

CLASSIFICATION OF FIRE RESISTANCE PERFORMANCE IN ACCORDANCE WITH EN 13501-2: 2007

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Notified Body No: 1234

Product name: Two wooden door-/frame constructions with intumescent components of Environmental Seals

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1. Introduction

This classification report defines the classification assigned to a wooden door-/ frame construction with intumescent components of Environmental Seals in accordance with the procedures given in EN 13501-2:2007.

2. Details of classified product

2.1 General

Two wooden door-/frame constructions provided with intumescent components of Environmental Seals.

2.2 Product description

The door-/frame construction with dimensions 1980 x 760 x 40 mm is constructed of a Mahogany frame work with dimensions 92 x 37 mm. The frame work is filled with 2 or 3 STB boards, product 91 with on both sides a 2 mm layer of intumescent Multigraf, product 84. At both sides of the frame work a fire barrier, product 56 was applied. On both sides on top of the frame work and the fire barrier a plywood cladding was glued with a thickness of 6 mm. At the perimeter of the door a Meranti bead was applied with a thickness of 10 mm and fixed with panel pins 25 x 1 mm. The door was at both uprights provided with a clip in intumescent fire and smoke seal, with code C15 15/B60, with dimensions 15 x 6 mm.

The door was mounted with three black coated self closing hinges, type product no. 71, dimensions hinge plate 185 x 40 x 1.5 mm. At the back side of the hinge plates intumescent material was applied, product 71, with dimensions 25 x 100 x 1 mm.

One of the doors was provided with a solid metal letterbox. The bright chrome finished letterbox case was in the middle encased with one layer of intumescent material, product 49 with a thickness of 3 mm.

The door frame-/construction is mounted in a supporting construction of aerated light weight concrete. The construction is fully described in the test report provided in support of the classification listed in Clause 4.2.

3. Test reports & test results in support of classification

3.1 Test reports

Name of Laboratory	Name of sponsor	Test report No.	Test method
Efectis Nederland BV Centre for Fire Safety	Environmental Seals Ltd.	2008-Efectis-R0463	EN 1634-1:2000

3.2 Test results

3.2.1 Door with intumescent components and letter box

Test method & Test number	Parameter*	Results
EN 1634-1:2000	Integrity (E) – cotton pad – gap gauges – sustained flaming Insulation (I) – average temperature rise – maximum temperature rise (I ₁) – maximum temperature rise (I ₂) Radiation (W)	58 (not reached) 58 (not reached) 58 (reached) 58 (reached) 58 (reached) 58 (reached) 58 (reached)*

*Radiation reached due to end of integrity.

3.2.2 Door with only intumescent components

Test method & Test number	Parameter*	Results
EN 1634-1:2000	Integrity (E) – cotton pad – gap gauges – sustained flaming Insulation (I) – average temperature rise – maximum temperature rise (I ₁) – maximum temperature rise (I ₂) Radiation (W)	68 (not reached) 68 (not reached) 68 (reached) 57 (reached) 64 (reached) 64 (reached) 68 (reached)**

**Radiation reached due to end of integrity.

Exposure conditions of the fire resistance test:

- Standard temperature-time curve as in EN 1363-1: 1999;
- for the case “doors pivoting towards the fire”.

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with clause 7 of EN 13501-2:2007

4.2 Classification

A wooden door-/frame construction with intumescent components is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification:

E60

EI₁ 45

EI₂ 45

EW 60

4.3 Field of application

This classification is valid for a wooden door-/frame construction which is the same in detail as the tested structure and which comply with the following conditions:

- a) with dimensions of the door leaf smaller or equal as tested;
- b) with a frame work constructed of Mahogany with dimensions 92 x 37 mm;
- c) the door frame filled with 2 or 3 STB boards, product no. 91 with on both sides Multigraf intumescent material, product no. 84 with a thickness of 2 mm;
- d) At both sides of the framework a fire barrier curtain with product no.56, with a thickness of 0.23 mm;
- e) both sides of the frame covered with a plywood cladding, thickness of 6 mm;
- f) at the perimeter of the door a Meranti bead with a thickness of 10 mm;
- g) the door has at both uprights product 100, clip in intumescent fire and smoke seal with code C15 15/B60;
- h) the door is provided with three self closing door hinges, dimensions hinge plate 180 x 40 x 1.5 mm, with intumescent material between door and hinge, type product 71;
- i) the number of any movement restrictors such as locks, latches and hinges may be increased but shall not decreased;
- j) the distance of the two top hinges from the top of the door shall be equal to or less than that tested;
- k) the distance of the bottom hinge from the bottom of the door shall be equal to or less than that tested;
- l) the gaps of the door should be not greater than the maximum value specified;
- m) constructed from materials with a density equal or higher than tested;
- n) the door can provided with a letterbox in the middle encased with intumescent material, product 49, with a thickness of 3 mm;
- o) because a paint finish is not expected to contribute to the fire resistance, it is allowed to add a alternative paint at the surface of the wooden door construction.

5. Limitations

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

SIGNED

APPROVED



A.J. Lock

P.W.M. Kortekaas

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