



CERTIFICATE OF APPROVAL

No CF 547

This is to certify that, in accordance with
TS00 General Requirements for Certification of Fire Protection Products
The undermentioned products of

FRELAN HARDWARE LTD

Unit 10 Mitcham Industrial Estate, Streatham Road,
Mitcham, Surrey, CR4 2AP

Tel: 0208 648 1500 Fax: 0208 648 1626

Have been assessed against the requirements of the Technical Schedule(s)
denoted below and are approved for use subject to the conditions
appended hereto:

CERTIFIED PRODUCT
JEDO Series of steel hinges

TECHNICAL SCHEDULE
TS24 The Contribution of
Single Axis Hinges to the Fire
Resistance of Door Assemblies

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Duggan
Certification Manager



Original Issue date: 5th June 2007
Valid until: 23rd November 2022
Reissued: 7th February 2023
Valid to: 6th February 2028



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JEDO Series of Hinges

1. This certification is provided to the client for their own purposes, and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.
2. This approval relates to the use of JEDO Series of hinges comprising stainless steel, single axis Grade 13 and 14 hinges in contributing to the fire resistance performance of timber based doorsets as detailed below:

Reference	Description	Grade
JEDO: J9500	102 mm x 76 mm x 3 mm, Ball Bearing Stainless Steel Hinge	13
JEDO: J9500R	102 mm x 76 mm x 3 mm, Ball Bearing Stainless Steel Hinge - Radiused	13
JEDO: J9507	102 mm x 76 mm x 3 mm, Ball Bearing 316 Stainless Steel Hinge	13
JEDO: J9603	102 mm x 76 mm x 3 mm, Polymer Bearing Stainless Steel Hinge (3 knuckle)	13
JEDO: J9603R	102 mm x 76 mm x 3 mm, Polymer Bearing Stainless Steel Hinge (3 knuckle) Radiused.	13
JEDO: J9604	102 mm x 102 mm x 3 mm, Polymer Bearing Stainless Steel Hinge (5 knuckle)	13
JEDO: J9633	102 mm x 76 mm x 3 mm, Polymer Bearing Stainless Steel Hinge (Radiused - 3 knuckle)	13
JEDO: J2020	102 mm x 76 mm x 3 mm, Stainless Steel Concealed Butt Hinge	13
JEDO: J2050	102 mm x 76 mm x 3 mm, Sintered Washered Stainless Steel Hinge	13
JEDO: J2050R	102 mm x 76 mm x 3 mm, Sintered Washered Stainless Steel Hinge - Radiused	13
JEDO: J9400	102 mm x 76 mm x 3 mm, Stainless Steel Concealed Butt Hinge	14

3. This approval relates to their use with the following door assemblies: -

Latched and unlatched, intumescent sealed door assemblies consisting of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames having a fire resistance up to 60 minutes (Code ITT).

4. The hinge is approved on the basis of:

- i) Initial type testing to EN1935 and EN 1634-1
- ii) An appraisal against TS24
- iii) Certification of quality management system.
- iv) Inspection and surveillance of factory production control
- v) On-going audit testing in accordance with TS24 requirements

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5. The door assembly shall be a CERTIFIRE approved product or have achieved the appropriate fire resistance performance when tested at a UKAS accredited laboratory in accordance with BS 476: Part 22: 1987 and/or BS EN 1634:1 with hinges of a similar size.
6. The hinges should only be used with door assemblies of proven fire resistance (as defined in BS EN 1634-1 or BS 476: Part 22: 1987), the critical aspects of the doorset construction are considered to be the material of the door frame, the leaf to frame clearance gaps and the lipping material. Attention should be paid to these details, and these should not be amended from that previously fire tested; where this information is not known the following minimum specification will be followed:
 - a. FD30, E30 and EI30 applications (Code ITT) – Door leaves shall not less than 44 mm thick doors. The door frame shall consist of timber with a minimum density of 450 kg/m³:
 - i. All hinges must be bedded onto a 1 mm thickness of Interdens mono ammonium phosphate or graphite-based intumescent sheet material behind both blades.
 - b. FD60, E60 and EI60 applications (Code ITT) – Door leaves shall not less than 54 mm thick doors. The door frame shall consist of timber with a minimum density of 640 kg/m³:
 - i. All hinges must be bedded onto a 2 mm thickness of Interdens mono ammonium phosphate or graphite-based intumescent sheet material behind both blades
 - ii. Additionally, a minimum of 15 mm of perimeter intumescent shall by-pass the hinge.
7. The hinges may only be fitted in the manner described in this certificate and subject to any limitations on the inclusion of hinges specified for the door leaf. This approval is applicable only to the specified hinges used with door assemblies of proven fire resistance (as defined in BS EN 1634-1 or BS 476: Part 22: 1987) and when using appropriate intumescent protection.
8. Hinges shall only be fitted using the fixings supplied by the hinge manufacturer which shall be a minimum of 31 mm long x 4.8 mm dia.
9. Regard should be paid to the maximum door mass permitted to be used with the hinge (see classifications).

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10. The doorset, including door frame and associated building hardware, should be either CERTIFIRE approved for the relevant application and classification or the doorset, including door frame and associated building hardware, should have achieved at least 30 or 60 minutes fire resistance (as relevant) when tested, or subsequently assessed to BS 476: Part 22: 1987 or EN 1634-1.
11. The doorset shall be installed in accordance with BS 8214.
12. The approval relates to on-going production. Product and/or its immediate packaging is identified with the manufacturer's name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application where appropriate.

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13. The following table show acceptable doorset types and fire resistance periods:

Class	Approved Door Type			
	IMM	MM	ITT	ITM
FD20	x	x	x	x
FD30	x	x	✓	x
FD60	x	x	✓	x
FD120	x	x	x	x
FD240	x	x	x	x
E 20	x	x	x	x
EI 20	x	x	x	x
E 30	x	x	✓	x
EI 30	x	x	✓	x
E 60	x	x	✓	x
EI 60	x	x	✓	x
E 90	x	x	x	x
EI 90	x	x	x	x
E 120	x	x	x	x
EI 120	x	x	x	x
E 240	x	x	x	x
EI 240	x	x	x	x

Key:

- ✓ - approved
x - Not approved

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14. Doors are classified as the following types:

Code ITT - 20 minute to 120 minute doorsets containing intumescent seals and consisting of timber faced and edged leaves with timber, cellulosic or mineral cores, hung in timber-based frames.

Code ITM - 20 minute to 120 minute doorsets containing intumescent seals and consisting of timber faced and edged leaves with timber, cellulosic or mineral cores, hung in metal frames.

Code MM - 20 to 240 minute doorsets consisting of uninsulated or insulated predominantly steel leaves, hung in steel frames without intumescent seals.

Code IMM - 20 to 240 minute doorsets consisting of uninsulated or insulated predominantly steel leaves, hung in steel frames with intumescent seals.

Classification codes

The above approval provides the following classifications:

JEDO: J9500 & J9500R Ball Bearing Stainless Steel Hinge - Maximum leaf weight 120 kg:

4	7	6	1	1	4	0	13
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JEDO: J9507 Ball Bearing 316 Stainless Steel Hinge - Maximum leaf weight 120 kg:

4	7	6	1	1	4	0	13
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JEDO: J9603, J9603R & J9604 Polymer Bearing Stainless Steel Hinge – Maximum leaf weight of 120 kg:

4	7	6	1	1	4	0	13
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JEDO: J9633 Polymer Bearing Stainless Steel Hinge – Maximum leaf weight of 120 kg:

4	7	6	1	1	4	0	13
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Classification codes – Cont'd

JEDO: J2020 Concealed Bearing Stainless Steel Butt Hinge – Maximum leaf weight of 120 kg:

4	7	6	1	1	4	0	13
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JEDO: J2050 & J2050R Sintered Washered Stainless Steel Hinge – Maximum leaf weight of 120 kg:

4	7	6	1	1	4	0	13
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JEDO: J9400 Concealed Bearing Stainless Steel Butt Hinge – Maximum leaf weight of 160 kg:

4	7	7	1	1	4	0	14
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Scope of Approval:

- The hinges may not be fitted to timber doorsets without perimeter intumescent fire seals to the frame rebate or door edge.
- Where graphite based intumescent sheet material is to be used in lieu of the Interdens mono ammonium phosphate tested, the proposed graphite-based intumescent sheet material, shall have suitable test evidence in the required thickness or less, with timber/mineral-based doorset of the required classification period, in conjunction with steel hinges of a minimum blade size of 100 mm x 30 mm.

Further Information

Further information regarding the details contained in this certificate may be obtained from Frelan Hardware Limited (Tel: 0208 648 1500).

Further information regarding CERTIFIRE certification and other approved products can be obtained from CERTIFIRE (Tel: 01925 646777).

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