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Client: Carpenter Ltd
Dinting Lodge Industrial Estate
Glossop
Derbyshire
SK13 6LE

Job Title: **Various Tests on One Sample of Underlay**

Material Received: 8 April 2009

Reference: **Extrastep 6mm 180 Kgm3**
Description of Sample: Foam Crumb Underlay
Measurements: 136cm x 400cm

Brief: BCTC were requested to carry out a Hot Metal Nut Test and a Thermal Resistance Test on the sample of underlay supplied.

UKAS Accreditation: Our Laboratories are UKAS accredited. However, it should be noted that tests marked * are not UKAS accredited in this report. They are not included in the UKAS Accreditation Schedule for our laboratory, either due to the work not conforming fully to the standard (e.g. reduced number of specimens) or to it being outside the scope of our accreditation, or subcontracted.

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

Testing Atmosphere: Unless otherwise specified the sample has been conditioned and tested, where appropriate, in the standard atmosphere for conditioning and testing textiles (BS EN ISO 139:2005) of 65±4% r.h. and 20±2°C.



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FIRE TESTS ACCORDING TO BS 4790:1987(2003)
 (Determination of the effects of a small source of ignition on textile floor coverings,
 Hot Metal Nut Method)

Three specimens from the sample were tested according to the above standard.

The results were classified according to BS 5287:1988 (2003) - 'Assessment and Labelling of Textile floor coverings tested to BS 4790'. The full descriptions of the classifications, abbreviated to low, medium or high in the table of results, are as follows:-

- low radius of effects of ignition (up to 35mm)
- medium radius of effects of ignition (40 to 75mm)
- high radius of effects of ignition (80mm or over).

<u>Duration of Flaming (s)</u>	<u>Greatest radius of char</u>		<u>Class</u>
	<u>Face (mm)</u>	<u>Back (mm)</u>	
35	25	20	Low
33	25	20	Low
31	25	20	Low

Note

The specimens were tested loose laid over 6mm calcium silicate non combustible backing boards.

The test results relate only to the behaviour of the test specimens after application of a small source of ignition; they shall not be used as a means of assessing how the product will contribute to an established fire.

Thermal Resistance

Three specimens from the sample were tested in accordance with BS 4745:2005 (ISO 5085-1:1989), using the two plate method.

The temperature drop across the standard thermal resistance and across each test specimen was measured, and from the values obtained the thermal resistance of each specimen was determined.

$$\text{Thermal Resistance (R) Togs} = \frac{(^{\circ}\text{cm}^2)}{10\text{W}} = \begin{array}{l} 1.77 \\ 1.77 \\ 1.76 \\ \text{Mean: } 1.77 \end{array}$$





BCTC
CARPET TECHNICAL CENTRE

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The information contained on page no's 1/3 of this certificate is hereby certified to be a correct statement of the tests and investigations carried out by the British Carpet Technical Centre on the materials referred to.

Signed.....Date 14 May 2009

M Reed
Laboratory Technician

Reported By.....Date 14 May 2009

P Doherty
Operational Head



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Title:

CLASSIFICATION OF
REACTION TO FIRE
PERFORMANCE
IN ACCORDANCE WITH
EN 13501-1:2007+A1: 2009.

Notified Body No:

0833

Product Name:

"Extrastep"

Report No:

312396

Issue No:

1

Prepared for:

Carpenter Limited
Dinting Lodge Industrial Estate
Glossop
Derbyshire
SK13 6LE

Date:

10th November 2011



1. Introduction

This classification report defines the classification assigned to "Extrastep", a flame retardant grade carpet underlay, in accordance with the procedures given in EN 13501-1:2007+A1: 2009.

2. Details of classified product

2.1 General

The product, "Extrastep", a flame retardant grade carpet underlay, is defined as being suitable for floorcovering applications.

2.2 Product description

The product, "Extrastep", a flame retardant grade carpet underlay, is fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description		A flame retardant grade carpet underlay bonded to 6mm thick fibre cement board utilising 'Styccobond F3' adhesive	
Thickness of composite		12.35mm (determined by Exova Warringtonfire)	
Weight per unit area of composite		12.66kg/m ² (determined by Exova Warringtonfire)	
Carpet underlay	Product reference	"Extrastep"	
	Overall thickness	6mm	
	Overall density	180kg/m ³	
	Name of manufacturer	Carpenter Ltd	
	Foam core	Product reference	"Recon Foam"
		Generic type	Polyurethane
		Name of manufacturer	Carpenter Ltd
		Thickness	6mm
		Density	180kg/m ³
	Flame retardant details	See Note 4 below	
	Binder	Product reference	"PP15"
		Generic type	Polyurethane pre-polymer
		Name of manufacturer	Carpenter Ltd
		Application rate	See Note 1 below
		Application method	Spray nozzle
		Composition	NCH rich system, steam cured
	Flame retardant details	See Note 2 below	
	Film face (reverse face)	Product reference	"35 Micron AACOP Top Laminate"
Generic type		Polyethylene	
Name of manufacturer		See Note 1 below	
Thickness		35 microns	
Colour reference		See Note 2 below	
Weight per unit area		See Note 3 below	
Flame retardant details	See Note 2 below		

Continued on next page

Adhesive	"Product reference"	"Styccobond F3"
	Generic type	A high temperature rubber / resin based adhesive
	Name of manufacturer	F Ball & Co. Ltd
	Application rate	2-3m ² per litre
	Application method	2mm by 6mm 'V' notched trowel
	Flame retardant details	The manufacturer stated that no flame retardant additives were utilised in the construction of the adhesive
Substrate	Trade name	"NT D4 604"
	Generic type	Fibre cement board
	Supplier	Scheerders van de Kerkhove (SVK)
	Thickness	6mm
	Density	1800kg/m ³
Brief description of manufacturing process of the underlay		Foam trim is made into a log that is then peeled at the desired thickness and is then laminated then cut to the required length.

Note 1. The sponsor of the test has provided this information, but at the specific request of the sponsor, these details have been omitted from the report and are held on the confidential file relating to this investigation.

Note 2. The sponsor of the test was unwilling to provide this information.

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

Note 4 - The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the product.

3. Test reports & test results in support of classification.

3.1 Test reports.

Name of Laboratory	Name of sponsor	Test reports/extended application report Nos.	Test method / extended application rules & date
Exova warringtonfire	Carpenter Limited	WF 313325	EN ISO 11925-2
Exova warringtonfire	Carpenter Limited	WF 313328	EN ISO 9239-1

3.2 Test results

Test method & test number		Parameter	No. tests	Results	
				Continuous parameter - mean (m)	Compliance with parameters
EN ISO 9239-1		Critical flux	3	6.4	Compliant
		Smoke		78.78	Compliant
EN ISO 11925-2	(15s exposure – surface of decorative face)	F _s	6	103.3	Compliant
		Flaming droplets/ particles		None	Compliant
	(15s exposure – edge of decorative face)	F _s	6	93.3	Compliant
		Flaming droplets/ particles		None	Compliant

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with clause 9 of EN 13501-1:2007+A1:2009.

4.2 Classification

The product, "Extrastep", a flame retardant grade carpet underlay, in relation to its reaction to fire behaviour is classified:

C_{FL}

The additional classification in relation to smoke production is:

s1

The format of the reaction to fire classification for floorings is:

Fire Behaviour		Smoke Production	
C_{FL}	-	s	1

i.e. **C_{FL} – s1**

Reaction to fire classification: C_{FL} – s1

4.3 Field of application

This classification is valid for the following end use applications:

- i) Floorcovering applications applied over any substrate with a minimum density of 1800kg/m³, having a minimum thickness of 6mm and a fire performance of A2_{FL} or better.
- ii) Product installed utilising "Styccobond F3" adhesive, at an application rate of 2-3m²/litre.

This classification is also valid for the following product parameters:

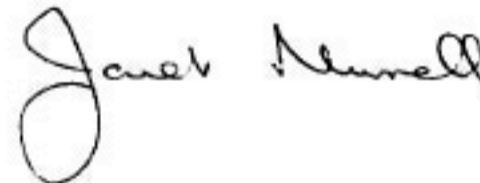
Product thickness	No variation allowed
Product weight per unit area	No variation allowed
Product composition	No variation allowed
Product construction	No variation allowed

SIGNED



Matthew Dale
Certification Engineer
Technical Department

APPROVED



Janet Murrell
Technical Manager
Technical Department
on behalf of **Exova warringtonfire**

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