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**Title:**

Classification of  
Fire Resistance Performance  
in accordance with  
EN 13501-2: 2009 for Paroc  
Panel AST S

**WF Report No:**

152748 (Issue 3)

**Prepared for:**

**Paroc Panel System Oy Ab**

Skräbbölenie 14-16

FI-21600 Parainen

Finland

**Date:** 31<sup>st</sup> March 2006

## **1. Introduction**

This classification report defines the classification assigned to non-loadbearing wall constructions comprising Paroc Panel AST S, in accordance with the procedures given in EN 13501-2:2009.

## **2. Details of classified product**

### **2.1 General**

The element, Paroc Panel AST S, is defined as a non-loadbearing element (partition). Its function is to resist fire in respect of the fire performance characteristics given in Clause 5 of EN 13501-2:2009.

### **2.2 Product description**

The element, Paroc Panel AST S, is fully described in the test reports and Extended Field of Application report provided in support of this classification, which are listed in Clause 3.1.

#### Product description:

The product that is the subject of this report is a stone wool cored sandwich panel, faced with steel sheet (0.5 mm to 0.7 mm thick), as manufactured by Paroc Panel System Oy Ab, Skräbböentie 14-16, FI-21600 Parainen, Finland, having a nominal thickness of 50, 80, 100, 120, 150, 175, 200 and 240 mm and a nominal density of 85 kg/m<sup>3</sup>.

The stone wool insulation was manufactured to the tolerances and specifications detailed in the formulation specification for the product having been produced at Paroc Oy Ab, Stone Wool Plant, FIN-21600 Pargas, Finland.

The product, Paroc Panel AST S, is fully described in the test reports provided in support of the classification listed in 3.1.

### 3. Test reports/extended application reports & test results in support of classification

#### 3.1 Test reports/extended application reports

| Name of Laboratory           | Name of sponsor          | Test reports/extended application report Nos. | Test method / extended application rules & date  |
|------------------------------|--------------------------|---|--|
| warringtonfire               | Paroc Panel System Oy Ab | WF Test Report No. 150109                     | EN 1364-1:1999   |
| warringtonfire               | Paroc Panel System Oy Ab | WF Test Report No. 150110                     | EN 1364-1:1999   |
| Instytut Techniki Budowlanej | Paroc Panel System Oy Ab | LP 706.1/05                                   | EN 1364-1:1999   |
| warringtonfire               | Paroc Panel System Oy Ab | WF Report No. 152747                          | EN 15254-5: 2009, Extended application of results from fire resistance tests – Non-loadbearing walls – Part 5: Metal sandwich panel construction |

#### 3.2 Test results

| Test method & Test number                       | Parameter  |                          | Results     |
|---|------------|--------------------------|-------------|
| EN 1364-1:1999<br><br>WF Test Report No. 150109 | Integrity  | cotton pad               | 265 minutes |
|   |            | gap gauges               | 266 minutes |
|   |            | sustained flaming        | 265 minutes |
|   | Insulation | mean temperature rise    | 255 minutes |
|   |            | maximum temperature rise | 246 minutes |
| EN 1364-1:1999<br><br>WF Test Report No. 150110 | Integrity  | cotton pad               | 107 minutes |
|   |            | gap gauges               | 107 minutes |
|   |            | sustained flaming        | 107 minutes |
|   | Insulation | mean temperature rise    | 28 minutes  |
|   |            | maximum temperature rise | 34 minutes  |

| Test method & Test number         | Parameter  |                          | Results     |
|-----------------------------------|------------|--------------------------|-------------|
| EN 1364-1:1999<br><br>LP 706.1/05 | Integrity  | cotton pad               | 67 minutes* |
|                                   |            | gap gauges               | 67 minutes* |
|                                   |            | sustained flaming        | 67 minutes* |
|                                   | Insulation | mean temperature rise    | 67 minutes* |
|                                   |            | maximum temperature rise | 67 minutes* |

\*test discontinued

#### 4. Classification and field of application

##### 4.1 Reference of classification

This classification has been carried out in accordance with Clause 7.5 of EN 13501-2:2009.

##### 4.2 Classification

The element, Paroc Panel AST S is classified according to the following combinations of performance parameters and classes as appropriate.

|   |   |   |   |  |   |   |   |   |   |         |    |    |   |
|---|---|---|---|--|---|---|---|---|---|---------|----|----|---|
| R | E | I | W |  | t | - | M | C | S | IncSlow | sn | ef | r |
|---|---|---|---|--|---|---|---|---|---|---------|----|----|---|

##### 4.2.1 50 mm Thickness

**Fire resistance classifications:**  
*EI 20*  
*EW 20*

##### 4.2.2 80 mm Thickness

**Fire resistance classifications:**  
*EI 45*  
*EW 30*

**4.2.3 100 mm Thickness**

**Fire resistance classifications:**

*EI 60*  
*EW 60*

**4.2.4 120 mm Thickness**

**Fire resistance classifications:**

*EI 90*  
*EW 90*

**4.2.5 150 mm Thickness**

**Fire resistance classifications:**

*EI 120*  
*EW 120*

**4.2.6 175 mm Thickness**

**Fire resistance classifications:**

*EI 180*  
*EW 120*

**4.2.7  $\geq$  200 mm Thickness**

**Fire resistance classifications:**

*EI 240*  
*EW 120*

### 4.3 Field of application

This classification is valid for the following end use applications:

- non-loadbearing fire separating wall

This classification is also valid for the following product variations in accordance with EN 1364-1:1999 and EN 15254-5: 2009, Extended application of results from fire resistance tests – Non-loadbearing walls – Part 5: Metal sandwich panel construction.

| Parameter                                    | Factors  | EXAP Rules |
|--|--|------------|
| Height                                       | Unlimited decrease in height                                     | 5.3.1      |
|  | Increase in height (see limitations below*)                      | 5.3.1      |
| Width of Construction                        | Unlimited decrease and increase for vertically orientated panels | 5.3.5      |
| Thickness of wall and/or component materials | Unlimited increase, no decrease                                  | 5.3.2      |
| Linear dimensions of panels                  | Unlimited decrease in panel width, increase up to + 20%          | Table 2    |
| Spacing of fixings                           | Unlimited decrease, no increase                                  | Table 2    |

| <b>*Maximum Panel Spans</b> |                                 |     |       |     |     |     |     |     |
|-----------------------------|---------------------------------|-----|-------|-----|-----|-----|-----|-----|
| Panel Thickness (mm)        | Classification Period (minutes) |     |       |     |     |     |     |     |
|                             | 20                              | 30  | 45    | 60  | 90  | 120 | 180 | 240 |
| 50                          | 4m                              | -   | -     | -   | -   | -   | -   | -   |
| 80                          | 4m                              | 4m  | 4m    | -   | -   | -   | -   | -   |
| 100                         | 12m                             | 12m | 11.9m | 4m  | -   | -   | -   | -   |
| 120                         | 12m                             | 12m | 11.9m | 4m  | 4m  | -   | -   | -   |
| 150                         | 12m                             | 12m | 11.9m | 4m  | 4m  | 4m  | -   | -   |
| 175                         | 12m                             | 12m | 11.9m | 4m  | 4m  | 4m  | 4m  | -   |
| ≥ 200                       | 12m                             | 12m | 12m   | 12m | 12m | 4m  | 4m  | 4m  |

## 5. Limitations

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

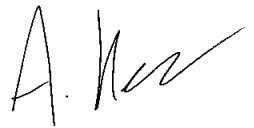
### SIGNED



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**D. Hankinson**

Principal Certification Engineer

### APPROVED



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**A. Kearns**

Technical Manager

Issue 2: Inclusion of 150 mm panel thickness and correction of core density (12<sup>th</sup> July 2006)

Issue 3: Changes to document due to update of WF Report No. 152747 (26<sup>th</sup> April 2010)

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