



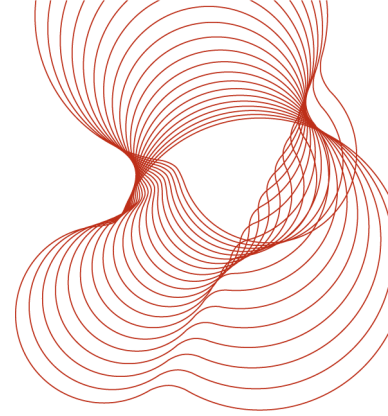
**bre**global

**An assessment of the  
fire performance of a  
single-leaf access panel  
mounted in a ceiling  
membrane system**

Prepared for:  
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15 April 2014

**Assessment report number  
CC 294898**



**Prepared on behalf of BRE Global by**

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Date 15<sup>th</sup> April 2019

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**Date of this report** 15 April 2014

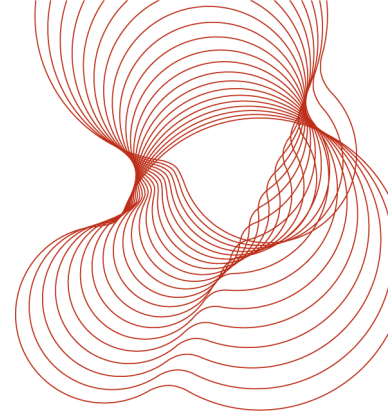
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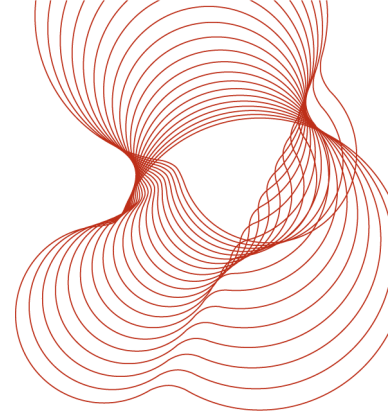
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## 1 Introduction

A fire resistance test in accordance with BS 476: Part 22: 1987 has been carried out on a double-leaf access panel mounted in a ceiling membrane system. This assessment report considers the fire performance of a similarly constructed single-leaf access panel.

## 2 Scope

This assessment report considers the fire performance of a single-leaf access panel mounted in a ceiling membrane system against the integrity criteria of BS 476: Part 22: 1987, for fire exposures of up to 60 minutes from below.

## 3 Supporting data

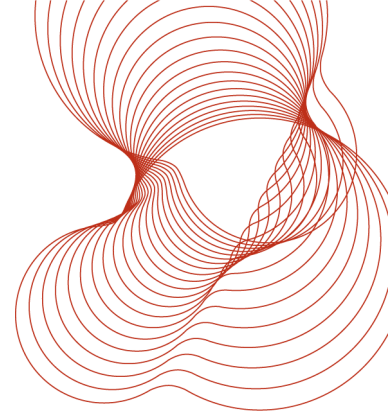
This assessment is based on supporting test data which is more than five years old. This supporting data has therefore been reviewed against current test procedures.

### 3.1 BRE test report TE 200864

A plasterboard ceiling membrane constructed from a steel framework with two layers of Lafarge Firecheck plasterboard fixed on the underside, incorporating a Fire Proofing Services Ltd. access panel, was submitted to a fire resistance test in accordance with BS 476: Part 22: 1987 (Method 9 for ceiling membranes) on 27 July 2000, for a duration of 70 minutes.

The ceiling membrane was of overall dimensions 3.5m x 4.15m with the access panel installed in a structural opening, nominally 1185mm x 1185mm, in the centre of the ceiling. The access panel consisted of a perimeter frame, providing a clear opening of 1175mm x 1175mm, which was closed with two door leaves, nominally 584.5mm wide. The perimeter frame was made from 1.2mm-thick Zintec steel which had been polyester powder coated to RAL 9010 (20% gloss). The 25mm-wide beaded frame (mitred at each corner) was fitted into the ceiling membrane from below overlapping the plasterboard ceiling membrane by approximately 20mm. The frame was fixed in position using nominally 25mm x 15mm steel angle, which was screwed to the primary channels surrounding the structural opening and to the top edge of the perimeter frame. Due to the shape of the frame where the steel angle was fixed, a void was left between the access panel frame and the ceiling membrane. This was filled with stone mineral wool and fire-resistant mastic. The top edge of the frame overlapped the door leaves by approximately 40mm, which reduced the clear opening of the access panel to 1095mm x 1095mm.

Each door leaf consisted of a 1mm-thick, folded Zintec steel tray which was polyester powder coated (on the exposed face) in RAL 9010 (20% gloss). Each leaf was stiffened using two pre-formed top-hat section stiffeners, welded (one at each side) to the unexposed face of each steel tray. A 12.5mm-thick sheet of



Lafarge Megadeco plasterboard, treated with one coat of Lafarge Drywall Sealer, was fixed to the exposed face of each of the door leaf, using 32mm-long drywall screws screwed into Z-section brackets welded to the door tray. Each door leaf was hung via two hinge pin blocks, one located at each end of a top hat stiffener, to the edge of each door leaf, the pin locating in a slot in the panel frame. The right-hand side was secured in the closed position using two budget locks, one each end of the leaf, located in a top hat section. The left-hand leaf was secured using three budget locks, one each end of the leaf and one in the centre, all locks located under the back cover plate (welded to the right-hand leaf).

The ceiling incorporating the access panel opening towards the furnace achieved the following fire resistance:

Integrity: 70 minutes

Insulation: 16 minutes

#### **4 Description of the proposed access panel**

The proposed access panel is a single-leaf version of that tested in BRE report TE 200864. The leaf construction is identical to that tested and it is hung on two hinge pin blocks and secured in the closed position by two budget locks. The maximum clear opening size is 1095mm long x 590.5mm wide.

#### **5 Assumptions**

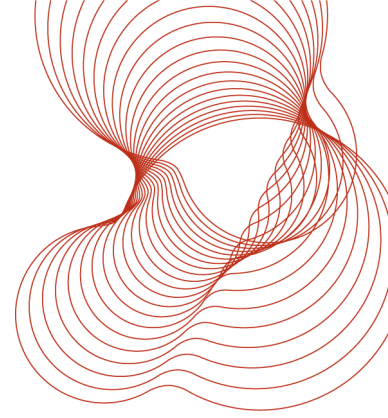
It is assumed that the ceiling membrane system into which the access panel is installed has a fire resistance of at least 60 minutes and is capable of supporting the access panel throughout that period. It is also assumed that the access panel is installed in the ceiling membrane in the same way as tested.

#### **6 Assessment**

The double-leaf access panel tested in BRE report TE 200864 satisfied the integrity criteria of the standard for the duration of the test, 70 minutes. During the test the panel leaves remained tightly engaged with the frame and there was no indication of any gap development between the leaves and the frame or between the leaves at the meeting stile.

It is our opinion that a single-leaf version of the tested access panel will perform in a similar manner for the following reasons:

- a) The panel leaf is no larger than that tested.



- b) The two budget locks on the leading edge of the leaf should offer the same level of restraint as the two hinges on the other edge. Therefore as no gaps opened up on the hinge edge in the test it is unlikely that any gaps will open up on the latch edge of a single-leaf access panel.
- c) The access panel leaf is 67mm thick. This means that the development of gaps due to differential distortion between the leaf and frame unlikely, particularly as the ceiling will tend to bow in the same direction as the access panel.

## 7 Conclusion

Therefore it is our opinion that a single-leaf version of the access panel tested in BRE report TE 200864 will satisfy the integrity criteria of BS 476: Part 22: 1987 for at least 60 minutes when installed in a ceiling membrane system and exposed to fire from below.

## 8 Validity of the assessment

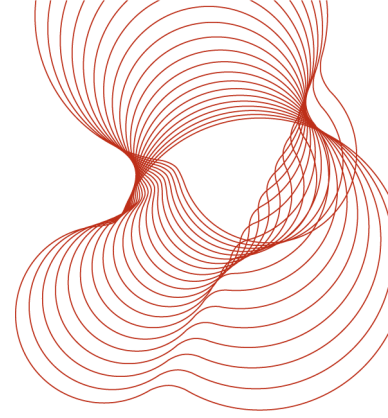
### 8.1 Declaration by applicant

- 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 Global 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.



## 8.2 BRE Global declaration

This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to BRE Global 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 imply 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: 15 April 2019

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