

assessment report

Title:

The Fire Resistance
Performance of a Sliding,
Folding Doorset with Respect
to SS 489: 2001

WF Report No:

165721

Prepared for:

Won-Door Corporation

1865 South 3490 West
Salt Lake City
UT 84104
USA

Date:

17th July 2007

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Executive Summary

Objective	This report presents an appraisal of the fire resistance performance of a sliding, folding doorset with respect to Clause 4 of SS 489: 2001.
Sponsor	Won-Door Corporation
Address	1865 South 3490 West Salt Lake City UT 84104 USA
Summary of Conclusions	It can be concluded that the proposed sliding, folding doorset should be capable of providing up to 60 minutes integrity performance, if subjected to a fire resistance test in accordance with Clause 4 of SS 489: 2001.
Valid until	1 st August 2012

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Introduction

This report presents an appraisal of the fire resistance performance of a sliding, folding doorset, with respect to Clause 4 of SS 489: 2001.

FTSG

The data referred to in the supporting data section has been considered for the purpose of this appraisal which has been prepared in accordance with the Fire Test Study Group Resolution No. 82: 2001.

Assumptions

General

Construction

It is assumed that the general construction of the doorset and the materials used in the construction will, unless specifically detailed in this report, be identical to those of the assembly tested under the reference WARRES No. 117771. The doorset shall also be constructed and installed in an identical manner.

Supporting

Construction

It is assumed that the doorset shall be fixed to a supporting construction which is capable of maintaining adequate support for the required period of 60 minutes.

Installation

It is assumed that the doorset will be installed by competent installers in a similar manner to that used when installing the fire tested assembly.

Proposals

It is proposed that the doorset previously tested in accordance with BS EN 1634-1: 2000, under the reference WARRES No. 117771, shall provide 60 minutes integrity performance if subjected to a fire resistance test in accordance with Clause 4 of SS 489: 2001.

Basic Test Evidence

WARRES No. 117771

A fire resistance test in accordance with BS EN 1634-1: 2000, on a specimen of a sliding, folding doorset.

The doorset had overall exposed dimensions of 2694 mm high by 2381 mm wide. The associated construction comprised two timber stud, plasterboard clad, side pockets.

The specimen satisfied the performance criteria specified in BS EN 1634-1: 2000, Clause 11, for fire doors and shutters, for the following periods:

Integrity	Cotton Pad	50 minutes
	Sustained Flaming	18 minutes*
	Gap Gauge	121 minutes
Insulation		4 minutes

The test was discontinued after a period of 121 minutes.

* An addendum to this report concludes that if the test specimen had been constructed incorporating a storage pocket of 838 mm minimum width, as recommended by the manufacturer, then the sustained flaming which occurred after a period of 18 minutes would have been contained within the pocket and the sustained flaming criteria would have been satisfied for a period of 60 minutes.

Assessed Performance

Proven Fire Performance

An addendum to the fire test report referenced WARRES No. 117771 considers that if the width of the storage pocket of the doorset were to be increased to a minimum of 838 mm (an increase by almost 500 mm) the sustained flaming observed after a period of 18 minutes of the previous fire test, would have been contained within the pocket and the integrity criteria would therefore have been satisfied for at least a period of 60 minutes.

A further instance of integrity failure was caused by ignition of the cotton pad after a period of 50 minutes. In accordance with the requirements of BS EN 13501-2: 2003, however, the cotton pad shall not be used for the evaluation of uninsulated doorsets.

Based, upon the aforementioned comments, it may therefore be considered that the tested doorset has proven its ability to provide the required 60 minutes integrity performance, when tested in accordance with BS EN 1634-1: 2000.

**Performance
with Respect to
SS 489: 2001,
Clause 4**

It is proposed that if the previously fire tested sliding, folding doorset were to be tested in accordance with Clause 4 of SS 489: 2001, a fire performance of 60 minutes integrity would be provided.

In order to determine the likely fire performance, it is necessary to provide a comparison between the test procedures of Clause 4 of SS 489: 2001 and those to which the previously fire tested specimen was subjected.

The temperature/time regime specified within SS 489: 2001 is almost identical to that used for the fire test referenced WARRES No. 117771.

The thermocouples used to control the furnace temperature are, however, of a different specification. The furnace thermocouples used for the previous fire test are of a much greater thermal mass compared with those required by Clause 4 of SS 489: 2001. Consequently, despite a similar specified heating regime, the thermocouple specification used for the previous fire test is deemed to have resulted in a more arduous heating regime compared with that specified by SS 489: 2001.

Both test methods require a neutral furnace pressure to be maintained at a height of 500 mm above the notional floor level. The specimen would therefore be subjected to an identical pressure gradient over its height regardless of the test method.

In terms of integrity performance, both test methods require that the specimen is evaluated against the performance criteria for sustained flaming and gap formation (using the 6 mm and 25 gap gauges). The cotton wool pad is not used to evaluate integrity performance under the requirements of SS 489: 2001, where the specimen is of an uninsulated nature. The previous failure caused by ignition of the cotton pad during the test referenced WARRES No. 117771 may therefore be disregarded for the purposes of this appraisal.

A comparison of the test procedures would therefore indicate that the test conditions to which the specimen was previously subjected, were at least as onerous as those required by Clause 4 of SS 489: 2001.

It is therefore expected that the previously fire tested sliding, folding doorset should provide at least 60 minutes integrity performance if subjected to a fire resistance test in accordance with Clause 4 of SS 489: 2001

Conclusions

It is expected that the sliding, folding doorset considered within this report, should provide the required 60 minutes integrity performance, if subjected to a fire resistance test in accordance with Clause 4 of SS 489: 2001.

Validity

This assessment is issued on the basis of test data and information available at the time of issue. If contradictory evidence becomes available to Bodycote **warringtonfire** the assessment will be unconditionally withdrawn and Won-Door Corporation will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested because actual test data is deemed to take precedence over an expressed opinion. The assessment is valid initially for a period of five years i.e. until 1st August 2012, after which time it is recommended that it be returned for re-appraisal.

The appraisal is only valid provided that no other modifications are made to the tested construction other than those described in this report.

Summary of Primary Supporting Data

WARRES No. 117771

A fire resistance test in accordance with BS EN 1634-1: 2000, on a specimen of a sliding, folding doorset.

The doorset had overall exposed dimensions of 2694 mm high by 2381 mm wide. The associated construction comprised two timber stud, plasterboard clad, side pockets.

The specimen satisfied the performance criteria specified in BS EN 1634-1: 2000, Clause 11, for fire doors and shutters, for the following periods:

Integrity	Cotton Pad	50 minutes
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The test was discontinued after a period of 121 minutes.

* An addendum to this report concludes that if the test specimen had been constructed incorporating a storage pocket of 838 mm minimum width, as recommended by the manufacturer, then the sustained flaming which occurred after a period of 18 minutes would have been contained within the pocket and the sustained flaming criteria would have been satisfied for a period of 60 minutes.

Test date : 28th June 2001

Test sponsor : Won-Door Corporation

Declaration by Won-Door Corporation

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 the 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 Bodycote **warringtonfire** to withdraw the assessment.

Signed:

For and on behalf of:

Signatories


Responsible Officer
D Hankinson* - Technical Consultant


Approved
A Kearns * - Technical Manager

* For and on behalf of Bodycote **warringtonfire**.

Report Issued: 17 th July 2007

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

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