

## CLASSIFICATION OF THE FIRE RESISTANCE IN ACCORDANCE WITH EN 13501-2: 2007 OF A FLOORCONSTRUCTION

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**Notified Body Nr.:** 1234

**Product name:** floorconstruction consisting of wooden beams and a Lewis® floor,  
anticipated fire resistance 60 minutes

**Classification report No.:** 2009-Efectis-R0794(E)

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## 1 Introduction

This classification report defines the classification assigned to a floorconstruction consisting of wooden beams and a Lewis® floor, anticipated fire resistance 60 minutes, in accordance with the procedures given in EN 13501-2:2007.

## 2 Details of classified product

Investigated was a wooden floor construction.

For details we refer to figure 1 and the description mentioned below.

### 2.1 Wooden beams

Material	:	Pinewood
Cross section	:	100 x 200 mm
Centre-to-centre distance	:	500 mm
Span	:	4150 mm

### 2.2 Ceiling channel on the underside of the floor

Type	:	BPB resilient ceiling channel
Centre-to-centre distance	:	500 mm
Fixing	:	grabber screws 25 mm, 2 per beam

### 2.3 Gypsum boards

Type	:	BPB Gyproc RF 12.5 mm
Thickness	:	12.5 mm
Number of layers	:	1
Fixing	:	grabber screws 35 mm, c.t.c. distance 300 mm
Joints	:	covered with paper tape and covered with BPB Promix Premium joint mortar

### 2.4 Lewis® floor

Type	:	Lewis plates
Overlap between plates	:	min. 100 mm
Fixing	:	the Lewis plates are joint together by self tapping screws $\varnothing$ 4.2 x 16 mm. The floor is not connected to the wooden beams
Support	:	between the Lewis plates and the top of the wooden beams Rockwool of 25 mm thick and 100 mm wide

### 2.5 Concrete floor

Type	:	Beamix
Thickness	:	50 mm (34 mm over the top of the Lewis plates)

### 2.6 Load on the floor

A uniformly distributed load of 2 kN/m<sup>2</sup> was present on the floor.

### 3 Test reports & test results in support of classification

#### 3.1 Test report

Name of Laboratory	Name of sponsors	Test report No.	Test method
Efectis Nederland BV	Reppel B.V.	2009-Efectis-R103(E)	EN 1365-2:1999

#### 3.2 Test results

Parameter*	Result
Loadbearing capacity (R)	79
Integrity (E)	
- Cotton pad	79
- Gap gauge: 6mm	79
- Gap gauge: 25 mm	79
- Sustained flaming	79
Insulation (I)	
- Average temperature rise 140°C	79
- Maximum temperature rise 180°C	77

### 4. Classification and field of application

#### 4.1 Reference of classification

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

### 5 Classification

The element, a floorconstruction consisting of wooden beams and a Lewis® floor, anticipated fire resistance 60 minutes is classified according to the following combinations of performance parameters and classes as appropriate. The test was conducted to the standard fire curve.

**Fire resistance classification:**

**REI 60**

## 5.1 Field of application

The test report details the method of construction, the test conditions and the results obtained when the specific element of construction described herein was tested following the procedure outlined in EN 1363-1, and where appropriate EN 1363-2. Any significant deviation with respect to size, constructional details, loads, stresses, edge or end conditions other than those allowed under the field of direct application in the relevant test method is not covered by this report.

The results are only valid for floor constructions with their hardware and materials that are in detail equal to the construction described in this report and that also fulfill the following requirements:

- with a maximum load on the floor of 2 kN/m<sup>2</sup>;
- with a height of the plenum of at least 200 mm;
- with a centre-to-centre distance of the beams of maximum 500 mm;
- with maximum bending moments and shear forces no larger than tested;
- with dimensions of the gypsum equal or smaller than tested.

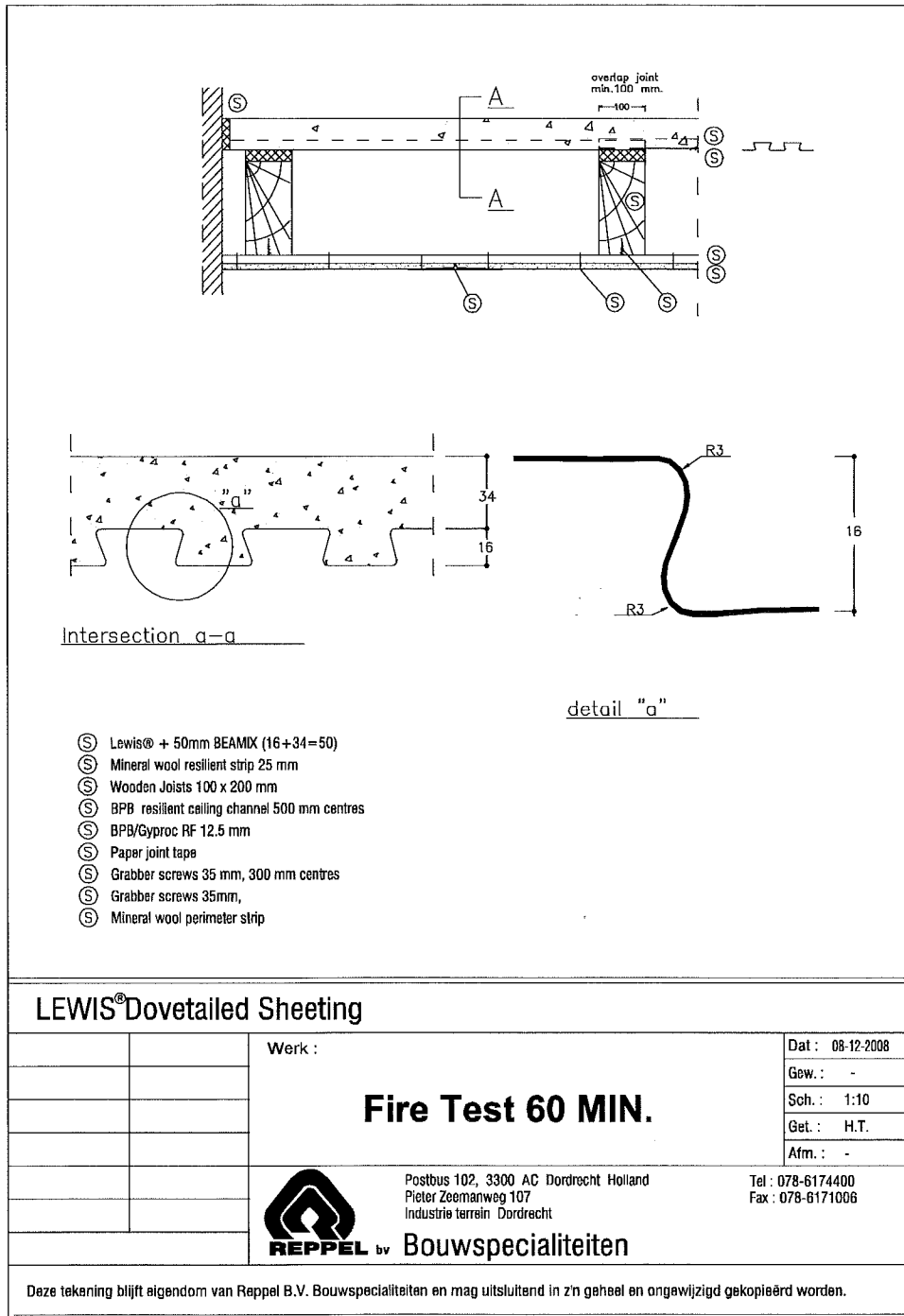


Figure 1 : overview of the test specimen

## 5.2 Limitations

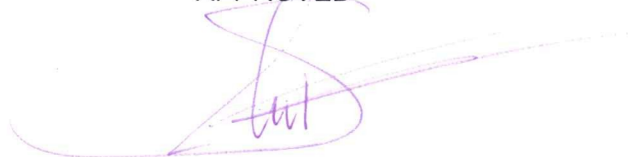
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SIGNED



P.W.M. Kortekaas

APPROVED



P.G.R. Scholten B.Sc.

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