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An assessment of the fire performance of Fire Proofing Services access panels

Prepared for:
Fire Proofing Services Limited
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Stanton Lane
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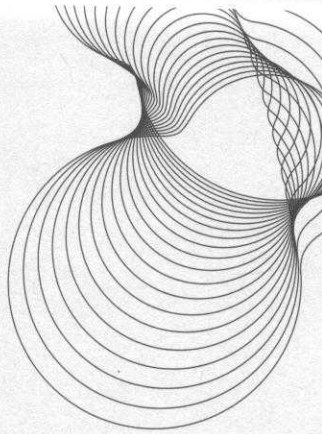
LE9 3JQ

27 July 2005

Assessment report number
CC 201937 Review 1



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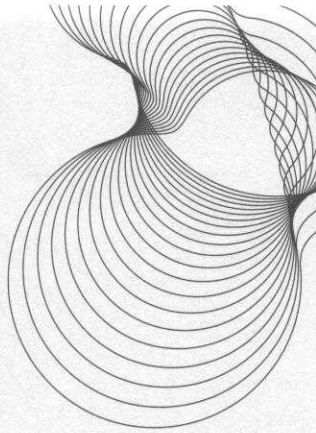


1 Introduction

Fire Proofing Services Ltd. access panels are designed to provide a fire resistance of up to two hours when installed in separating partitions. This report describes the assessment which has been carried out of the fire resistance of Fire Proofing Services Ltd. access panels for three and four door access panels to provide a fire resistance of one hour.

2 Scope

This assessment report covers the fire resistance of three and four door Fire Proofing Services access panels mounted in a partition, in terms of the integrity criterion of BS 476: Part 22: 1987, for fire exposures of up to 60min from either face.

3 Supporting Test 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 LPC (FIRTO) Test Report TE 94530

A fire resistance test in accordance with BS 476: Part 22: 1987 was carried out for you on your double-leaf access panel for a heating period of 135min. The actual overall panel dimensions not including the picture frame surround were 2000mm high x 2000mm wide, with a 25mm-wide picture frame surround mitred at each corner. The three-point lock hole in the left hand door leaf was fitted with a plastic dome plug and collar. Plastic spacer plugs were also fitted in the edge of the door leaves, two at the top and bottom of each door with two on the opening side.

Each door leaf was constructed from a door tray consisting of a 1.0mm-thick Zintec steel skin, which was polyester powder-coated in Ral9010 20% gloss with pre-formed 1.2mm-thick top-hat section stiffeners welded to the sides and middle section of the door tray. The voids within the door leaves were filled with a Rockwool insulation (type and density not stated by the sponsor). A 12.5mm-thick sheet of Lafarge Megadeco wallboard formed the rear face of each door leaf, being attached to the door tray stiffeners using 32mm drywall screws. The access panel had a fire retardant smoke seal attached to the frame perimeter and each door was fitted with a continuous steel hinge welded to the door tray and fixed to the frame using nuts and washers to M6 bolts welded to the frame at 150mm in from the edges and 300mm centres thereafter. The right hand door leaf (as viewed from the exposed face) was fitted with a 1mm-thick back plate and was locked

top and bottom from the opposite side by a budget lock. The left-hand door leaf was locked using a three-point locking system. Both door leaves were nominally 60mm thick.

The panel frame consisted of a 1.2mm-thick Zintec steel section with M6 bolts welded to the hinge side. The 25mm-wide front picture frame flange was mitred at each corner. The frame was polyester powder-coated to Ral9010 20% gloss.

The access panel was mounted in a plasterboard-clad, steel stud partition with both panel leaves opening towards the furnace.

The access panel satisfied the integrity and insulation criteria of the standard for 135min, and 16min respectively.

See LPC test report TE 94530 for full details.

4 Description of Proposals

One proposal is to be considered:

Increasing the size of the access panels up to 2210mm high including three and four leaf units, the three and four leaf units incorporating a supporting mullion. The maximum leaf width, as shown in figures 1 to 3, is 891mm.

The proposed mullion is formed from two pieces of 1.5mm-thick Zintec steel. A flanged channel (36mm-wide x 54mm deep with a 42mm flange each side) is tack-welded to a 120mm-wide flat plate over the height of the mullion. The access panel frames are bolted to the mullion with four M6 bolts at the top and bottom of the mullion. Details of the mullion and proposed constructions are given in Figures 1 to 7. Any details of the construction of the access panels not described in this assessment report are assumed to be the same as on the tested specimen.

5 Assessment

The 2m-high x 2m-wide double-leaf access panel tested satisfied the integrity criteria of BS 476: Part 22: 1987 for the duration of the fire resistance test TE94530 (135min). Although the complete partition/access panel specimen tested deflected towards the furnace by 104mm, there was very little deflection of the access panel relative to the supporting partition. During the fire test, there was no failure under the gap criteria for integrity with no evidence of any significant gap formation between the leaf tray and access panel frame.

As the proposed construction for the three and four door systems is of a similar design to the specimens tested, we are satisfied that the proposed mullion will provide sufficient restraint and support to the door

leaves, allowing a similar deflection to that recorded in the fire test. Therefore the three and four door systems proposed will satisfy integrity criteria for 60min.

The continuous hinges and 3-point locking system retain the door leaves closely within the door frame.

This assessment assumes that the steel stud and plasterboard partition system in which the access panel is mounted has a fire resistance of at least that specified for the access panel.

6 Conclusions

Therefore it is our opinion that your access panels, as described in Section 4 of this report, are suitable for installations where a fire resistance of up to one hour is specified in terms of the integrity criterion of BS 476: Part 22: 1987 for fire attack from either face.

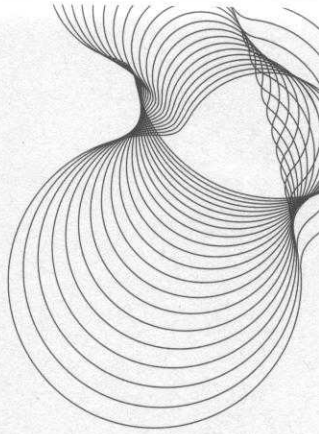
7 Validity of the Assessment

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 PROOFING SERVICES LTD.



7.2 BRE Testing Declaration

This assessment was reviewed on 27 July 2005. We have received written confirmation from Fire Proofing Services Ltd. that there have been no changes in the specification of their access panels 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 panels. 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: 27 July 2010

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

8 Figures

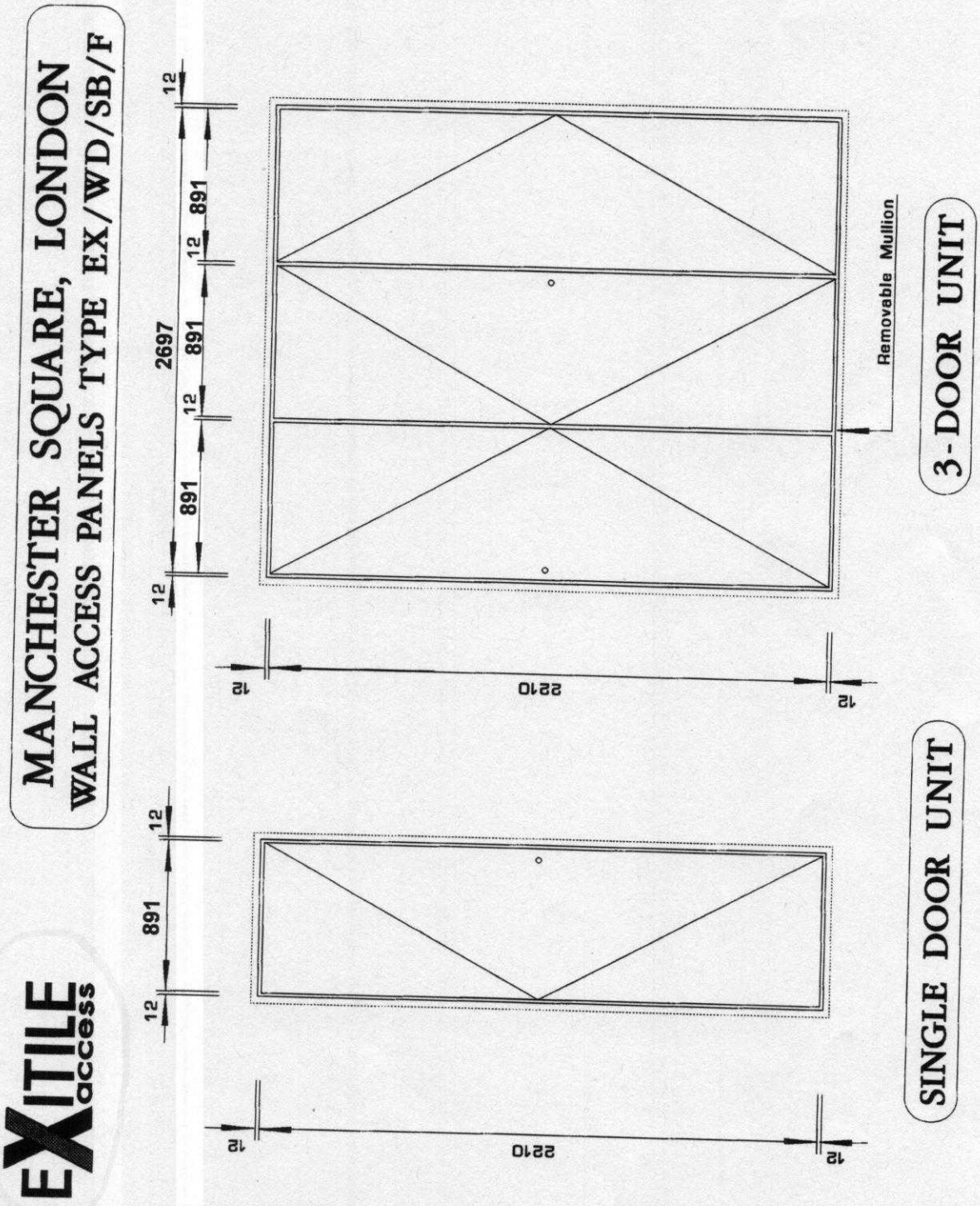


Figure 1 Single- and three door access panels

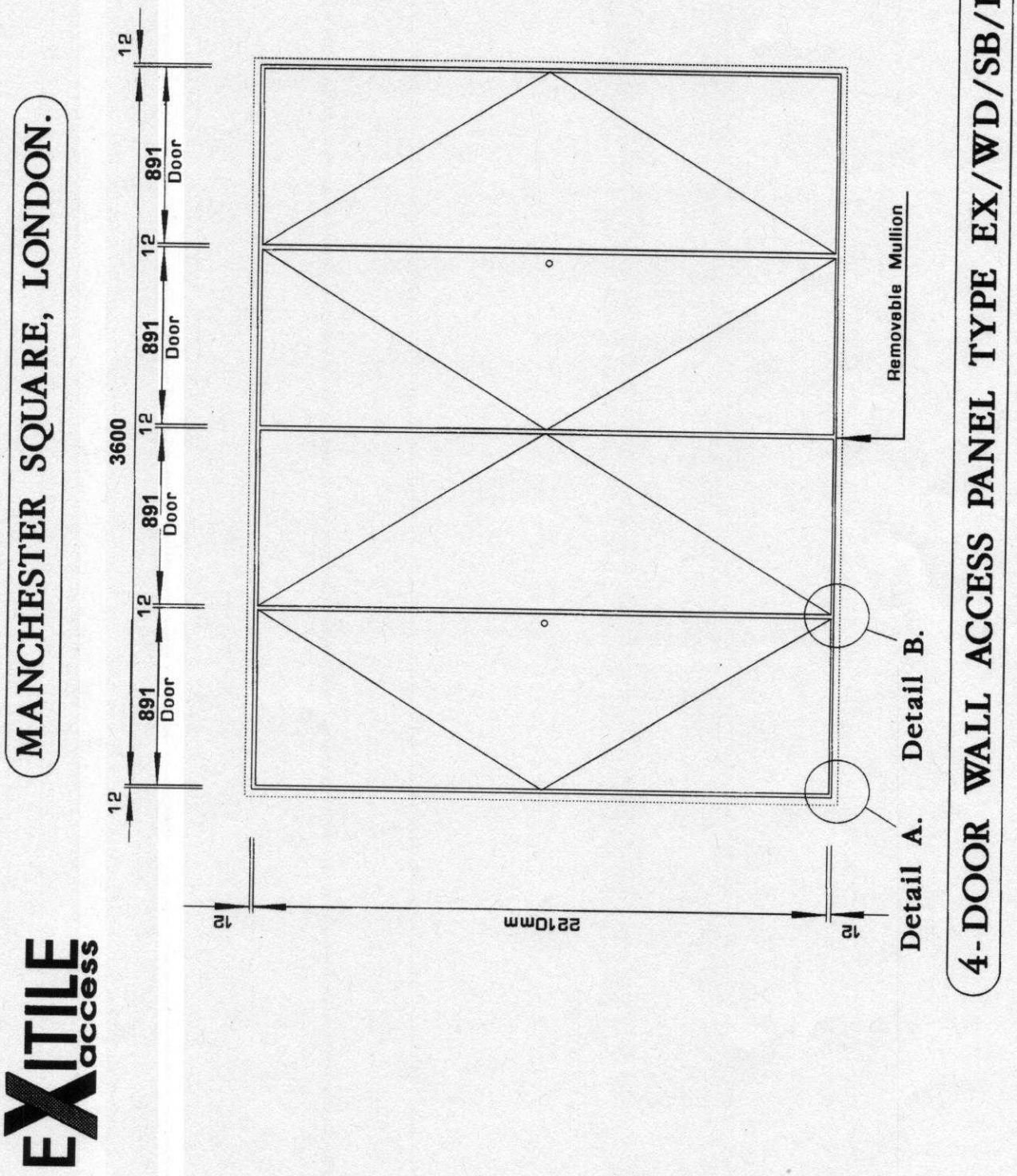


Figure 2 Four-door access panels

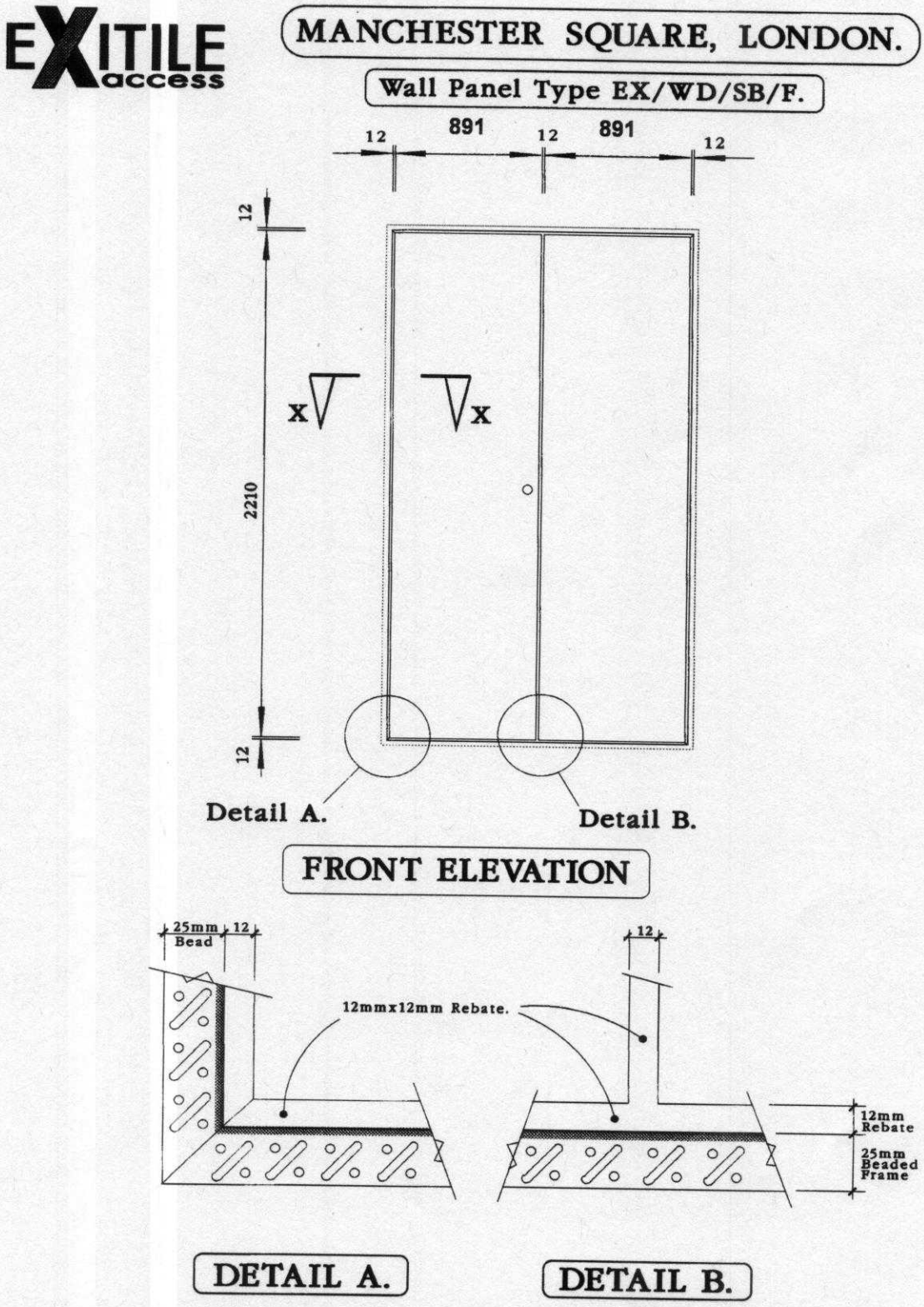
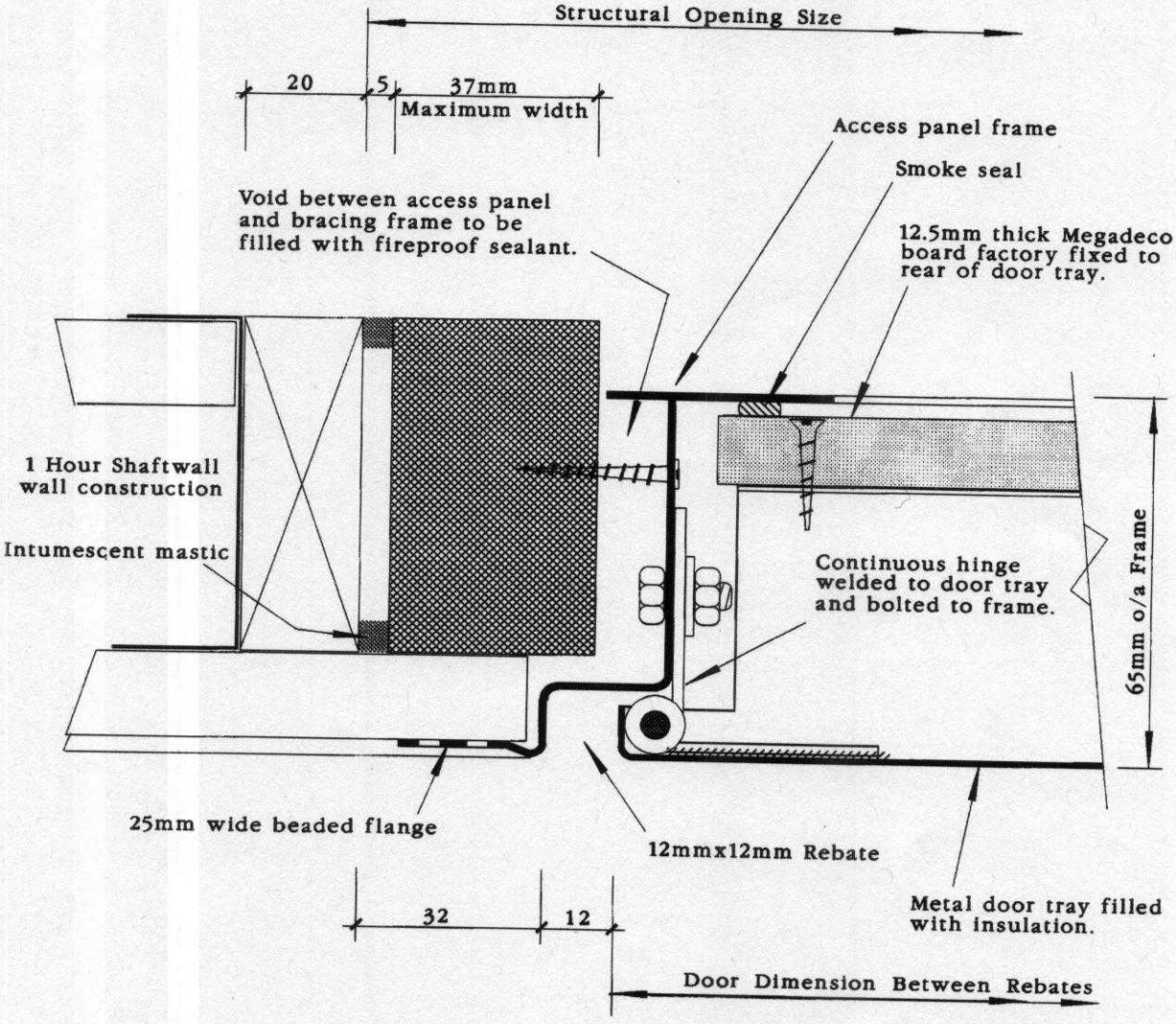


Figure 3 Front elevation of typical access panel

EXITILE access

MANCHESTER SQUARE, LONDON.



SECTION X-X.

WALL ACCESS PANEL TYPE EX/WD/SB/F.

Figure 4 Section X-X from figure 3

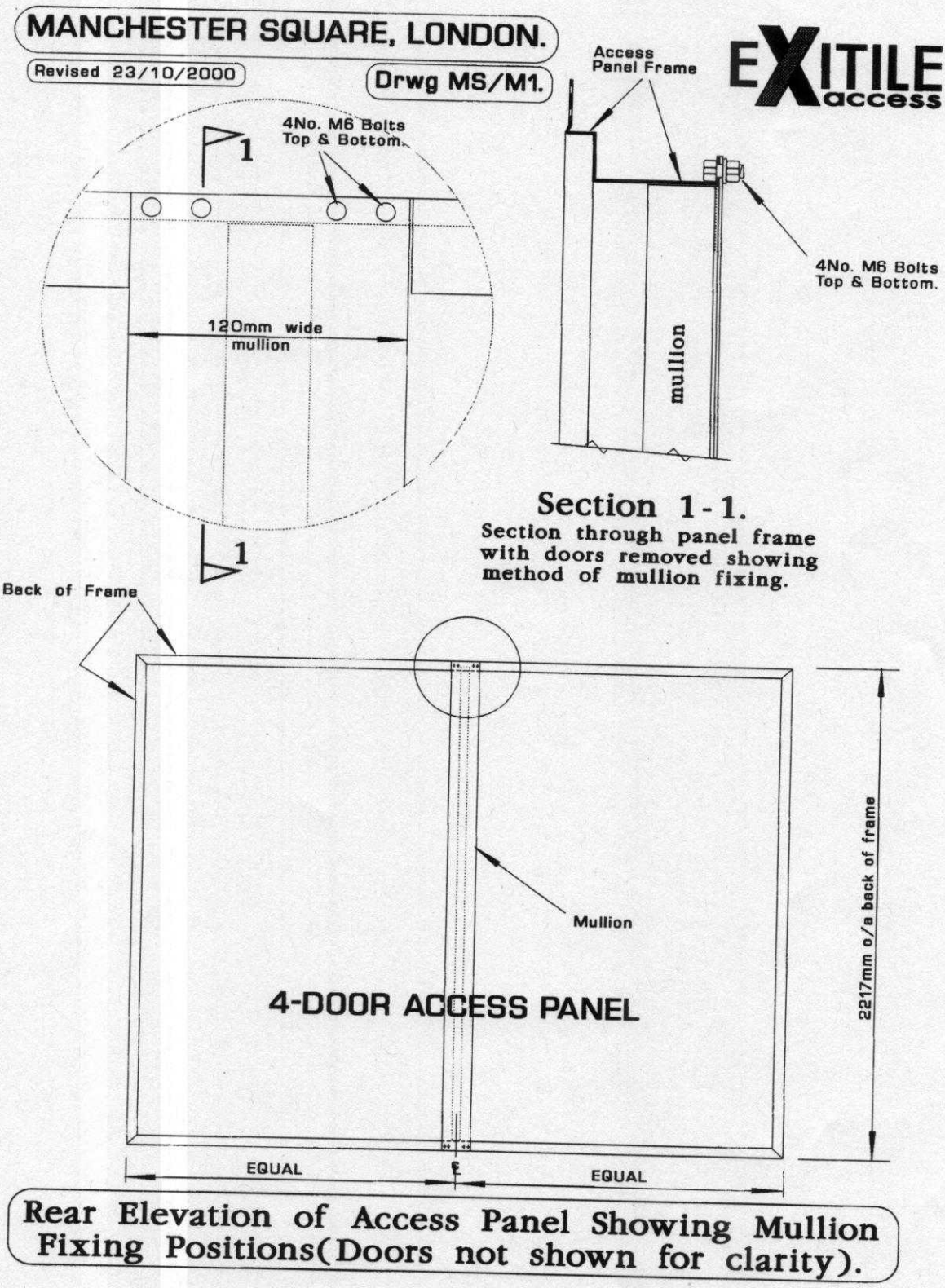


Figure 5 Rear elevation of access panel showing mullion fixing positions (doors not shown for clarity)

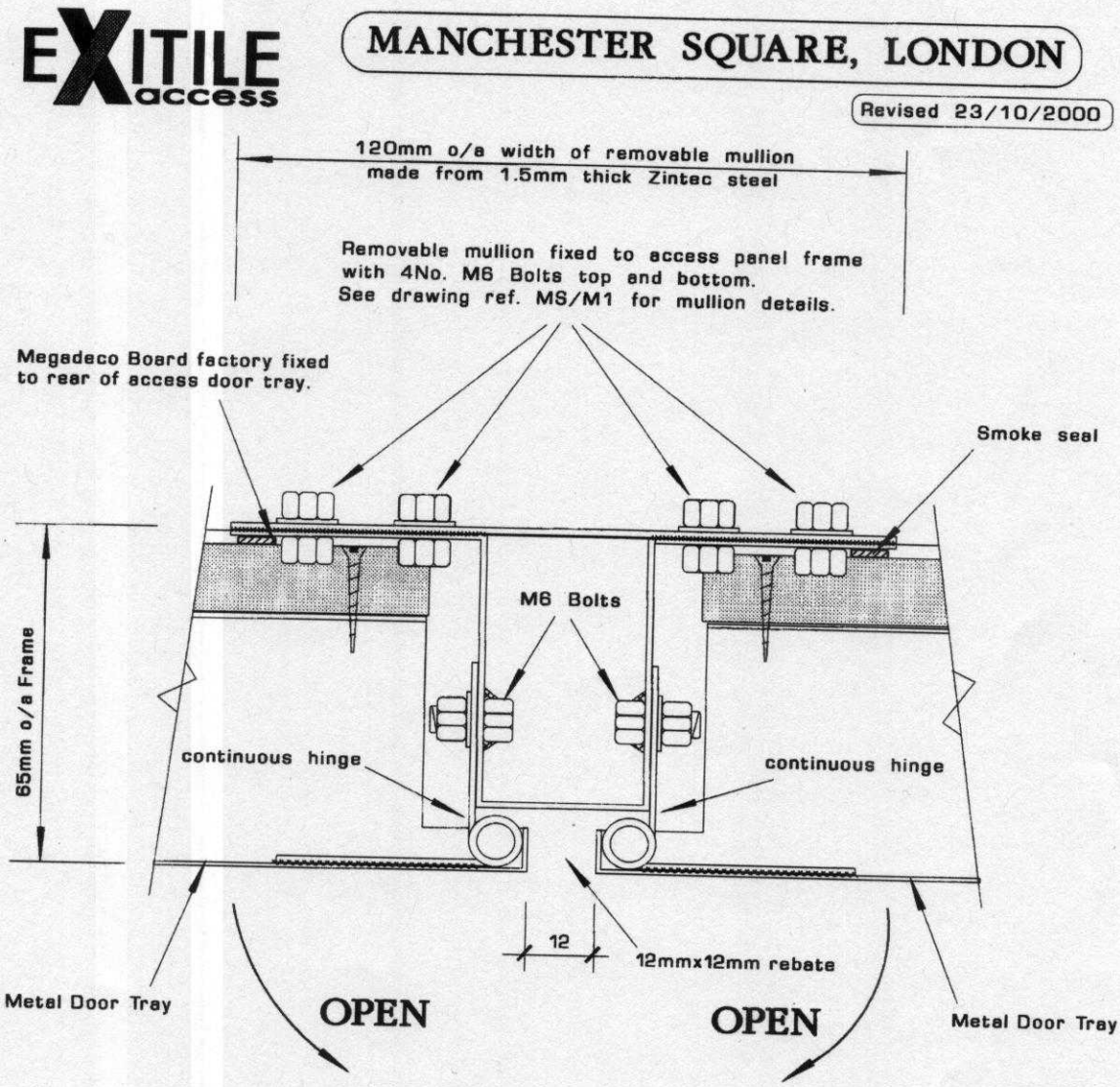


Figure 6 Section through three- and four-door access panels showing removable mullion detail

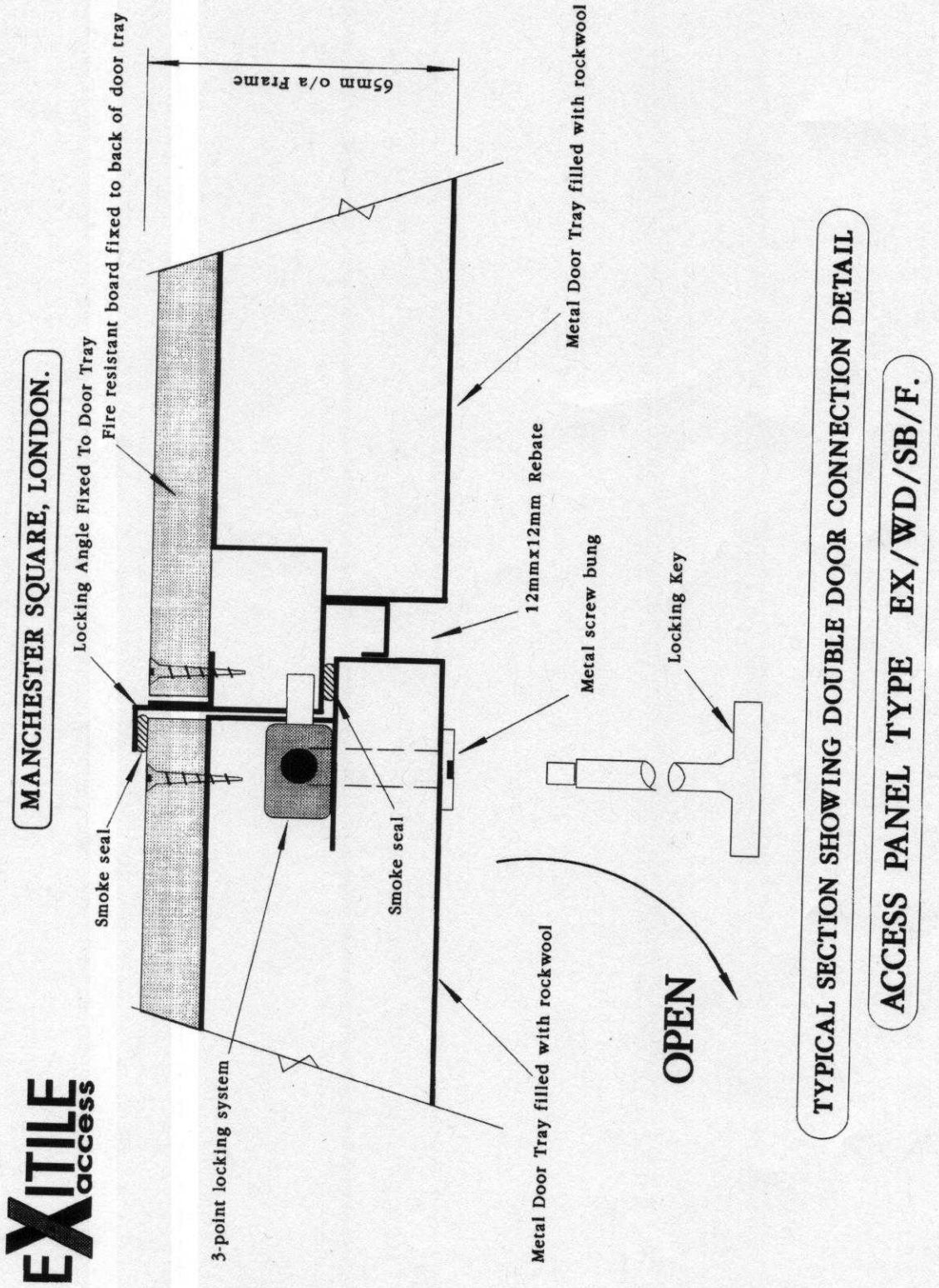


Figure 7 Typical section showing door connection detail

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