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Title

The fire resistance performance of single-acting timber based doorsets when fitted with Athmer oHG 'NR25', 'NR30' and 'NR38' finger protection products if they were to be tested in accordance with BS 476: Part 22: 1987 or BS EN 1634-1: 2014 + A1: 2018

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Prepared for:

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The issue/revision number stated on the front of this report supersedes all previous issues/revisions, if applicable. Previous issues/revisions of the report, if applicable, cannot be used once an updated report has been issued/revised under a new revision.

Signatories and Revision History

Issue No.	Date	FM No.	Report scope and Signatures
1	28/05/2014	340203	Initial report issued to Athmer oHG
2	29/05/2014	340203	Typographical change to summary section
3	21/08/2019	417309	Update to format / mandatory content & review / revalidation of assessment

Issue No.	Date	FM No.	Report scope and Signatures
4	23/09/2024	545667	Update to format / mandatory content & review / revalidation of assessment

Assessor	Reviewer
Name: ***M. Tolan**	Name: ***R. Anning**
Signature: Signed by: M. Tolan 2DFEB73A7D2249D...	Signature: Signed by: Ray Anning 144229DE9F3343A...

*For and on behalf of Warringtonfire

Executive summary

This report presents an assessment of the fire resistance performance of the ‘NR30’ finger protection guard as fire tested and described in report DTM-DO-50-063-001 when modified as detailed in Section 3 of this report.

The proposed modification includes the assessment of the ‘NR30’, ‘NR25’ and ‘NR38’ finger protection products for use with fully insulated timber based doorsets.

This assessment report is subject to the requirements and limitations described in Sections 2 and 8.

The assessment in Section 5 of this report found that if the ‘NR30’ finger protection guard as tested and described in DTM-DO-50-063-001 had been modified as proposed, it is expected that it would have been capable of up to 30 minutes of integrity and insulation if tested in a similar manner to BS 476 Part 22: 1987 or BS EN 1634-1: 2014 + A1: 2018.

This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS 476 Part 22: 1987 specified above, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.

Contents

1. Introduction

This report presents an assessment of the fire resistance performance of the 'NR30' finger protection guard as fire tested and described in DTM-DO-50-063-001 and when modified as detailed in Section 3 of this report.

2. Assessment framework

An assessment is an opinion of the likely performance of a component or element of structure if it was subjected to a standard fire test.

This assessment report has been carried out in accordance with the Passive Fire Protection Forum (PFPF) 'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence - 2021' and has been written in accordance with the general principles outlined in BS EN 15725: 2023; *Extended application reports on the fire performance of construction products and building elements, as applicable.*

This scope document cannot be used as supporting documentation for either a CE or UKCA marking application, nor can the conclusion be used to establish a formal classification against EN13501-2.

The scope presented in this report relates to the behaviour of the element under the particular conditions of the test; they are not intended to be the sole criterion for considering the potential fire hazard of the door assembly in use.

This report has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the Passive Fire Protection Forum (PFPF) 'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence - 2021'. The aim of the PFPF guidelines is to give confidence to end-users that assessments that exist in the UK are of a satisfactory standard to be used for building control and other purposes.

This report uses established empirical methods of extrapolation and experience of fire testing similar elements, in order to extend the scope of application by determining the limits for the designs based on the tested constructions and performances obtained. The scope is an evaluation of the potential fire resistance performance, if the variations specified herein were to be tested in accordance with test standard specified.

Test evidence from an overseas laboratory has been considered as supporting evidence for the designs in this assessment report. The test evidence is from a laboratory that has been accredited by a national accreditation body that is a signatory of the International Laboratories Accreditation Co-operation (ILAC).

3. Description of the specimen and proposed modifications

3.1 Description of the specimen and referenced tests

The supporting test report for the 'NR30' finger protection guard and the results achieved are summarised in Appendix A.

3.2 Summary of the proposed modifications/designs

Table 1 Summary of proposed modifications

Item	Proposed modifications
1	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:) insulated timber based doorset.

4. General requirements and assumptions

- The 'NR25', 'NR30' and 'NR38' finger protection guards shall be constructed in a similar manner from materials and components of the same manufacturer and equivalent quality as those tested or otherwise assessed by Warringtonfire.
- It is assumed that the Athmer oHG 'NR25', 'NR30' and 'NR38' finger protection products will be fitted to a fully insulated timber based doorset, 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.
- 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.
- 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. The application of increased perimeter gaps in accordance with the Field of Direct application of test results, in accordance with BS EN 1634-1: 2014 + A1: 2018 is therefore not permitted in conjunction with this assessment report.
- In addition, it is assumed that the door leaves will be in the closed position.
- It is assumed that the doorsets will be installed in a similar manner to that of the previously tested assembly by competent installers.
- BS EN 1634-1 was issued originally in 2000, with amended versions issued in 2008, 2014 and 2018. The differences between each version are mainly procedural and are not considered to have a practical impact on the performance of the samples under test. On this basis this evaluation is considered applicable to all versions of BS EN 1634-1 issued prior to the issue of this assessment.

- An appraisal of the finger protection guards detailed in this report is based upon product information supplied by the hardware manufacturer. Warringtonfire have not inspected the devices being appraised and cannot be held responsible for the accuracy of the information provided.
- It is assumed that the end user will have a full understanding of the tested specification as defined in the relevant test report(s) summarised in Appendix A.
- If a design variation or extension to scope is not explicitly detailed within the assessment it should not be assumed to be acceptable by omission.

5. Assessment of proposed modifications

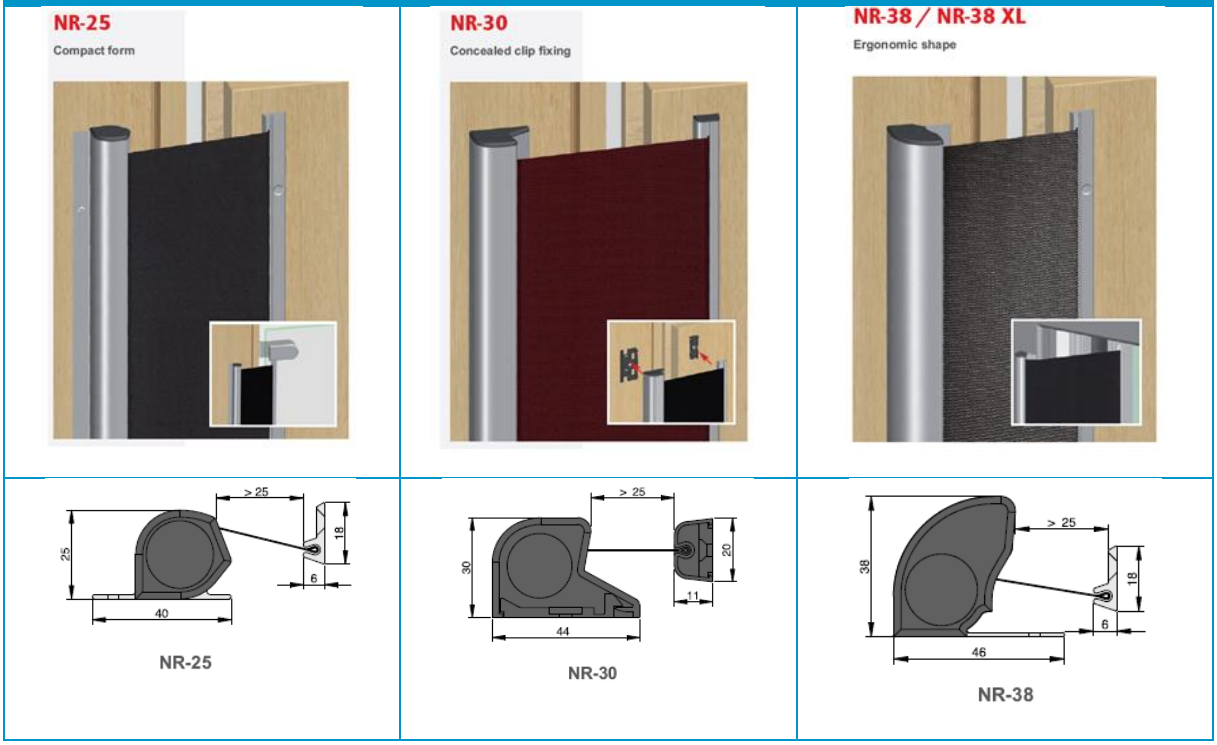
5.1 'NR25', 'NR30' and 'NR38' Finger Protection Products

5.1.1 Proposal

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 based doorsets.

It is further 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) timber based 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 30 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:



5.1.2 Discussions – Finger Protection Products

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 timber based fully insulated doorsets, including timber based doorsets incorporating uninsulated glazing, where the total area of the glazing is less than 20% of the surface area of the doorset, which have previously been successfully fire resistance tested to BS 476: Part 22 or EN 1634-1 by a laboratory accredited to IS/IEC 17025 (under International Laboratory accreditation Cooperation (ILAC) membership) 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, and on this basis the 'NR25', 'NR30' and 'NR38' finger protection products shall be fitted to timber based doorsets that have been successfully tested to BS476: Part 22: 1987 or BS EN 1634-1 for a duration of 30 minutes and are of a fully insulated construction.

For timber based 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 BS 476: Part 22 and BS EN 1634-1: 2014 + A1: 2018 are similar, with both including tests for loss of impermeability (integrity) and insulation (unexposed temperature rise).

The criteria for integrity failure includes the occurrence of sustained flaming on the unexposed surface and 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 achieved the required 30 minutes integrity and insulation performance, 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 would not be used over areas of un-insulated glazing, and to this end it is 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.

5.1.3 Discussions – Proposed Doorsets

As stated in this report, the doorset, in the required configuration, will be previously tested 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 doorset, the following points are given to enable the finger protection products to be used safely:

- 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 when tested by a laboratory accredited to IS/IEC 17025 (under International Laboratory accreditation Cooperation (ILAC) membership), to BS 476: Part 22; 1987 or BS EN 1634-1.
- If the proposed doorset is to be used in double-leaf configuration the test or assessment evidence should be applicable to double-leaf configurations.

6. Conclusions

If the 'NR30' finger protection guard, as described in DTM-DO-50-063-001. had been modified as described in Section 3 of this report, was fitted to timber based doorsets, as previously discussed, it is expected that they would have been capable of up to 30 minutes of integrity and insulation performance if tested in a similar manner.

7. Declaration

We the undersigned confirm that we have read and comply with obligations placed on us by the Passive Fire Protection Forum (PFPF) Guide to undertaking technical assessments and engineering evaluations based on fire test evidence 2021 Industry Standard Procedure

We confirm that any changes to a component or element of structure which are the subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.

We agree to withdraw this assessment from circulation should the component or element of structure, or any of its component parts be the subject of a failed fire resistance test to the standard against which this assessment is being made.

We understand that this assessment is based on test evidence and will be withdrawn should evidence become available that causes the conclusion to be questioned. In that case, we accept that new test evidence may be required.

We are not aware of any information that could affect the conclusions of this assessment. If we subsequently become aware of any such information, we agree to ask the assessing authority to withdraw the assessment.

(in accordance with the principles of FTSG Resolution No. 82: 2001)

Signed: Signiert von: AE0A8751A7BE405...

Name: Kroehnert

Position: Development/Standards/Approvals

Date: 23-Sep-2024

For and on behalf of: **Athmer oHG**

8. Limitations

This assessment report:

- Does not provide an endorsement by Warringtonfire of actual products supplied.
- Has been prepared based on information provided by the Applicant. Warringtonfire has not verified the accuracy or completeness of that information and will not be responsible for any errors or omissions that might be incorporated into this report as a result.
- Any figures included in this report are provided for illustrative purposes only and may not fully reflect the actual scope being assessed. Warringtonfire cannot guarantee the accuracy of the drawings against the scope being assessed. The scope of this report is limited to assessments of the modifications to the tested systems as described in Section 3.
- This report addresses itself solely to the elements and subjects discussed and do not cover any other criteria or modifications. All other details not specifically referred to should remain as tested or assessed.
- This report is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to Warringtonfire, the assessment will be unconditionally withdrawn, and the applicant will be notified in writing. Similarly, the assessment should be re-evaluated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.
- This assessment has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.
- Opinions and interpretation expressed herein are outside the scope of UKAS accreditation.
- This assessment report relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions that are stipulated in the standard this assessment concludes to. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this assessment, the element is suitable for its intended purpose.
- This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with the standard to which this assessment concludes, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.
- This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at https://www.element.com/terms/terms-and-conditions or upon request.

- Previous versions of the report(s), if applicable, are withdrawn from the date of the up-issued assessment report with immediate effect. That means that they may no longer be relied upon in support of any products being placed on the market (or for the stated project/address where applicable) from the issue date stated on the front cover of this report. The withdrawal of an assessment report does not affect any reliance placed on the report up to the issue date stated on the front cover of this assessment; however, going forward, the up-issued report must be referenced in any literature or product specifications in place of the previous versions of the assessment.

9. Validity

This assessment report is not valid unless signed by all signatories identified within the Signatories and Revision History section of this report.

This assessment report is not valid unless it incorporates the declaration given in Section 7 duly signed by the applicant.

The assessment is valid initially for a period of five years after which time it is recommended that it be submitted to the assessing authority for re-evaluation.

Appendix A
Summary of supporting data

The summaries in this section are for information only. It is assumed that the end user will have a full understanding of the tested specification as defined in the relevant test report.

The test evidence used in the evaluation is over 5 years old. In accordance with industry guidance, the evidence has been reviewed to consider its suitability. Warringtonfire are satisfied that there have been no significant revisions to the relevant test standards which would render the evidence irrelevant.

A.1 Primary Evidence

Test Report Reference DTM-DO-50-063-001		
Report sponsor	PIV – Testing institute for locks and hardware, windows, and doors Permission has been provided for the information to be utilised for the purpose of this appraisal.	
Test laboratory	DTM GmbH & Co. KG	
Test date	10 January 2013	
Test standard	EN 1634-1: 2009	
Specimen summary	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.	
Test results	Doorset A	Doorset B
	Integrity: 35 minutes Insulation: 35 minutes	Integrity: 31 minutes Insulation: 31 minutes