

Title:

Field of Application Report

NOR400 Letterbox in Timber Based
Fire Resisting Timber Doorset
Assemblies.
30 & 60 Minutes Fire Resistance

Report No:

WF427772

Valid From: 27th March 2020

Valid Until: 27th March 2025

Prepared for:

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1 Foreword

This field of application report has been commissioned by Norseal Ltd and relates to the NOR400 Letterbox in Timber Based Fire Resisting Timber Doorset Assemblies for 30 & 60 minute installations.

This field of application report is for National Application and has been written in accordance with the general principles outlined in BS EN 15725: 2010; *Extended application reports on the fire performance of construction products and building elements*, as appropriate.

This field of application (scope) uses established empirical methods of extrapolation and experience of fire testing similar door assemblies, 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 BS 476: Part 22: 1987 and therefore can neither be considered for a CE marking application nor can the conclusion be used to establish a formal classification against EN13501-2.

This field of application has been written using appropriate test evidence generated at a UKAS accredited laboratory to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturers stated door design and is summarised in section 3 and appendix A.

The scope presented in this report relates to the behaviour of the proposed door design variations 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 field of application 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) guidelines to undertaking assessments. 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.

The PFPF guidelines are produced by the UK Fire Test Study Group (FTSG) an association of the major fire testing laboratories in the UK and are published by the PFPF, the representative body for the passive fire protection industry in the UK.

2 Proposal

It is proposed to consider the fire resistance performance of the NOR400 letterbox design described in the technical specification in section 4 of this report, for 30 & 60 minutes fire resistance integrity, if the doorsets into which they are fitted were to be tested to the requirements of BS 476 Part 22: 1987, *Fire tests on building materials and structures – Part 22: Method for determination of the fire resistance of non-load bearing elements of construction*.

The field of application defined in this report is based on the fire resistance test evidence for the NOR400 letterbox design summarised in section 3. Analysis of specific construction details that require assessment are given within this report against the relevant element of construction, as appropriate.

3 Test Data

The test evidence summarised below has been generated to support the fire resistance performance of the NOR400 letterbox design that is the subject of this field of application.

Abbreviations: (h) = high; (w) = wide; (t) = thick; (d) = deep; (l) = long.
Dimensions are in millimetres unless otherwise stated.

3.1 Test report WF165855

The referenced test report, the essential details of which are summarised below, is primary data for the NOR400 letterbox design being considered for assessment in this report.

| | |
|--|--|
| Date of test | 11 th September 2007 |
| Identification of test body: | Warringtonfire Testing Ltd. |
| Sponsor: | Fab & Fix Ltd, The Moorings Business Park,, Channel Way, Exhall, Coventry, CV7 9FW |
| Tested Product: | Two letterbox specimens within a section of timber based door leaf |
| Orientation: | Two specimens of letterbox referenced FFLP1240. Box A chrome coloured and box B gold coloured. |
| Summary of test specimens (mm): | Door Leaf Dimensions: 990 (h) x 940 (w) x 54 (t), comprised of a graduated density particleboard leaf with 6mm thick hardwood lippings on all edges. Box A was mounted 200mm down from the head of the leaf, central in the width. Box B was mounted 200mm from the threshold of the leaf and central in the width. Both boxes were mounted into apertures 257mm long x 38mm high. The pressure within the furnace chamber coincident with the upper letterbox was controlled to be +8.5(±2) Pa, in order that letterbox A was exposed to positive pressure conditions and letterbox B to negative for the duration of the test. |
| Test Standard: | Principles of BS 476: Parts 20&22: 1987 |
| Performance | Integrity: 66 minutes No failures observed prior to termination of test at 66 minutes |

3.2 Test report WF166079

The referenced test report, the essential details of which are summarised below, is primary data for the NOR400 letterbox design being considered for assessment in this report.

| | |
|--|---|
| Date of test | 11 th September 2007 |
| Identification of test body: | Warringtonfire Testing Ltd. |
| Sponsor: | Fab & Fix Ltd, The Moorings Business Park,, Channel Way, Exhall, Coventry, CV7 9FW |
| Tested Product: | A specimen of a letterbox within a section of timber based door leaf |
| Orientation: | Letterbox referenced FFLP1240. |
| Summary of test specimens (mm): | <p>Door Leaf Dimensions: 990 (h) x 940 (w) x 54 (t), comprised of a graduated density particleboard leaf with 6mm thick hardwood lippings on all edges.</p> <p>Letterbox was mounted centrally in the height and width of the leaf.</p> <p>The letterbox was mounted into an aperture 257mm long x 38mm high.</p> <p>The pressure within the furnace chamber coincident with the letterbox was controlled to be +5(±2) Pa, i.e. the letterbox was exposed to positive pressure conditions for the duration of the test.</p> |
| Test Standard: | Principles of BS 476: Parts 20&22: 1987. |
| Performance | <p>Integrity: 66 minutes</p> <p>No failures observed prior to termination of test at 66 minutes</p> |

4 Technical Specification

4.1 General

The technical specification for the proposed NOR400 letterbox is given in the following sections and is based on the test evidence for the letterbox, summarised in section 3.

4.2 Intended use

The intended use of the NOR400 letterbox is summarised below.

Incorporation into specified proprietary pedestrian doorset designs including specified frames, door leaves, fanlights and sidelights, as applicable, which are provided to give a fire resisting capability when used for the closing of permanent openings in fire resisting separating elements, which, together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control or for other purposes such as draught or acoustics), form the assembly.

4.3 Description of Construction – NOR400 Letterbox

Norseal Ltd have confirmed (letter held on file at Warringtonfire) the NOR400 letterbox is identical to the tested specimens in WF165855 and WF166079 which were referenced as FFLP1240.

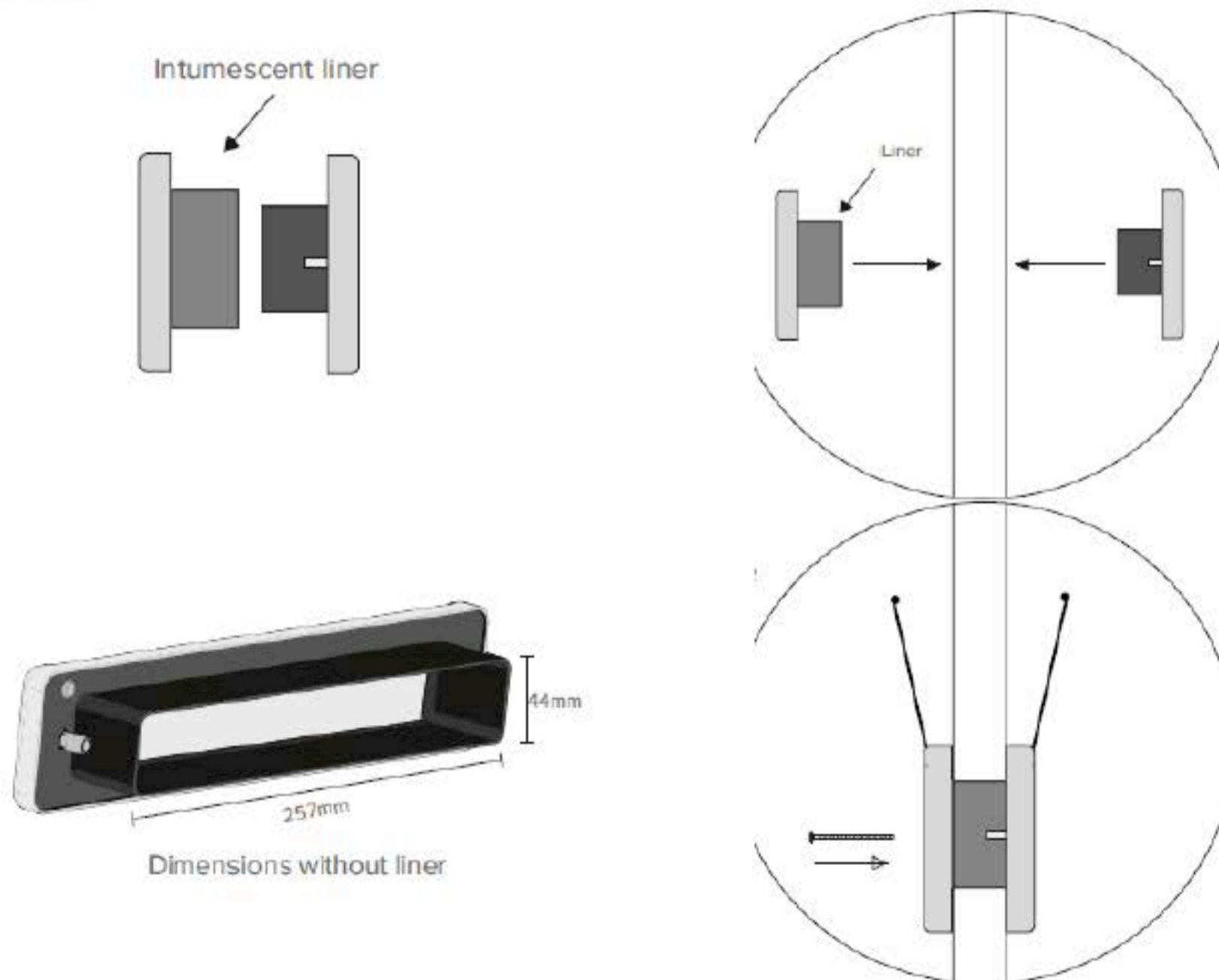
The NOR400 letterbox comprises steel letter plates, fixed to a steel frame with intumescent material fitted around the outside perimeter of the plastic telescopic sleeves of the letter box.

The intumescent wrap is referenced as 'Norseal Liner' and comprises 2No layers, each 2mm thick by nominally 38mm wide wrapped around the plastic sleeve.



The two halves of the steel letterbox frame are attached by means of steel through-bolts (M4 size) which engage into steel bosses on the opposite frame.

The external plates are mounted on steel pins with associated springs to the steel frames.



4.4 Proprietary Fire Resisting Door Designs

The Norseal NOR400 letterbox is approved for use with the following proprietary fire resisting doorset designs.

This report only considers the use of the NOR400 letterbox in relation to each doorset design. For all other details, the full construction requirements in the field of application documentation relevant to the chosen doorset must be referred to.

| Manufacturer | Product | Integrity Rating | General Description |
|-----------------------|---------------------------|------------------|---|
| Falcon Panel Products | Strebord 44 | 30 | Graduated density particle board |
| | Strebord 54 | 60 | Graduated density particle board |
| | Stredor | 60 | Lamel 3-layer core door with various facing options |
| Halspan® | Halspan® 30 Optima | 30 | Tri layer particle board |
| | Halspan® 30 Prima | 30 | Tri layer particle board |
| | Halspan® 60 Optima | 60 | Tri layer particle board |
| | Halspan® 60 Prima | 60 | Tri layer particle board |
| Pacific Rim Wood | Flamebreak 30 | 30 | Lamel 3-layer core door with various facing coverings |
| | Flamebreak 60 | 60 | Lamel 3-layer core door with various facing coverings |
| Blankfort Inc | Blankfort 30 & 30+ | 30 | Lamella core door with various facing coverings |
| | Blankfort 60 & 60+ | 60 | Lamella core door with various facing coverings |
| Egger (UK) Ltd | Décor 44 | 30 | Graduated density chipboard |
| | Eurospan | 30 | Graduated density chipboard |

The above designs have been tested and proven to BS 476: Part 22: 1987 and/or BS EN 1634-1. The documentation for each proprietary door type is referenced in section 5 below.

It is the responsibility of the user of this field of application report to obtain up to date reports as they become available and to check that the key factors relating to the installation of the NOR400 letterbox are unchanged. If any relevant details change in the field of application report then that door design cannot be used with the NOR400 design without a review from Warringtonfire.

4.5 Non-proprietary timber based fire resisting doors

The NOR400 letterbox has been successfully subjected to testing for 30 & 60 minutes fire resistance to the principles of BS 476 Part 20:1987 and BS 476 Part 22:1987 and is therefore approved for use with different types of timber door construction, subject to the provisos contained in this report. In addition to the approved proprietary door designs above, the NOR400 letterbox is approved for use with the following generic types of timber based fire resisting doorsets:

- Graduated density chipboard and three layered particleboard door blanks.
- Softwood or hardwood laminated door constructions with tested or assessed cellulosic facings.

Assessment of these generic design types is subject to the following three provisos:

1. The door blank must be a minimum of 44 or 54mm thick, as appropriate.
2. For all other details, the full construction requirements in the relevant door blank manufacturer's test evidence or assessment documentation must be complied with, including the margins specified within the relevant test or global assessment between any apertures and leaf edges and between multiple apertures.
3. It is the responsibility of the user of this document to ensure the most recent revisions of applicable doorsets are utilised. See section 4.4.

5 NOR400 Letterbox Application

The NOR400 letterbox may be installed in any of the fire resisting door designs listed in section 4.4 & 4.5, subject to the following requirements.

- The NOR400 letterbox is essentially symmetrical in construction and may therefore be installed in either orientation with regard to the fire exposed face of the door assembly
- Within the supporting documentation for the specified door assembly, minimum dimensions may be specified for the installation of apertures, particularly glazing, these dimensions must take precedence over the dimensions herein.
- The NOR400 letterbox has been tested under both positive and negative pressure conditions and may therefore be installed from 200mm to 1200mm above the leaf threshold
- The NOR400 letterbox must be installed a minimum of 200mm from any leaf edge.
- NOR400 letterbox must be installed as tested, utilising the appropriate Norseal intumescent liner and through-bolts.

6 Conclusion

If the NOR400 letterbox design, installed in fire resisting doors in accordance with the specification documented in this report, were to be tested in the appropriate configuration in accordance with BS 476 Part 22:1987, it is the opinion of Warringtonfire that the door assembly would achieve a minimum of 30 or 60 minutes fire resistance integrity, as appropriate.

7 Declaration by the Applicant

- 1) We the undersigned confirm that we have read and comply with obligations placed on us by FTSG Resolution No 82: 2001.
- 2) 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 this assessment is being made.
- 3) 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.
- 4) We are not aware of any information that could adversely affect the conclusions of this assessment.
- 5) If we subsequently become aware of any such information we agree to ask the assessing authority to withdraw the assessment.

Signed:



Name: Michael Spoors

For and on behalf of: Norseal Ltd.


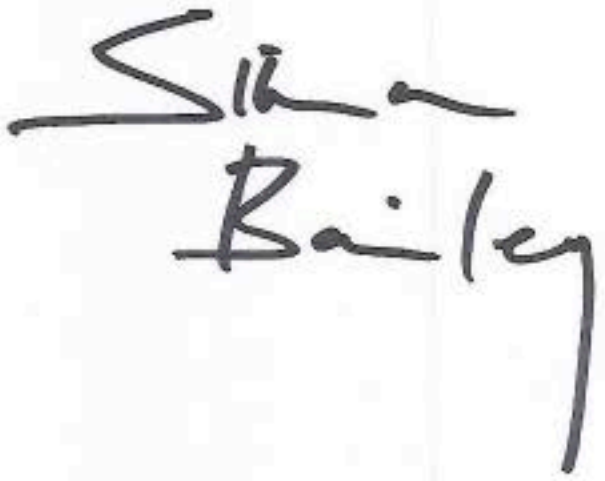
8 Limitations

The following limitations apply to this assessment:

- 1) This assessment addresses itself solely to the elements and subjects discussed and does not cover any other criteria. All other details not specifically referred to should remain as tested or assessed.
- 2) This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, Warringtonfire reserves the right to withdraw the assessment unconditionally but not retrospectively.
- 3) This assessment has been carried out in accordance with Fire Test Study Group Resolution No 82: 2001.
- 4) Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
- 5) This assessment relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions. 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.
- 6) This assessment represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS 476 Part 22:1987, on the basis of the evidence referred to herein. We express no opinion as to whether that evidence, and/or this assessment, would be regarded by any Building Control authority as sufficient for that or any other purpose. This assessment is provided to the client for its own purposes and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.
- 7) 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.

9 Validity

- 1) The assessment is initially valid for five years after which time it must be submitted to Warringtonfire for technical review and revalidation.
- 2) This assessment report is not valid unless it incorporates the declaration given in Section 8 duly signed by the applicant.

| | | |
|-----------|---|--|
| Signature |  |  |
| Name: | A M Winning | Simon Bailey |
| Title: | Senior Product Assessor | Senior Product Assessor |

Appendix A

Performance Data

Primary Test Data

| Report No | Configuration | Leaf Size (mm) | Test Standard | Performance (mins) |
|-----------|--------------------------------|------------------|--|--------------------|
| WF165855 | Section of Particleboard blank | 990 940 54 | Principles of BS 476 Parts 20&22: 1987 | Integrity: 66* |
| WF166079 | Section of Particleboard blank | 990 940 54 | | Integrity: 66* |

* No failures observed prior to termination of either test at 66 minutes.

Assessed Proprietary Doorsets

| Report No | Configuration | Leaf Size (mm) | Test Standard | Performance (mins) |
|---|---------------|----------------|--------------------------|--------------------|
| Chilt/A02066 Revision L Strebord 44 Falcon Panel Products | Various | Various | BS 476: Part 22: 1987 | 30 |
| Chilt/A02067 Revision H Strebord 54 Falcon Panel Products | Various | Various | BS 476: Part 22: 1987 | 60 |
| WF377027 Stredor Falcon Panel Products | Various | Various | BS 476: Part 22: 1987 | 60 |
| FEA/F97174 Revision J Halspan® 30 Prima Halspan Ltd | Various | Various | BS 476: Part 22: 1987 | 30 |
| FEA/F96103 Revision N Halspan® 60 Prima Halspan Ltd | Various | Various | BS 476: Part 22: 1987 | 60 |
| FEA/F01204 Revision E Halspan® 30 Optima Halspan Ltd | Various | Various | BS 476: Part 22: 1987 | 30 |
| FEA/F01205 Revision F Halspan® 60 Optima Halspan Ltd | Various | Various | BS 476: Part 22: 1987 | 60 |
| FEA/F98164 Revision M Flamebreak 30 Pacific Rim Wood Ltd | Various | Various | BS 476: Part 22: 1987 | 30 |

| Report No | Configuration | Leaf Size (mm) | Test Standard | Performance (mins) |
|---|---------------|-------------------|--------------------------|-----------------------|
| FEA/F02141 Revision J Flamebreak 60 Pacific Rim Wood Ltd | Various | Various | BS 476: Part 22: 1987 | 60 |
| Chilt/A12151 Revision E Blankfort 30 & 30+ Blankfort Inc. | Various | Various | BS 476: Part 22: 1987 | 30 |
| Chilt/A12152 Revision E Blankfort 60 & 60+ Blankfort Inc. | Various | Various | BS 476: Part 22: 1987 | 60 |
| Chilt/A13085 Revision D Décor 44 Egger (UK) Ltd | Various | Various | BS 476: Part 22: 1987 | 30 |
| Chilt/A10187 Revision D Eurospan 60 Egger (UK) Ltd | Various | Various | BS 476: Part 22: 1987 | 60 |

Notes:

1. Proprietary doorsets referenced in the above table are listed with the revision current at the time of issue of this report. Please refer to section 4.4 for the responsibilities of users of these reports to utilise the most recent revisions.

Appendix B

Revisions

[illegible]