



le futur en construction

**SAFETY, STRUCTURES AND FIRE DEPARTMENT**

Reaction to fire

# **REACTION TO FIRE CLASSIFICATION REPORT**

## **No. RA07-0391**

### **ACCORDING TO THE EUROPEAN STANDARD**

### **NF EN 13501-1**

**Provided the Ordinance from the Ministry of the interior, November 21, 2002.  
Pilot laboratory approved by the Ministry of the Interior (Ordinance of February 5, 1959, amended)  
Seule la version française fait foi.  
Only the French version is legally acceptable.**

**Valid 5 years as from September 27<sup>th</sup>, 2007**

**Owner:** **KINGSPAN INSULATED PANELS**  
**Greenfield Business Park n°2**  
**Greenfield, HOLYWELL**  
**CH8 7GJ**  
**GREAT BRITAIN**

**Commercial brand(s):** **KS1000RW**

**Brief description:** **Self-supporting double skin metal faced insulating panel with polyisocyanurate core**  
(see detailed description in paragraph 2)

**Date of issue:** **September 27<sup>th</sup>, 2007**

The indicated classification does not prejudice the conformity of marketed materials with the samples submitted to the tests and under no circumstances, this document should not be considered as type approval or certification of the product in the sense of the L 115-27 article of the consumption's code and of the law dated June 3<sup>rd</sup>, 1994.  
If this report is being issued by e-mail and/or on an electronic medium, only the hard copy of the report signed by CSTB shall prevail in the event of a dispute.  
The reproduction of this classification report is only authorised in its integral form.  
It comprises 4 pages.

**CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT**

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## 1. Introduction

This classification report defines the classification assigned to the above-mentioned product(s) in accordance with the procedures given in the NF EN 13501-1 standard.

## 2. Product description

Rigid panel consisting of polyisocyanurate foam injected between two precoated steel sheets. Panel provided with a polyvinyl chloride based adhesive tape placed on both sides of the foam panels forming the joint.

Nominal thicknesses of the provided panels: 40 and 100 mm.

Nominal thicknesses of the steel sheets: 0.36 mm (inside facing) and 0.465 mm (outside facing).

Nominal density of the foam: 38 kg/m<sup>3</sup>.

Finishing coat of the inside facing: polyester 18 µm.

Reference of the foam: SP39 (blowing agent: pentane).

Colour of the foam: yellow.

Colour of the finishing coat: white.

## 3. Tests reports and tests results in support of this classification

### 3.1 Tests reports

| Name of laboratory | Name of sponsor                                                                                                                                    | Test identification | Test report Nos. | Test method                |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|----------------------------|
| <b>CSTB</b>        | <b>KINGSPAN INSULATED PANELS</b><br><b>Greenfield Business Park n°2</b><br><b>Greenfield, HOLYWELL</b><br><b>CH8 7GJ</b><br><b>GRANDE BRETAGNE</b> | <b>ES541051140</b>  | RA07-0391        | EN ISO 11925-2<br>EN 13823 |

**3.2 Tests results**

| Test method                                             | Product  | Number of tests | Parameters                  | Results                    |
|---------------------------------------------------------|----------|-----------------|-----------------------------|----------------------------|
|                                                         |          |                 |                             | Compliance parameters      |
| EN ISO 11925-2 30s edge exposure specimen turned at 90° | KS1000RW | 6               | Fs > 150 mm<br>Filter paper | Not reached<br>Not ignited |
| EN ISO 11925-2 30s edge exposure specimen turned at 90° | KS1000RW | 6               | Fs > 150 mm<br>Filter paper | Not reached<br>Not ignited |
| EN ISO 11925-2 30s edge exposure specimen turned at 90° | KS1000RW | 6               | Fs > 150 mm<br>Filter paper | Not reached<br>Not ignited |

| Test method | Product            | Number of tests | Parameters                              | Results                            |                       |
|-------------|--------------------|-----------------|-----------------------------------------|------------------------------------|-----------------------|
|             |                    |                 |                                         | Continuous parameters : mean value | Compliance parameters |
| EN 13823    | KS1000RW<br>40 mm  | 3               | FIGRA <sub>0.2MJ</sub> (W/s)            | <b>71.9</b>                        | -                     |
|             |                    |                 | FIGRA <sub>0.4MJ</sub> (W/s)            | <b>67.7</b>                        | -                     |
|             |                    |                 | LFS                                     | -                                  | <b>Not reached</b>    |
|             |                    |                 | THR <sub>600s</sub> (MJ)                | <b>3.0</b>                         | -                     |
|             |                    |                 | SMOGRA(m <sup>2</sup> /s <sup>2</sup> ) | <b>8.6</b>                         | -                     |
|             |                    |                 | TSP <sub>600s</sub> (m <sup>2</sup> )   | <b>67.2</b>                        | -                     |
|             |                    |                 | Flaming droplets or debris              | -                                  | <b>None</b>           |
| EN 13823    | KS1000RW<br>100 mm | 3               | FIGRA <sub>0.2MJ</sub> (W/s)            | <b>43.1</b>                        | -                     |
|             |                    |                 | FIGRA <sub>0.4MJ</sub> (W/s)            | <b>38.8</b>                        | -                     |
|             |                    |                 | LFS                                     | -                                  | <b>Not reached</b>    |
|             |                    |                 | THR <sub>600s</sub> (MJ)                | <b>3.4</b>                         | -                     |
|             |                    |                 | SMOGRA(m <sup>2</sup> /s <sup>2</sup> ) | <b>6.7</b>                         | -                     |
|             |                    |                 | TSP <sub>600s</sub> (m <sup>2</sup> )   | <b>67.1</b>                        | -                     |
|             |                    |                 | Flaming droplets or debris              | -                                  | <b>None</b>           |

(-) means: not applicable

**4. Classification and direct field of application**

**4.1 Reference of the classification**

This classification has been carried out in accordance with clauses 10.6, 10.9.3 and 10.10.1 of the NF EN 13501-1 standard.

**4.2 Classification**

| Fire behaviour |   | Smoke production |   | Flaming droplets or debris |
|----------------|---|------------------|---|----------------------------|
| <b>B</b>       | - | <b>s2</b>        | , | <b>d0</b>                  |

**Classification: B - s2, d0**

**4.3 Field of application**

This classification is valid for the following product parameters:

- A range of thicknesses from 40 to 100 mm.
- A nominal density of the foam of 38 kg/m<sup>3</sup> ± 10 %.
- For the following finishing coats:
  - \* Inside facing: polyester 18 µm.
  - \* Outside facing: HPS200 200µm, HDX 25 µm, PVDF 27 µm, polyester 25 µm.

This classification is valid for the following end use conditions:

- With a minimum air gap of 40 mm.
- For a fire on the internal side only.

Champs-sur-Marne, September 27<sup>th</sup>, 2007

**The Technician  
Responsible for the test**



**Gildas CREACH**

**The Head of Reaction to Fire activity**



**Martial BONHOMME**

.....END OF THE CLASSIFICATION REPORT