

Exova Warringtonfire
Holmesfield Road
Warrington
WA1 2DS
United Kingdom

T : +44 (0) 1925 655 116
F : +44 (0) 1925 655 419
E : warrington@exova.com
W: www.exova.com

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Title:

The Fire Resistance
Performance
Of Single-Acting Timber
Doorsets When Fitted With
Athmer oHG 'NR25', 'NR30'
And 'NR38' Finger
Protection Products

Report No:

340203 Issue 2

Prepared for:

Athmer oHG

Sophienhammer
Arnsberg 59757
Germany

Date:

28th May 2014

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Executive Summary

Objective	This report presents an appraisal of the fire resistance performance of single-acting timber or mineral composite based, fully insulated doorsets, and doorsets incorporating uninsulated glazing, where the glazing constitutes less than 20% of the total surface area of the doorset, when fitted with Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products, if tested in accordance with BS 476: Part 22: 1987 or BS EN 1634-1.
Report Sponsor	Athmer oHG
Address	Sophienhammer Arnsberg 59757 Germany
Summary of Conclusions	Should the recommendations given in this report be followed, it can be concluded that Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products may be fitted to previously tested (or assessed by Exova Warringtonfire) fully insulated doorsets, and doorset incorporating uninsulated glazing, where the total area of the glazing constitutes less than 20% of the surface area of the doorset, to provide up to 60 minutes integrity performance if tested in accordance with BS 476: Part 22: 1987 or BS EN 1634-1: 2009.
Valid until	1 st July 2019

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Introduction

This report presents an appraisal of the fire resistance performance of single-acting insulated (timber or mineral composite) doorsets and doorsets incorporating uninsulated glazing, where the glazing constitutes less than 20% of the total surface area of the doorset, when fitted with Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products. The doorset, onto which the proposed hardware 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 60 minutes integrity and insulation with respect to BS 476: Part 22: 1987 or BS EN 1634-1

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 Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products will be fitted to an insulated doorset (timber or mineral composite), including doorsets incorporating uninsulated glazing, where the glazing constitutes less than 20% of the total surface area of the doorset, which has been previously shown to be capable of providing the required fire resistance performance when tested in accordance with BS 476: Part 22: 1987 or BS EN 1634-1 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.

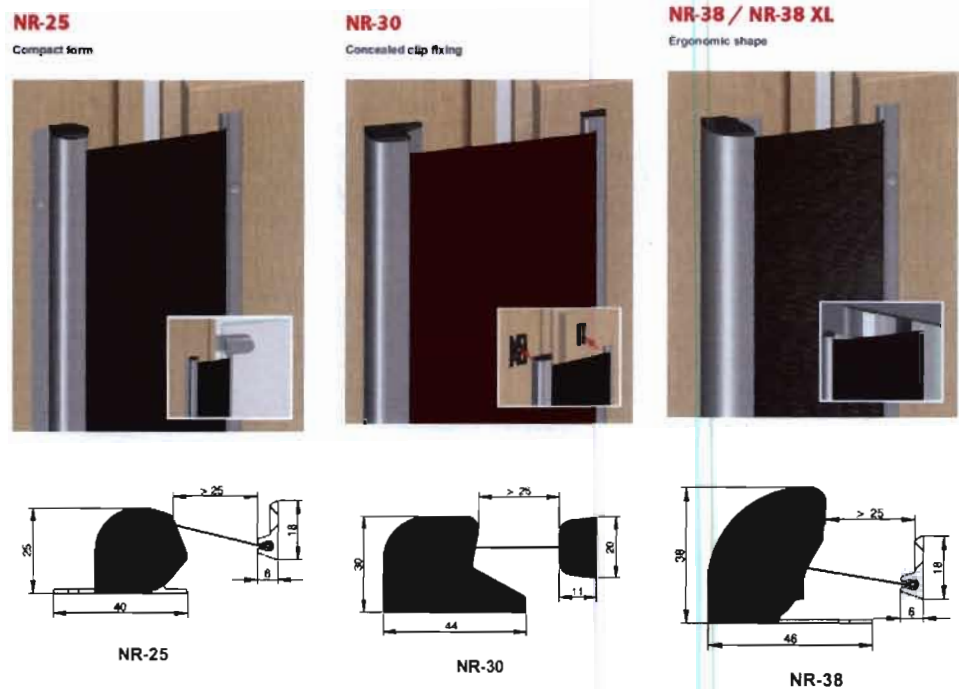
Clearance gaps

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 the, Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products, incorporating the same fabric as the previously tested NR30 finger protection guard, may be fitted into a previously tested (in accordance with BS 476: Part 22: 1987 or BS EN 1634-1: 2009) insulated (timber or mineral composite) doorset, or a doorset incorporating uninsulated glazing, where the glazing constitutes less than 20% of the total surface area of the doorset, which has been shown to be capable of providing up to 60 minutes integrity and insulation in the same configuration as that proposed i.e. single-leaf or double-leaf.

Drawings of the finger guards are shown below:



Basic Test Evidence

**DTM GmbH & Co.
KG report: DTM-
DO-50-063-001**

A fire resistance test in accordance with EN 1634-1, on two single-acting, single-leaf timber based doorsets incorporating Athmer oHG NR30 finger protection guards, when mounted within a low density rigid supporting construction. The results of the test were as follows:

	Door 1	Door 2
Integrity Performance (Sustained flaming, Cotton Pad, Gap Gauge)	35 minutes	31 minutes
Insulation Performance	35 minutes (I ₁)	31 minutes (I ₁)
	35 minutes (I ₂)	31 minutes (I ₂)
Radiation	35 minutes	31 minutes

Assessed Performance

General

The Athmer oHG 'NR30' finger protection guard previously fire tested and described within the fire resistance test report DTM GmbH & CO. KG: DTM-DO-50-063-001, has demonstrated that its inclusion had no deleterious effect on the integrity and insulation performance of a timber based doorset, providing 30 minutes integrity and insulation performance.

Apart from changes in the profile sizes the Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products, share the same component materials across the range. The test evidence generated with the NR30 finger protection guard is deemed to be applicable to the 'NR25' and 'NR38' Finger Protection Products.

The Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products are surface mounted with no through fixing, therefore it is proposed that previously fire tested (or assessed by Exova Warringtonfire) timber or mineral composite based insulated doorsets, including doorsets incorporating uninsulated glazing, where the total area of the glazing is less than 20% of the surface area of the doorset may be fitted with the Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products, without detracting from the performance of the doorset.

The test evidence provided for the Athmer oHG 'NR30' finger protection guard is based on a 30 minute test, however it has been assumed that the doors, to which the finger guards will be fitted, have been successfully tested to BS476: Part 22: 1987 or BS EN 1634-1 for a duration of up to 60 minutes and are of a fully insulated construction. For doorsets that include uninsulated glazing, the glazing should constitute less than 20% of the total surface area of the doorset and a separation of at least 200 mm must be maintained between the glazing and the finger protection products. The performance criteria specified in these standards are similar and include tests for loss of impermeability (integrity) and insulation (unexposed temperature rise). The criteria for integrity include the occurrence of sustained flaming on the unexposed surface and also a cotton pad test where an oven dried cotton wool pad is placed against any areas of glowing. On the assumption that the doors have passed the test, it is, by

definition, therefore concluded that there was neither occurrence of sustained flaming nor ignition/charring of an applied cotton pad.

Under BS476: Part 22: 1987 The cotton pad test wouldn't be used over areas of un-insulated glazing, however it's proposed that a separation of at least 200 mm is maintained between the uninsulated glazing and the Athmer oHG 'NR25', 'NR30' and 'NR38' Finger Protection Products.

It can therefore be safely concluded that no sources of ignition will be present in the vicinity of the areas where the proposed finger guards will be fitted onto the unexposed face of a doorset. Similarly, as the doors will have achieved the necessary insulation performance (which specifies a maximum temperature rise on the unexposed face of 180°C), the items are not expected to be subjected to excessive temperatures that may result in ignition of any plastic components.

The above comments are valid when considering the performance of a door when the finger guards are fitted to the unexposed face of a doorset. When fitted to the exposed face of the doorset, the finger guards are not expected to have any effect on the performance of the doorset and will either simply fall away as the fixings are bypassed by charred timber or will ignite and be consumed within the furnace.

Proposed Doorsets

As stated in this report, the doorset to which the finger guards will be fitted, in the required configuration, will be previously tested (or assessed by Exova Warringtonfire) and its performance is therefore not in doubt.

To enable the use of Athmer oHG 'NR25', 'NR30' And 'NR38' Finger Protection Products 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 Finger Protection Products to be used safely:

- a) The doorset shall carry valid certification or the doorset, including the door frame and associated ironmongery should have achieved at least 30 minutes integrity and insulation (depending upon application), when tested by a notified laboratory (or assessed by Exova Warringtonfire) to BS 476: Part 22; 1987 or BS EN 1634-1.
- 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.

Conclusions

Timber or mineral composite based doorsets that have previously been successfully fire tested by a notified laboratory (or assessed by Exova Warringtonfire) which have achieved up to 60 minutes integrity as discussed in this report, may be fitted with Athmer oHG 'NR25', 'NR30' And 'NR38' Finger Protection Products, without detracting from the overall performance of the doorset.

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 Athmer oHG 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 June 2019, 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

**DTM GmbH & Co.
KG report: DTM-
DO-50-063-001**

A fire resistance test in accordance with EN 1634-1: 2009, on two single-acting, single-leaf timber based doorset, mounted within a low density rigid supporting construction.

Both doorsets were fitted with various items of building hardware including an Athmer oHG NR30 finger protection guard. The doorset were installed such that Doorset 1 opened away from the heating conditions of the test and Doorset 2 opened towards the heating conditions of the test. The Athmer oHG NR30 finger protection guards were fitted to the non hinged face of the doorsets only and were therefor tested on both the exposed and unexposed sides of the doorsets.

Doorset 1 satisfied the integrity and insulation criteria for 35 minutes and Doorset 2 satisfied the integrity and insulation criteria for 31 minutes.

Declaration by Athmer oHG

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:


Reinhold


athmer
Lässt nix durch

For and on behalf of:

Sophienhammer · 59757 Arnsberg
Tel. +49(0)29 32 / 4 77 - 500
Internet: www.athmer.de
E-mail: info@athmer.de

Signatories


Responsible Officer S Gilfedder* - Certification Engineer


Approved C Abbott* - Principal Certification Engineer

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

Report Issued: 28 th May 2014
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Issue 2: Typographical change to summary on page 3 (29th May 2014).

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

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