

# FD30

## Howden Linear & Dordogne FD30 Glazed Door leaves

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International Fire Consultants Limited Field of Application Report (PAR/21384/01) for Howdens FD30 Linear and Dordogne Glazed door leaves installed in Timber frames.

Based upon available test evidence and subsequent analysis performed by IFC LTD. the Howdens Linear and Dordogne door assemblies comprising of Forza Doors Ltd manufactured FCS30 leaves, Howden timber frames and ironmongery when installed in accordance with the Installation instructions detailed in PAR /21384/01 and reproduced below would satisfy the integrity criteria of BS476:Part22 :1987 for 30 Minutes.

The Field of Application report considers that the Howden Linear and Dordogne door assemblies within the scope may be installed in either orientation and so be exposed to fire conditions from either face.

#### Fire Door Unique Number Label

Each Howden Linear and Dordogne FD30 fire door manufactured on their behalf by Forza Doors Ltd. is marked on the top edge of the door and referenced below by a tamper evident label uniquely numbered under the terms of the IFC Certification Ltd. fire performance scheme (certificate number FRTD497).

The scheme includes the testing of products to BS476: Part22, the inspection of factory production control and continuing surveillance audits and testing of samples of products taken from production.



#### FD30 Validity

It is a condition of the FD30 certification for the Linear and Dordogne Glazed fire doors that the following Installation Instructions using only approved components are followed in their entirety. Failure to do so will not only invalidate the certification but may also jeopardise the fire performance of the door assembly.



#### Non-Essential Hardware Items

**Traditional mechanical Lever Handles:** Manufactured from metal/alloy and not containing any flammable materials. Holes through the leaf shall be as close fitting as possible to the spindle and/or steel fixing screws.

**Push plate, kick plates, etc:** Plastic, pvc or metal plates may be surface-mounted to the door assemblies, but, if more than 800mm in length by nominally 200mm wide, they must be attached in a way that would prevent them distorting the door leaf, e.g. glued with thermally softening adhesive or screwed with short aluminium screws and fitted in such a way so they will not be prevented from falling away by being trapped under door stops or handle escutcheons etc.

**Pull handles:** These may be fixed to the door assemblies, provided that the fixing points are no greater than 800mm apart. Pull handles that are fixed through the leaf should use clearance holes as close fitting as possible to the steel bolt. Handles/ fixings to be at least 40mm away from the door edge and glazing bead.

**Automatic Threshold Seals:** Morticed centrally to the thickness of the door leaf, aluminium or steel bodied automatic drop threshold seals may be fitted provided that the body of the automatic drop seal does not exceed 35mm high x 15mm wide (excluding fixing flanges).

#### Site Conditions and Storage

**Moisture Content** - Timber doors are manufactured with moisture content of 10-12% for internal use. The applicable standard on this subject is BS EB 924: 1996 Timber in joinery. General classification of timber quality.

- Do not bring joinery to site until moisture readings are between 40 and 60% RH and until after any forced-drying procedure has been completed.

#### Storage Area

- The store must be clean, level, suitable for stacking doors and provide sufficient space for doors to be moved around, sorted and re-stacked as installation proceeds.

#### Handling

- Avoid bruising and damage caused by heavy contact with the ground. Wear clean gloves to avoid leaving finger marks.

#### Stacking

- Do not store leaves standing upright or leaning as this may cause bowing.
- Stack horizontally on level supports that extend across the full width of the bottom door leaf. Provide support at the centre and at 300mm from each end.
- Cover the supports with cardboard or similar to prevent marking.
- Stack with the largest door leaf at the bottom with size reducing up the stack. When door leaves have projections such as glazing beads provide level intermediate spacers between door leaves to allow clearance of glazing bead.

#### Covering

- Exposure to light gradually fades timber veneers.
- Prior to installation cover stacks with opaque sheeting to prevent fading and keep doors clean.

#### Finishing

These doors are supplied fully finished.

To reduce the risk of distortion, all trimmed edges and cut-outs must be fully finished before the door is hung. Howdens offer colour matched touch up Kit GAR0540 that can be used for these purposes.

#### Maintenance & Repairs

The surface finish will be highly resistant to the rigours of normal use and should usually only need regular light dusting with a soft cloth.

If sticky marks occur on the surfaces they can be removed with a soft damp cloth. The offending area should be rubbed lightly and then completely dried immediately afterwards.

Do not use cleaning materials containing abrasive compounds, solvents, acidic or caustic substances or bleaches containing oxidising substances.

Furniture Polishes containing silicones should be avoided as they can contaminate the finish surface and cause problems if the finish ever needs repairing.

**If scratches or blemishes in the lacquer surface require repairing use Howdens touch-up kit GAR0540**

#### Structural Test Evidence

The Howden Linear & Dordogne FD30 Glazed Door leaves have been structurally tested and passed class calculations to BS 6375 - clauses 6.2 Operating forces, 6.3.1 Vertical load, 6.3.2 Static torsion, 6.3.3 soft and heavy body impact and 6.3.4 Hard body impact. DD171- clause 4.3 Slamming shut and clause 4.4 slamming open impact.



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# Inner - Cutter, Perf & Drill Guide

## Frame, Door and Permissible Ironmongery Installation Guide

### Supporting Construction

The supporting construction may be timber or steel stud plasterboard partition, blockwork, brickwork or concrete walls, but shall be of a type that has been tested or assessed to provide in excess of 30 minutes fire resistance, at the required size, when incorporating FD30 door assembly openings. If fitted into timber/steel stud partitions such as those designed and proven by plasterboard manufacturers, with plasterboard on both faces of the studs, the method of forming the door assembly aperture must be as tested by the partition and/or the door manufacturer.

The frame to be fully aligned within the plane of the fire-resisting wall/partition. No part of the rear of the frame section shall be exposed once installed and leaves must not project beyond the exposed face of the door frame. There shall be no feature rebates or shadow gaps at the junction of the frame and wall. **IMAGE 1**

### Timber Frame Specification, Installation and Gap Tolerance

**FD30 Timber Linings** Trenched door liner. Minimum Density (measured at 12% moisture content) 450kg/m<sup>3</sup>. Minimum face width 30mm excluding stop. Minimum Frame depth 106mm. Minimum stop dimensions 32mm deep x 25mm high. Frame depth may be reduced from supplied 132mm to a minimum 106mm. No reduction of frame face dimension. Head and jamb joint > Butt joint, glued with a non-thermally softening PVA adhesive and the head twice screwed to each jamb. **IMAGE 2**. Loose stop pinned to frame with 50mm steel pins at nominally 300mm centres.

**FD30 Casings** Untrenched rebated door casing. Minimum Density (measured at 12% moisture content) 450kg/m<sup>3</sup>. Minimum face width 32mm excluding integral stop. Minimum stop dimensions 61mm deep x 25mm high. No reduction of supplied frame face and depth dimensions. Head and jamb joint > Haunch or Mitred joint, glued with a non-thermally softening PVA adhesive and the head twice screwed to each jamb. **IMAGE 3**

The frames must be fixed back to the supporting construction with steel fixings at centres not exceeding 600mm on the vertical edges (minimum 200mm from the top and bottom), and a minimum of one fitted centrally across the width of the frame head. Screws shall be of sufficient length to penetrate the supporting construction by at least 40mm, and shall be positioned centrally such that they are not exploited by charring of the frame, irrespective of the direction of fire exposure. Suitably thick packers between frame and wall shall be used at all screw fixing positions. **IMAGE 4**

The gap between the frame and the supporting construction to be from 5 to 25mm wide and to be fully sealed with Fire and Acoustic Seals Ltd. FD60 Fire Door Foam. **IMAGE 5**. The use of Timber Architraves is optional. **All frames to be fully fitted with 15mm x 4mm Astroflame intumescent positioned in the frame groove centrally facing the leaf edge.**

### Linear & Dordogne Door specification

**Door assembly configuration:** Single-acting, single-leaf, latched/Unlatched. Maximum approved leaf size 2040mm x 838mm.

**Linear Glazed detail:** Maximum aperture size. 1578mm x 239mm. Bead detail 22mm high including 5mm bolection. Glass 7mm thick GVH30 laminate fire glass. Glazing system as per PAR /21384/01.

**Dordogne Glazed detail:** Maximum aperture size 1610mm x 526mm. Bead detail 15mm high including 3mm quirk. Glass 7mm thick GVH30 laminate fire glass. Glazing system as per PAR /21384/01.

**Door assembly installation** To be such that the door leaf is fully flush with the timber frame on the hinge side when closed. **IMAGE 8**

**The gap between the door leaf edge and the timber frame once installed should be between 1.5mm to 4mm (recommend 3mm all round).** **IMAGE 9**

**Gaps under the bottom edge of door to top of finished floor level (FFL) should not exceed 6mm for fire performance, although, if smoke control is also required without a dropseal, this gap should only be 3mm.** **IMAGE 10**

**Each vertical leaf edge should not be reduced for site tolerance by more than 4mm with hinge recesses re-depthed accordingly.**

**Resizing of leaf height from the base of the door leaf is permitted up to 50mm.**

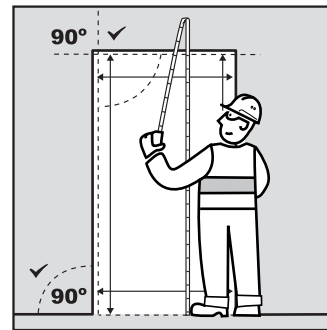


IMAGE 1



IMAGE 2

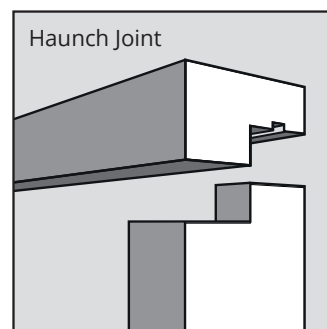


IMAGE 3

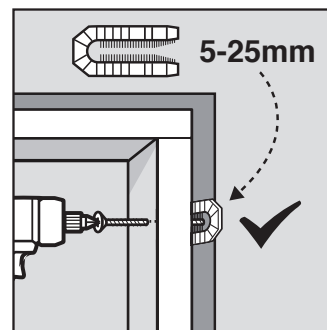


IMAGE 4

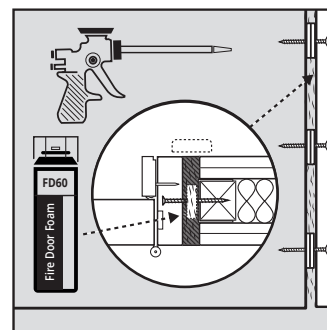


IMAGE 5

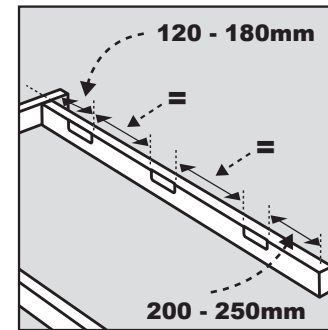


IMAGE 6

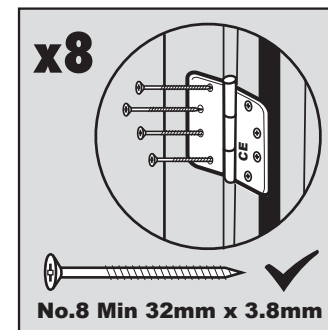


IMAGE 7



IMAGE 8

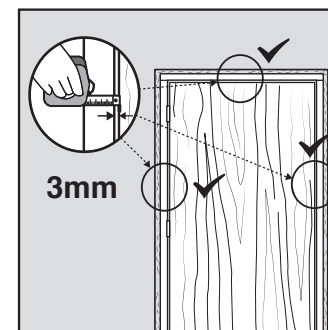


IMAGE 9

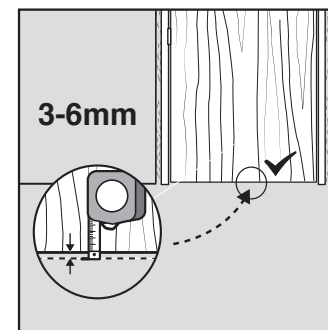


IMAGE 10

## Permitted Ironmongery Installation Guide

**Knuckle Hinges:** HNG0025/27/86 Eclipse 4" ball bearing Grade 11 (SSS/Brass/PSS)

Other Hinges may be used subject to compliance with the following specifications:

**Hinge type:** Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported.

**Hinge blade sizes:** 2.5mm-3.5mm thick by 89mm-110mm high by 30mm-36mm width. (These dimensions refer to the blade size, i.e. the part of the hinges that are recessed into the edge of the leaves/frame).

**Hinge materials:** Brass, Phosphor Bronze, Steel or Stainless Steel. (Aluminium, Nylon or 'Mazak' are not permitted). No combustible or thermally softening materials to be included.

**Number of hinges:** 3no (1½ pairs) per leaf on leaves up to 2040mm high.

**Positions:** The top hinge must be positioned 120mm-180mm down from the head of the leaf to the top of the hinge and the bottom hinge positioned 200mm-250mm up from the foot of the leaf to the bottom of the hinge. The middle hinge must be either equally spaced between the top and bottom hinge, or 200mm-250mm below the top hinge. **IMAGE 6**

**Fixings:** Steel screws, as recommended by the hinge manufacturers, but in no case smaller than No.8 (3.8mm diameter) by 32mm long, and having thread for a minimum of 2/3rds of their length. **IMAGE 7**

**Intumescent protection:** REF ITS0030 Intumescent sheet 0.8mm (pack of six) Optional. (Interruption of the intumescent strip at the hinge allowed).

### Mortice Latches/Locks:

FRP0300 63mm 5 lever Sashlock

FRP0305 76mm Europrofile sashlock

LAL0890 63mm Tubular latch

LAL0891 76mm Tubular latch

LAL0075 2.5" PB/PSS Prem Tubular mortice latch

LAL0076 3" PB/PSS Prem Tubular mortice latch

FRP0301/FRP0302 Intumescent pre-cut latch kit

FRP0300/FRP0305 Intumescent pre-cut lock kit

Other locks/latches may be used subject to compliance with the following specifications:

**Latch/lock types:** Mortice latches, tubular mortice latches, sashlocks, deadlocks

Maximum dimensions:

- Forend plate: 235mm long x 24mm wide or 202mm x 27mm
- Latch body: 20mm thick x 165mm high x 100mm wide
- Strikeplate: 235mm long x 24mm wide or 152 x 29mm

Materials: steel based with no essential part of their structure made from polymeric or other low melting point (<800°C) materials, and should not contain any flammable materials.

**Positioning:** Center at 1000mm (±200mm), above the bottom of the door leaf.

**Intumescent protection:**

Any forends/keeps longer than 130mm bedded on 1mm thick low-pressure forming intumescent material or Howdens 0.8mm thick graphite based kit.

Over-morticing is to be avoided; mortices should be as tight as possible to the latch. If gaps around the case exceed 2mm, then these must be made good with intumescent mastic or sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

### Door Closers:

Howdens ref DCL0019 Eclipse 73 face fixed closer

Howdens ref DCL0036 Eclipse 93 face fixed closer

They must be fitted according to the manufacturer's instructions and be adjusted so that they are capable of fully closing the door leaf, against any friction imposed by the latch (and smoke seals if fitted) from any position of opening. (minimum power size 3). All fire doorsets, including to flat entrances and between a dwelling house and an integral garage should be fitted with a self-closing device except for fire doorsets to cupboards, service ducts normally locked shut and labelled as such with an appropriate sign which complies with BS5499-10:2014. within flats and dwelling houses.