

Exova Warringtonfire  
Holmesfield Road  
Warrington  
WA1 2DS  
United Kingdom

T : [REDACTED]  
F : [REDACTED]  
E : warrington@exova.com  
W: www.exova.com



Testing. Advising. Assuring.

**Title:**

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

**Notified Body No:**

0833

**Product Name:**

"Kooltherm K103"

**Report No:**

WF 383173

**Issue No:**

1

**Prepared for:**

Kingspan Insulation Ltd  
Torvale Industrial Estate  
Pembroke  
Leominster  
HR6 9LA

**Date:**

4<sup>th</sup> May 2017



## 1. Introduction

This classification report defines the classification assigned to "Kooltherm K103", a family of phenolic insulation board products, in line with the procedures given in EN 13501-1:2007+A1:2009.

## 2. Details of classified product

### 2.1 General

The product, "Kooltherm K103", a family of phenolic insulation board products, is defined as being suitable for construction applications.

### 2.2 Product description

The product, "Kooltherm K103", a family of phenolic insulation board products, is fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description		Phenolic insulation board
Name of manufacturer		Kingspan Insulation Ltd.
Trade name		"Kooltherm K103"
Overall weight per unit area		1.26 to 3.64 kg/m <sup>2</sup>
Overall thickness		25mm to 100mm
Product configuration		<ul style="list-style-type: none"> <li>• Glass tissue facer (test face)</li> <li>• Phenolic foam</li> <li>• Glass tissue facer</li> </ul>
Glass tissue (test face)	Product reference	<b>See Note 1 below</b>
	Generic type	Glass tissue
	Name of manufacturer	<b>See Note 1 below</b>
	Weight per unit area	70g/m <sup>2</sup>
	Thickness	0.79mm
	Colour	"Light brown/off white"
	Flame retardant details	<b>See Note 2 below</b>
Foam	Product reference	"K103"
	Generic type	<b>See Note 1 below</b>
	Name of manufacturer	Kingspan Insulation Ltd
	Thickness	25mm to 100mm
	Density	<b>See Note 1 below</b>
	Colour	"Pinkish"
	Flame retardant details	<b>See Note 2 below</b>

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Glass tissue (test face)	Product reference	<b>See Note 1 below</b>
	Generic type	Glass tissue
	Name of manufacturer	<b>See Note 1 below</b>
	Weight per unit area	70g/m <sup>2</sup>
	Thickness	0.79mm
	Colour	"Light brown/off white"
	Flame retardant details	<b>See Note 2 below</b>
Substrate	Product reference	"Promat – Brandschultzbauplatten; Promatect-H"
	Generic type	Calcium Silicate based board
	Name of manufacturer	Promat
	Thickness	12mm
	Density	870kg/m <sup>3</sup>
	Flame retardant details	The substrate is inherently flame retardant
Mounting and fixing details		Fixed to calcium silicate utilising plate washers and screws
Joint details		Long wing: one horizontal at 500mm of specimen height, vertical 200mm in from corner line - Short wing one horizontal joint at 500mm height. As per EN 13823 5.2.2
Brief description of manufacturing process		Facing is autoadhesively bonded to phenolic foam during the manufacturing process. Foam boards made at 70°C under pressure.

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 instead held on the confidential file relating to this investigation.

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

### 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	Kingspan Insulation Limited	WF 378776	EN ISO 11925-2
		WF 378775	EN 13823
		WF 383172	EN/TS 15117
		WF 382451, WF 383172	EN 13501

## 3.2 Test results

Test method & test number		Parameter	No. tests	Results	
				Continuous parameter - mean (m)	Compliance parameters
EN ISO 11925-2	30s exposure - surface	F <sub>s</sub>	6, 6	55, 56.7	Compliant
		Flaming droplets/ particles		None	Compliant
	30s exposure – edge	F <sub>s</sub>	6, 6	33.3, 38.3	Compliant
		Flaming droplets/ particles		None	Compliant
	(30s exposure – edge turned at 90 degrees)	F <sub>s</sub>	6, 6	Nil, 47.5	Compliant
		Flaming droplets/ particles		None	Compliant
EN 13823		FIGRA <sub>0.2MJ</sub>	100mm product	182.39	Compliant
			25mm product	159.34	
		FIGRA <sub>0.4MJ</sub>	100mm product	83.28	Compliant
			25mm product	78.78	
		THR <sub>600s</sub>	100mm product	3.45	Compliant
			25mm product	3.10	
		LFS	100mm product	None	Compliant
			25mm product	None	
		SMOGRA	100mm product	9.24	Compliant
			25mm product	0.00	
TSP <sub>600s</sub>	100mm product	40.71	Compliant		
	25mm product	30.86			

## 4. Classification and field of application

### 4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2007+A1: 2009, EN 15715: 2009 and EN/TS 15117.

### 4.2 Classification

The product, "Kooltherm K103", a family of phenolic insulation board products, in relation to its reaction to fire behaviour is classified:

**C**

The additional classification in relation to smoke production is:

**s1**

The additional classification in relation to flaming droplets / particles is:

**d0**

The format of the reaction to fire classification for construction applications, excluding flooring and linear pipe thermal insulation is:

Fire Behaviour		Smoke Production			Flaming Droplets	
<b>C</b>	<b>-</b>	<b>s</b>	<b>1</b>	<b>,</b>	<b>d</b>	<b>0</b>

**i.e. C – s1 , d0**

**Reaction to fire classification: C – s1, d0**

### 4.3 Field of application

This classification is valid for the following end use applications:

- i) Construction applications used over any substrate having a minimum thickness of 12mm, a minimum density of 870kg/m<sup>3</sup> and a fire performance of A2-s1, d0 or better (except paper faced gypsum plasterboard).



This classification is also valid for the following product parameters:

Product thickness	25 to 100mm
Insulation Density	±15%
Insulation composition	With equal or less organic content
Type of facings	For the tested type only
Thickness of facing	For the tested thickness only. The test result obtained for Euroclass A1 and A2 facings will also be valid for thicker facings of the same type.
Type of fixings	mechanical fixings or glue
Product construction	No variation allowed

5. Limitations

This document does not represent type approval or certification of the product.

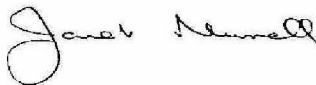
SIGNED



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**Matthew Dale**  
Senior Certification Engineer  
Technical Department

APPROVED



.....

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

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