



CERTIFICATE OF APPROVAL

No CF 5776

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

CARLISLE BRASS LIMITED

Parkhouse Road, Carlisle, Cumbria, CA3 0JU
TEL: 01228 511770

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

Stainless Steel Ball Bearing
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



Issued: 16th September 2019
Revised: 8th November 2021
Valid to: 11th January 2023





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Stainless Steel Ball Bearing Hinges

1. This approval relates to the use of Stainless Steel Ball Bearing Hinges as follows:

Reference	Size
HIN143P	102 x 76 x 3 mm
HIN1443P	102 x 102 x 3 mm

The Carlisle Brass hinges are single axis, steel Class 13 ball-bearing hinges. The hinges are approved with square corners and radiused corners, and manufactured in either 201 or 304 grades of stainless steel.

2. 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.

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 of 30 or 60 minutes (Code ITT).

4. The hinges are 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

5. This approval relates to the use of the above single axis hinges in contributing to the fire resistance performance of timber/mineral- based doorsets, as defined in BS EN 1634-1 or BS 476: Part 22: 1987.

6. 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.

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7. 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 (with leaf to frame gaps not greater than 3 mm).
 - i. Both hinges shall be bedded onto a 0.8 mm thickness of graphite-based intumescent material behind both blades (reference 'INT1433' and 'INT1443').
 - 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 (with leaf to frame gaps not greater than 3 mm).
 - i. HIN1433 hinges shall be bedded onto a 0.8 mm thickness of graphite-based intumescent material behind both blades (reference 'INT1433'). In addition perimeter intumescent fire seals shall by-pass the hinges by a minimum of 14 mm.
 - ii. HIN1443 hinges shall be bedded onto a 2 mm thickness of graphite-based intumescent material behind both blades. The perimeter intumescent fire seals is not required to by-pass the hinges)
- Note: Failure to install intumescent protection identified above will invalidate this certificate*
8. 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.
9. Regard should be paid to the maximum door mass permitted to be used with the hinge (see classifications).
10. For ITT timber and mineral-based doorsets the hinges shall only be fitted using the fixings supplied by the hinge manufacturer.



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A handwritten signature in black ink, appearing to read "Paul Hogg".

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11. The doorset shall be installed in accordance with BS 8214.
12. The approval relates to ongoing production. The 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.
13. The following table show acceptable doorset types and fire resistance periods:

Class	Approved Door Type				
	IMM	MM	ITT	ITM	ITC
FD20	x	x	✓	x	x
FD30	x	x	✓	x	x
FD60	x	x	✓	x	x
FD120	x	x	x	x	x
FD240	x	x	x	x	x
E 20	x	x	✓	x	x
EI 20	x	x	✓	x	x
E 30	x	x	✓	x	x
EI 30	x	x	✓	x	x
E 60	x	x	✓	x	x
EI 60	x	x	✓	x	x
E 90	x	x	x	x	x
EI 90	x	x	x	x	x
E 120	x	x	x	x	x
EI 120	x	x	x	x	x
E 240	x	x	x	x	x
EI 240	x	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 ITC - 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 proprietary composite frames, of which the principal material is other than timber or metal but which may include any other materials.

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

Scope of Approval:

- The hinges may not be fitted to timber doorsets without perimeter intumescent fire seals within the frame rebate or edge of the door leaf.

Classification codes

The approval provides the following classifications for all hinges:

Category of duty	Number of test cycles	Test door mass	Fire resistance	Safety	Corrosion resistance	Security	Hinge grade
4	7	6	1	1	4	0	13

Further Information

Further information regarding the details contained in this certificate may be obtained from Carlisle Brass Limited (Tel: 01228 511770).

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

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