

## BRE Global Classification Report

**Phenolic Insulated Rainscreen system. Classification of fire performance in accordance with BR 135: 2013 Annex A**

**Prepared for:** Kingspan Insulation Ltd

**Date:** 28 September 2015

**Report Number:** P101812-1000 Issue 1

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## **CLASSIFICATION OF FIRE PERFORMANCE IN ACCORDANCE WITH BR 135:2013 Annex A**

**Sponsor:** Kingspan Insulation Ltd, Pembridge, Leominster, Herefordshire HR6 9LA

**Prepared by:** BRE Global Ltd, BRE, Bucknalls Lane, Garston, Watford, WD25 9XX, England

**Product name:** Phenolic Insulated Rainscreen System

**Classification report No.:** P101812-1000

**Issue number:** 1

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This classification report consists of 11 pages and may only be used or reproduced in its entirety.



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## 1 Introduction

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This report presents the classification of the system detailed in section 2. The classification is carried out in accordance with the procedures given in BR 135 – ‘Fire performance of external thermal insulation for walls of multi-storey buildings’, Third edition, Annex A 2013. This classification should be read in conjunction with this document and the associated test reports referenced in section 4.



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## 2 Details of the Classified Product

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### 2.1 Description of substrate

The specimen was installed on to the right hand face of the BRE Global External Cladding Test Facility. This is a multi-faced test facility constructed from low-density concrete blocks on to which the test specimen was installed.

### 2.2 Description of product

Phenolic Insulated Rainscreen System.

Fixing details: Kooltherm K15 Zero ODP Phenolic Rainscreen Insulation Boards (1200mm x 900mm x 60mm thick) were mechanically fixed to the block work substrate. 1200mm x 900mm x 6mm thick cement particle boards, manufactured by UAC, were mechanically fixed at 600mm centres to an aluminium railing system which was also mechanically fixed to the block work substrate. The cement boards provided the overcladding for the rainscreen system. A 40mm deep ventilated cavity was created between the Kooltherm K15 Zero ODP Phenolic Rainscreen Insulation Board and the cement particle board. Fire stopping was provided by a ventilated rainscreen barrier system, comprising of nominal 2.5mm thick graphite based intumescent strip bonded to nominal 0.6mm thick galvanised steel sheet, and positioned 0.5m and 4m above the fire chamber on both the main face and the wing face.

The specimen area was 8.4m x 2.70m on the main face and 8.4m x 1.8m on the wing face. The panel layout is given in Figure 1.

All test materials were supplied by the sponsor. BRE were not involved in the sample selection process and therefore cannot comment upon the relationship between samples supplied for test and the product supplied to market.

### 2.3 Installation of Specimen

The test sponsor undertook the supply and installation of the test specimen.



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### 3 Product Specification

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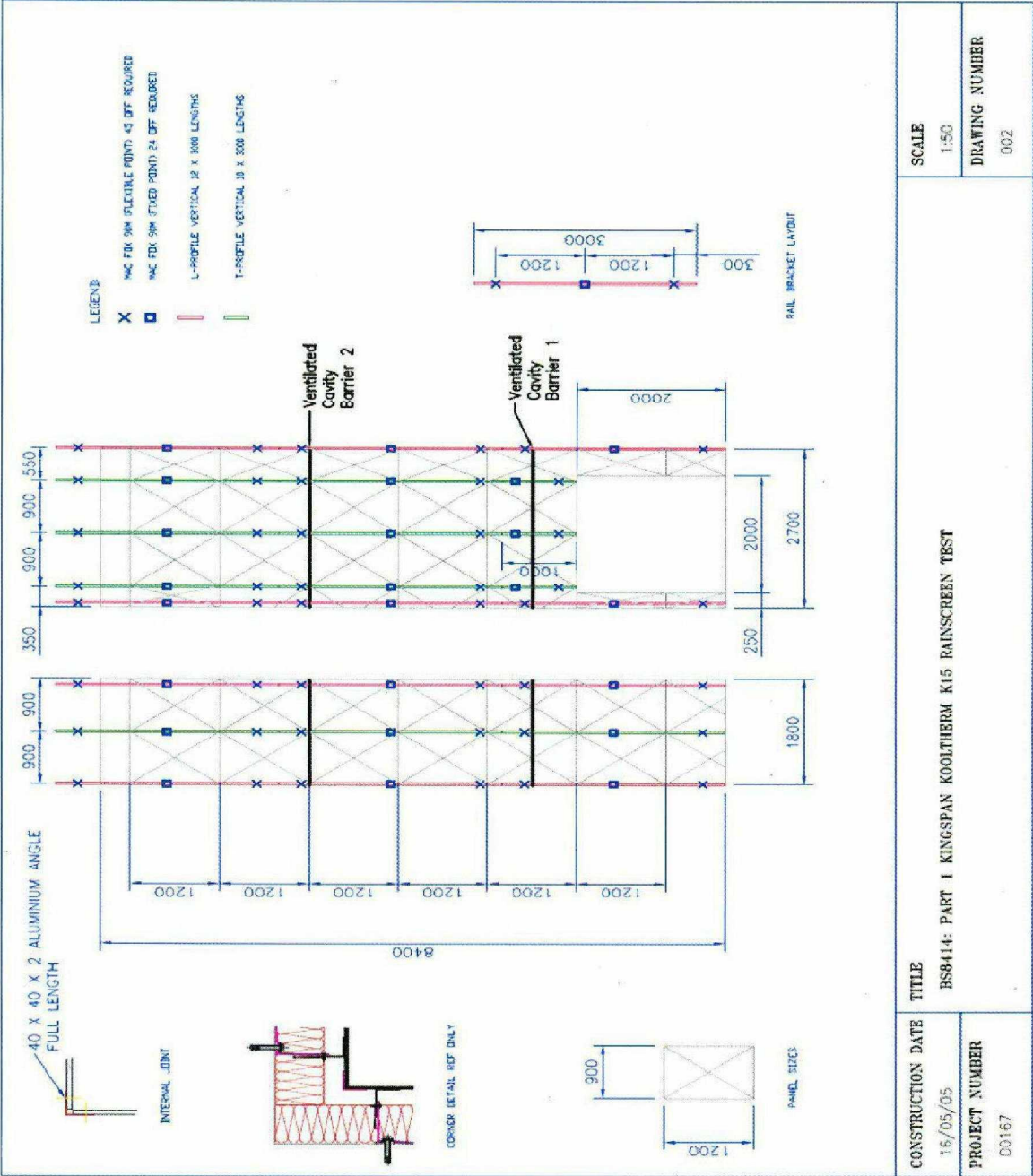


Figure 1. Product details





## 4 Supporting Evidence

### 4.1 Test reports

Name of Laboratory	Name of sponsor	Test reports/extended application report Nos.	Test method / extended application rules & date
BRE Global, BRE	Kingspan Insulation Limited	Test report 220876	BS 8414-1: 2002

### 4.2 Test results

Test method & test number	Parameter	No. tests	Results	
			Fire spread test result time, $t_s$ (min)	Compliance with parameters in Annex B BR135:2013
BS 8414-1: 2002	External fire spread	1	>15 minutes	Compliant
	Cavity behind rainscreen (cavity 1)		>15 minutes	Compliant
	Internal fire spread Insulation layer		>15 minutes	Compliant
	Internal fire spread Burn through		>15 minutes	Compliant



#### 4.3 Mechanical Performance

The test ended at 49 minutes when no further flaming could be seen and the temperatures were falling.

On the main face, the cement board over cladding was detached from the sample up to height of 4.00m and to a width of 2.15m at its widest point above the head of the fire chamber. On the wing face, the cement particle board had detached from 2.00m (floor level) to 3.00m above the head of the fire chamber. The panels were detached to 0.90m from the internal corner.



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## 5 Classification and field of application

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### 5.1 Reference of classification

This classification has been carried out in accordance with Annex B of BR 135 – ‘Fire performance of external thermal insulation for walls of multi-storey buildings.’ Third Edition 2013.

### 5.2 Classification

The system described in this classification report has been tested and met the performance criteria set in Annex A of BR 135:2013.

### 5.3 Field of application

This classification is valid only for the system as installed and detailed in Section 2 of this classification report and the associated details found in the related test reports, referenced in Section 4.



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## 6 Limitations

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

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons, it is recommended that the relevance of test and classification reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test or classification to ensure that they are consistent with current practices, and if required may endorse the report.