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Title:

The Fire Resistance
Performance
Of Timber Or Mineral
Composite Based Insulated
Doorsets When
Fitted With Briton 'Quantum'
Surface Mounted Overhead
Door Closers

Report No:

WF No. 145309

Prepared for:

**IR Security and Safety
Limited**

Bescot Crescent
Walsall
West Midlands
WS1 4DL

Date: 26th April 2005

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Executive Summary

Objective	This report presents an appraisal of the fire resistance performance of single-acting timber doorsets when fitted with a Briton 'Quantum' surface mounted overhead door closer if tested in accordance with BS EN 1634-1: 2000.
Report Sponsor	IR Security and Safety Limited
Address	Bescot Crescent, Walsall, West Midlands, WS1 4DL.
Summary of Conclusions	Should the recommendations given in this report be followed, it can be concluded that the Briton 'Quantum' range of door closers may be fitted to previously tested or assessed (by Warringtonfire) insulated doorsets, to provide up to 120 minutes integrity performance if tested in accordance with BS EN 1634-1: 2000.
Valid until	1 st April 2010

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Introduction

This report presents an appraisal of the fire resistance performance of single-acting insulated (timber or mineral composite) doorsets when fitted with a Briton 'Quantum' surface mounted overhead door closer. The doorset, onto which the closer is to be fitted may be of single-leaf or double-leaf configuration.

The proposed doorsets are required to provide a fire resistance performance of up to 120 minutes integrity with respect to BS EN 1634-1: 2000.

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

It is assumed that the Briton 'Quantum' door closers will be fitted to an insulated doorset (timber or mineral composite) which has been previously shown to be capable of providing the required fire resistance performance when tested in accordance with BS EN 1634-1: 2000 in the proposed configuration i.e. single-leaf or double-leaf.

Supporting wall

It is also assumed that the construction of the wall, which supports the proposed doorsets, will have been the subject of a separate test and the performance of the wall is such that it will not influence the performance of the doorset for the required period.

Clearance gaps

Door leaf to frame clearance gaps can have a significant effect on the overall fire performance of a doorset. It is therefore assumed that the leaf to leaf and leaf to frame clearance gaps will not exceed those measured for the relevant fire tested doorset. In addition, it is assumed that the door leaves will be in the closed position.

Proposals

It is proposed that a Briton 'Quantum' surface mounted overhead door closer may be fitted onto a previously tested (in accordance with BS EN 1634-1: 2000) insulated (timber or mineral composite) doorset which has been shown to be capable of providing up to 120 minutes integrity and insulation in the same configuration as that proposed i.e. single-leaf or double-leaf.

Basic Test Evidence

The test referenced WARRES No. 144271 included a single-acting, single-leaf timber based doorset. Doorset A was fitted with a closer referenced Briton 'Quantum 2550.T.C.SA' to the exposed surface in slide arm configuration (pull operator). The doorsets was installed such that the door leaf opened away from the heating conditions of the test.

The specimen continued to satisfy the test requirements for the test duration of 36 minutes.

Assessed Performance

General

It is proposed that previously fire tested (or assessed by Warringtonfire) timber or mineral composite based insulated doorsets may be fitted with a Briton 'Quantum' surface mounted overhead door closer in order to provide up to 120 minutes integrity without detracting from the performance of the doorset.

The performance of the doorset during the test referenced WARRES No. 144271 is cited to display the ability of the proposed door closer to remain in place for a period of 8 minutes (track assembly) and 14 minutes (closer body) as detailed within the observations to the test report.

The test included insulated (timber based) door leaves and upon examination of the test reports it can be seen that there were no modes of integrity failure, which were either attributable to or co-incident with the performance or presence of the door closer, for the full test duration.

A surface mounted door closer is usually required to restrain the door leaf up until the time at which the intumescent seals react. After a test period of approximately 10 minutes the intumescent seals would be expected to have reacted and as such the restraint offered via the closer is deemed to be superfluous to requirements. The above referenced test therefore provides direct evidence on the ability of the proposed closers to be capable of restraining the door leaves for the required test period.

The door closer track arm began to fall away after 8 minutes whilst the body remained in place for 14 minutes. At such time that the closer ceased to offer any restraint to the door leaf, the intumescent seals had sufficiently reacted whereby they offered the required level of restraint to the door leaf for the remainder of the test duration.

The tested assembly was installed such that the slide arm was parallel to the doorset (pull operator application). This is considered to represent the most onerous condition in terms of the ability of the closer to remain in place and provide restraint to the door leaf under standard fire test conditions.

The proposals include the range of closers to be used in a 'pull operator' application or a 'push operator' application. For the reasons detailed within the previous paragraph the proposals are deemed acceptable.

The Briton 'Quantum' range of door closers are also provided with a range of alternative references. As the closer construction is always the same this is not expected to alter the fire resistance performance in any significant way, the alternative references detailed within the table to Annex A are considered acceptable.

Proposed Doorsets

As stated in this report, the doorset, in the required configuration, will be previously tested (or assessed by WFRC) and its performance is therefore not in doubt.

To enable the use of the door closers on a range of doorsets, it is necessary to address the available information on the proposed doorset. As this appraisal is intended to be used on a general basis and not restricted to any particular manufacturer of fire resisting doorsets, the following points are given to enable the closers to be used safely:

- a) The doorset shall carry valid certification or the doorset, including the door frame and associated ironmongery should have achieved up to 120 minutes integrity, when tested by a NAMAS/UKAS approved laboratory (or assessed by warringtonfire) to BS EN 1634-1: 2000.
- b) If the proposed doorset is to be used in double-leaf configuration the test or assessment evidence should be applicable to double-leaf configurations.
- c) The critical aspects of the doorset construction are given earlier in this report and shall be replicated on the proposed doorset

Conclusions

Timber or mineral composite based doorsets that have previously been successfully fire tested by a NAMAS/UKAS accredited laboratory (or assessed by warringtonfire) which have achieved up to 120 minutes integrity as discussed in this report, may be fitted with Briton 'Quantum' surface mounted overhead door closers, without detracting from the overall performance of the doorset.

The fitting of the door closers into alternative doorsets, on the basis of compliance with the conditions given above, is therefore considered to be acceptable.

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 warringtonfire the assessment will be unconditionally withdrawn and IR Security and Safety Limited 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 April 2010, 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. 144271

Test report relating to the performance of two fully insulated, single-acting, single-leaf, timber doorsets incorporating various building hardware surface, when subjected to a test in accordance with BS EN 1634-1: 2000 to determine their fire resistance performance.

Doorset A had overall nominal dimensions of 2084 mm high by 1012 mm wide and incorporated a door leaf of overall nominal dimensions 2042 mm high by 940 mm wide by 44 mm thick. The doorset included a softwood door frame and a door leaf comprising softwood stiles and rails, a flaxboard core, MDF facings and was lipped with hardwood on the vertical edges.

Doorset A included an electromechanical door closer referenced 'Quantum 2550.T.C.SA' which was fitted to the exposed face of the doorset.

The doorset was installed such that it opened away from the heating conditions of the test.

The specimen satisfied the test requirements for the following periods:

		Doorset B
Integrity	Sustained Flames	36 minutes*
	Gap Gauge	36 minutes*
	Cotton Pad	36 minutes
Insulation		36 minutes

* The test was discontinued after this time with no failures recorded.

Test date : 21st January 2005

Test sponsor : IR Security and Safety Limited

Declaration by IR Security and Safety Limited

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 warringtonfire to withdraw the assessment.

Signed:

.....
For and on behalf of:

Signatories


Responsible Officer S Hankey* - Technical Consultant


Approved C Johnson* - Technical Officer

* For and on behalf of warringtonfire

Report Issued: 26th April 2005

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

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Annex A

Configuration	Quantum Reference	Briton Reference
Push Operator	950/SES	2550.C.SA
Pull Operator	960/SES	2550.T.C.SA

Table 1. Permitted Closer References

- * All items can be used within timber based or mineral composite insulated doorsets (see 'Proposed Doorsets' section of this report for further details) for the provision of up to 120 minutes integrity.
- * Fire may be from either side/direction.

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24th February 2015

Allegion (UK) Ltd

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Review of Assessment Report Referenced WF No. 145309

1 Introduction

The assessment report referenced WF No. 145309 presented a considered opinion regarding the fire resistance performance of single-acting timber or mineral composite based doorsets in single or double-leaf configurations when fitted with the Briton 'Quantum' surface mounted overhead door closers.

The report concluded that following its recommendations the Briton 'Quantum' closers discussed could be fitted to previously fire tested (or assessed by Exova Warringtonfire) insulated (timber or mineral composite) based doorsets to provide up to 120 minutes integrity performance in accordance with BS EN 1634-1: 2000.

2 Confirmation of Specification

It has been confirmed by Allegion (UK) Limited that there have been no changes, to the specification of the closer units considered in the original appraisal referenced WF No. 145309.

3 Discussion

The current version of the testing standard is BS EN 1634-1: 2014. Any changes to the Standard have been taken into consideration as part of this review. It has been determined that the conclusions of the original assessment would not be altered by any of the changes to the test standard, and therefore remain valid.

4 Conclusions

The procedures adopted for the original assessment have also been re-examined and are similar to those currently in use.

Therefore, with respect to the assessment of performance given in WF No. 145309, the contents should remain valid until the 28th February 2020.

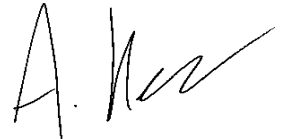
5 Validity

This review is based on information used to formulate the original assessment. No other information or data has been provided by Allegion (UK) Limited which could affect this review.

The original appraisal report was performed in accordance with the principles of the UK Fire Test Study Group Resolution 82: 2001.

Performed by:

Reviewed By:



D Forshaw

Principal Certification Engineer

A Kearns

Technical Manager

Exova Warringtonfire

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