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Title:

The Fire Resistance Performance Of Three Specimens Of Floor Mounted 'Open-State' Cavity Barriers, When Tested Utilising The General Principles Of ASFP Technical Guidance Document - TDG 19: (Nov 2017) And Guidelines from prEN1364-6: 201X

Report No:

397879



Prepared for:

Siderise Insulations Ltd

Forge Industrial Estate
Maesteg
Bridgend
Mid Glamorgan
CF34 0AZ

Date:

26th September 2018

SIDERISE TEST REPORT EXTRACT

Summary

Objective

A fire resistance test has been conducted to assess the ability of three horizontally orientated specimens of 'open-state' cavity barrier sealing systems, to reinstate the fire resistance of a pre-cast, aerated concrete floor when tested utilising the general principles of Draft Standard ASFP Technical Guidance Document - TDG 19: (Nov 2017) and guidelines from prEN1364-4: 201X.

Sponsor

Siderise Insulations Ltd, Forge Industrial Estate, Maesteg, Bridgend, Mid Glamorgan, CF34 0AZ

Summary of the Tested Specimens

For the purpose of the test the floor specimens were referenced A to C. The section of floor had overall dimensions of 1950 mm long by 1500 mm wide by 600 mm thick and was made up of autoclaved aerated concrete lintels arranged to provide two 450mm wide and one 425mm wide by 1200 mm long apertures.

Specimen A

[REDACTED]

Specimen B

[REDACTED]

Specimen C was comprised of a Stone wool insulation slab with aluminium foil faces and a 1.5 mm thick x 75 mm wide graphite based intumescent strip along a single edge, secured with plastic tape, referenced 'RH25 – XFS90 [REDACTED]'. The barrier had overall dimensions of 400 mm wide by 1200 mm long by 90 mm thick and was butt jointed at approximately 200 mm from one end of the seal, jointed and taped with aluminium foil tape to the unexposed face. The barrier was fixed to the supporting construction using three steel RS450 bracket. The barrier was installed so that it provided a 25 mm air gap.

Full details of the specimens and installation methods are given in the Schedule of Components.

Test Results

When tested to the temperature and pressure conditions of BS EN 1363-1: 2012, in conjunction with the requirements of ASFP Technical Guidance Document - TDG 19: (Nov 2017) and guidelines from prEN1364-6: 201X.

The requirements of the standard were satisfied for the following periods:

Technical failure of integrity of Specimens A to C would deem to have occurred at the start of the test due to the open void required for such seal types. However, following the expansion of the intumescent layer, full closure of the cavity of Specimen A was deemed to occur at 2 minutes 20 seconds, and full closure of the cavity of specimen C was deemed to occur at 5 minutes.

. Performance of the seals can then be measured from this point.

These requirements were satisfied for the periods shown below:

Product Ref:

C - RH25-060/060 (425mm)

Specimen	Integrity (minutes)		Insulation (minutes)	Insulation (minutes) (suspended T/C's)
	Cotton Pad	Sustained flaming		
A				
B				
C	84	90*	60	60

* The test duration. The test was discontinued after a period of 90 minutes.

Due to the nature of ventilated/open state cavity barrier seals, an initial spike in temperature is recorded by the thermocouples positioned in the air gap adjacent to the seal as it is open to the furnace. The temperature is rapidly reduced once the seals react and fill the whole cavity. The 'air gap insulation' figure quoted in the results disregards this initial spike in temperature provided the temperature returns to below 180 degree C rise within the first five minutes of the test.

The failure criteria of each specimen was measured after the ventilated cavities had an effective seal by the means of the intumescent properties of the products and the findings were as follows:

Specimen	Cavity fully Sealed
A	
B	
C	5 minutes 0 seconds

Date of Test

11th April 2018

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Permission applied for - September 2018

Signatories



Responsible Officer

D. Whittle*

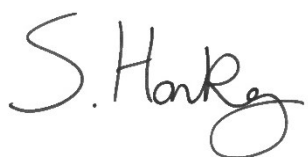
Technical Officer



Approved

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Head of Department

S. Hankey*

Business Unit Head

* For and on behalf of **Exova Warringtonfire**.

Report Issued

Date: 26th September 2018

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