



# Confidential Report

**Our Ref: 25/05306C/04/13**

Notified Body  
for PPE Directive,  
Construction Products Directive  
& Marine Equipment Directive  
I.D. No. 0338 & 0339

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26 April 2013

Our Ref: 25/05306C/04/13  
Your Ref:

Page 1 of 9

Client: Jacaranda Carpets Ltd  
1 Cockerel Rise  
Magnetic Park  
Desborough  
Northamptonshire  
NN14 2WE

Job Title: **Fire Test on One Sample of Carpet**

Clients Order Ref: ---

Date of Receipt: 4 April 2013

Reference: **Chatapur**  
Description of Sample: Cut Pile  
Action Backed  
Handwoven Carpet  
Measurements: 200cm x 400cm

Work Requested: BCTC were requested to carry out a Fire Test to BS EN 13501-1 on the sample of carpet supplied.





**BCTC**  
CARPET TECHNICAL CENTRE

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26 April 2012

Page 2 of 9

Our Ref: 25/05306C/04/13  
Your Ref:

Jacaranda Carpets Ltd

**FIRE TESTS ACCORDING TO BS EN ISO 11925-2:2002**  
**Reaction to fire tests for building products – Part 2:**  
**Ignitability when subjected to direct impingement of flame**

**Date of Test: 23/04/13**

**Conditioning**

Test specimens and filter paper conditioned as described in BS EN 13238:2001.

**Procedure**

The sample was tested in accordance with BS EN ISO 11925-2:2002.

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 45°. 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.





26 April 2012

Page 3 of 9

Our Ref: 25/05306C/04/13  
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**Classification Criteria**

The samples were classified according to BS EN 13501-1:2002 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 <sub>FL</sub>	F <sub>s</sub> ≤ 150mm within 20 seconds
F <sub>FL</sub>	None ( No performance determined)

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

**Results**

	<u>Ignition</u> (Yes or No)	<u>Time of flaming if ignition occurs (s)</u>	<u>Tip of flame reaches 150mm</u>		<u>Flaming droplets Ignition of Filter paper (Yes or No)</u>
			<u>Yes or No</u>	<u>Time taken (s)</u>	
Warp 1	No	N/A	No	N/A	No
Warp 2	No	N/A	No	N/A	No
Warp 3	No	N/A	No	N/A	No
Weft 1	No	N/A	No	N/A	No
Weft 2	No	N/A	No	N/A	No
Weft 3	No	N/A	No	N/A	No





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26 April 2012

Page 4 of 9

Our Ref: 25/05306C/04/13  
Your Ref:

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**FIRE TESTS ACCORDING TO BS EN ISO 9239-1:2002 Indicative (\*)**  
**Reaction to fire tests for Floorings - Part 1: Determination of the burning behaviour using a radiant heat source (ISO 9239-1:2002)**

**Date of Test: 23/04/13**

**Conditioning**

The specimen was conditioned in accordance with BS EN 13238:2001. The substrate used was a fibre cement board (ISO 390) with a thickness of  $(6\pm 1)$ mm and a density of  $(1,800\pm 200)$  Kg/m<sup>3</sup> representing the standard substrate of Class A<sub>1fi</sub> or A<sub>2fi</sub>.

**Procedure**

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

The specimen was 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 kW/m<sup>2</sup> to 1 kW/m<sup>2</sup> 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, whichever 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.





26 April 2012

Page 5 of 9

Our Ref: 25/05306C/04/13  
Your Ref:

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### Classification Criteria

The sample was classified according to BS EN 13501:2002: 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 <sup>2</sup> )
B <sub>fl</sub>	8.0
C <sub>fl</sub>	4.5
D <sub>fl</sub>	3.0
	Smoke Production % x min
s1	≤ 750
s2	Not s1

When tested to BS EN ISO 11925-2:2002 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 specimen 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.



26 April 2012

Page 6 of 9

Our Ref: 25/05306C/04/13  
Your Ref:

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**Results (continued)**

<u>Direction of specimen</u>	<u>Smoke Obscuration</u>		<u>Maximum Flame front (mm)</u>	<u>Critical Heat Flux (kW/m<sup>2</sup>)</u>	<u>Duration of Flaming (sec)</u>
	<u>Max %</u>	<u>% x min</u>			
Machine	4	53	510	3.2	1800ME
Across	6	73	820	1.2	1720

ME Manually extinguished

<u>Distance Burnt (mm)</u>	<u>Time for each specimen to burn (s)</u>	
50	123	123
100	130	128
150	137	134
200	147	141
250	159	152
300	181	171
350	220	187
400	245	207
450	307	232
500	344	272
550	--	312
600	--	355
650	--	397
700	--	471
750	--	537
800	--	634
850	--	726

**Note**

Only two specimens were tested. Results of 3 specimens in the same direction are used to determine an absolute class.

The specimen of floor covering was tested loose laid onto a 6mm fibre cement board as defined in BS EN 13238:2001.





26 April 2012

Page 7 of 9

Our Ref: 25/05306C/04/13  
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**Comments**

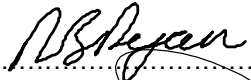
In our opinion, based on the tests carried out on the sample supplied;

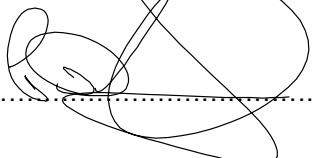
- a) the results of the BS EN ISO 11925-2:2002 test indicate the sample meets the requirements of a Class E<sub>FL</sub>. It should be noted that this is only class that can be achieved when tested to this method alone.
- b) the results of the BS EN ISO 9239-1:2002 test indicate the sample is unclassifiable when tested to this method alone. Therefore, the test was terminated after two specimens.

**Conclusion**

In our opinion, the results indicate that the sample when classified to BS EN 13501-1:2002 meets an overall classification of: **Class E<sub>fl</sub>**.

An estimation of uncertainty of measurement has not been taken into account when making a judgement to any pass/fail criteria.

Reported by:  R Ryan, Laboratory Technician

Countersigned by:  P Doherty, Operational Head

Enquiries concerning this report should be addressed to Customer Services.

