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An assessment of the fire performance of single- and double-leaf access panels with exposed continuous hinges

Prepared for:
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CC 228547

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Date of this report 11 May 2006

Date of next review 11 May 2011

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1 Introduction

The Fire Proofing Services single- and double-leaf access panels are designed to provide a fire resistance of up to 60min with respect to the integrity criterion of BS 476: Part 22: 1987, for exposure from either side. This assessment report considers the fire performance of similar access panels to those tested, but fitted with exposed continuous hinges.

2 Scope

This assessment report considers the fire resistance of single- and double-leaf access panels in terms of the integrity criterion of BS 476: Part 22: 1987, for fire exposures of up to 60min from either side.

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 94530

A double-leaf steel/plasterboard access panel incorporated in a steel-framed plasterboard partition, was subjected to a fire resistance test, in accordance with BS 476: Part 22: 1987 (Method 6) on 12 April 2000.

The access panel comprised two door leaves, nominally 2m high x 2m wide x 45mm thick, consisting of a polyester powder coated 1mm-thick steel skin on the exposed side and 12.5mm-thick Megadeco plasterboard on the unexposed side with 30mm thick mineral wool between the faces. The panel leaves were hung in a steel frame incorporating a smoke seal, both leaves opening towards the furnace.

The access panel was incorporated in a steel-frame partition comprising one layer of 12.5mm-thick Lafarge Firecheck plasterboard followed by one layer of 12.5mm-thick Lafarge Megadeco plasterboard on each face of the partition. The specimen when tested in the orientation described was found to have the following fire resistance:

Insulation:	16min
Integrity:	135min

For full details see BRE test report TE 94530.

3.2 BRE Test Report TE 201768

A single-leaf steel/plasterboard access panel incorporated in a steel-framed plasterboard partition, was subjected to a fire resistance test, in accordance with B.S. 476 : Part 22 : 1987 (Method 6) on 2 November 2000.

The access panel comprised a preformed steel uninsulated door leaf, nominally 2m high x 900mm wide x 34mm thick, manufactured from a polyester powder coated 1mm-thick steel sheet clad on one side (unexposed face) with 12.5mm-thick Megadeco plasterboard painted on the exposed face with Lafarge drywall sealer, a fire retardant formulation. The panel leaf was hung in a steel frame incorporating a smoke seal, the leaf opening towards the furnace.

The access panel was incorporated in a steel-frame partition comprising two layers of 12.5mm-thick Lafarge Firecheck plasterboard on each face of the partition. The specimen when tested in the orientation described was found to have the following fire resistance:

Insulation:	7min
Integrity:	70min

The limit for the rise in mean temperature was exceeded after 30min and the maximum temperature limit was exceeded on the leaf after 27min.

For full details see BRE test report TE 201768.

4 Description of the Proposed Access Panels

The proposed access panels have the same construction as those tested, the only difference is that the continuous hinges are exposed (see figure 1).

5 Assessment

The proposed access panels have an identical construction to those tested, the only difference is that the hinge location has been altered so that it is now exposed. During the tests there was no evidence that the panel to frame gap along the hinge edge of the access panels was opening up due to the distortion of the hinge, nor that the hinge was detaching from either the panel or the frame. As the proposed hinge has an all-steel construction, is of a similar design to that tested and is fixed to both the panel and the frame in the same way, we would expect it to perform in a similar manner.

The doorsets were tested opening towards the furnace, but we are of the opinion that the performance would be similar if they opened away from the furnace. The leaves incorporate a three point locking mechanism and continuous hinges, which should ensure that the perimeter of the leaf does not move away from the frame along either the leaf or hinge edge resulting in a failure of integrity.

6 Conclusion

Therefore it is our opinion that the single- and double-leaf access panels with exposed continuous hinges, as detailed in section 4, are suitable for applications where a fire resistance of up to 60min is required with respect to the integrity criterion of BS 476: Part 22: 1987, for fire exposure from either 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 UK Fire Test Study Group Resolution No. 82 : 2001.
- 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: Fire Protection Services.

7.2 BRE Testing 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 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.

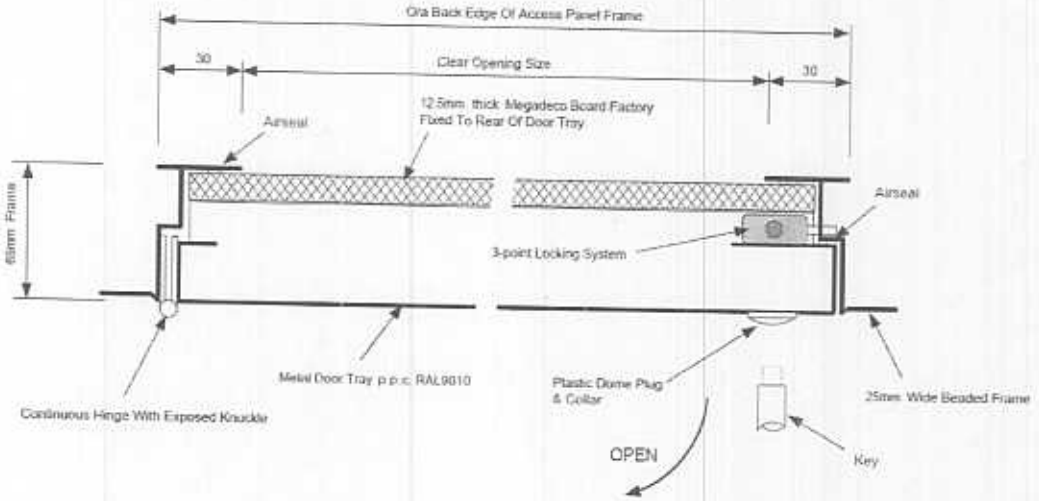
The opinions and interpretations expressed in this assessment are outside the scope of UKAS accreditation.

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.

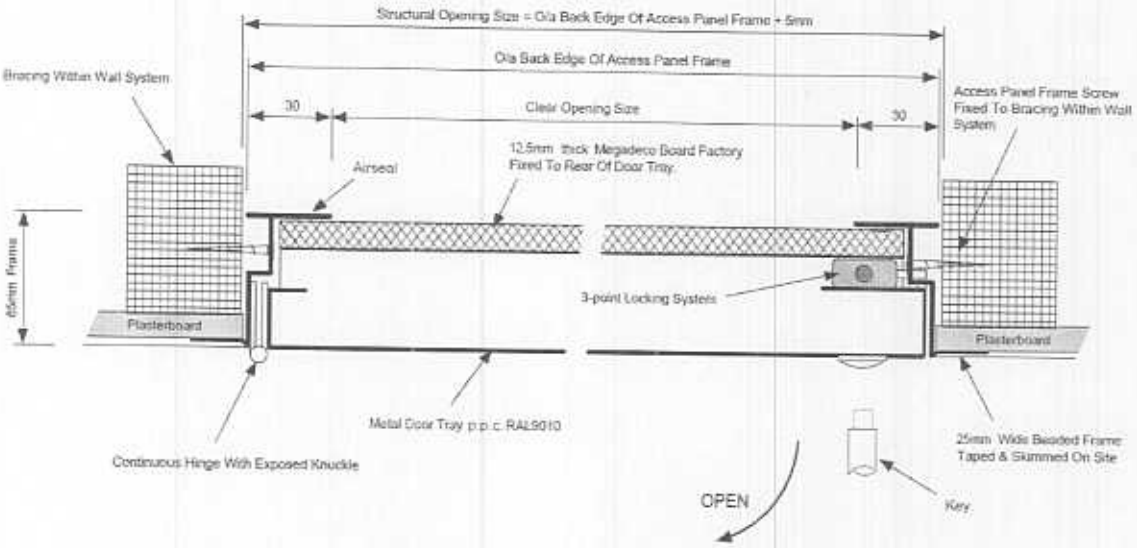
Next review date: 11 May 2011

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

8 Figures



SECTION THROUGH WALL ACCESS PANEL WITH EXPOSED HINGE



SECTION THROUGH WALL SHOWING FIXING OF ACCESS PANEL WITH EXPOSED HINGE

Figure 1

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