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JP Corry Door set installation instructions For Halspan Optima FD60 Doors

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Halspan Optima FD60 Door and frame installation instructions

The following information will ensure that your door or door set will meet the desired performance. If there is any doubt in process or material to be used please ring JP Corry doors on 02890 243661 where advice will be on hand.

Firestopping

The firestopping requirements between the back of frame and wall are dependent on the gap size between the substrates. Below provides the requirements based on the gap size.

1. Gap measuring 0-10mm

This gap must be sealed to a depth of 10mm with acrylic intumescent mastic fire tested for this application to BS476:PART 22:1987 or BS EN 1634-1. Timber architraves are optional

2. Gap measuring up to 20mm

This gap must be tightly packed with mineral fibre and capped to a depth of 10mm with acrylic intumescent mastic fire tested for this application to BS476:PART 22:1987 or BS EN 1634-1 or full depth PU foam fire tested for this application to BS476:PART 22:1987 or BS EN 1634-1. Timber architraves are optional.

3. Gap measuring over 20mm

This would be considered a poor preparation of the structural opening. A timber based or non-combustable subframe up to 50mm thickness can be inserted, bedded on intumescent mastic, fixed to the wall and the gap between the subframe and the wall filled as follows:

Gaps 5 to 10mm filled on both sides with 10mm depth of acrylic intumescent mastic or full depth of expanding PU foam, fire tested for this application to BS 476 Part 22:1987 Or BS EN 1634-1.

Timber architraves of a minimum 18mm thickness must be fitted to both faces and fitted with a 15mm minimum overlap to the door gap.

Note: Guidance for methods of sealing the frame to structural opening gap is also given in BS 8214:2016, “Timber -based fire door assemblies code of practice” which may be referred to and implemented where appropriate.

Packers

Packers can be timber of equal density to the frame, or plywood. Plastic packers can be used if fire tested for this application to BS 476 Part 22 or BS EN 1634-1

Wall types,Structural opening and Fixity

For walls that remain rigid during fire exposure (brickwork or blockwork for example) the opening should be square, plumb and provide a flat surface for installation of the door set.

For flexible wall types such as steel and timber stud partitions, the structural opening must be prepared in line with the te st evidence provided by the wall manufacturer, it is permitted to use a timber infill to the steel stud a minimum of 38mm thick to aid fixity unless the evidence for the partition system states otherwise. If fitted, the infill is to run the full length of the door set.

The supporting construction must provide at least the required level of fire resistance designated for the door set design and be a suitable medium to permit adequate fixity.

It must therefore be capable of staying in place and intact for a minimum of 30 minutes. For single leaf door set without side panels, the frame jambs only are to be fixed to the supporting construction using steel fixings at 600mm maximum centres and maximum of 150mm from corner. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm. It is not necessary to fix the frame head, although packers must be inserted.

For all other configurations of door set, the upper horizontal framing section abutting the structural opening must also be secured to the wall using steel fixings at 600mm maximum centres and maximum of 150mm from corner. The fixings must be of the appropriate ty pe for the supporting construction and must penetrate to a minimum depth of 50mm.

In all instances the fixing position must be such that it provides adequate restraint to the element of construction throughout the exposure to fire. This may therefore sometimes necessitate a twin line of fixings.

Post production (on site) Leaf size adjustments

The Strebord range of door sets may be altered as follows:

Lipping – The post production lipping thickness (hardwood only) may be reduced by 1mm for fitting purposes, providing that the door gaps and intumescent conditions remain as required by this assessment and the minimum limitation in terms of lipping thickness is still maintained

Door Gaps

Door gaps and alignment tolerance must fall within the following range:

Door Gap & Alignment Tolerance Specification

1. **Door edge gaps** – A minimum of 2mm and a maximum of 4mm
2. **Alignment tolerances** – Leaves must not be proud of each other or from the door frame by more than 1mm
3. **Threshold** – 8mm between bottom of leaf and top of floor covering. This is the maximum tolerance for fire resistance only.

Insulation performance

Insulation performance may be claimed for a doorset to this design meeting the following:

Partially insulating – Door sets incorporating up to 20% of non -insulating glazing.

Fully insulating/timber frames – Unglazed door sets or door sets including 30 minute insulating glazing

Conclusion

If the Halspan® 60 Optima doorset design, constructed in accordance with the specification documented in this global assessment, were to be tested in accordance with BS 476 : Part 22 : 1987, it is our opinion that they would provide a minimum of 60 minutes integrity and insulation.

Doorstops

In the case of the door set requiring a concealed overhead door closer please consult the field of application provided to you and detailed on the cover of this document. This will give details of manufacturer allowed within the field of application. There will be a requirement, because of machining for the concealed door closer, for a heavier door stop. This could be a thickness of 15-18mm which will depend on the type of concealed closer being fitted please consult.

Vision panels - on site fitting or adjustment

Vision panels **must not be fitted on site**. If a requirement is found for vision panels on site please contact us (JP Corry Doors , 028 90 243661 or doors@jpcorry.co.uk) for advice on size and position. We can then price and fit, in our factory, a vision panel which will give the integrity only or integrity and insulation value required for the glass in the door.

Vision panels must **NOT** be adjusted in any way.

Ironmongery details for Halspan Optima FD30 door set

For additional information on ironmongery fitting positions please see page 8 of this document. Or to get a stand alone copy of document QMJPC054 RevA "Ironmongery and Vision panel positions taking into account Part M regulations". Contact our office on phone 028 90 2 60212 or email doors@jpcorry.co.uk

The following section details the permitted scope and constraints for fitting hardware to a Halspan Optima FD60 door set. All items of hardware must also bear the UKCA or CE mark in addition to the requirements outlined in the following sections.

The standards that ironmongery needs to be tested to:

Single axis hinge: **Test standard EN1935**

Latch and lock: **Test standard EN12209**

Controlled door closing devices: **Test standard EN1154**

Electrically powered hold open device: **Test standard EN1155**

Door co-ordinators: **Test standard EN1158**

Emergency exit hardware: **Test standard EN179**

Panic exit hardware: **Test standard EN1125**

(A) Essential hardware for each door configuration

Configuration	Hardware required when using this configuration
LSASD	Latches,hinges,overhead door closer
ULSASD	Hinges, overhead door closer
DASD	Top pivot,bottom strap, floor spring
LSADD	Latch,hinges,overhead door closer,flush bolt,selecter if rebated stile.
ULSADD	Hinges,overhead door closer,flush bolt,selecter if rebated stile.
DADD	Top pivot/bottom strap, floor spring

(B) Latches and locks

The single point latches below are approved.

1. Standard tubular mortice latch
2. Ferco multi point lock/latch
3. Halspan R60 latch/lock ref:BOM-LCK-104
4. Adams Rite Armlock 1354 Shear Maglock
5. Specialised Security ML1200 Surface mounted Mag Lock

Alternative latch and lock specifications

1. **Maximum forend and strike plate dimensions**

(a) 235x25mmx4mm thickness

2. **Maximum body dimensions**

(a) 165mm highx100mm widex18mm thickness

3. **Materials** – All parts essential in the locking or latching action must be made from steel or stainless steel with a melting point of 800deg centigrade or above.
4. **Location** – Primary latch location must be between 850mm to 1200mm from the threshold.

Hinges

Door leaves up to 2300mm high must have a minimum of 3no hinges, over this height four hinges are required. Hinges must comply with the specification below.

1. 100x30mm standard steel butt hinge
2. 101x30mm Fireblock stainless steel hinges
3. Royde & Tucker H105 lift off hinge
4. Royde & Tucker H101 lift off hinge
5. Eurospec Art Stars CEAM 1131
6. 114x30mm ASSA lift off hinge
7. 101x30mm Halspan R60 butt hinge

Top hinge – 120 to 200mm from leaf head to the top of the hinge

Middle hinge – Equal distance between the bottom of the top hinge and the top of the bottom hinge.

Bottom hinge – 150 to 300mm from leaf bottom to bottom of hinge.

Hinge positions for 4no hinges:

Top hinge – 120 to 200mm from leaf head to top of hinge

Second hinge – 200mm below bottom of top hinge to equal distance between top and third hinge

Third hinge – Equal distance between second and bottom hinges

Bottom hinge – 150 to 300mm from leaf bottom to bottom of hinge.

Alternatively, a Certifire approved hinge, meeting the requirements of the above table and, and which is approved for 30 minutes in an ITT doorset (i.e. a doorset incorporating Intumescent, Timber leaf and Timber frame), is acceptable providing the higher specification of hardware intumescent protection as required for the inclusion of the hinge within this Field of Application or the Certifire certificate are complied with. For example, if the Certifire Certificate specifies intumescent protection behind the hinge blades and this Field of Application does not require intumescent protection behind the hinge blades, the fitting of the intumescent specified in the Certifire Certificate is required.

NB: Other types of hinges are allowed. If the hinge being proposed is not listed please contact theJP Corry office on 028 90 260212 and we will check it out for you.

Automatic closing

Self closing can be achieved by:

- Overhead face fixed closer
- Concealed overhead closer
- Concealed jamb mounted closer
- Floor springs

Configurations for door closers – **LSASD,ULSASD,ULSADD**

The face fixed door closers that have been successfully tested:

1. Dorma TS83 face fixed overhead door closer
2. Geze TS200 VW face fixed overhead closer
3. Halspan R60 Eco closer ref:CLR-AGN-101
4. Halspan R60 power closer ref: CLR-BSS-101
5. Rutland ITS11204 concealed overhead closer (contact JP Corry for more information on fitting, door frame and door design)
6. Dorma ITS96 concealed overhead closer (contact JP Corry for more information on fitting,door frame and door design)
7. Britton BTS75V floorsprings

Alternatively a Certifire approved overhead face fixed closer which is approved for 30 minutes in an ITT doorset (i.e. a doorset incorporating Intumescent, Timber leaf and Timber frame), is acceptable providing all the requirements for the inclusion of the overhead face fixed closer required within this Field of Application and the Certifire certificate are complied with. For example if the Certifire certificate approves use, but places limitations on positioning, then these limitations must be followed.

Note: Door closers must be of sufficient strength and power to ensure the door leaf/leaves fully close into the frame reveal.

If a door closer has been specified and is not on the list above please contact JP Corry on 028 90 260212

Flush bolts

Flush bolts may be incorporated centrally into the top and bottom of one meeting edge, providing the following maximum dimensions are not exceeded and the components are fitted opposite the edge fitted with intumescent strips:

• 205mm long x 20mm deep x 20mm wide. Flush bolts must be steel and the mortice must be as tight to the mechanism as is compatible with its operation. All edges of the mortice of the keep and body must be protected with intumescent gaskets. Alternatively the hardware manufacturers tested gaskets may be used.

Push plates and kick plates

Components with the following specification are deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted away from the edge of the door leaf, therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and therefore cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specification:

- Polymeric or metal face-fixed hardware such as push plates and kick plates up to 1.5mm thick may be surface fitted to the doorset. These items of hardware are permitted up to a maximum of 20% of the door leaf area if mechanically fixed and a maximum of 30% if bonded with a contact or other thermally softening adhesive.
- Plates must not return around the door edges.
- In all cases plates meeting the above specification shall not be applied under glazing beads or door stops.

Panic hardware

Panic hardware may be fitted, providing the installation does not require the removal of any timber from the leaf, stop or frame reveal and it does not interfere with the self-closing action of the door leaf

Threshold drop seals

The following types of automatic threshold drop seals may therefore be recessed into the bottom of leaves to this design without compromising the performance of the door set.

The following threshold seals have successfully been tested.

1. Halspan SLS-DRP-100 range
2. Lorient products LAS8001si
3. Raven RP8SI
4. Athmer Schall-Ex Duo L-15
5. Norsound 8100,810s and 810s+

Note: In all instances, if a rebated drop seal is fitted to the doorset then flush bolts, if approved, may not be fitted to the bottom of the doorset.

Intumescent required on hardware

When the following intumescent is fitted to the Halspan Optima FD60 doorset it will achieve the necessary fire resistance.

Intumescent material required on hardware	
Hardware	Intumescent material required
Hinges	1mm Interdens - Dufaylite Developments Ltd
	1mm Map paper - Lorient Polyproducts Ltd
	1mm Pyrostrip 300 - Mann McGowan
	1mm Thermastrip - Intumescent Seals Ltd
	1mm SLS-PAD-106 - Halspan Ltd
Locks and latches	1mm Interdens - Dufaylite Developments Ltd
(Double door set)	1mm Map paper - Lorient Polyproducts Ltd
	1mm Pyrostrip 300 - Mann McGowan
	1mm Thermastrip - Intumescent Seals Ltd
	1mm SLS-PAD-106 - Halspan Ltd
Locks and latches	1mm Interdens - Dufaylite Developments Ltd
(Single door set)	1mm Map paper - Lorient Polyproducts Ltd
	1mm Pyrostrip 300 - Mann McGowan
	1mm Thermastrip - Intumescent Seals Ltd
	1mm SLS-PAD-106 - Halspan Ltd
Top pivot and bottom straps	2mm Interdens - Dufaylite Developments Ltd
	2mm Map paper - Lorient Polyproducts Ltd
	2mm Therma strip - Intumescent Seals Ltd
	2mm Map paper - Lorient Polyproducts Ltd
	2mm Thermaflex - Intumescent Seals Ltd
	1mm SLS-PAD-107 - Halspan Ltd
Flush bolts	2mm Interdens - Dufaylite Developments Ltd
(encasing whole body)	2mm Map paper - Lorient Polyproducts Ltd
	2mm Therma strip - Intumescent Seals Ltd
	2mm Map paper - Lorient Polyproducts Ltd
	2mm Thermaflex - Intumescent Seals Ltd
	1mm SLS-PAD-107 - Halspan Ltd

If an item of ironmongery has been specified and is not on the list above please contact JP Corry on

028 90 260212 as there will be a solution available.

Intumescent seals tested for use with Halspan Optima FD60 door sets and size parameter.

1. LSASD (Latched single action single door) 1096x2280mm STS ST1504FO 2no 15x4mm seals in frame reveal 10mm apart.

2. ULSASD (Unlatched single action single door) 1071x2280mm STS ST1504FO 2no 15x4mm seals in frame reveal 10mm apart

3. DASD (Double action single door) 1071x2280mm STS ST1504FO 2no 15x4mm seals in frame reveal 10mm apart

4. ULSADD (Unlatched single action double door) 1021x2280 STS ST1504FO 2no 15x4mm seals in frame reveal 10mm apart. Meeting stile has 2no 15x4mm fitted centrally and 10mm apart in one door.

5. DADD (Double action double door) 1021x2280 STS ST1504FO 2no 15x4mm seals in frame reveal 10mm apart. Meeting stile has 2no 15x4mm fitted centrally and 10mm apart in one door.

How to identify the fire rating of a door from the colour of the plug insert

Description of the door	Plugs that should be fitted to the door
Non fire rated door with no work	NO PLUG!
Non fire rated door glass added	NO PLUG!
Non fire rated Re-sized leaf	NO PLUG!
Std door only with glass added FD30	Yellow outer and orange inner.
Re-sized FD30 leaf – no glass	Yellow outer and red inner.
Re-sized FD30 leaf no glass, but seals routered to edges	Yellow outer and green inner.
Re-sized FD30 Leaf with glass fitted	Yellow outer and red inner, Yellow outer and orange inner.
As above with seals routered to edges of door.	Yellow outer and green inner, Yellow outer and orange inner.
FD30 full door set with ironmongery and intumescent supplied and fitted including all intumescent seals for ironmongery	Yellow outer and Silver inner.
FD60 Std leaf with glass fitted	Blue outer and orange inner
FD60 leaf re-sized	Blue outer and red inner
FD60 re-sized with glass fitted	Blue outer and red inner, Blue outer and orange inner
FD60 leaf re-sized and seals routered	Blue outer and green inner
FD60 re-sized, with glass fitted and seals routered to edges of door.	Blue outer and green inner, Blue outer and orange inner
FD60 full door set with ironmongery and intumescent supplied and fitted including all intumescent seals for ironmongery	Blue outer and silver inner

NB: If there is any doubt as to how to install a door or door set please consult the Field of Application document or consult JP Corry Doors on 028 90 243661. Never adjust a door set in size or replace any element without consulting JP Corry Doors.