESTS ACCORDING TO BS EN ISO 11925-2:2010
Reaction to fire tests for building products – Part 2:
Ignitability when subjected to direct impingement of flame

Date of Test: 29/04/2021

Conditioning

Test specimens and filter paper conditioned as described in BS EN 13238:2010.

Procedure

The sample was tested in accordance with BS EN ISO 11925-2:2010.

Three specimens from each direction were tested in accordance with the above standard. Specified filter paper was placed beneath the specimen holder and replaced between tests.

The specimens were mounted vertically in the specimen holder so that one end and both sides were enclosed with the exposed end 30mm from the end of the frame. The burner was inclined at an angle of 45º. The flame height was set at 20 mm with the flame impinging on the specimen for 15 seconds on the centre line, 40 mm above the bottom edge.

A marker was placed 150 mm above the upper end of the burner and the time recorded when the flame tip reached the marker, if applicable. The following parameters were also recorded:-

1. If ignition occurs
2. Presence of flaming debris, if applicable
3. Ignition of the filter paper, if applicable

Duration of test

For a flame application time of 15 seconds, the total test duration is 20 seconds after application of the flame.

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Classification Criteria

The samples were classified according to BS EN 13501-1:2007+A1:2009 Fire classification of Construction Products and Building Elements: Part 1 – Classification using Test Data from Reaction to Fire Tests, Table 1 – Classes of reaction to fire performance for construction products excluding floorings.

Flaming Classification	
Classification	Criteria (mean values)
E_{FL}	Fs ≤ 150mm within 20 seconds
F_{FL}	None (No performance determined)

Flaming droplets / particles classification	
Classification	Criteria
No classification	Pass
d2	Fail (Ignition of paper)

Results

Specimen		Ignition (Yes or No)	Tip of flame reaches 150mm		Flaming droplets	
			Yes or No	Time taken (s)	Yes or No	Ignition of Filter paper (Yes or No)
Machine Direction	1	Yes	No	N/A	No	No
	2	Yes	No	N/A	No	No
	3	Yes	No	N/A	No	No
Across Machine Direction	1	Yes	No	N/A	No	No
	2	Yes	No	N/A	No	No
	3	Yes	No	N/A	No	No

Note

The specimens of floor covering were tested stuck down using the double stick system where the underlay is tackified to a 6mm fibre cement backing board with Stikatak STK950 and the carpet is permanently adhered to the underlay with Stikatak STK900, as defined in BS EN 13238:2010.

The substrate used was a fibre cement board (ISO 390) with a thickness of (6±1)mm and a density of (1,800±200) Kg/m^3 representing the standard substrate of Class A1fl or A2fl.

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FIRE TESTS ACCORDING TO BS EN ISO 9239-1:2010
Reaction to fire tests for Floorings - Part 1: Determination of the burning behaviour using a radiant heat source (ISO 9239-1:2010)

Date of Test: 29/04/2021

Conditioning

The specimens were conditioned in accordance with BS EN 13238:2010. The substrate used was a fibre cement board (ISO 390) with a thickness of (6±1)mm and a density of (1,800±200) Kg/m^3 representing the standard substrate of Class A1fl or A2fl.

Procedure

The test was carried out in accordance with BS EN ISO 9239-1:2010. The sponsor sampled and cut the specimens to the dimensions stated.

Specimens were individually placed in the combustion chamber and allowed to preheat for two minutes under a radiant panel, which gives an imposed radiant flux ranging from approximately 11.0 kW/m^2 to 1.0 kW/m^2 along the specimen.

The pilot flame used was the line burner as described and was applied to the surface of the specimen for 10 minutes and then removed.

The flame front was measured at the end of the test or at 30 minutes if applicable.

Test termination was considered to be when the flame front self extinguished or at 30 minutes, which ever is the sooner.

The heat flux from the panel incident on the specimen when self extinguished or at 30 minutes (critical heat flux CHF or HF-30) was calculated from a prior calibration.

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Classification Criteria

The samples were classified according to BS EN 13501-1:2007+A1:2009 - Fire classification of Construction Products and Building Elements: Part 1: Classification using Test Data from Reaction to Fire Tests.

For floorings, including their surface coverings the classes are:

Classification	Classification Criteria (mean values) (kW/m^2)
Bfl	8.0
Cfl	4.5
Dfl	3.0
	Smoke Production % x min
s1	≤ 750
s2	Not s1

When tested to BS EN ISO 11925-2:2010 the sample has to have a flame spread (Fs) of: Fs ≤ 150mm within 20 seconds (Class Efl).

Results

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

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Results (Continued)

Specimen No.	Direction of specimen	Smoke Obscuration Max %	Smoke Obscuration % x min	Maximum Flame front (mm)	Critical Heat Flux (kW/m^2)	Duration of Flaming (sec)
1	Machine	73	347	295	7.1	840
2	Across	40	246	225	8.6	842
3	Machine	34	232	245	8.1	800
4	Machine	45	243	190	9.2	825
Mean of 3 specimens	Machine	51	274	243	8.1	822

Distance Burnt (mm)	Time for each specimen to burn (s) 1	2	3	4
50	140	130	128	132
100	148	150	137	150
150	156	162	161	169
200	165	180	205	--
250	180	--	--	--

Note

One specimen was initially tested in each direction and whichever direction gave the worst result a further two specimens were tested. Only the results of the 3 specimens in the same direction were used to calculate the mean results.

The specimens of floor covering were tested stuck down using the double stick system where the underlay is tackified to a 6mm fibre cement backing board with Stikatak STK950 and the carpet is permanently adhered to the underlay with Stikatak STK900, as defined in BS EN 13238:2010.

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Comment

The results meet the requirements of a **Class B_{fl}-s1,** as specified in BS EN 13501-1:2007+A1:2009.

An estimation of uncertainty of measurement has been taken into account when making a judgment to any pass/fail criteria. Under our Policy we have used a non-binary decision rule.

See our Decision rules Policy (http://www.bttg.co.uk/decision-rules-policy) for further information.

Reported by:..... B Marsden (Mrs), Senior Fire Technician

Countersigned by:..... P Doherty Manager

Enquiries concerning this report should be addressed to Customer Services.

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Uncertainty Budget - Annex

The uncertainty budget for BS EN 13501-1:2007 + A1:2009 was determined as follows:-

BS EN ISO 11925-2:2010

Distance ± 3mm, rest operator dependant but fully notable

Overall (BS EN ISO 9239-1)

The uncertainty varies, therefore:

a)	At position between 0 – 450mm	+7%
b)	At position between 450mm -1000mm	+8%

Smoke Obscuration - ±15%

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