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Title:

The Fire Resistance Performance of 30 minute Timber doors in Steel frames with respect to BS 476: Part 22: 1987

Report No:

WF No. 379848 Issue 3

Prepared for:

Theuma NV

Zandstraat 10
B-3460 Bekkevoort
Assent
Belgium

Date:

8th March 2017

Warringtonfire Testing and Certification Limited
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Registered Office: 3rd Floor, Davidson Building, 5 Southampton Street, London, United Kingdom, WC2E 7HA
Company Registration No: 11371436

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Foreword

This assessment report has been commissioned by Theuma NV and relates to the fire resistance of timber doors in steel frames.

This 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 report uses established empirical methods of extrapolation and experience of fire testing similar products, in order to extend the scope of application by determining the limits for the design based on the tested constructions and performances obtained. The assessment is an evaluation of the potential fire resistance performance if the elements were to be tested in accordance with BS 476: Part 22: 1987. This assessment cannot therefore be considered for a CE marking application nor can the conclusion be used to establish a formal classification against EN13501-2.

The defined scope presented in this assessment report relates to the behaviour of the proposed design under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product 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 has been written using appropriate test evidence generated at UKAS accredited laboratories, to the relevant test standard. The supporting test evidence has been deemed appropriate to support the stated design.

Executive Summary

Objective

This report considers the expected fire resistance performance of Theuma single–acting, single-leaf doorset designs similar to the basic design of doorsets previously fire tested and reported in conjunction with DuoFlex steel frames in accordance with BS 476: Part 22: 1987.

Report Sponsor

Theuma NV

Address

Zandstraat 10 B-3460 Bekkevoort Assent Belgium

Summary of conclusions

It can be concluded that Theuma single-acting, single-leaf doorsets, as discussed in this report should be capable of providing 30 minutes integrity performance, if subjected to a fire resistance test in accordance with BS 476: Part 22: 1987

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 above. 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.

Valid until

28th September 2028

Introduction

This report considers the expected fire resistance performance of Theuma single-acting, single-leaf doorset designs similar to the basic design of doorsets previously fire tested and reported in conjunction with DuoFlex steel frames 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 and the Passive Fire Protection Federation (PFPF) Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence - 2021.

Assumptions

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 be capable of supporting the doorset for at least the required fire resistance period.

Door construction

It is also assumed that the doorsets will be constructed in the same manner as for the assembly tested under the reference listed in the body of this report, 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.

Installation

It is assumed that the doorsets will be installed by competent installers in a similar manner to that used when installing the fire tested assemblies.

It is assumed that the doorsets will be fitted with a closing device which is capable of fully closing the doorset from any position and overcoming the latch mechanism unless otherwise detailed within this report. It is further assumed that the doorsets will be in the closed and latched position.

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.

Proposals

It is proposed that the assessed 30 minute single-acting, single-leaf door constructions will comprise of components similar to those tested in 2012-Efectis-R0145, 2012-Efectis-R0424 and 2013-Efectis-R0144a whilst permitting various modifications as detailed within this report.

It is proposed that alternative backfilling details to the rear of the steel frame be considered for a fire performance of 30 minutes integrity in accordance with BS 476: Part 22: 1987.

Primary Test Evidence

Test No. 2012-Efectis-R0145

The report referenced 2012-Efectis-R0145 and briefly described in the supporting data section of this report, describes a test conducted in accordance with BS EN 1634-1: 2008 on 2No single-acting, single-leaf, doorsets.

Doorset A opened away from the fire and demonstrated the ability of the doorset to provide 41 minutes integrity and 38 minutes insulation performance.

Doorset B opened towards the fire and demonstrated the ability of the doorset to provide 33 minutes integrity and 6 minutes insulation performance.

Test No. 2012-Efectis-R0424

The report referenced 2012-Efectis-R0424 and briefly described in the supporting data section of this report, describes a test conducted in accordance with BS EN 1634-1: 2008 on 2No single-acting, single-leaf, doorsets.

Doorset A opened away from the fire and demonstrated the ability of the doorset to provide 36 minutes integrity and 31 minutes insulation performance.

Doorset B opened away from the fire and demonstrated the ability of the doorset to provide 42 minutes integrity and 34 minutes insulation performance.

Test No. 2013-Efectis-R0144a

The report referenced 2013-Efectis-R0144a and briefly described in the supporting data section of this report, describes a test conducted in accordance with BS EN 1634-1: 2008 on 2No single-acting, single-leaf, doorsets.

Doorset A opened towards the fire and demonstrated the ability of the doorset to provide 45 minutes integrity and 37 minutes insulation performance.

Doorset B opened away from the fire and demonstrated the ability of the doorset to provide 32 minutes integrity and 32 minutes insulation performance.

Test report review

The original test reports used in support of this assessment have been reviewed and it has been concluded that the test data remains acceptable, and the final result would be unchanged on the following basis:

- A comparison of the test procedures and performance criteria with the current standard has identified that any variations would have no detrimental impact on the performance of the doorset and hardware under test
- The client has confirmed that there has been no change to the design or material specification of the doorset tested originally.
- The reports are available in their entirety, the products are adequately referenced and linked to the products being considered for assessment, and the ownership of the test data has been confirmed as the assessment report holder.

Comparison of Test Standards

Fire tests referenced 2012-Efectis-R0145, 2012-Efectis-R0424 and 2013-Efectis-R0144a were carried out in accordance with BS EN 1634-1: 2008. A comparison of the test procedures and performance criteria of the EN standard with those of the BS 476: Part 22 has identified the following items:

The fire tests were carried out largely in accordance with EN 1634-1, EN 1364-1 and EN 1363-1 & 2 but with some carried out in accordance with the national standards. Having studied the details of many fire resistance tests on constructions carried out to the EN standards in the oil or gas-fired furnaces of various European test laboratories and comparing the results with tests on the same (or similar) constructions carried out in the gas-fired furnaces of Warringtonfire, it is our experience that the severity of the exposure to fire in the other furnaces is equivalent to that of the Warringtonfire furnace.

A comparison of the test procedures and performance criteria of the EN standards with those of BS 476: Part 22 has identified the following items:

Initial furnace temperature – The furnace temperature/time curves of the standards are the same. The EN & BS standards assume an ambient/initial furnace temperature of 20°C. The tolerance allowed in the BS standard furnace is ±5%.

Furnace Pressure – The EN test on the doorset was carried out with the neutral pressure plane in the furnace positioned 500 mm above the notional floor level. Under BS 476: Part 22 the neutral pressure plane is positioned 1000 mm above notional floor level. Therefore, the EN test is slightly more severe.

Integrity – The means of assessing failure of the integrity criterion are slightly different for the EN and BS standards. The cotton-wool pad, flaming and the 6 mm and 25 mm gap requirements are the same but are reported differently. However, from the report on the fire resistance test on the assembly it is possible to assess the results of the test in terms of Part 22.

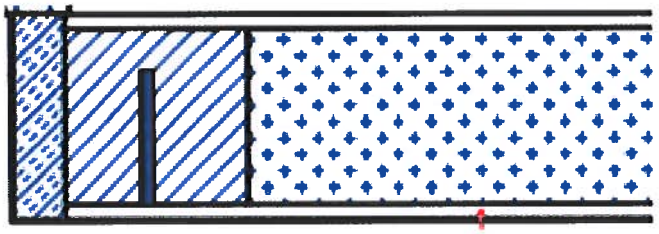
Insulation – The means of assessing failure of the insulation criterion are slightly different for the EN and BS standards. The mean temperature rise limit (+ 140°C) is the same for the EN and BS standards. The method of calculating the mean temperature rise is also the same. The fixed and roving thermocouples on the curtain and guides are used to calculate the maximum temperature rise on the specimens for both the EN and BS standards. The positioning of the fixed thermocouples and those used to calculate maximum temperature rise varies between the standards. Also, the maximum allowable temperature rise on the door frames is different. However, from the reports on the fire resistance tests on the assemblies it is possible to assess the results of the tests in terms of Part 22.

All other aspects of the standards are either the same or would make no discernible difference to the fire resistance performance of the assemblies.

Assessed Performance – Alternative leaf construction 'A'

Test No. 2012-Efectis-R0145 – Leaf A & B had a basic door leaf construction comprising of the following components, shown below

- Core: 33 mm thick Linex chipboard core - density of 370kg/m^3
- Rails: Redwood 32 mm by 33 mm - density if 450kg/m^3
- Stiles: Spruce 35 mm by 33 mm - density of 430kg/m^3
- Facings: 3 mm thick HDF facings - density of 800kg/m^3.
- Lippings: Redwood, 39 mm by 10 mm - density of 500kg/m^3.
- Spline: Palusol splines 2 mm thick by 26 mm to stiles.



It is proposed that the alternative leaf construction will comprise of components similar to those tested in 2012-Efectis-R0145 whilst permitting various modifications as detailed within this report.

Variation in core material

It is proposed that the assessed door leaves incorporate a Linex chipboard core with an increased thickness of 44 mm and an increased density of 470kg/m^3.

The proposed increase in core material thickness from the 33 mm tested to the proposed 44 mm thickness is expected to have a neutral or slightly beneficial impact on the dimensional stability of the door leaf, which would be expected to experience reduced deflections/distortions during the required 30 minute test period.

Core material density can also have a significant influence upon the performance of a doorset and typically a reduction in density would be expected to increase the likelihood of burn though and potentially influence the distortion of the leaf. Conversely an increase in density would normally be expected to have a neutral or slightly beneficial impact.

It is therefore considered that the use of the proposed 44 mm thick chipboard core with an increased density of 470kg/m^3, would not be expected to be detrimental to the overall fire performance of the doorset during the required 30 minutes integrity performance and on this basis is positively appraised.

Variation of stile and rail components

It is proposed that the assessed door leaves incorporate alternative stile and rail materials, with a similar or greater density and increased section sizes than tested.

Test No. 2012-Efectis-R0145 – Leaf A & B included a single Redwood rail 32 mm by 33 mm to the top and bottom door edge with a density if 450kg/m^3

Test No. 2012-Efectis-R0145 – Leaf A & B included a single Spruce stile 35 mm by 33 mm to each vertical door edge with a density if 430kg/m^3

It is proposed that the assessed door leaf will include an outer Redwood rail 32.5 mm by 44.3 mm to the top and bottom door edge, an Epicea (softwood) inner rail 40 mm by 44.3 mm to the top and bottom door edge and a Redwood stile 63 mm by 44.3 mm to each vertical door edge.

It is further proposed that the assessed leaf will include increased Palusol spline to the stiles measuring 2 mm thick by 35 mm in lieu of the previously tested 2 mm thick by 25 mm spline.

The use of Redwood stiles in conjunction with the increased Palusol spline in lieu of the previously tested arrangement would not be expected to have a detrimental impact on the required 30 minutes performance required.

The proposed stile and rail sections sizes represent an increase from the sections previously tested in test No. 2012-Efectis-R0145. The increased section dimensions would be expected to increase the stability of the construction, contributing to the stiffness and so limiting the distortion of the leaf.

It is therefore considered that the use of Redwood stiles and outer rails would not be expected to be detrimental to the required 30 minutes integrity period and on this basis is positively appraised.

The inclusion of an inner rail component represents a nominal increase in excess of 100 % from the rail arrangement tested. This increase will add stability to the core construction, contributing to the stiffness and so limiting the distortion of the leaf.

The use of softwood has been proven suitable for use as a stile material within both Leaf A & B of test No. 2012-Efectis-R0145.

It is therefore considered that the utilisation of Epicea (softwood) inner rails as previously described is not expected to be detrimental to the required 30 minutes integrity period and on this basis is positively appraised.

Variation of Door Facing Components

It is proposed that the assessed door leaves incorporate 5 mm HDF faces.

The doors tested in test No. 2012-Efectis-R0145 utilised 3 mm HDF facings with a density of 800 kg/m3.

The required increased facing thickness of 5 mm represents a nominal increase of 66 % for each facing from that tested. This increase will add stability to the core construction, contributing to the stiffness and so limiting the distortion of the leaf.

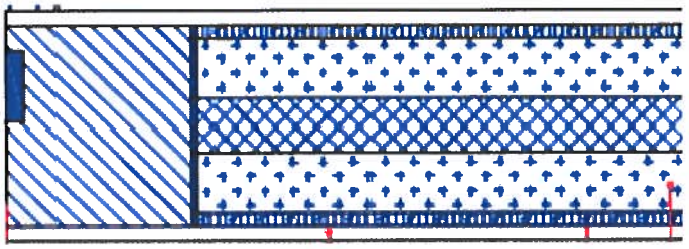
It is therefore considered that the use of 5 mm HDF faces would not be expected to be detrimental to the required 30 minutes integrity period and on this basis is positively appraised.

Assessed Performance – Alternative leaf construction 'B'

Alternative leaf construction – Option B

Test 2013-Efectis-R0144a – Leaf A & B had a basic door leaf construction comprising of the following components, shown below

- Central Core: 12 mm Thermacore-R mineral board
- Outer Core: 13 mm Sauerland 16S1K chipboard and 3 mm thick cork
- Outer Rails: Spruce 44.3 mm by 32.5 mm (Top and bottom)
- Inner rails: Spruce 44.3 mm by 40 mm (Top and bottom)
- Stiles: Spruce 43.5 mm by 35 mm
- Facings: 3 mm thick HDF facings
- Intumescent: Interdens sheet material 44 mm by 1 mm was included between the core and the top inner rail and stiles.



Variation of Door Facing Components

It is proposed that the assessed door leaves incorporate 5 mm HDF faces.

The doors tested in test No. 2012-Efectis-R0145 utilised 3 mm HDF facings.

The required increased facing thickness of 5 mm represents a nominal increase of 66 % for each facing from that tested. This increase will add stability to the core construction, contributing to the stiffness and so limiting the distortion of the leaf.

It is therefore considered that the use of 5 mm HDF faces would not be expected to be detrimental to the required 30 minutes integrity period and on this basis is positively appraised.

Assessed Performance – Alternative Backfilling to frame

Test No. 2012-Efectis-R0145 included a DuoFlex Theuma 6 part (3 parts assembled) profiled steel frame with nominal dimensions of 130 mm by 65.5 mm by 1.5 mm thick. The frame incorporated a 45 mm by 15 mm rebate. The frame was backfilled with 12.5 mm thick plasterboard strips and fire retardant PU-foam manufactured by Soudal referenced Soudafoam FR 2K.

Doorset A opened away from the fire and demonstrated the ability of the doorset to provide 41 minutes integrity and 38 minutes insulation performance.

Doorset B opened towards the fire and demonstrated the ability of the doorset to provide 33 minutes integrity and 6 minutes insulation performance.

Test No. 2012-Efectis-R0424 included a DuoFlex Theuma 6 part (3 parts assembled) profiled steel frame with nominal dimensions of 130 mm by 65.5 mm by 1.5 mm thick. The frame incorporated a 45 mm by 15 mm rebate. The frame was backfilled with 12.5 mm thick plasterboard strips and mineral wool.

Doorset A opened away from the fire and demonstrated the ability of the doorset to provide 36 minutes integrity and 31 minutes insulation performance.

Doorset B opened away from the fire and demonstrated the ability of the doorset to provide 42 minutes integrity and 34 minutes insulation performance.

Test No. 2013-Efectis-R0144a included a Theuma DuoFlex 6 part (3 parts assembled) profiled steel frame with nominal dimensions of 130 mm by 65.5 mm by 1.5 mm thick. The frame incorporated a 55 mm by 15 mm rebate. The frame was backfilled with 12.5 mm thick plasterboard strips and mineral wool.

Doorset A opened towards the fire and demonstrated the ability of the doorset to provide 45 minutes integrity and 37 minutes insulation performance.

Doorset B opened away from the fire and demonstrated the ability of the doorset to provide 32 minutes integrity and 32 minutes insulation performance.

The afore mentioned test reports therefore support the use of the following 2No. individual Backfilling arrangements:

- 12.5 mm thick plasterboard strips and fire retardant PU-foam manufactured by Soudal referenced Soudafoam FR 2K.
- 12.5 mm thick plasterboard strips and mineral wool.

It is therefore considered that the use either 12.5 mm thick plasterboard strips complete with fire retardant PU-foam manufactured by Soudal referenced Soudafoam FR 2K or 12.5 mm thick plasterboard strips complete with mineral wool, in accordance with the tested arrangement, would not be deleterious to the required 30 minutes integrity period and on this basis the 2No. options are positively appraised.

Conclusions

It can be concluded that Theuma doorsets, as discussed in this report should be capable of providing 30 minutes integrity performance, if subjected to a fire resistance test in accordance with BS 476: Part 22: 1987.

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 above. 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.

Review (28.09.23)

It has been confirmed by Theuma NV that there have been no changes to the material specification of the construction considered in the original appraisal referenced WF Assessment Report No. 379848, issued 8th March 2017.

The original assessment has been written using appropriate test evidence generated at accredited test laboratories. The supporting test evidence has been deemed appropriate to support the manufacturers stated design.

The defined scope presented in the original assessment report relates to the behaviour of the proposed design under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the design in use.

This revalidation has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the PFPF guidelines to undertaking assessments in lieu of fire tests. 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 in lieu of fire tests for building control and other purposes.

The PFPF guidelines are produced in association with the major fire testing, certification bodies and trade associations in the UK and are published by the PFPF, the representative body for the passive fire protection industry in the UK.

This revalidation represents our opinion as to the performance likely to be demonstrated, on the basis of the evidence referred to above. We express no opinion as to whether that evidence would be regarded by any Building Control authority as sufficient for that or any other purpose. This revalidation 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.

The data used for the original appraisal has been re-examined and found to be satisfactory. 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 Assessment Report No. 379848 Issue 3, the contents should remain valid for a further 5 years.

This review is based on information used to formulate the original assessment. No other information or data has been provided by Theuma NV 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. This review has therefore also been conducted using the principles of Resolution 82: 2001.

Validity

This assessment 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 Theuma NV 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. The assessment is valid initially for a period of five years i.e., until 28th September 2028, after which time it is recommended that it be returned for re-evaluation.

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

2012-Efectis-R0145 The report referenced 2012-Efectis-R0145, describes a test conducted in accordance with BS EN 1634-1: 2008 on 2No single-acting, single-leaf, timber doorsets in a flexible partition.

Each doorset had leaf dimensions of 2315 mm high by 980 mm wide by 40 mm thick and comprised a 33 mm thick chipboard core with a density of 370kg/m^3, redwood rails 32 mm by 33 mm with a density if 450kg/m^3 and spruce stiles 35 mm by 33 mm with a density of 430kg/m^3 complete with 3 mm thick HDF facings with a density of 800kg/m^3.

The door leaves were lipped to the vertical edges only with redwood, 39 mm by 10 mm with a density of 500kg/m^3.

Palusol splines measuring 2 mm thick by 26 mm wide were incorporated within the stiles.

Graphite sheet measuring 2 mm thick by 30 mm wide was applied to the top and bottom edge of both door leaves.

The door leaves were hung within a Theuma 6 part (3 parts assembled) profiled steel frame with nominal dimensions of 130 mm by 65.5 mm by 1.5 mm thick. The frame incorporated a 45 mm by 15 mm rebate.

The frame was backfilled with 12.5 mm thick plasterboard strips and fire retardant PU-foam manufactured by Soudal referenced Soudafoam FR 2K.

A thermal bolt was included, positioned in the lock jamb at approximately 150 mm down from the top of the frame

Each leaf was hung on 3No hinges and included a latch with a 235 mm by 25 mm forend, which was engaged for the duration of the test.

Doorset A opened away from the furnace and doorset B opened towards the furnace.

The test result was as follows:

		Doorset A	Doorset B
Integrity	:	41 minutes	33 minutes
Insulation (I_1)	:	38 minutes	6 minutes
Insulation (I_2)	:	41 minutes	33 minutes
Test Date	:	22nd December 2011	
Sponsor	:	Theuma NV/SA	

2012-Efectis-R0424

The report referenced 2012-Efectis-R0424 and briefly described in the supporting data section of this report, describes a test conducted in accordance with BS EN 1634-1: 2008 on 2No single-acting, single-leaf, doorsets in a flexible partition.

Doorset A had leaf dimensions of 2315 mm high by 980 mm wide by 40 mm thick and comprised a 33 mm thick chipboard core with a density of 370kg/m^3, redwood rails 32 mm by 33 mm with a density if 450kg/m^3 and spruce stiles 35 mm by 33 mm with a density of 430kg/m^3 complete with 3 mm thick HDF facings with a density of 800kg/m^3.

Doorset B had leaf dimensions of 2315 mm high by 980 mm wide by 40 mm thick and comprised a 33 mm thick chipboard core with a density of 450kg/m^3, redwood rails 32 mm by 33 mm with a density if 450kg/m^3 and spruce stiles 35 mm by 33 mm with a density of 430kg/m^3 complete with 3 mm thick HDF facings with a density of 800kg/m^3.

The door leaves were lipped to the vertical edges only with redwood, 39 mm by 10 mm with a density of 500kg/m^3.

Palusol splines measuring 2 mm thick by 26 mm wide were incorporated within the rails.

Graphite sheet measuring 2 mm thick by 30 mm wide was applied to the top and bottom edge of both door leaves.

The door leaves were hung within a Theuma 6 part (3 parts assembled) profiled steel frame with nominal dimensions of 130 mm by 65.5 mm by 1.5 mm thick. The frame incorporated a 45 mm by 15 mm rebate.

The frame was backfilled with 12.5 mm thick plasterboard strips and mineral wool.

Each leaf was hung on 3No hinges and included a latch with a 235 mm by 25 mm forend, which was engaged for the duration of the test.

Both Doorsets opened away from the furnace.

The test result was as follows:

		Doorset A	Doorset B
Integrity	:	36 minutes	42 minutes
Insulation (I_1)	:	31 minutes	34 minutes
Insulation (I_2)	:	36 minutes	42 minutes
Test Date	:	6th March 2012	
Sponsor	:	Theuma NV/SA	

2013-Efectis-R0144a

The report referenced 2013-Efectis-R0144a and briefly described in the supporting data section of this report, describes a test conducted in accordance with BS EN 1634-1: 2008 on 2No single-acting, single-leaf, doorsets in a flexible partition.

Each doorset had leaf dimensions of 2315 mm high by 980 mm wide by 50 mm thick and comprised a multi layered core including a central 12 mm Thermacore-R mineral board with 13 mm Sauerland 16S1K chipboard and 3 mm thick cork either side, spruce top and bottom outer rails 44.3 mm by 32.5 mm with a density if 430kg/m^3 and spruce top and bottom inner rails 44.3 mm by 40 mm with a density if 430kg/m^3 and spruce stiles 43.5 mm by 35 mm with a density of 430kg/m^3 complete with 3 mm thick HDF facings with a density of 800kg/m^3.

Interdens sheet material 44 mm by 1 mm was included between the core and the top inner rail and stiles.

15 mm by 4 mm Palusol 100 pvc encased seals were fitted to the top and vertical door edges.

The door leaves were hung within a Theuma 6 part (3 parts assembled) profiled steel frame with nominal dimensions of 130 mm by 65.5 mm by 1.5 mm thick. The frame incorporated a 55 mm by 15 mm rebate.

The frame was backfilled with 12.5 mm thick plasterboard strips and mineral wool.

Each leaf was hung on 3No hinges and included a latch, which was engaged for the duration of the test.

Doorset A opened away from the furnace and doorset B opened towards the furnace.

The test result was as follows:

		Doorset A	Doorset B
Integrity	:	45 minutes	32 minutes
Insulation (I_1)	:	37 minutes	32 minutes
Insulation (I_2)	:	45 minutes	32 minutes
Test Date	:	7th March 2013	
Sponsor	:	Theuma NV/SA	

Declaration by Theuma NV

We the undersigned confirm that we have read and complied with the 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.

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 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 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.

(In accordance with the principles of FTSG Resolution 82)

Signature:

Name: KATINKA DE BRUYN

Position: R&D MANAGER

Company: THEUMA NV

Date: 17/10/2023.

Limitations

The following limitations apply to this assessment:

1) 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.

2) 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 evaluation is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.

3) This field of application has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.

4) Opinions and interpretation expressed herein are outside the scope of UKAS accreditation.

5) This field of application relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions against the ISO 834 time/temperature curve that is 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 field of application, the element is suitable for its intended purpose.

6) This report 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 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.

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8) The version/revision stated on the front of this report supersedes all previous versions/revisions and must be used to manufacture the assessed systems from the stated validity date on this front cover. Previous revisions of the report cannot be used once an updated report has been issued under a new revision.

Signatories


Responsible Officer M Tolan* – Senior Product Assessor


Approved R. Anning* - Principal Product Assessor

* For and on behalf of Warringtonfire.

Report Issued: 8th March 2017

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

Revision History

Issue No: 1	Issue Date: 8th March 2017
Authored By: M. Tolan	Approved By: A. Kearns

Issue No: 2	Re-issue Date: 26th September 2023
Revised By: M. Tolan	Approved By: R. Anning
Reason for Revision: Report reviewed and revalidated.	

Issue No: 3	Re-issue Date: 29th September 2023
Revised By: M. Tolan	Approved By: R. Anning
Reason for Revision: Validity date corrected to 28th September 2028.	