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Testing. Advising. Assuring.

Title:

The Performance of DAN-doors
Doorsets when tested to BS 476:
Part 22: 1987

Report No:

190466

Prepared for:

DAN-doors a-s

Industrivej 19, Stilling
DK-8660 Skanderborg
Denmark

Date:

22nd February 2010

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Executive Summary

Objective	This report provides an appraisal regarding the performance of DAN-doors doorsets, previously tested in accordance with Danish Standard DS 1051.2, if tested in accordance with BS 476: Part 22: 1987.
Report Sponsor	DAN-doors a-s
Address	Industrivej 19, Stilling DK-8660 Skanderborg Denmark
Summary of Conclusions	The DAN-doors doorsets, as tested under the reference Report Nos. F6933 and F7008, as discussed in this report, are expected to be capable of a performance of 60 minutes integrity and insulation, if tested in accordance with BS 476: Part 22: 1987.
Valid until	1 st March 2015

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Introduction

This report provides an appraisal regarding the performance of a previously tested (to Danish Standard DS 1051.2) hinged and sliding doorsets as reported under the references F6933 and F7008.

The required period of fire resistance is 60 minutes, if tested in accordance with BS 476: Part 22: 1987.

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

It is assumed that no further modifications will be made to the previously tested doorsets, other than those discussed in this report.

Door Gaps

Door leaf to frame clearance gaps can have a significant influence on the performance of a doorset. It is therefore assumed that the leaf to frame clearance gaps do not exceed those shown specified within the referenced test reports.

Supporting Construction

It is assumed that the supporting structure is composed of masonry or concrete and that it is capable of effectively supporting the proposed constructions for the required period.

Doorset Construction

It is also assumed that the doorsets will be constructed in the same manner as for the assemblies tested under the relevant referenced reports unless otherwise appraised within this report. All materials of construction, unless specified otherwise in this report, are assumed to be as for the tested assemblies.

Latching

In the test referenced Report No. F6933, the doorset incorporated a latch which is assumed to have been fully engaged for the test. The doorset considered in this appraisal is required to be similarly latched in order to replicate the tested scenario.

Proposals

It is proposed that the doorsets tested under the reference Report Nos. F6933 and F7008 (to Danish Standard DS 1051.2), will provide up to 60 minutes integrity and insulation performance, if subjected to a test in accordance with BS 476: Part 22: 1987.

Basic Test Evidence

Dantest Report No. F6933

A fire resistance test, performed in accordance with Danish Standard DS 1051.2, on a specimen of a single-acting, single-leaf steel doorset. The doorset incorporated a door leaf of dimensions 2262 mm high by 1219 mm wide by 60 mm thick.

The doorset satisfied the requirements of the test standard for the following periods:

Insulation : 82 minutes

Integrity : 84 minutes

Dantest Report No. F7008

A fire resistance test, performed in accordance with Danish Standard DS 1051.2, on a specimen of a single-leaf, sliding steel doorset. The doorset incorporated a door leaf of dimensions 3050 mm high by 2400 mm wide by 65 mm thick.

The doorset satisfied the requirements of the test standard for the following periods:

Insulation : 61 minutes

Integrity : 61 minutes

Assessed Performance

Comparison of Test Methods

The doorsets tested under the references Report nos. F6933 and F7008 were tested in accordance with the Danish Standard DS 1051.2.

It is proposed that the doorsets be assessed against the British Standard BS 476: Part 22: 1987.

A comparison of the British and Danish test standards has been made and essentially the test methodology of the two standards are very similar.

The specified furnace temperatures of both tests are similar (both utilise the temperature/time relationship specified in ISO 834) and the methods of furnace control (i.e. number and type of furnace control thermocouples) are similar.

The failure criteria in terms of 'integrity' and 'insulation' in both standards are also similar in terms of the methods used to determine loss of impermeability and the specified temperature rises that are used to determine insulation failure.

Although gap gauges were not used to evaluate 'integrity' in the Danish Standard DS 1051.2 tests, observation of the formation of gaps was conducted and recorded and cotton pads applied where gaps occurred, without resulting in ignition and it can therefore be confidently predicted that no through gaps larger than those permitted by BS 476: Part 22: 1987 are likely to occur.

The furnace pressure in the Danish tests was controlled such that a neutral pressure differential was maintained relative to the laboratory at 1/3 height of the doorsets. Based upon the height of the tested doorsets, this will have resulted in similar or higher pressure conditions than would be required by BS 476: Part 22: 1987, which requires a neutral pressure plane to be established at 1000 mm above the door threshold.

Since the test methods are similar, it is considered reasonable to assume that the doorsets, as tested under the references Report No. F6399 and F70008, would achieve similar results if it were to be subjected to a test in accordance with BS 476: Part 22: 1987.

Conclusions

The DAN-doors doorsets, as tested under the reference Report Nos. F6933 and F7008, as discussed in this report, are expected to be capable of a performance of 60 minutes integrity and insulation, if tested in accordance with BS 476: Part 22: 1987.

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 **Exova warringtonfire** the assessment will be unconditionally withdrawn and **DAN-doors a-s** 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 March 2015, 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

**Dantest Report
No. F6933**

A fire resistance test, performed in accordance with Danish Standard DS 1051.2, on a specimen of a single-acting, single-leaf steel doorset. The doorset incorporated a door leaf of dimensions 2262 mm high by 1219 mm wide by 60 mm thick.

The doorset satisfied the requirements of the test standard for the following periods:

Insulation : 82 minutes

Integrity : 84 minutes

Test Date : 22nd August 1990

Test Sponsor : DAN Insulated Doors A.S.

**Dantest Report
No. F7008**

A fire resistance test, performed in accordance with Danish Standard DS 1051.2, on a specimen of a single-leaf, sliding steel doorset. The doorset incorporated a door leaf of dimensions 3050 mm high by 2400 mm wide by 65 mm thick.

The doorset satisfied the requirements of the test standard for the following periods:

Insulation : 61 minutes

Integrity : 61 minutes

Test Date : 20th September 1990

Test Sponsor : DAN Insulated Doors A.S.

Declaration by DAN-doors a-s

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 **Exova warringtonfire** to withdraw the assessment.

Signed:

.....
For and on behalf of:

.....

Signatories


Responsible Officer
C Johnson * - Principal Certification Engineer


Approved
A Kearns * - Technical Manager

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

Report Issued: 22nd February 2010

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

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