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Title:

The Fire Resistance Performance Of Timber/Mineral-Based Doorsets When Fitted With SEU1090 Series Mortice Locks, AL900 Series Electric Releases And Accessories

WF Assessment Report No:

432749

Prepared for:

Securefast Plc.

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Foreword

This assessment report has been commissioned by Securefast Plc. and relates to the fire resistance of mortice locks, electric releases and accessories.

This assessment 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 assessment 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 BS476: Part 22 or EN1634.

This assessment 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 manufacturer's products and is summarised within the assessment.

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

This assessment has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence – 2019. 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 report is not intended for use in support of EN 15269-2 and EN 15269-3 (Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware.), or CE Marking of Doorset to EN 16034 (Pedestrian doorsets, industrial, commercial, garage doors and openable windows. Product standard, performance characteristics. Fire resisting and/or smoke control characteristics).

Executive Summary

Objective

This report considers the fire resistance performance of single-action, insulated timber/mineral-based doorsets when fitted with SEU1090 series mortice locks, AL900 series electric releases and accessories.

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Summary of Conclusions

Should the recommendations given in this report be followed, it can be concluded that the SEU1090 Series mortice locks and accessories as detailed within this report may be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) single-action, single-leaf and double-leaf, timber/mineral-based doorsets to provide up to 60 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

Additionally should the recommendations given in this report be followed, it can be concluded that the AL900 series electric releases, as detailed within this report may be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) single-action, single-leaf, timber/mineral-based doorsets to provide 30 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

This assessment represents our opinion as to the performance likely to be demonstrated on a test in accordance with EN1634-1 or BS476: 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.

Valid until

14th October 2025

Introduction

This report presents an appraisal of the fire resistance performance of single-action timber/mineral-based, when fitted with SEU1090 Series mortice locks and accessories. 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 performance for timber/mineral-based doorsets, with respect to EN 1634-1 or BS 476: Part 22: 1987.

Additionally this report presents an appraisal of the fire resistance performance of single-action timber/mineral-based, when fitted with AL900 electric releases. The doorset, onto which the proposed hardware is to be fitted, may be of single-leaf configuration only.

The proposed doorsets are required to provide a fire resistance performance of up to 30 minutes integrity performance for timber/mineral-based doorsets, with respect to EN 1634-1 or 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.

Assumptions

Doorset Specification

It is assumed that the lockset will be fitted to a doorset which has also been previously shown to be capable of providing the required fire resistance performance when tested in accordance with EN 1634-1 or BS 476: Part 22: 1987 in the proposed configuration i.e. single-leaf or double-leaf.

It is also assumed that the doorsets will fully comply with any certification scope or assessed modifications, apart from the modifications specified in this report.

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, and latched where applicable.

Installation

It is assumed that the doorsets will be installed in a similar manner to that of the previously tested assembly by competent installers.

The locks, electric releases and accessories shall not be fitted higher than 1100 mm from the centre of the lock to the finished floor level of the surrounding floors.

Recessing for locks shall result in a tight fit, allowing for any intumescent protection where required.

The spindle hole through the door shall be a maximum of 15 mm diameter unless the doorset has test evidence that proves spindle holes of a greater size than this.

Latching

Where a lock considered by this report does not incorporate a self-latching mechanism i.e. deadlocks, then either the deadbolt must be engaged, or the doorsets must have been proven for the required period without the restraint of a latch/lock.

Electric releases

Where the electric releases are used in a fail-safe mode the doorsets must have been proven for the required period without the restraint of a latch/lock.

Where this report considers the performance of the proposed electric releases, it is assumed that the doorset is previously proven when incorporating the appropriate type of locking device to be used in conjunction with the strikes. Likewise, the locking device shall be previously proven when tested with the appropriate doorset construction.

Proposals

It is proposed that SEU1090 series mortice locks, AL900 series electric releases and accessories, as referenced within this report, may be fitted into a previously tested (in accordance with EN 1634-1 or BS 476: Part 22: 1987) or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) timber/mineral-based doorsets which have been shown to be capable of providing up to either 30 or 60 minutes integrity performance, in the same configuration as that proposed i.e. single-leaf or double-leaf.

Basic Test Evidence

WF Test Report No. 419607

The test referenced WF Test Report No. 419607 and briefly described in the supporting data section of this report, describes a test conducted in accordance with BS EN 1634-1:2014 + A1:2018 which included 2No. single-action, single-leaf, timber-based doorsets.

The test demonstrated the ability of the doorsets to provide 38 minutes integrity performances for doorsets.

WF Test Report No. 422969

The test referenced WF Test Report No. 422969 and briefly described in the supporting data section of this report, describes a test conducted in accordance with BS EN 1634-1:2014 + A1:2018 which included 2No. single-action, single-leaf, timber-based doorsets.

The test demonstrated the ability of the doorsets to provide 48 and 55 minutes integrity performances for doorsets.

Assessed Performance

SEU1090 Series Mortice Locks and Latches

Manufacturing location

The mortice locks were identified as being produced at manufacturing plant J/024. Full details are retained on file by Warringtonfire.

30 and 60 minute Timber/Mineral-Based Doorsets

It is proposed that previously fire tested (or assessed by Warringtonfire, BM TRADA or Chiltern International Fire) single-leaf and double-leaf, timber/mineral-based doorsets which have been shown to be capable of providing 30 or 60 minutes integrity performance, may be fitted with the SEU1090 Series mortice locks identified below.

The approval applies to the following products:

Reference	***Description***
SEU1091.2	Euro Profile Mortice Sash Lock
SEU1092.2	Euro Profile Mortice Latch
SEU1093.2	Euro Profile Mortice Dead Lock
SEU1094.2	Euro Profile Mortice Night Latch
SEU1095.2	Euro Profile Mortice Escape Lock
SEU1096.2	Euro Profile Mortice Bathroom Lock

The SEU1090 Series of mortice locks have a 235 mm high x 24 mm wide forend, which is available square or radiused. The latch/deadbolt, case, forend and strikeplates are all of steel, with a latchbolt projection of 12 mm. The maximum size strikeplate in the range is 185 mm high x 41.5 mm wide, including a 150 x 16.5 mm latchbolt lip.

The performances of the doorsets during the test referenced WF No. 422969 is cited to display the ability of the SEU1091.2 mortice sashlock to contribute towards the required fire resistance performance for 30 minute and 60 minute rated timber/mineral-based doorsets.

Doorset A included in test WF Report No. 422969 was a single acting, single leaf doorset with a 44 mm thick multi-layered chipboard door with 6 mm thick hardwood lippings. The leaf was hung within a softwood frame which incorporated a single 15 x 4 mm perimeter intumescent fire seal and opened towards the heating conditions.

The doorset was fitted with a SEU1091.2 mortice sashlock with 235 mm high x 24 mm wide square forend, with a 185 mm high x 41.5 mm wide strikeplate, including a 150 x 16.5 mm latchbolt lip. The latchbolt was engaged for the test duration.

The case was wrapped with a 2 mm thickness of Interdens Mono Ammonium Phosphate intumescent to all faces, 2 mm thickness of the same material is provided behind the forend and behind the strike plate – Intumescent kit referenced as ‘SIN 1090’.

On reviewing the observations taken from the test report, it’s clear that there were no integrity failures of Doorset A (E30) until 48 minutes, at which time a sustained flame was recorded at the head. The door was blanked off after 49 minutes to allow the testing of the Doorset B (E60) to continue.

Doorset B included in test WF Report No. 422969 was a single acting, single leaf doorset with a 54 mm thick multi-layered chipboard door with 6 mm thick hardwood lippings. The leaf was hung within a hardwood frame which incorporated 2No. 15 x 4 mm perimeter intumescent fire seals set 8 mm from the front face to the edge of the first strip, and then 11 mm apart. The door opened towards the heating conditions.

The doorset was fitted with a SEU1091.2 mortice sashlock with 235 mm high x 24 mm wide square forend, with a 185 mm high x 41.5 mm wide strikeplate, including a 150 x 16.5 mm latchbolt lip. The latchbolt was engaged for the test duration.

The case was wrapped with a 2 mm thickness of Interdens Mono Ammonium Phosphate intumescent to all faces, 2 mm thickness of the same material is provided behind the forend and behind the strike plate – Intumescent kit referenced as 'SIN 1090'. Additionally the perimeter intumescent fire seals by-passed the strikeplate by approximately 8 mm on each side, except at the latchbolt lip.

On reviewing the observations taken from the test report, a cotton pad failure was recorded at the bottom closing edge of Doorset B at 55 minutes, with further sustained flaming at the same location at 62 minutes. The test was terminated 66 minutes without failure recorded at the lock, and with the lock still retaining the door in the closed position.

The failure at the bottom edge was not coincident to or associated with the lock and therefore is not considered relevant to this assessment.

Additionally the performances of the doorsets during the test referenced WF No. 419607 is cited to display the ability of the SEU1092.2 mortice latch, to contribute towards the required fire resistance performance for 30 minute rated timber/mineral-based doorsets with a reduced intumescent specification.

Both Doorset A and Doorset B included in test WF Report No. 419607 were single acting, single leaf doorsets with a 44 mm thick multi-layered chipboard doors with 8 mm thick hardwood lippings. Each leaf was hung within a softwood frame which incorporated a single 15 x 4 mm perimeter intumescent fire seal.

Doorset A opened towards the heating conditions, whilst Doorset B opened away from the heating conditions.

Both doorsets were fitted with an AL900M monitored fail-secure release in the door frame and a SEU1092.2 upright mortice latch in the door (235 mm high x 24 mm wide square forend). The latchbolt was engaged in both doorsets for the test duration.

The lock case was wrapped with a 2 mm thickness of Interdens Mono Ammonium Phosphate intumescent to all faces. All concealed faces of the AL900M release were protected by 1 mm thickness of Interdens Mono Ammonium Phosphate intumescent to all faces.

On reviewing the observations taken from the test report, the test was terminated at 38 minutes with no integrity failures of either doorset.

Alternative Locks

In terms of the lock material, it is critical that materials which are combustible or have a lower melting point are not utilised since materials which melt or ignite may advance the burn through of the leaf and therefore lead to a premature integrity failure.

For timber/mineral-based doorsets it is critical that the lock dimensions are not increased since the increased mortice required for a large case may lead to an earlier burn through of the leaf or increased strike/forend dimensions may lead to the penetration of flames/hot gases at the leaf edge due to further interruption of intumescent seals and an increase in conducted heat.

In terms of the intumescent protection, it is critical that this is not reduced from that tested, as the reaction of this material when subjected to the heating conditions of the test is essential in limiting the burn through of the leaf and at the leaf to frame gap at the lock position.

Substitution of alternative locksets from the proposed SEU1090 Series of mortice locks may therefore be considered in terms of the critical aspects discussed and where such locksets fall within the scope of the tested locksets, it is considered reasonable to assume that no reduction in the performance of the doorset would be expected as a consequence of their substitution.

All of the proposed locks required are of identical materials and will utilise the same level of intumescent protection and all are of the same or smaller dimensions.

The proposed locksets are of the same basic construction as those tested comprising steel cases with steel latch bolts and/or deadbolts. All locksets have latch and/or dead bolt projections at least equal to that of the tested models. The nominal dimensions of all the locks considered by this report are the same or less than those tested in terms of forend and case dimensions.

The tested strikeplates represents the tallest and widest strikeplate, which encompasses the largest apertures for bolts and the largest latchbolt lip; it therefore considered the most onerous strikeplate for the range.

The full range of SEU1090 Series of mortice locks, as identified above, may therefore be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) single-leaf and double-leaf, timber/mineral-based doorsets to provide up to 60 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

30 and 60 minute Intumescent Protection

It is a requirement of this appraisal that the mortice cased locksets must be installed within the doorsets such that the same lever of intumescent protection is provided.

Primary testing included 2 mm Interdens protection to the locks and strikes for both 30 and 60 minute application, however WF test Report No. 419607 demonstrated that 1 mm Interdens to the lock case and behind the forend can also be considered acceptable for 30 minute application. This test did not incorporate the standard flat strike, however the electric strike tested, although having a smaller footprint, is far more invasive, furthermore empirical data indicates that 1 mm Interdens on 30 minute standard strikeplate applications is generally more than adequate.

It is therefore a requirement of this appraisal that the minimum protection shall be:

- 30 minutes - 1 mm thickness of Interdens Mono Ammonium Phosphate intumescent to all faces of the lockcase, 1 mm thickness of the same material is provided behind the forend, and behind the strike plate.
- 60 minutes - 2 mm thickness of Interdens Mono Ammonium Phosphate intumescent to all faces of the lockcase, 2 mm thickness of the same material is provided behind the forend, and behind the strike plate.
- 60 minutes - Additionally the perimeter intumescent within the frame/door edge shall by-pass the strike plate or forend by a minimum of 8 mm wide on each side (with the exception of the latchbolt lead where present)

Deadlocks and Roller Latches

All models incorporate an automatic latching function with the exception of the deadlocks. As the lock may be required to provide an essential latching function to the door, the scope of use of the deadlocks models shall be limited to use only with doorsets which are either:

a) Previously proven unlatched doorsets

b) Doorsets which are permanently locked

Radiused Corners

It is proposed that the lock forends and strikeplates incorporate either square or radiused corners. The locks tested had square corners.

Radiused corners do require slightly less timber material to be removed from the door and frame and represent a slight reduction in metal within timber doorsets, this in turn reduces the potential for transferring heat into the door and frame and consequently the risk of flaming and erosion is also slightly reduced. However in reality the difference is very minimal and the actual performance between the two variants is considered to be largely irrelevant.

With regards steel doorsets, as the door, frame and lock components are all of steel the use of either square or radiused corners is unlikely to change the performance of the locks under test.

The use of the lock forends and strikeplates with either square or radiused corners is therefore approved.

Cylinders

All lock installations included brass Euro profile double cylinders or cylinders and thumbturns, so the performance of the SEU1090 Series locksets when fitted with double Euro cylinders, and equally Euro cylinders with thumb turn are considered acceptable to this appraisal. Single Euro cylinders provide less penetration through the face of the door leaf and so are positively appraised on the basis that they are a less onerous configuration for the lockset.

The hole in the door face shall follow the shape of the cylinders and be as tight as possible; furthermore the single cylinders door preparation will penetrate through only half the thickness of the door leaf

All Euro cylinders may be manufactured from brass or steel.

AL900 Series Electric Release

Manufacturing location

Full details of the manufacturing plant are retained on file by Warringtonfire.

30 and 60 minute Timber/Mineral-Based Doorsets

It is proposed that previously fire tested (or assessed by Warringtonfire, BM TRADA or Chiltern International Fire) single-action, single-leaf, timber/mineral-based doorsets which have been shown to be capable of providing 30 minutes integrity performance, may be fitted with a AL900 Series Electric Release identified above with a upright mortice lock.

The approval applies to the following products:

Reference	***Description***
AL900	Electric Release
AL900M	Electric Release - Monitored
AL900DM	Electric Release - Dual Monitored

The tested AL900 releases had a 201.5 mm high x 32 mm wide 'Long Faceplate'. The release body was 87 mm high x 43.4 mm wide x 32 mm deep, with an 87 mm high latchbolt lip.

The performances of the doorsets during the test referenced WF No. 419607 is cited to display the ability of the AL900 release in association with an upright mortice lock, to contribute towards the required fire resistance performance for 30 minute rated timber/mineral-based doorsets.

Both Doorset A and Doorset B included in test WF Report No. 419607 were single acting, single leaf doorsets with a 44 mm thick multi-layered chipboard doors with 8 mm thick hardwood lippings. Each leaf was hung within a softwood frame which incorporated a single 15 x 4 mm perimeter intumescent fire seal.

Doorset A opened towards the heating conditions, whilst Doorset B opened away from the heating conditions.

Both doorsets were fitted with an AL900M monitored fail-secure release in the door frame and a SEU1092.2 upright mortice latch in the door (235 mm high x 24 mm wide square forend). The latchbolt was engaged in both doorsets for the test duration.

All concealed faces of the AL900M release were protected by 1 mm thickness of Interdens Mono Ammonium Phosphate intumescent, with the same material incorporated behind the release forend. The lock body and forend were also protected by 1 mm thickness of the same material. The release fully interrupted the perimeter intumescent fire seal within the frame rebate.

On reviewing the observations taken from the tests report, the test was terminated at 38 minutes with no integrity failures of either doorset.

Alternative Releases

The tested electric release incorporated electrical monitoring of the latch. The two other models in range either have no monitoring or additional monitoring of the latch/door position.

The alternative models are identical in size and are manufactured from the same material. The change in monitoring purely relates to the electrical configuration and is not considered detrimental to the performance of the release with regards fire resistance.

The full range of AL900 Series Electric Release may therefore be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) single-action, single-leaf, timber/mineral-based doorsets to provide 30 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

30 minute Intumescent Protection

It is a requirement of this appraisal that the mortice cased locksets must be installed within the doorsets such that the same lever of intumescent protection is provided. The minimum protection shall be such that 1 mm thickness of Interdens Mono Ammonium Phosphate intumescent to all concealed faces of the release, with the same material incorporated behind the release forend.

Mortice lock

The electric release was tested with an upright mortice lock, therefore this assessment assumes the electric strike will be fitted with an upright lock with the following dimensions and material:

Steel forend width	22 mm +/- 2 mm
Steel forend height	235 mm +/- 20 mm
Steel latchbolt throw	Minimum 12 mm

It is assumed that the doorset is previously proven when incorporating the appropriate type of locking device to be used in conjunction with the strikes. Likewise, the locking device shall be previously proven when tested with the appropriate doorset construction.

Accessories – Lever Handles, Cylinders and Escutcheons

SH-0203 Lever Handle & SDP-C-02 Escutcheon

It is proposed that previously fire tested (or assessed by Warringtonfire, BM TRADA or Chiltern International Fire) single-leaf and double-leaf, timber/mineral-based doorsets which have achieved up to 60 minutes integrity and, where applicable, insulation performance, may be fitted with SH-0203 lever handles and SDP-C-02 escutcheons.

Fire doors often incorporate locking/latching devices either to retain the doorset in the closed position during a fire or simply for keeping the doorset closed/locked in normal use.

The introduction of a lock/latch case into a door leaf can increase the risk of localised integrity failure, via either the mortise removing enough leaf material that premature burn through can occur, or by interruption of the intumescent seals around the leaf perimeter by the strike/forend plate.

This appraisal does not however consider the implications of installing a specific lock, within a fire door construction and only considers the influence of the lever handle furniture, the suitability of the door leaf and latch/lock should be demonstrated by separate test/assessment evidence.

The proposed sprung lever handles and escutcheons are entirely surface mounted and fixed using bolt-through steel fixings supplied by the client, and therefore do not require any further removal of material from the leaf (beyond the spindle/cylinder hole tested as part of the latch/lock) or interruption of intumescent seals around the leaf perimeter, these already being a consequence of the inclusion of the door lock or latch.

The impact of the hardware melting or deforming on the exposed face, and possible ignition on the unexposed face of timber, plastic or other flammable elements associated with the handles has to be considered.

The performances of the doorsets during the test referenced WF No. 422969 is cited to display the ability of the SH-0203 lever handles and SDP-C-02 escutcheon to contribute towards the required fire resistance performance for 30 minute and 60 minute rated timber/mineral-based doorsets.

As discussed previously, both doorsets (Doorset A being 30 minutes and Doorset B being 60 minutes) incorporated a SEU1091.2 mortice sashlock with a pair of SH-0203 lever handles and SDP-C-02 escutcheon.

On reviewing the observations taken from the test report there were no integrity failures of Doorset A (E30) until 48 minutes, at which time a sustained flame was recorded at the head. Doorset B (E60) had a cotton pad failure recorded at the bottom leading edge of Doorset B at 55 minutes, with further sustained flaming at the same location at 62 minutes. The test was terminated 66 minutes without failure recorded at the handle or lock.

Intumescent protection shall be included either side of the lockcase, and this shall be that tested with the mortice locks/doors to which the handles/escutcheons are to be fitted.

The SH-0203 lever handles and SDP-C-02 escutcheon may therefore be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) single-leaf and double-leaf, timber/mineral-based doorsets to provide 30 or 60 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

Europrofile cylinders

It is proposed that previously fire tested (or assessed by Warringtonfire, BM TRADA or Chiltern International Fire) timber/mineral-based doorsets which have achieved up to 60 minutes integrity and, where applicable, insulation performance, may be fitted with the following High Security and 6-Pin Europrofile cylinders:

High Security Europrofile Cylinders		
Reference	**Description**	**Finish**
SSC3030-NI	60mm Double Keyed 1-Star Cylinder	Polished Nickel
SSC3535-NI	70mm Double Keyed 1-Star Cylinder	Polished Nickel
SSC4040-NI	80mm Double Keyed 1-Star Cylinder	Polished Nickel
SSC4045-NI	85mm Double Keyed 1-Star Cylinder	Polished Nickel
SSC3535-SN	70mm Double Keyed 1-Star Cylinder	Satin Nickel
SSC4040-SN	80mm Double Keyed 1-Star Cylinder	Satin Nickel
SSC3030T-NI	60mm Key & Thumbturn 1-Star Cylinder	Polished Nickel
SSC3535T-NI	70mm Key & Thumbturn 1-Star Cylinder	Polished Nickel
SSC4040T-NI	80mm Key & Thumbturn 1-Star Cylinder	Polished Nickel
SSC4045T-NI	85mm Key & Thumbturn 1-Star Cylinder	Polished Nickel
SSC3535T-SN	70mm Key & Thumbturn 1-Star Cylinder	Satin Nickel
SSC4040T-SN	80mm Key & Thumbturn 1-Star Cylinder	Satin Nickel
SSC45-NI	(35/10) 45mm Single Keyed Cylinder	Polished Nickel
SSC45-SN	(35/10) 45mm Single Keyed Cylinder	Satin Nickel
6-Pin Europrofile Cylinders		
Reference	**Description**	**Finish**
SEU6601	30-30 Euro Profile Double Keyed	Polished Brass
SEU6671	30-40 Euro Profile Double Keyed	Polished Brass
SEU6701	35-35 Euro Profile Double Keyed	Polished Brass
SEU6701/4	35-35 Euro Profile Double Keyed (Keyed Alike)	Polished Brass
SEU6751	35-40 Euro Profile Double Keyed	Polished Brass
SEU6761	35-45 Euro Profile Double Keyed	Polished Brass
SEU6801	40-40 Euro Profile Double Keyed	Polished Brass
SEU6831	40-45 Euro Profile Double Keyed	Polished Brass
SEU6791	35-55 Euro Profile Double Keyed	Polished Brass
SEU6821	40-50 Euro Profile Double Keyed	Polished Brass
SEU6881	45-45 Euro Profile Double Keyed	Polished Brass
SEU6951	45-50 Euro Profile Double Keyed	Polished Brass
SEU6961	45-55 Euro Profile Double Keyed	Polished Brass
SEU6991	50-50 Euro Profile Double Keyed	Polished Brass
SEU6602	30-30 Euro Profile Double Keyed	Polished Nickel
SEU6602/KA	30-30 Euro Profile Double Keyed (Keyed Alike)	Polished Nickel
SEU6652	30-35 Euro Profile Double Keyed	Polished Nickel
SEU6672	30-40 Euro Profile Double Keyed	Polished Nickel
SEU6702	35-35 Euro Profile Double Keyed	Polished Nickel
SEU6702/KA	35-35 Euro Profile Double Keyed (Keyed Alike)	Polished Nickel
SEU6702/4	35-35 Euro Profile Double Keyed (Set of 4 Keyed Alike)	Polished Nickel
SEU6752	35-40 Euro Profile Double Keyed	Polished Nickel
SEU6762	35-45 Euro Profile Double Keyed	Polished Nickel

6-Pin Europrofile Cylinders – Cont'd		
Reference	**Description**	**Finish**
SEU6792	35-55 Euro Profile Double Keyed	Polished Nickel
SEU6802	40-40 Euro Profile Double Keyed	Polished Nickel
SEU6832	40-45 Euro Profile Double Keyed	Polished Nickel
SEU6822	40-50 Euro Profile Double Keyed	Polished Nickel
SEU6842	40-55 Euro Profile Double Keyed	Polished Nickel
SEU6882	45-45 Euro Profile Double Keyed	Polished Nickel
SEU6952	45-50 Euro Profile Double Keyed	Polished Nickel
SEU6852	40-60 Euro Profile Double Keyed	Polished Nickel
SEU6962	45-55 Euro Profile Double Keyed	Polished Nickel
SEU6992	50-50 Euro Profile Double Keyed	Polished Nickel
SEU6701/T	35-35 Euro Profile Key & Turn	Polished Brass
SEU6801/T	40-40 Euro Profile Key & Turn	Polished Brass
SEU6831/T	40-45 Euro Profile Key & Turn	Polished Brass
SEU6991/T	50-50 Euro Profile Key & Turn	Polished Brass
SEU6602/T	30-30 Euro Profile Key & Turn	Polished Nickel
SEU6702/T	35-35 Euro Profile Key & Turn	Polished Nickel
SEU6702/TKA	35-35 Euro Profile Key & Turn (Keyed Alike)	Polished Nickel
SEU6802/T	40-40 Euro Profile Key & Turn	Polished Nickel
SEU6822/T	40-45 Euro Profile Key & Turn	Polished Nickel
SEU6832/T	40-45 Euro Profile Key & Turn	Polished Nickel
SEU6952/T	45-50 Euro Profile Key & Turn	Polished Nickel
SEU6401	40mm Single Cylinder	Polished Brass
SEU6402	40mm Single Cylinder	Polished Nickel
SEU6402/KA	40mm Single Cylinder (Keyed Alike)	Polished Nickel
SEU6411	45mm Single Cylinder	Polished Brass
SEU6412	45mm Single Cylinder	Polished Nickel

The 6-Pin Europrofile cylinders and High Security Europrofile cylinders are predominately manufactured from brass.

The performances of the doorsets during the test referenced WF No. 422969 is cited to display the ability of the High Security Europrofile cylinders to contribute towards the required fire resistance performance for 30 minute and 60 minute rated timber/mineral-based doorsets.

As discussed previously, both doorsets (Doorset A being 30 minutes and Doorset B being 60 minutes) incorporated a SEU1091-2 sashlock with a SSC35-35 High Security Europrofile double cylinder.

On reviewing the observations taken from the tests report there were no integrity failures of Doorset A (E30) until 48 minutes, at which time a sustained flame was recorded at the head. Doorset B (E60) had a cotton pad failure recorded at the bottom leading edge of Doorset B at 55 minutes, with further sustained flaming at the same location at 62 minutes. The test was terminated 66 minutes without failure recorded at the handle or lock.

The performances of the doorsets during the test referenced WF No. 419607 is cited to display the ability of the 6-Pin Europrofile cylinders to contribute towards the required fire resistance performance for 30 minute rated timber/mineral-based doorsets.

Both Doorset A and Doorset B included in test WF Report No. 419607 were 30 minute timber doorsets. Doorset A opened towards the heating conditions, whilst Doorset B opened away from the heating conditions.

Both doorsets were fitted with a SEU1092.2 upright mortice latch with a SEU6702/T 6-Pin cylinder and thumbturn

On reviewing the observations taken from the tests report, the test was terminated at 38 minutes with no integrity failures of either doorset.

All lock installations included Euro profile cylinder and thumbturns or double cylinders and so the performance when fitted with either of these options is considered acceptable.

Single Euro cylinders provide less penetration through the face of the door leaf and so are positively appraised on the basis that they are a less onerous configuration. The single cylinders door preparation shall penetrate through only half the thickness of the door leaf.

The hole in the door face shall follow the shape of the cylinders and be as tight as possible.

This appraisal does not consider the implications of installing a specific lock, within a specific timber fire door construction and only considers the influence of the cylinder, the suitability of the door leaf and latch/lock should be demonstrated by separate test/assessment evidence.

The High Security and 6-Pin Europrofile cylinders may therefore be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) timber/mineral-based doorsets to provide 30 or 60 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

Intumescent protection - either side of the lockcase shall include a minimum of 1 mm thick intumescent sheet material for 30 minute applications, and a minimum of 2 mm thickness for 60 minute applications.

Required Doorset specifications

As stated in this report, the doorset, in the required configuration, will be previously tested (or assessed by Warringtonfire, BM TRADA or Chiltern International Fire) and its performance is therefore not in doubt.

To enable the use of the door hardware discussed 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 locks to be used safely:

Proposed 30 and 60 Minute Timber/Mineral Based Doorsets

a) The doorset shall carry valid certification or the doorset, including the door frame and associated ironmongery should have achieved 30 or 60 minutes integrity and where applicable insulation, when tested by a UKAS approved laboratory (or assessed by Warringtonfire, BM TRADA or Chiltern International Fire) to EN 1634-1 or BS 476: Part 22: 1987.

b) If the proposed doorset is to be used in double-leaf configuration the test or assessment evidence should be applicable to double-leaf configuration.

c) The leaves of the proposed doorset shall be of a minimum thickness of 44 mm for 30 minute doorsets and 54 mm for 60 minute doorsets.

d) The leaves should incorporate hardwood lippings of a minimum thickness of 6 mm and minimum density 640kg/m^3.

e) Door frame density - 450 kg/m^3 for 30 minute doorsets and 640 kg/m^3 for 60 minute doorsets.

f) Door leaves of solid lignocellulosic construction in the lock area encompassing the entire lock case.

Additionally, the amount of interruption to the intumescent seal specification at the door leaf to frame perimeter clearance gaps should be replicated, or less than that that originally specified for the tested doorset.

Conclusions

Should the recommendations given in this report be followed, it can be concluded that the SEU1090 Series mortice locks and accessories as detailed within this report may be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) single-action, single-leaf and double-leaf, timber/mineral-based doorsets to provide up to 60 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

Additionally should the recommendations given in this report be followed, it can be concluded that the AL900 series electric releases, as detailed within this report may be fitted to previously tested or assessed (by Warringtonfire, BM TRADA or Chiltern International Fire) single-action, single-leaf, timber/mineral-based doorsets to provide 30 minutes integrity performance, without detracting from the overall performance of the doorset, with respect to EN 1634-1 or BS 476: Part 22: 1987.

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 Securefast Plc. 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 14th October 2025, 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.

This assessment represents our opinion as to the performance likely to be demonstrated on a test in accordance with EN1634-1 or BS476: 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.

Summary of Primary Supporting Data

WF Test Report No. 419607

To determine the effects of various building hardware on the fire resistance performance of two single-action, single-leaf timber doorsets within a low density rigid supporting construction, in accordance with BS EN 1634-1:2014 + A1:2018.

Doorset A had overall nominal dimensions of 1010 mm wide by 2080 mm high, incorporating a single door leaf with overall dimensions of 936 mm wide by 2040 mm high by 44 mm thick. The door leaf was formed from a solid graduated density chipboard construction, with 8 mm hardwood lippings to the vertical edges and was hung within a softwood frame, on three stainless steel hinges and was orientated so that the door leaf opened towards the heating conditions. The Doorset was latched via both of the locksets for the duration of the test. The Doorset was fitted with the following hardware:

Item No	Description	Reference
3	Push latch device	SED993
4	Digital push button lockset	SBL700.SFR
5	Mortice sash lock	SEU1092.2
6	Lever handleset	SH-0203
7	Escutcheon	SDC-P-02
8	Cylinder	SEU6702/T
9	Lever handle access device	SED900/SE/LE
11	Strike plate – fail secure	AL900M

Doorset B had overall nominal dimensions of 1010 mm wide by 2080 mm high, incorporating a single door leaf with overall dimensions of 936 mm wide by 2040 mm high by 44 mm thick. The door leaf was formed from a solid graduated density chipboard construction, with 8 mm hardwood lippings to the vertical edges and was hung within a softwood frame, on three stainless steel hinges and was orientated so that the door leaf opened away from the heating conditions. The Doorset was latched via both of the locksets for the duration of the test. The Doorset was fitted with the following hardware:

Item No	Description	Reference
3	Push latch device	SED993
4	Digital push button lockset	SBL700.SFR
5	Mortice sash lock	SEU1092.2
6	Lever handleset	SH-0203
7	Escutcheon	SDC-P-02
8	Cylinder	SEU6702/T
9	Lever handle access device	SED900/SE/LE
11	Strike plate – fail secure	AL900M

The hardware was selected and sampled by Warringtonfire Certification on the 14th October 2019.

The specimen satisfied the test requirements for the following periods:

Integrity	Doorset A	Doorset B
Sustained flaming	38 minutes*	38 minutes*
Gap gauge	38 minutes*	38 minutes*
Cotton Pad	38 minutes*	38 minutes*
Insulation	38 minutes*	38 minutes*

*Test was discontinued after a period of 38 minutes.

Test date : 29th October 2019

Test Sponsors : Securefast Plc.

WF Test Report No. 422969

To determine the effects of various building hardware on the fire resistance performance of two single-action, single-leaf timber doorsets within a low density rigid supporting construction, in accordance with BS EN 1634-1:2014 + A1:2018.

For the purposes of the test the doorsets were referenced as A and B.

Doorset A incorporated a single door leaf with overall dimensions of 928 mm wide by 2042 mm high by 44 mm thick. The door leaf was formed from a chipboard core with 6 mm thick hardwood lippings to the vertical edges and was hung in a softwood frame with a single 15 x 4 mm intumescent perimeter seal within the frame rebate, and hung on three stainless steel hinges. The Doorset was installed so that the leaf opened towards the heating conditions of the test. The Doorset was latched for the duration of the test.

Doorset B incorporated a single door leaf with overall dimensions of 928 mm wide by 2042 mm high by 54 mm thick. The door leaf was formed from a chipboard core with 6 mm thick hardwood lippings to the vertical edges and was hung in a hardwood frame with 2No. 15 x 4 mm intumescent perimeter seal within the frame rebate, and hung on three stainless steel hinges. The doorset was installed so that the leaf opened towards the heating conditions of the test. The Doorset was latched for the duration of the test.

Both doorsets were fitted with the following hardware:

Item No	Description	Reference
11	Hinges	H101
12	Mortice Sash Lock	SEU1091.2
14	Lever Handleset	SDP-0203
12	Euro double cylinder	SSC3535-NI
16	Emergency push pad actuator	SED996/SE
17	Mortice nightlatch	SEU777/1
18	Euro single cylinder	SSC45-SN

The hardware was selected and sampled by Warringtonfire Certification on the 7th January 2020.

The specimen satisfied the test requirements for the following periods:

Integrity	Doorset A	Doorset B
Sustained flaming	48 minutes*	62 minutes
Gap gauge	48 minutes*	55 minutes
Cotton Pad	48 minutes*	66 minutes#
Insulation	48 minutes*	55 minutes

* No failure. Doorset blanked off to allow Doorset B to continue

The test duration. The test was discontinued after a period of 63 minutes

Test date : 14th January 2020

Test Sponsors : Securefast Plc.

Declaration by Securefast Plc.

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.

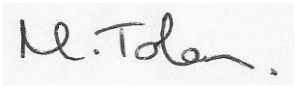
Signed:

For and on behalf of:

Signatories

Responsible Officer

R. Anning* - Principal Certification Engineer



Approved

M. Tolan* - Senior Certification Engineer

* For and on behalf of Warringtonfire.

Report Issued: 15th October 2020

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