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Our Ref: Chilt/IF11070

19th January 2012

Mr Ross Stokes
Fire Proofing Services Ltd
Evolution House
Aston Road
Nuneaton
Warwickshire CV11 5EL

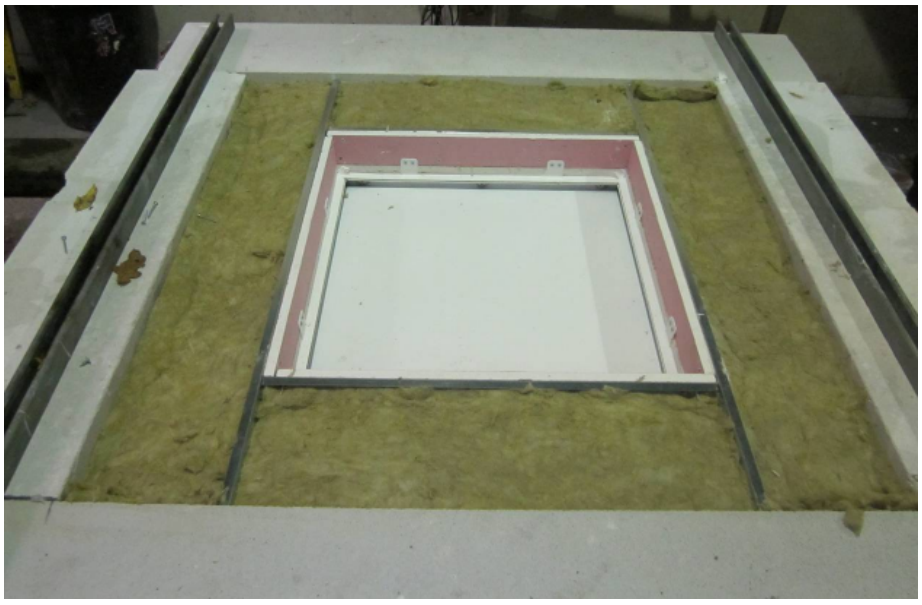
Re: Indicative Fire Resistance Test to the temperature and pressure conditions of BS 476: Part 22: 1987 (and current FTSG Resolutions where applicable) (Chilt/IF11070)

This letter is to confirm the results of an indicative fire resistance test undertaken on 3rd November 2011.

The specimen comprised a single acting steel leaf access hatch within a 120 minute specification ceiling membrane

Introduction

A steel access panel was manufactured and supplied for test by the client and delivered during November 2011. Chiltern International Fire Limited (CIFL) constructed a section of Knauf MF suspended ceiling, including a 605mm x 605mm aperture, into a 150mm thick lightweight aerated autoclaved concrete lintel ring beam and installed the access panel into the suspended ceiling aperture above a 1.1m x 1.1m furnace.



Specification

Details of the specimen are shown in the Photographs and Appendix sections of this report.

Suspended Ceiling Reference Knauf MF7/08

The suspended ceiling comprised Knauf MF Primary Support Channel around the ring beam and hatch aperture, and Knauf MF Ceiling Channel section fitted beneath the MF Primary Support Channel at 450mm centres. The ceiling system was clad with 3No. layers of 15mm thick Knauf Fireshield board, the first layer fixed with 32mm long Drywall screws, the second layer with 43mm long Drywall screws and the third layer with 60mm long Drywall screws, all fitted at 230mm centres.

The unexposed face of the ceiling was topped with 40mm thick Knauf Rocksilk RS45 insulation.

The aperture was lined with 1No. layer of 15mm thick Fireshield board, and the access panel frame was sealed to the aperture lining and fireside of the ceiling with intumescent mastic.

Access panel

The panel measured 600mm high x 600mm wide x 25mm thick (frame height). The leaf and frame comprised 0.9mm thick profiled Zintec steel. The frame had 2No 15mm wide x 75mm high fixing tabs to each edge, each screw fixed through the plasterboard to the Knauf MF Ceiling Channel around the aperture, with 2No. 32mm long screws per tab.
The access panel leaf was hung to open in towards the furnace.
The leaf profile included a box section channel along the closing edge, onto which a Budget lock was mounted on the unexposed face. The results of this test were obtained with the access panel leaf closed with the Budget lock engaged.
An Envirograf G10/10 intumescent strip, 10mm wide x 2mm thick, was fitted to the frame upstand/stop.

Door perimeter gaps

Due to the nature of construction, no measurements could be taken.

Test conditions

Where areas of the test specification are ambiguous or open to interpretation the Fire Test Study Group Resolutions No's 70, 71, 72 and 77 have been followed (further specific details are available on request). These Resolutions provide basis of common agreements between the fire test laboratories which are members of this Group.

The ambient temperature of the test area at commencement of the test was 19°C.

After the first 5 minutes of the test, the furnace pressure was maintained at 16.3 ± 3 Pa with respect to atmosphere, at the underside of the specimen.

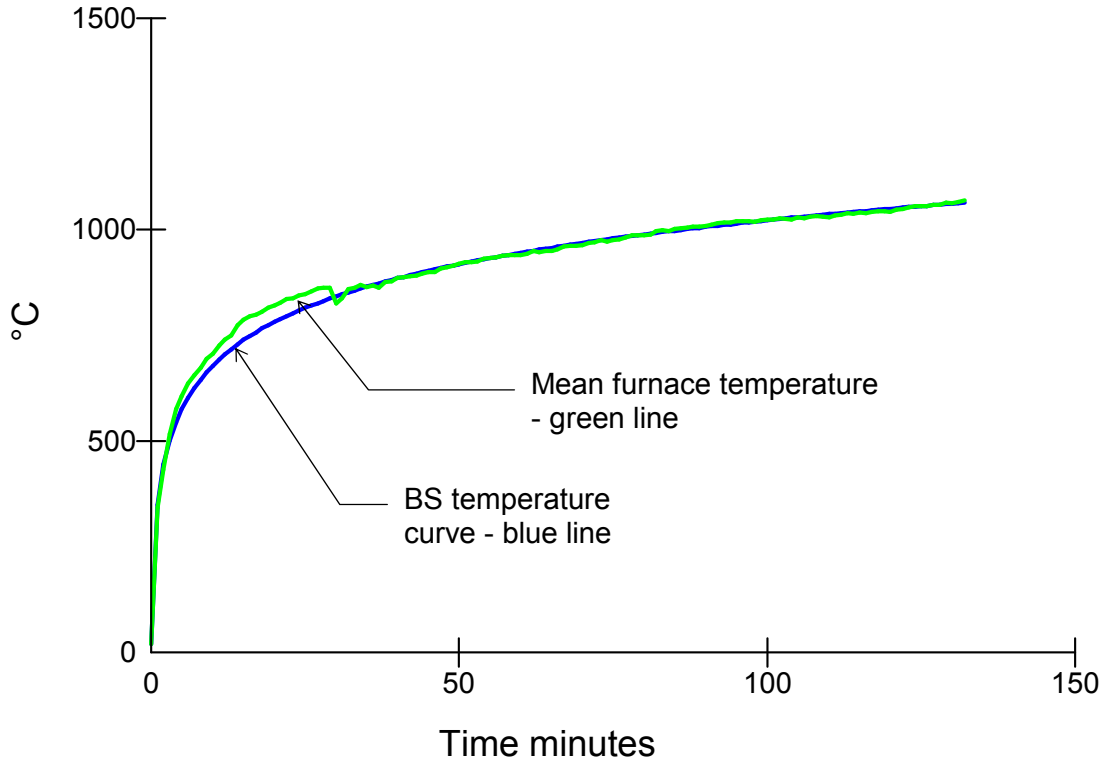
The furnace was controlled to follow the temperature/time relationship specified in BS 476: Part 20: 1987 as closely as possible, using the average of four thermocouples suitably distributed within the furnace. The temperatures recorded are shown graphically on page 4.

The temperature of the unexposed face was monitored by means of five thermocouples fixed to the surface of the leaf and two thermocouples fixed to the insulation around the access panel.

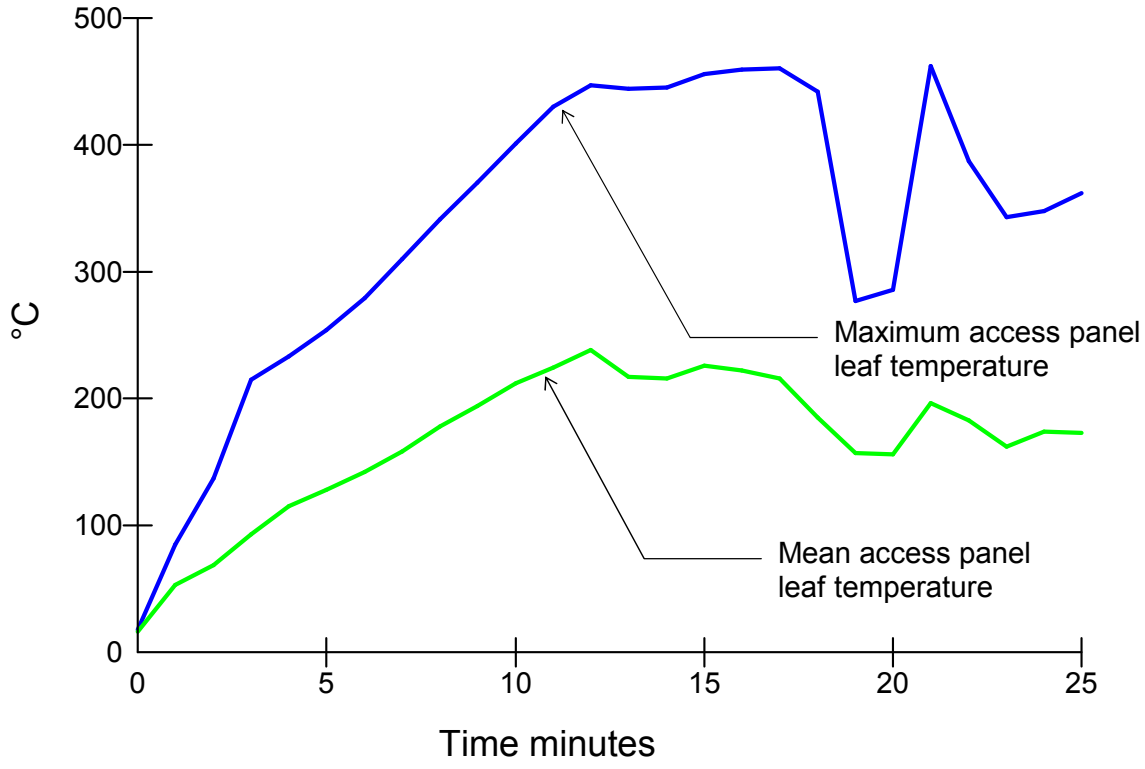
The thermocouple positions are shown in Figure 4 of the appendix. The average temperature of the panel leaf and maximum temperature of the panel leaf are shown graphically on page 5.

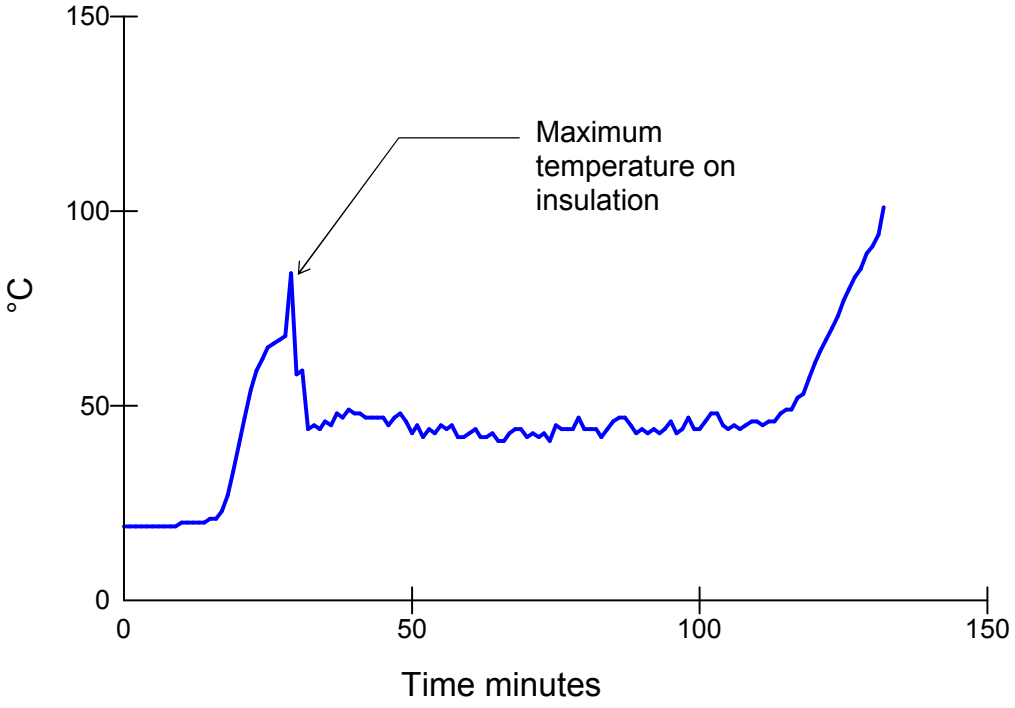
The following data and observations were recorded during the test.

Furnace temperature curve



Unexposed face temperature curves





Observations

All comments relate to the unexposed face unless otherwise specified.

Time (minutes)	Comments
0.00	Test started.
03.00	There is smoke issuing from around the perimeter of the access panel.
07.45	There is discolouration to the exposed face as the paint burns away.
08.30	The intumescent around the perimeter of the access panel has started to expand.
15.10	There is a decrease in the level of smoke issuing from the perimeter.
21.00	There is discolouration across the entire unexposed face.
26.50	Thermocouples 5, 7, 8, 11 and 12 have been removed from the unexposed face of the access panel leaf.
34.50	There is a glow visible at all four corners of the access panel.
39.20	The smoke issuing from the perimeter has completely stopped.
57.25	There is a glow visible from the latch position of the access hatch.
60.00	There is discolouration and flaking to the paper face of the plasterboard lining.
66.50	There is a glow visible from the corners which are starting to spread around the perimeter of the access panel.
95.45	The paint on the unexposed face is starting to flake away across the entire access panel.
110.11	There is a glow visible from the perimeter which is spreading across the face of the access panel.
132.15	Test terminated.

Primary observations

110.11 There is a glow visible from the perimeter which is spreading across the face of the access panel.

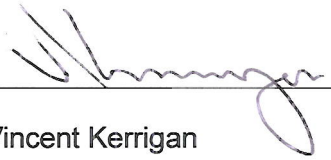
132.15 Test terminated.

Limitations

These test results relate to an investigation which utilised the test methodology given in BS 476: Part 22: 1987, the full requirements of the Standard were not, however, complied with. The information is for the test sponsor's information only and should not be used to demonstrate performance against the Standard nor compliance with a regulatory requirement. The test was not conducted under the requirements of UKAS accreditation.

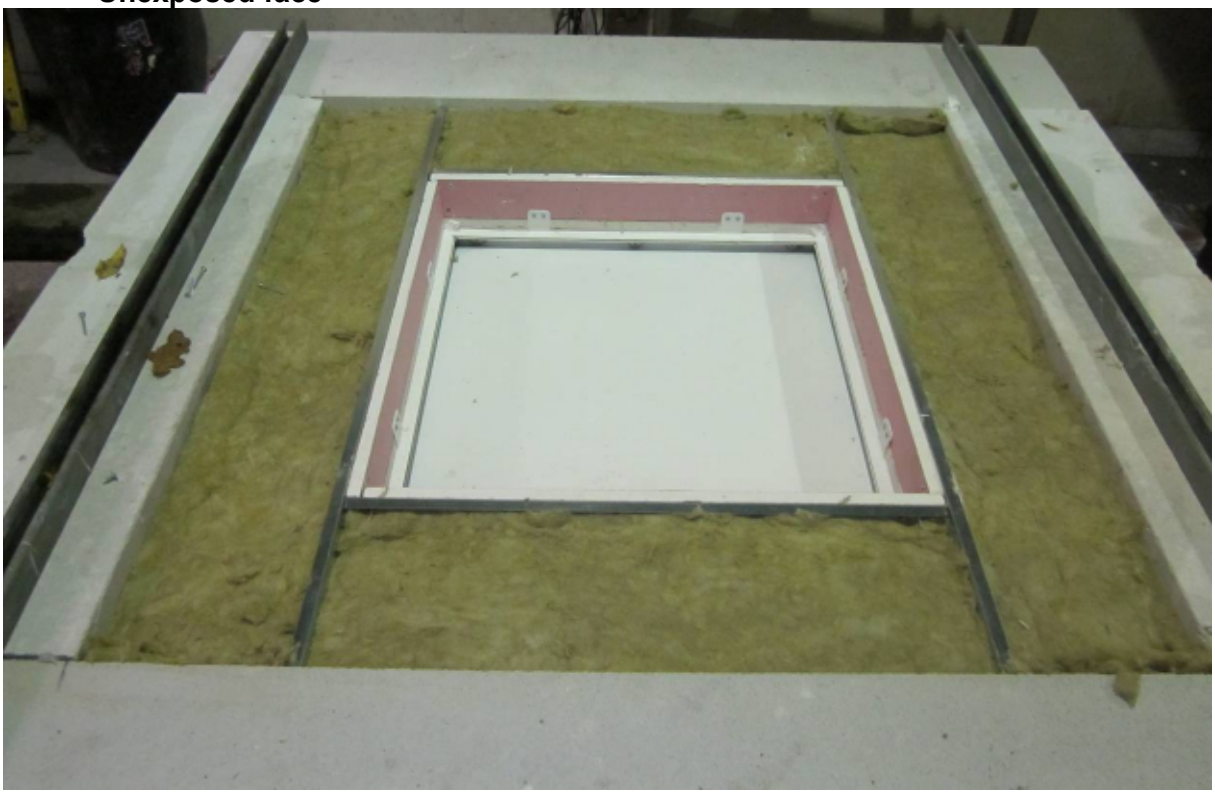
The results only relate to the behaviour of the element of construction under the particular conditions of test; they are not intended to be the sole criteria for assessing the potential fire performance of the element in use nor do they reflect the actual behaviour in fires.

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over 5 years old should be considered by the user. CIFL will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.

Signature:		
Name:	Ross Newman	Vincent Kerrigan
Title:	Principal Test Engineer	Technical Manager
Date of issue:	26-01-2012	26-01-2012

Photographs

Unexposed face



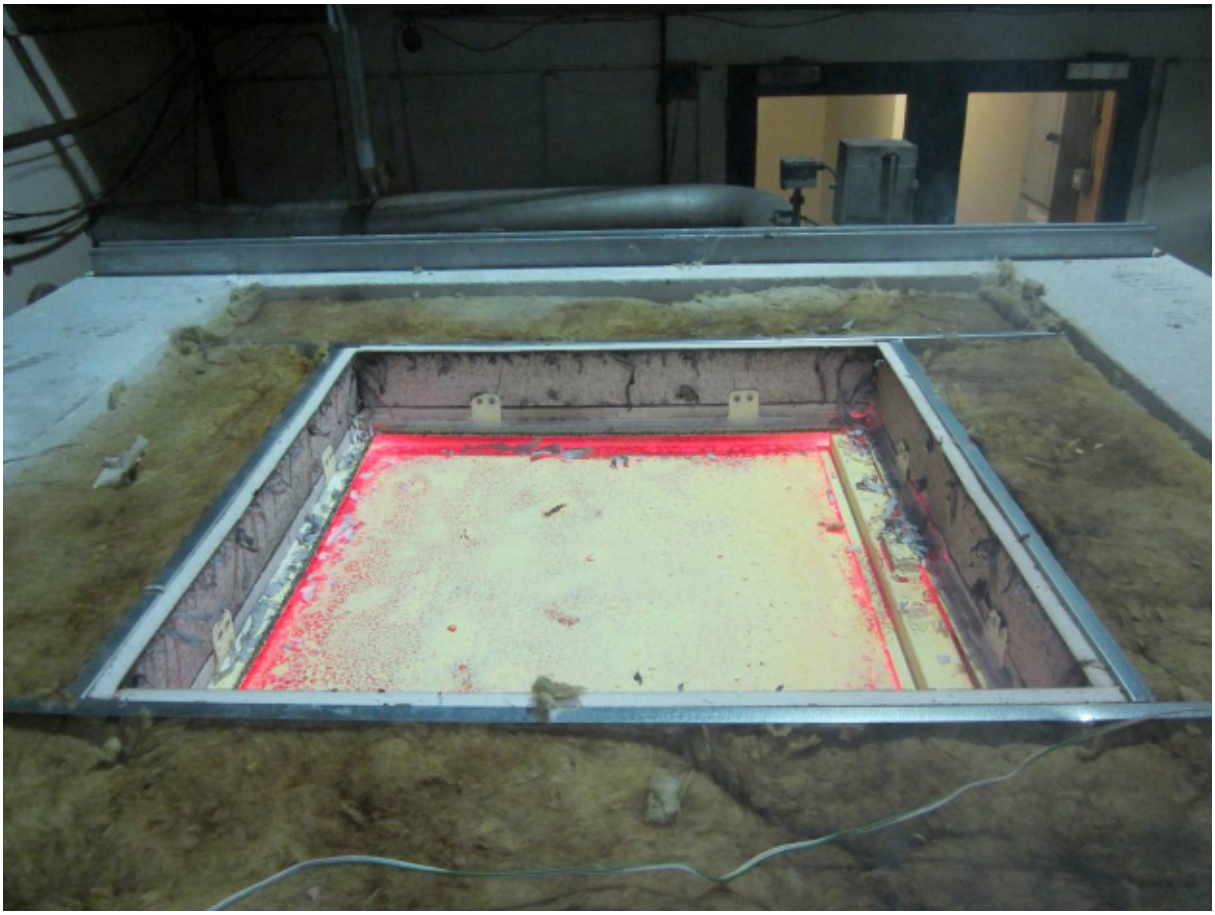
Budget lock

Exposed face

At start of test

The legal validity of this report can only be claimed on presentation of the complete report.

After 132 minutes



Post test - exposed face

Description of construction - (refers to figure 2)

Access panel leaf

	Material	Dimensions (mm)	Density (kg/m³)	Moisture (% w/w)
Leaf face	Profiled Zintec steel	0.9 thick	-	-
Budget lock box section	Profiled Zintec steel	0.9 thick	-	-

Access panel frame

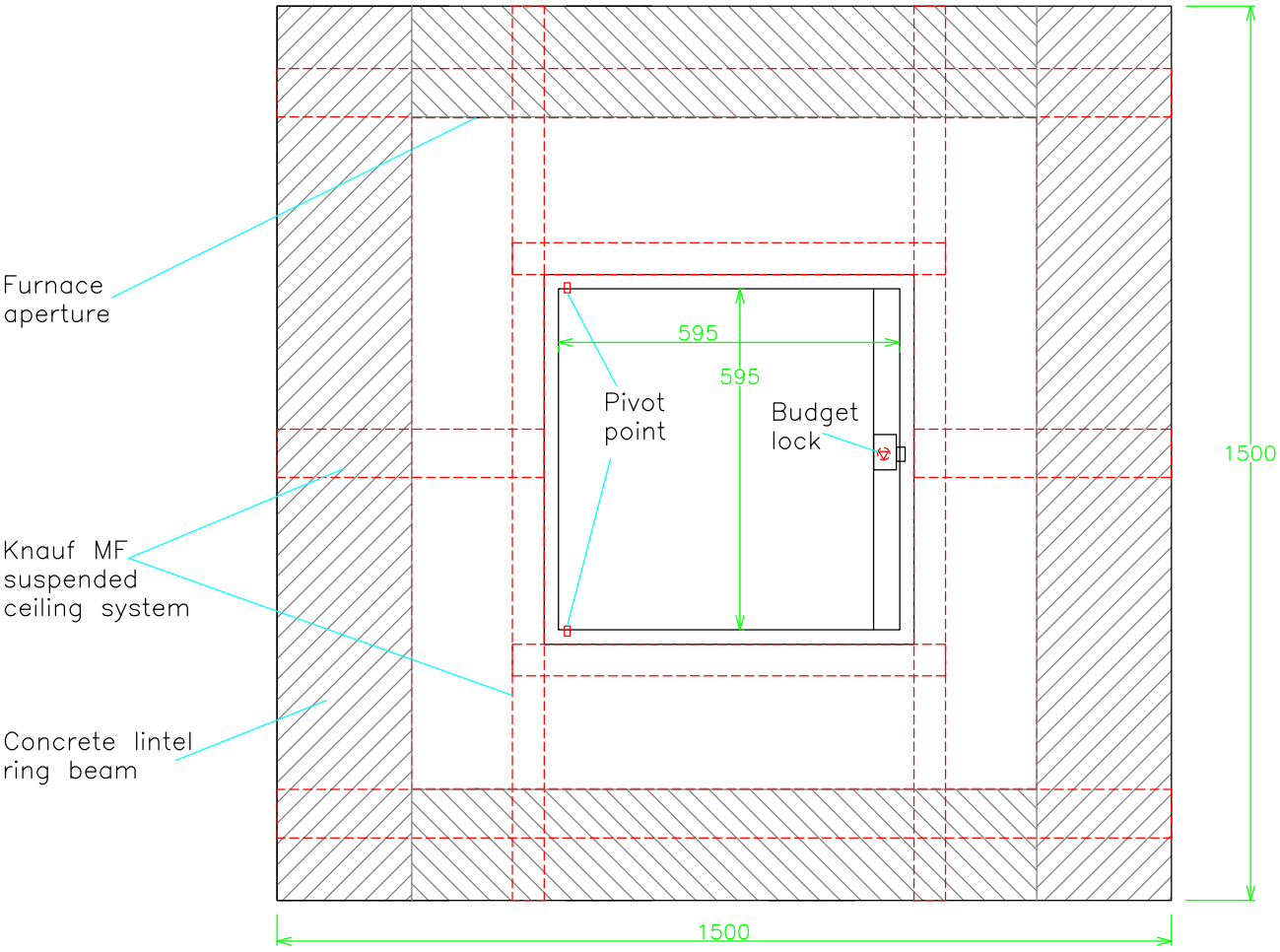
	Material	Dimensions (mm)	Density (kg/m³)	Moisture (% w/w)
Frame	Profiled Zintec steel	0.9 thick	-	-
Frame jointing detail	Butted – welded	-	-	-
Stops	Integral to frame profile	-	-	-
Frame to supporting construction fixing detail	2No. Zintec steel fixing tabs per frame jamb, each fixed with 2No. 32mm long Drywall screws	0.9 thick	-	-

Hardware

	Make/type	Location
Hinge	Steel pivot pin	See figure 2
Closer	None fitted	-
Lock	Budget lock	Fitted on the unexposed face of the lock box section
Furniture	Removable grommet	Fitted on the exposed face appropriate to the Budget lock

Appendix - figures 1 - 3

Plan View



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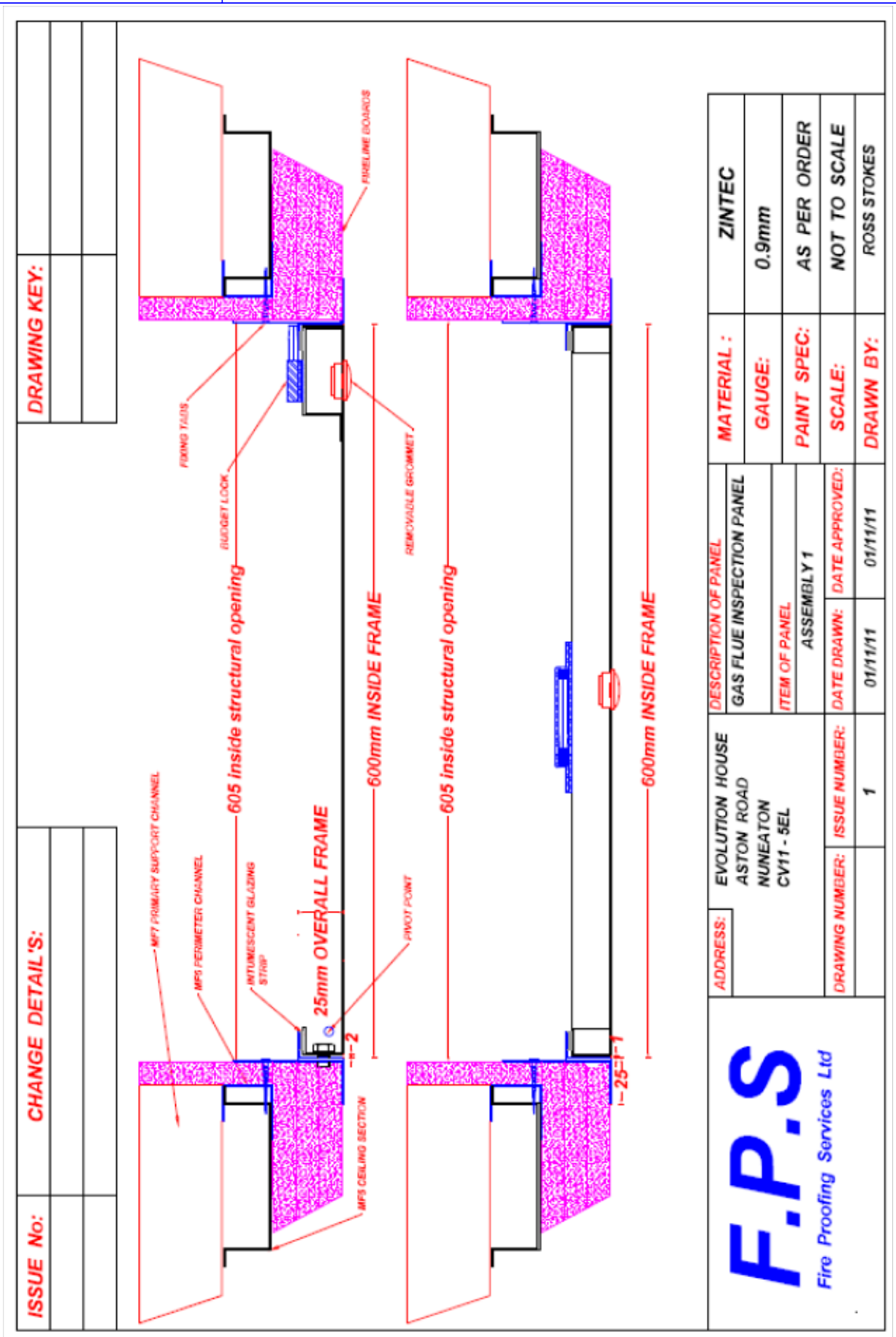
Title: Unexposed face plan view
(All dimensions in mm)

Date Drawn	Drawn By	Scale
09/01/12	ARD	NTS

Project No.	
Chilt/IF11070	Appendix



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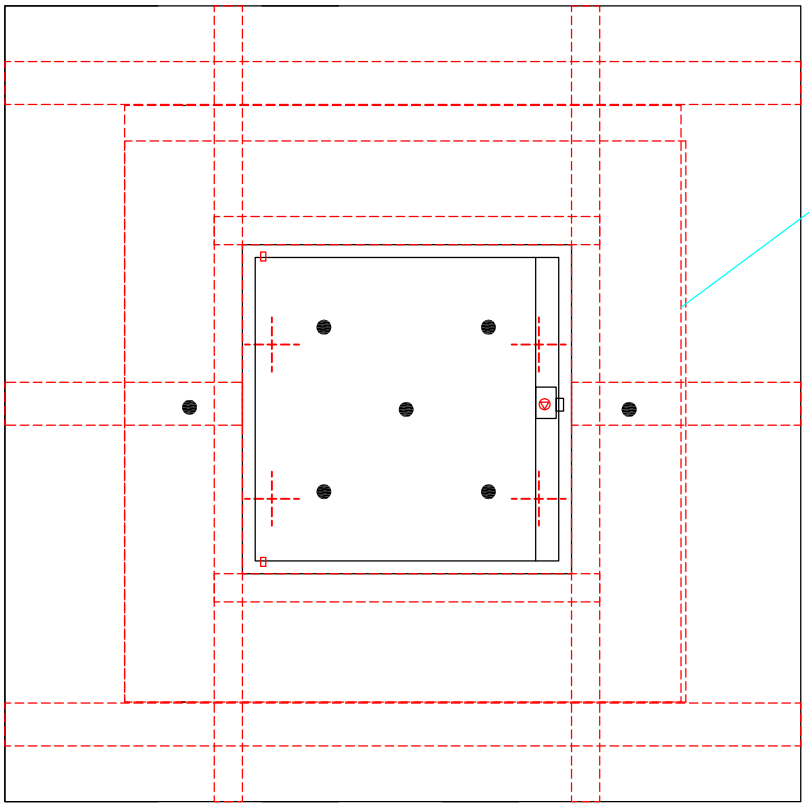
Title
Cross sections of access panel
(All measurements in mm)

Date Drawn	Drawn By	Scale
09/01/12	Client	NTS

Project No.	
Chilt/IF11070	Appendix

Top of furnace



: Furnace Thermocouples

: Unexposed Face Thermocouples

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Title: Thermocouple positions

Date Drawn	Drawn By	Scale
09/01/12	ARD	NTS

Project No.	
Chilt/IF11070	Appendix