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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 K15"

**Report No:**

WF 364937

**Issue No:**

1

**Prepared for:**

Joint Sponsors

**Kingspan Insulation  
Limited**

Pembridge, Leominster  
Herefordshire, HR6 9LA

And

**Kingspan Insulation  
Limited**

Bree Industrial Estate,  
Castleblayney, Co. Monaghan  
Ireland

**Date:**

13<sup>th</sup> May 2016



0249

## 1. Introduction

This classification report defines the classification assigned to "Kooltherm K15", a family of foil-faced thermoset phenolic insulation boards, in line with the procedures given in EN 13501-1:2007+A1: 2009.

## 2. Details of classified product

### 2.1 General

The products, "Kooltherm K15", a family of foil-faced thermoset phenolic insulation boards, is defined as being suitable for construction applications, excluding flooring.

### 2.2 Product description

The products, "Kooltherm K15", a family of foil-faced thermoset phenolic insulation boards, is fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description		Foil-faced thermoset phenolic insulation board
Name of manufacturer		Kingspan Insulation Ltd.
Trade names		"Kooltherm K15"
Thickness		50mm to 140mm
Weight per unit area		2.09kg/m <sup>2</sup> to 5.70kg/m <sup>2</sup>
Product configuration		<ul style="list-style-type: none"> <li>• Foil facer</li> <li>• Phenolic foam</li> <li>• Foil facer</li> </ul>
Aluminium foil	Product reference	<b>See Note 1 below</b>
	Generic type	Composite foil
	Name of manufacturer	<b>See Note 1 below</b>
	Weight per unit area	<b>See Note 1 below</b>
	Thickness	<b>See Note 1 below</b>
	Colour	"Silver Foil"
	Flame retardant details	<b>See Note 2 below</b>
Foam	Product references	"K15"
	Generic type	Phenolic foam
	Name of manufacturer	Kingspan Insulation Ltd.
	Thickness	50mm to 140mm
	Density	35kg/m <sup>3</sup> ±15%
	Colour reference	"Pink"
	Flame retardant details	<b>See Note 2 below</b>

Continued on next page

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		As per end use application: reisser countersunk screws 6x150mm with 70x70mm SFS 'Isofast' ID 70 plate washers. Edge fixings sited more than 50mm and not less than 150mm from board edges with no overlap of board joints. Fixings applied at overall rate of 9.44 per m <sup>2</sup> .
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		Facings auto adhesively bonded to phenolic foam during the manufacturing process. Foam boards are 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, extended application reports, classification reports & test results in support of classification

#### 3.1 Test reports, extended application reports, classification 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 329591	EN ISO 11925-2
Exova Warringtonfire	Kingspan Insulation Limited	WF 329583	EN 13823
Exova Warringtonfire	Kingspan Insulation Limited	WF 349131	EN 13501
Exova Warringtonfire	Kingspan Insulation Limited	WF 346936	EN 15117
BRE Global	Kingspan Insulation Limited	P100160-1000-1	EN ISO 11925-2
BRE Global	Kingspan Insulation Limited	P100160-1000-3	EN 13823
BRE Global	Kingspan Insulation Limited	P100160-1000-4	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, WF 329591	33.3, 7.67	Compliant
	Flaming droplets/ particles	6, P100160-1000-1	None, None	Compliant
EN ISO 11925-2 (30s exposure - edge)	F <sub>s</sub>	6, WF 329591	30, 38.3	Compliant
	Flaming droplets/ particles	6, P100160-1000-1	None, None	Compliant
EN ISO 11925-2 (30s exposure - edge turned at 90 degrees)	F <sub>s</sub>	6, WF 329591	10, 39.75	Compliant
	Flaming droplets/ particles	8, P100160-1000-1	None, None	Compliant
EN 13823	FIGRA <sub>0.2MJ</sub>	3, WF 329583	393.25	Compliant
		3, P100160-1000-3	318.3	
	FIGRA <sub>0.4MJ</sub>	3, WF 329583	231.76	Compliant
		3, P100160-1000-3	220.0	
	THR <sub>600s</sub>	3, WF 329583	3.72	Compliant
		3, P100160-1000-3	3.4	
	LFS	3, WF 329583	None	Compliant
		3, P100160-1000-3	None	
	SMOGRA	3, WF 329583	0.00	Compliant
		3, P100160-1000-3	0.9	
	TSP <sub>600s</sub>	3, WF 329583	25.06	Compliant
		3, P100160-1000-3	33.9	

#### 4. Classification and field of application

##### 4.1 Reference of classification

This classification has been carried out in accordance with clause 8 of EN 13501-1:2007+A1:2009 and EN 15715.

##### 4.2 Classification

The products, "Kooltherm K15", a family of foil-faced thermoset phenolic insulation boards, 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>s</b>	<b>1</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 mechanically fixed over any substrate with a density equal to or greater than  $870\text{kg/m}^3$ , having a minimum thickness of 12mm and a fire performance of A2 or better (excluding paper faced gypsum plasterboard).

This classification is also valid for the following product parameters:

Insulation thickness	50mm to 140mm
Insulation density	$35\text{kg/m}^3 \pm 15\%$
Product composition	No variation allowed
Facings	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.

"The classification assigned to the product in this report is appropriate to a declaration of conformity by the manufacturer within the context of system 3 attestation of conformity and CE marking under the Construction Products Directive. The manufacturer has made a declaration, which is held on file. This confirms that the products design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that system 3 attestation is appropriate. The test laboratory has, therefore, played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide for traceability of the samples tested."

**SIGNED**

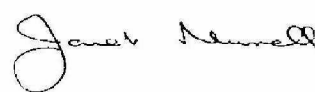


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**APPROVED**



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on behalf of **Exova Warringtonfire**

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