

# Reaction to fire classification report

Issuing laboratory: Warringtonfire Testing and  
Certification Limited

Classification standard: EN 13501-1: 2018

Sponsor(s): Forbo Flooring UK Ltd



Product(s): "Flotex Tile"

Report number: 543974

Version: 1

Warringtonfire Testing and Certification Limited , accredited for compliance with ISO/IEC 17025:2017 – Testing

## Quality management

Version	Date	Summary of amendments including reasons			
1	5 June 2024	Description	Initial issue		
			Prepared by	Reviewed by	Authorised by
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		*Signed for and on behalf of Warringtonfire Testing and Certification Limited			

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## 1. Introduction

This classification report defines the classification assigned to "Flotex Tile", in line with the procedures given in EN 13501-1: 2018.

Warringtonfire Testing and Certification Limited (Warringtonfire) issued the classification report at the request of the sponsor listed in Table 1.

**Table 1 Sponsor details**

Entity	Address
<b>Sponsor</b>	
Forbo Flooring UK Ltd	High Holborn Road, Ripley, Derbyshire, DE5 3NT, United Kingdom

## 2. Details of classified product

### 2.1 General

The product, "Flotex Tile", is defined as being suitable for flooring applications excluding construction and linear pipe thermal insulation applications.

The related harmonised product standard is EN 14041:2004 / AC: 2006.

### 2.2 Product description

The product, "Flotex Tile", is described in Table 2 and in the test reports listed in Section 3.1.

**Table 2 Product description**

Item	Detail
General description	Flocked modular carpet
Product reference	"Flotex Tile"
Name of manufacturer	Forbo Flooring Ltd
Lot number (as tested)	"Lot 16168"
Size	50 x 50cm
Pattern reference (as tested)	"302044"
Pattern (as tested)	Latitude
Colour (as tested)	Blue (observed by Warringtonfire)
Overall thickness	5mm (stated by sponsor) 5.18mm (determined by Warringtonfire)
Overall weight per unit area	4.8kg/m <sup>2</sup> (stated by sponsor) 4.45kg/m <sup>2</sup> (determined by Warringtonfire)

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Item		Detail	
Carpet	Print (pile surface)	Generic type	Acid / metallised dyes – rotary screen printed
		Product reference	See Note 1 below
		Name of manufacturer	Forbo Flooring UK Ltd
		Colour	Blue (observed by Warringtonfire)
		Pattern reference	“302044”
		Pattern	Latitude
		Application rate	See Note 1 below
		Application thickness	See Note 1 below
		Flame retardant details	See Note 2 below
	Pile	Generic type	Nylon 6.6
		Product reference	See Note 3 below
		Name of manufacturer	DOMO
		Pile height above the backing	2mm
		Weight per unit area	250g/m <sup>2</sup>
		Flame retardant details	See Note 2 below
	Pile adhesive	Generic type	Polyvinyl chloride plastisol
		Product reference	“RWP02”
		Name of manufacturer	Forbo Flooring UK Ltd
		Thickness	0.3mm
		Weight per unit area	370g/m <sup>2</sup>
		Trade name of flame retardant	See Note 3 below
		Generic type of flame retardant	See Note 3 below
		Amount of flame retardant	2.4%
	Fibreglass reinforcement	Generic type	Wet laid nonwoven fibreglass with polymeric binder
		Product reference	See Note 3 below
		Name of manufacturer	Owens Corning
		Thickness	0.55mm
		Weight per unit area	58g/m <sup>2</sup>
		Flame retardant details	See Note 2 below
	Scrim reinforcement	Generic type	Laid fibreglass scrim
		Product reference	See Note 3 below
		Name of manufacturer	Fothergill Crenette
		Thickness	0.2mm
		Weight per unit area	27g/m <sup>2</sup>
		Flame retardant details	See Note 2 below

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Item		Detail	
Carpet (continued)	Back coating #1	Generic type	Polyvinyl chloride plastisol
		Product reference	"RWP14"
		Name of manufacturer	Forbo Flooring UK
		Thickness	0.45mm
		Weight per unit area	680g/m <sup>2</sup>
		Flame retardant details	See Note 2 below
	Back coating #1A	Generic type	Polyvinyl chloride plastisol
		Product reference	"RWP14"
		Name of manufacturer	Forbo Flooring UK
		Thickness	0.3mm
		Weight per unit area	460g/m <sup>2</sup>
		Flame retardant details	See Note 2 below
	Tile backing	Generic type	Fibreglass reinforced backing predominantly made from pre-consumer vinyl flooring waste and recycled calcium carbonate filler
		Product reference	"RWRB09"
		Name of manufacturer	Forbo Flooring UK Ltd
		Thickness	1.6mm
		Weight per unit area	2.3kg/m <sup>2</sup>
		Flame retardant details	See Note 2 below
	Back coating #2	Generic type	Polyvinyl chloride plastisol
		Product reference	"RWP11"
		Name of manufacturer	Forbo Flooring UK
		Thickness	0.4mm
		Weight per unit area	630g/m <sup>2</sup>
		Flame retardant details	See Note 2 below
	Secondary backing	Generic type	Polyester / cellulose nonwoven
		Product reference	See Note 3 below
		Name of manufacturer	Ahlstrom
		Thickness	0.12mm
		Weight per unit area	30g/m <sup>2</sup>
		Flame retardant details	See Note 2 below

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Item	Detail
Brief description of manufacturing process	A PVC plastisol is applied to a fibreglass nonwoven where a fibreglass scrim is then laminated. After gelling, the material is inverted and a flock adhesive is applied. The nylon pile is the electrostatically flocked into the adhesive. After curing the product is printed. A recycled vinyl backing and secondary nonwoven are then laminated onto the back using PVC plastisols. After curing and cooling, the product is cut into planks.

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

Note 2. The sponsor of the test has confirmed that no flame retardants were utilised in the production of the component.

Note 3. The sponsor of the test has provided this information but at the specific request of the sponsor, these details have been omitted from the reports and are instead held on the confidential file relating to this investigation.

## 2.3 Mounting and fixing

The following mounting and fixing methods were used when preparing the test specimens for test:

- For the EN ISO 9239-1 & EN ISO 11925-2 tests, the specimens were tested loose laid on a 20mm thick particleboard substrate (as specified in EN 13238: 2010).

## 3. Test reports and test results in support of classification

### 3.1 Test reports

Table 3 details the test reports that have been used in support of classification.

**Table 3 Test reports**

Name of laboratory	Name of sponsor(s)	Test report no.	Test date	Test and extended application standard
Warringtonfire	Forbo Flooring UK Ltd	542841	30 April 2024, 01 May 2024	EN ISO 9239-1: 2010
Warringtonfire	Forbo Flooring UK Ltd	542843	19 April 2024	EN ISO 11925-2: 2020

## 3.2 Test results

### 3.2.1 Official test results used for the classification

Table 4 details the test results that have been used in support of classification. The fire performance parameters for class B<sub>FL</sub> - s1 can be found in Table.

**Table 4 Test data**

Test method Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN ISO 9239-1: 2010 542841	Critical heat flux, (kW/m <sup>2</sup> )	4	9.0	-
	Average smoke development, (%.min)		314	-
EN ISO 11925-2: 2020 (15s exposure - Surface) 542843	F <sub>s</sub> ≤ 150 mm within 20 s	6	-	Compliant
EN ISO 11925-2: 2020 (15s exposure - Edge) 542843	F <sub>s</sub> ≤ 150 mm within 20 s	6	-	Compliant

Note: '-' symbol confirms this parameter is not applicable.

## 4. Classification and field of application

### 4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018.

### 4.2 Classification

The product "Flotex Tile" in relation to its reaction to fire behavior is classified as:

B<sub>FL</sub>

The additional classification in relation to smoke production is:

s1

The format of the reaction to fire classification for flooring applications products is:

Fire behaviour		Smoke production	
B <sub>FL</sub>	-	S	1

Alternatively shown:

**Reaction to fire classification: B<sub>FL</sub> - s1**



## 4.3 Field of application

The classification for the product described in Section 2.2 of this report is valid for end-use applications described in Table 5.

**Table 5 End-use applications**

End use	Description	Origin
Substrate	Any substrate of wood and of classes A1 and A2-s1,d0 with a density equal to or greater than 510 kg/m <sup>3</sup>	As per EN 13238: 2010, clause 5.2
Fixing to substrate	Valid for use with and without adhesive in end use conditions	As per EN 14041: 2004/AC: 2006 clause 4.1.2

This classification is valid for the following product parameters:

- Overall thickness: 5mm (no variation allowed)
- Overall weight per unit area: 4.8kg/m<sup>2</sup> (no variation allowed)
- Colour: Any colour
- Print pattern: Any permitted
- Use of flame retardants: No variation allowed
- Print thickness: No variation allowed
- Print application rate: No variation allowed
- Pile height above backing: 2mm (no variation allowed)
- Pile weight per unit area: 250g/m<sup>2</sup> (no variation allowed)
- Pile adhesive thickness: 0.3mm (no variation allowed)
- Pile adhesive weight per unit area: 370g/m<sup>2</sup> (no variation allowed)
- Fibreglass reinforcement thickness: 0.55mm (no variation allowed)
- Fibreglass reinforcement weight per unit area: 58g/m<sup>2</sup> (no variation allowed)
- Scrim reinforcement thickness: 0.2mm (no variation allowed)
- Scrim reinforcement weight per unit area: 27g/m<sup>2</sup> (no variation allowed)
- Back coating #1 thickness: 0.45mm (no variation allowed)
- Back coating #1 weight per unit area: 680g/m<sup>2</sup> (no variation allowed)
- Back coating #1A thickness: 0.3mm (no variation allowed)
- Back coating #1A weight per unit area: 460g/m<sup>2</sup> (no variation allowed)
- Tile backing thickness: 1.6mm (no variation allowed)
- Tile backing weight per unit area: 2.3kg/m<sup>2</sup> (no variation allowed)

- Back coating #2 thickness: 0.4mm (no variation allowed)
- Back coating #2 weight per unit area: 630g/m<sup>2</sup> (no variation allowed)
- Secondary backing thickness: 0.12mm (no variation allowed)
- Secondary backing weight per unit area: 30g/m<sup>2</sup> (no variation allowed)
- Construction: No variation allowed
- Composition: No variation allowed

## 4.4 Fire performance parameters for B<sub>FL</sub> - s1

All the products described in Section 2.2 and within the field of application defined in Section 4.3 comply with the fire performance parameters shown in Table 6. The test results can be found in Section 3.2.

**Table 6** Fire performance parameters for B<sub>FL</sub> - s1

Test method	Parameter	Continuous parameters	Compliance with parameters
EN ISO 9239-1: 2010	Critical heat flux, (kW/m <sup>2</sup> )	CHF ≥ 8,0 kW/m <sup>2</sup>	-
	Average smoke development, (%.min)	Smoke ≤ 750 %.min	-
EN ISO 11925-2: 2020 (15s exposure)	Extent of flame spread	-	Fs ≤ 150 mm within 20 s
	Flaming droplets / particles that ignite filter paper	-	N/A

Note: ‘-’ symbol confirms this parameter is not applicable.

## 5. Restrictions

At the time the standard EN 13501-1: 2018 was published, no decision was made about the duration of validity of a classification report.

When this report is used to support UKCA marking under the Construction Products Regulation 2011 (retained EU law EUR 2011/305) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020 and/or ‘CE+UK(NI)’ marking for Northern Ireland under the Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011, the provisions of those regulations prevail over any conflicting provisions in the designated/harmonised standards and technical specifications.

## 6. Limitations

The classification assigned to the product in this report is appropriate to a Declaration of Performance (DoP) by the manufacturer within the context of System 1 of AVCP and UKCA marking under the Construction Products Regulation 2011 (retained EU law EUR 2011/305) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020 and/or ‘CE+UK(NI)’ marking for Northern Ireland under the Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011, laying down harmonised conditions for the marketing of construction products.

The test laboratory played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide evidence for the traceability of the samples tested.

## 7. Validity

This document is the original version of this classification report and is written in English. In case of doubt the original version prevails over a translation.

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The classification results relate to the behaviour of a product under the particular conditions of the test(s); they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use, nor can the classification results be extrapolated and applied to other products, or imply suitability for use in configurations not specifically detailed in the classification report. The classification is based on the information available to Warringtonfire at the time of the report. Should conflicting or contradictory evidence become available, Warringtonfire reserves the right to unconditionally withdraw the classification report forthwith upon giving written notice of the same.

Reports are statements of fact prepared in accordance with the referenced version of the standards stated in Section 3 of this report. Test, classification and extended application are based upon the information provided to Warringtonfire. Warringtonfire takes no responsibility for the accuracy or completeness of such information.

The results stated in this classification report apply to the test specimens as received and/or specified in the referenced/supporting test reports. Any differences in composition, production process, thickness, density or colour of the product may significantly affect the performance and will therefore invalidate the application of the test and classification results to the variant product. It is recommended that any proposed variation to the tested configuration or product should be referred to the sponsor. The sponsor should then obtain appropriate documentary evidence of compliance from Warringtonfire or another accredited testing authority. The supplier of the product is responsible for ensuring that the product which is supplied for use is identical to the test specimens that were tested.

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