

Linear joints sealed with Seal-It® 220 Silicon-FR Classification of the fire resistance according to EN 13501-2:2007+A1:2009

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1. SUBJECT

This classification report defines the resistance to fire classification assigned to linear joint seals in an aerated concrete wall and floor construction, in accordance with the procedures given in EN 13501-2:2007+A1:2009.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. GENERAL

The element, Connect Products type Seal-It® 220 Silicon-FR sealant, is defined as a linear joint seal.

2.2. SEPARATING ELEMENT

2.2.1. Wall and floor

The standard aerated concrete wall and floor construction according to EN 1366-4, had dimensions of 1500 x 1500 x 100 mm (w x h/l x t).

2.3. LINEAR JOINT SEALS

2.3.1. Joint seals

Before applying the Seal-It® 220 Silicon-FR sealant the surfaces were degreased with Seal-It® 510 Cleaner and primed with Seal-It® 520 Primer.

Four horizontal linear joints were applied in the wall and floor, being 10, 20, 30 and 40 mm wide with a length of min. 900 mm. All joints were square filled with sealant, for example the 10 mm wide joint was 10 mm deep, the 20 mm wide joint was 20 mm deep etc., at both sides of the separating element.

Behind the sealant a polyethylene backing material was applied. The surface of the sealant was smoothed with Seal-It® 550 Finish. The sealant had a drying period of 28 days before testing.

3. SAMPLING AND MANUFACTURING OF THE CONSTRUCTION

Table 1:

Connect Products BV	<ul style="list-style-type: none"> Sealant and backing material Applying sealant and backing material
Efectis Nederland BV Centre for Fire Safety	<ul style="list-style-type: none"> Test frame Aerated concrete wall and floor

For the execution of the fire test, the materials stated in table 2 have been sampled. The sampling form is hold on file at Efectis Nederland.

Table 2:

Material	Sampled by	Sampled for	Sampling date
Seal-It® 220 Silicon-FR	Efectis Nederland BV	Connect Products BV	March 12, 2013

4. TEST REPORT & TET RESULTS IN SUPPORT OF CLASSIFICATION

4.1. TEST REPORT

Name of laboratory	Name of sponsor	Test report no.	Test method
Efectis Nederland BV, Centre for Fire Safety	Connect Products BV	2013-Efectis-R0207a 2013-Efectis-R0207c	EN 1366- 4:2006+A1:2010

4.2. TEST RESULTS

Table 3: Summary of test results of wall test

Integrity, (E)		
All joint seals		
- Cotton pad	240 minutes	No failure
- Flames present longer than 10 sec.	240 minutes	No failure
Insulation, (I)		
- Max. temperature rise 10 mm joint	148 minutes	Failure
- Max. temperature rise 20 mm joint	133 minutes	Failure
- Max. temperature rise 30 mm joint	225 minutes	Failure
- Max. temperature rise 40 mm joint	240 minutes	No failure

Table 4: Summary of test results of floor test

Integrity, (E)		
All joint seals		
- Cotton pad	240 minutes	No failure
- Flames present longer than 10 sec.	240 minutes	No failure
Insulation, (I)		
- Max. temperature rise 10 mm joint	145 minutes	Failure
- Max. temperature rise 20 mm joint	125 minutes	Failure
- Max. temperature rise 30 mm joint	173 minutes	Failure
- Max. temperature rise 40 mm joint	223 minutes	Failure

5. CLASSIFICATION AND DIRECT FIELD OF APPLICATION

5.1. REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with clause 7 of EN 13501-2:2007+A1:2009.

5.2. CLASSIFICATION

The fire resistance of linear joints sealed with a Connect Products type Seal-It® 220 Silicon-FR sealant, applied in an aerated concrete wall and floor construction.

Joint width and depth (mm)	Separating element	Classification
10 mm	Wall	EI 120 - V - X
	Floor	EI 120 - H - X
20 mm	Wall	EI 120 - V - X
	Floor	EI 120 - H - X
30 mm	Wall	EI 180 - V - X
	Floor	EI 120 - H - X
40 mm	Wall	EI 240 - V - X
	Floor	EI 180 - H - X

5.3. FIELD OF APPLICATION

The results of the fire test are directly applicable to similar constructions, where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability.

5.3.1. Orientation

Test orientation 'B' is tested; a vertical linear joint in a vertical test construction and test orientation 'A'; linear joints in a horizontal test construction.

The test results apply to joints in floors, vertical joints in walls and a horizontal wall joint abutting a floor, ceiling or roof.

5.3.2. Supporting construction

The test results are valid for concrete, block work and masonry separating elements of a thickness (min. 100 mm) and density (min. 600 kg/m³) equal to or greater than that tested.

5.3.3. Seal position

The test results are valid for the position in which the seal was tested. The seals applied at both sides of the separating element according to Figure 3, type 4 in EN 1366-4.

5.3.4. Joint width and depth

The widths of the joint are restricted to 10, 20, 30 and 40 mm, with a depth of respectively 10, 20, 30 and 40 mm.

6. LIMITATIONS

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



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Project leader fire resistance



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7. FIGURES

Figure 1: Detail of wall specimen

Figure 2: Detail of floor specimen

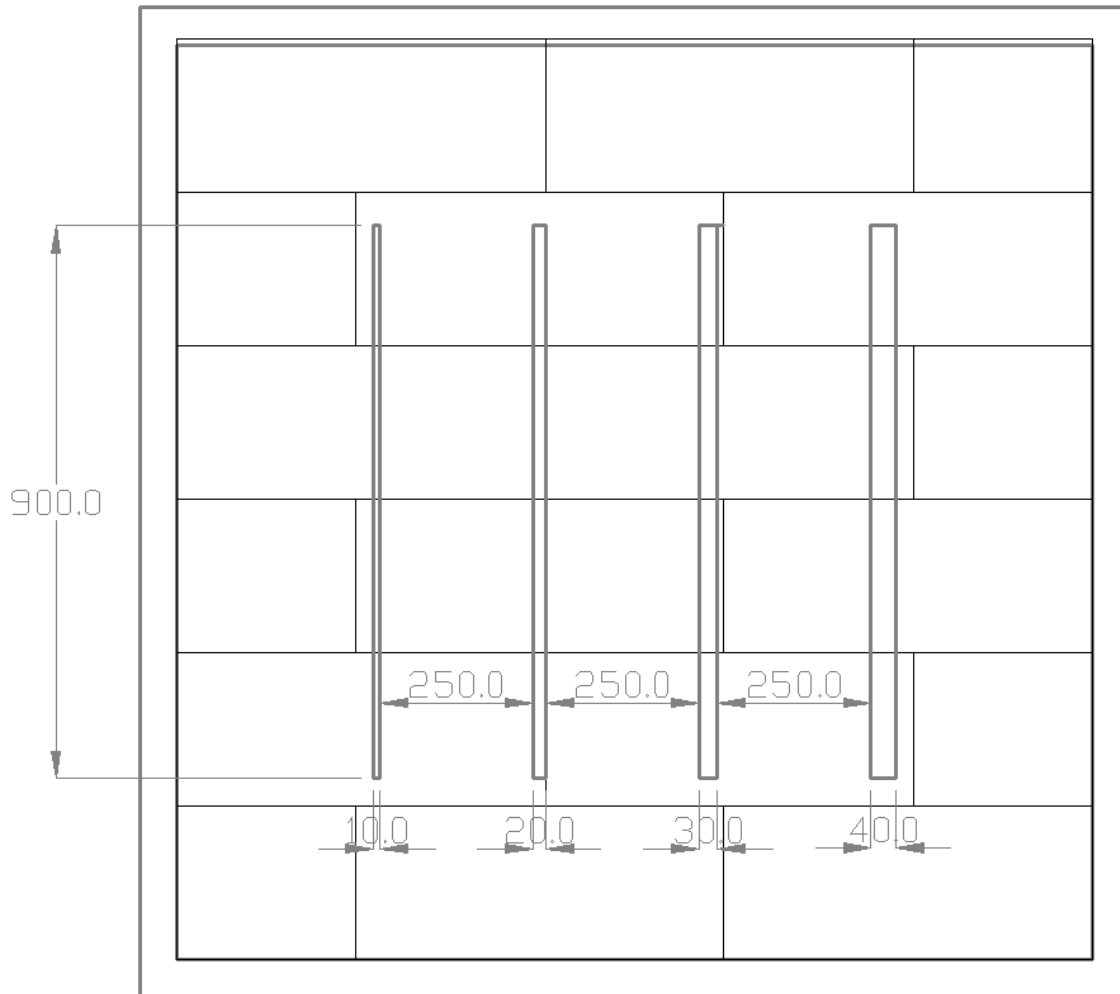


Figure 1: Detail of wall specimen

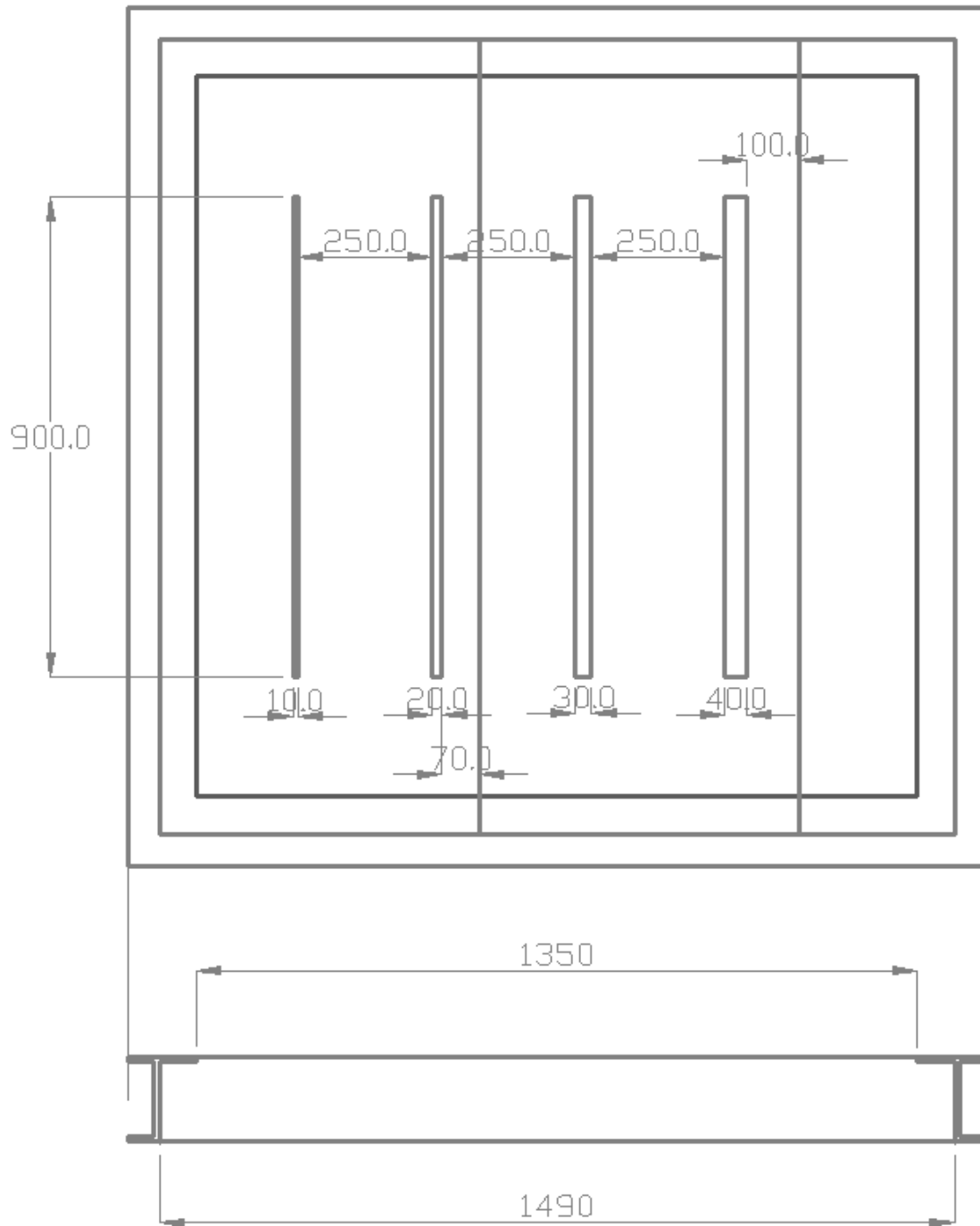


Figure 2: Detail of floor specimen