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## CERTIFICATE OF APPROVAL

### No CF 5776

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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:

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#### 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: 16<sup>th</sup> September 2019  
Valid to: 11<sup>th</sup> January 2023



## CERTIFICATE No CF 5776 CARLISLE BRASS LIMITED

### Stainless Steel Ball Bearing Hinges

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

Reference	Size
<b>HIN1433P</b>	102 x 76 x 3 mm
<b>HIN1443P</b>	102 x 102 x 3 mm

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 the use of the above single axis hinges in contributing to the fire resistance performance of timber based doorsets, as defined in BS EN 1634-1 or BS 476: Part 22: 1987.
4. 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).**
5. 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 to ISO 9001: 2008.
  - iv) Inspection and surveillance of factory production control
  - v) On-going audit testing in accordance with TS24 requirements
6. 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.

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#### Stainless Steel Ball Bearing Hinges

7. This approval relates to the above hinges used with latched or unlatched single-leaf or double-leaf door assemblies consisting of timber faced and edged leaves with timber, cellulosic or mineral cores and in timber frames:
- 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/m<sup>3</sup> (with leaf to frame gaps not greater than 3 mm).
    - i. All hinges must be bedded onto a 1 mm thickness of graphite-based intumescent 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/m<sup>3</sup> (with leaf to frame gaps not greater than 3 mm).
    - i. The hinges must be bedded on a 2 mm thickness of graphite-based intumescent material behind both blades.
- Note: Failure to install intumescent protection identified above will invalidate this certificate*
8. The above hinges may only be fitted to previously tested timber door assemblies when fitted in the manner described in this certificate and when particular aspects of the door assembly are maintained.
9. Hinges shall only be fitted using the fixings supplied by the hinge manufacturer. Regard should be paid to the maximum door mass permitted to be used with the hinge (see classification).
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 a 30 or 60 minutes fire resistance performance 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 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.

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### Stainless Steel Ball Bearing Hinges

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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### Stainless Steel Ball Bearing Hinges

14. Doors are classified as the following types:

**Type MM** - 20 minute to 240 minute doorsets that consist of metallic leaves in metallic frames that do not contain intumescent materials in the frame to leaf gap.

**Type IMM** - 20 minute to 240 minute doorsets that consist of metallic leaves in metallic frames that contain intumescent materials in the frame to leaf gap.

**Type ITT** - 20 minute to 120 minute doorsets containing intumescent seals and consisting of non-metallic faced and edged leaves hung in timber frames

**Type ITM** - 20 minute to 120 minute doorsets containing intumescent seals and consisting of non-metallic faced and edged leaves hung in metal frames.

**Type ITC** - 20 minute to 120 minute doorsets containing intumescent seals and consisting of non-metallic faced and edged leaves hung in proprietary composite frames, of which the principal material is other than timber or metal but which may include any other materials.

### 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).