

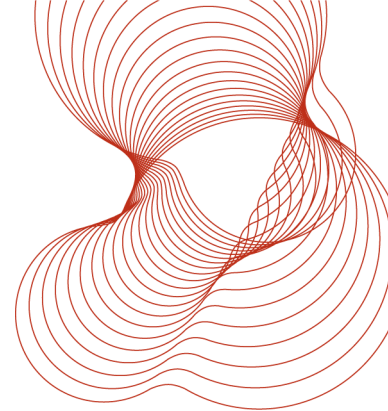


**An assessment of the  
fire performance of an  
MDF-faced single-leaf  
hinged access panel**

Prepared for:  
Fire Proofing Services Limited  
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16 August 2012

**Assessment report number  
CC 239051 Review 1**



**Prepared on behalf of BRE Testing by**

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Date             16 August 2012

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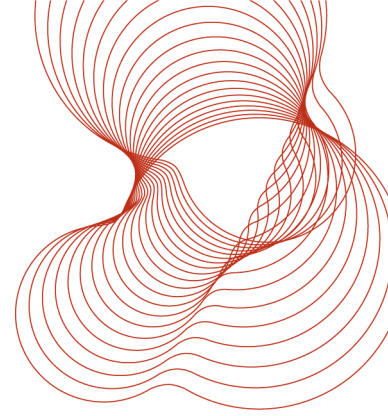
**Date of next review**               31 August 2017

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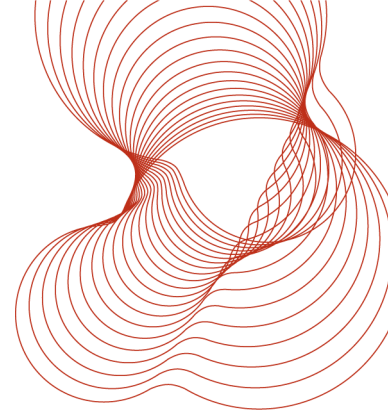
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## 1 Introduction

The MDF-faced single-leaf hinged access panel described in this assessment report is designed to provide up to 90 minutes fire resistance with respect to the integrity criteria of BS 476: Part 22: 1987, for fire exposure from the opening side.

## 2 Scope

This assessment report considers the fire resistance of an MDF-faced single-leaf hinged access panel against the integrity criteria of BS 476: Part 22: 1987, for fire exposures of up to 90 minutes from the opening side only.

## 3 Supporting data

This assessment is partly based on supporting test data which is more than five years old. This supporting data has therefore been reviewed against current test procedures.

### 3.1 BRE test report no. FG7586

Two single-leaf access panels installed in a 150mm-thick block wall were subjected to a fire resistance test in accordance with BS 476: Part 22: 1987 on 29 October 2001.

The access panels were installed into nominally 610mm x 610mm and 610mm wide x 1810mm high openings in the block wall, being referred to as panels A and B respectively.

Each access panel comprised a single door leaf consisting of a polyester powder coated 1.5mm-thick steel skin on one side and 12.5mm-thick Gyproc moisture board with ceramic tiles attached on the other. Pre-formed 1.5mm-thick top-hat section stiffeners were welded vertically at the sides of the access panel leaf and horizontally at the top, bottom and across the centre of the leaf. The panel leaves were hung, via top and bottom hinges, in steel frames bolted directly to the block wall. Panel A was fitted with two Dzus Touch Latches and panel B with three standard budget locks.

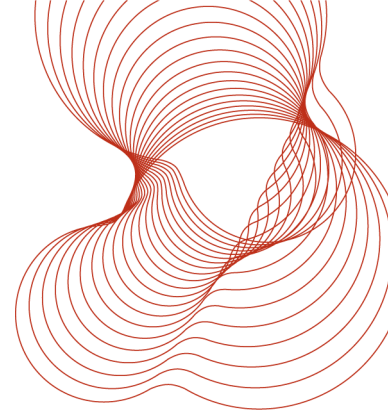
Prior to the fire test, the gap between each door leaf and frame was filled with intumescent sealant. Both leaves opened towards the furnace, the tiled plasterboard being exposed to the furnace.

The specimens when tested in the orientation described were found to have the following fire resistance:

Access panel A:

Insulation: 20 minutes

Integrity: 90 minutes



#### Access panel B

Insulation:	22 minutes
Integrity:	90 minutes

For full details see BRE test report no. FG7586.

### 3.2 BRE test report no. 232237

A single-leaf access panel installed in a steel-framed plasterboard partition was submitted to a fire resistance test carried out in accordance with BS 476: Part 22: 1987 on 26 September 2006 for a duration of 120 minutes.

The access panel comprised a preformed steel door leaf, nominally 893mm high x 596mm wide x 62mm thick. The door leaf was manufactured from 1mm-thick steel sheet with two vertical stiffeners and a sheet of 12.5mm-thick Megadeco plasterboard on the unexposed face. The voids between the stiffeners were filled with 50mm-thick E-Coustiquilt glass wool and the perimeter of the leaf on the unexposed face incorporated a protection plate formed from 1mm-thick steel. The door leaf was fitted with a continuous hinge, which was welded to the inside face of the door tray, and a 3-point locking system.

The panel leaf was hung in a 1.2mm-thick steel frame. This incorporated two Envirograph G10/10 self-adhesive intumescent seals, each 10mm wide x 2mm thick, and two flexible foam fire retardant smoke seals, 8mm x 4mm, which were fitted to the frame stop.

The access panel was incorporated in a steel-frame partition comprising two layers of 15mm-thick Lafarge Firecheck plasterboard on each face. The access panel opened towards the furnace and in this orientation achieved the following fire resistance:

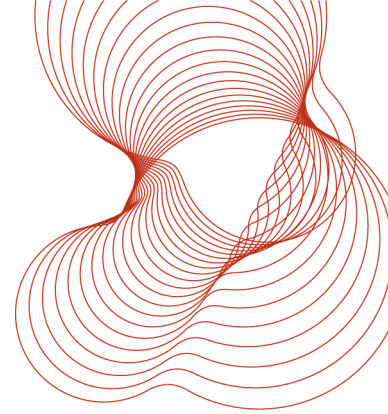
Insulation:	22 minutes
Integrity:	120 minutes

For full details see BRE test report no. 232237.

## 4 Description of the proposed access panel

The proposed access panel is similar in construction to that tested in BRE report no. FG7586, but with the following variations:

- a) The maximum panel size is increased to 2400mm high x 810mm wide.
- b) The intumescent mastic used between the access panel leaf and frame is replaced with a 10mm-wide x 2mm-thick Envirograph Type G10/10, compressible, self-adhesive intumescent strip. This is factory-fitted around the perimeter of the access panel leaf.
- c) The ceramic tiles fixed to the exposed face of the tested specimen are replaced with a sheet of 10mm-thick MDF.



- d) The three budget locks used on the larger of the access panels tested in BRE report no. FG7586 are replaced by a three-point lock.

## 5 Assessment

The proposed increase in size should not affect the integrity performance of the access panel. The three-point lock on the latch side of the panel leaf should ensure that the leaf cannot move relative to the frame and the top and bottom of the hinge side should be restrained by the pivot hinges. In addition, there was little evidence of any significant movement of the leaf relative to the frame on the larger of the two access panels tested in BRE report no. FG7586. However, should any small gaps develop the intumescent strip round the leaf perimeter should expand and seal them.

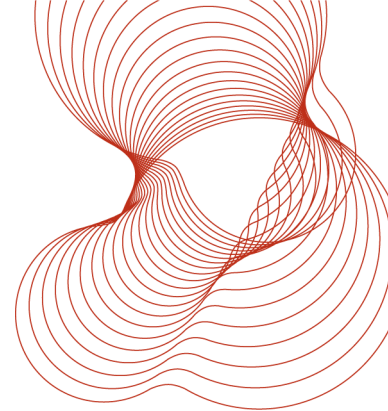
The Envirograph Type G10/10 intumescent strip has been subjected to a fire test on another access panel. The installation in BRE report no. 232237 was slightly different in that the door frame incorporated a stop to which the seal was attached. However, the access panel leaf in this test distorted quite significantly resulting in a gap of up to 27mm between it and the stop. The Envirograph seal sealed this gap for the duration of the 120-minute test and helped to prevent a failure of integrity. The situation in the proposed access panel is quite different in that the seal is only required to seal the 2mm gap between the leaf and the frame and is only required to maintain the integrity of the leaf perimeter for 90 minutes. As there was little movement of the leaf relative to the frame in report no. FG7586, it is our opinion that the Envirograph seal will provide a similar level of performance to the intumescent mastic used in the test.

The specimens tested in report no. FG7586 were tiled on the exposed face. It is proposed that these tiles are replaced by a 10mm-thick sheet of MDF. As the tiles detached within the first 20 minutes or so of the test, they did not contribute much to the overall fire performance of the access panel. Therefore, their replacement by the MDF should not have a significant effect on the fire resistance of the panel. The one concern with the MDF is that when it ignites flames may pass round the perimeter of the leaf. However, this is not likely as the gap between the leaf and frame is 2mm and the thickness of the Envirograph G10/10 intumescent strip round the leaf perimeter is also 2mm. This means that from the start of the test the gap between the leaf and frame will be sealed.

The replacement of the budget locks by a three-point lock should not affect the fire resistance of the access panel as the locks engage with the frame in a similar manner and provide a similar level of restraint.

## 6 Conclusion

Therefore it is our opinion that the MDF-faced single-leaf hinged access panel, as described in section 4 of this report, is suitable for applications where a fire resistance of 90 minutes is required with respect to the integrity criteria of BS 476: Part 22: 1987, for fire exposure from the opening side.



## 7 Validity of the assessment

### 7.1 Declaration by applicant

- We the undersigned confirm that we have read and complied with the obligations placed on us by the PFPF Guide to Undertaking Assessments in Lieu of Fire Tests.
- We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.
- We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.
- We are not aware of any information that could adversely affect the conclusions of this assessment.
- If we subsequently become aware of any such information we agree to cease using the assessment and ask BRE Testing to withdraw the assessment.

Signed: \_\_\_\_\_

For and on behalf of: \_\_\_\_\_

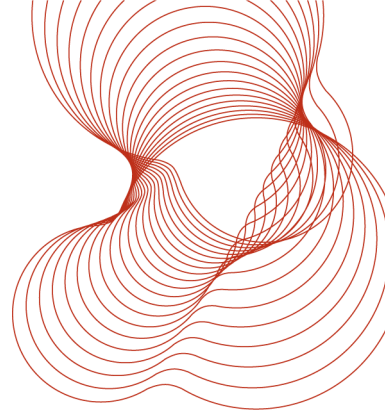
This assessment report is not valid unless it incorporates the declaration duly signed by the applicant.

### 7.2 BRE Testing declaration

This assessment was reviewed on 31 August 2012. We have received written confirmation from Fire Proofing Services Limited that there have been no changes in the specification of their access panel since the original date of the assessment. There have been no changes in the fire test procedures or methods of assessment, which would adversely affect the fire performance of the access panel. We are therefore satisfied that the validity of this assessment may be extended for a further five years.

This assessment is based on test data, experience and the information supplied. If contradictory evidence becomes available to BRE Testing the assessment will be unconditionally withdrawn and the applicant will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence over an expressed opinion. The assessment is valid for a period of five years after which it should be returned for review to consider any additional data, which has become available or any changes in the fire test procedures. Any changes in the specification of the product will invalidate this assessment.

This assessment has been carried out in accordance with Fire Test Study Group Resolution No. 82. It relates to the fire performance of the product and does not cover aspects of quality, durability, maintenance nor service requirements. This assessment relates only to the specimen(s) assessed and does not by itself infer that the product is approved under any Loss Prevention Certification Board approval or certification scheme or any other endorsements, approval or certification scheme.



Next review date: 31 August 2017

=====REPORT ENDS=====