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## CERTIFICATE OF APPROVAL

### No CF 5288

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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

## HAGER COMPANIES INC.

**139 Victor Street, St. Louis, MO 63109, U.S.A.**  
**Tel: 314-772-4400**

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 CERTIFIRE**



Sir Ken Knight  
 Chairman  
**WCL Impartiality Committee**



Paul Duggan  
 Certification Manager  
**Warrington Certification Ltd**



Issued: 20<sup>th</sup> November 2015  
 Valid to: 19<sup>th</sup> November 2020



## CERTIFICATE No CF 5288 HAGER COMPANIES INC.

### Hager Companies Inc. Stainless Steel Ball Bearing Hinges

1. This approval relates to the use of Hager Companies Inc. BB6191 stainless steel, single axis ball bearing hinges in contributing to the fire resistance performance of timber based doorsets, as defined by EN 1634-1 or BS 476: Part 22, for periods of 60 minutes integrity. This approval also relates to the use of the above stainless steel, single axis ball bearing hinges in contributing to the fire resistance performance of metal based doorsets, as defined by EN 1634-1 or BS 476: Part 22, for periods of up to 240 minutes integrity.
2. This certification is designed to demonstrate compliance of the product or system specifically with Approved Document B (England and Wales), Section D of the Technical Standards (Scotland) and Technical Booklet E (N. Ireland). If compliance is required to other regulatory or guidance documents there may be additional considerations or conflict to be taken into account.
3. 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

4. The BB6191 range of hinges approved are as follows:

Reference	Description
4030B	Grade 13 – 102 x 75 x 3 mm –Square corner
4035B	Grade 13 – 102 x 90 x 3 mm –Square corner
4040B	Grade 13 – 102 x 102 x 3 mm –Square corner
5035BB	Grade 13 – 127 x 90 x 3 mm –Square corner

5. This approval relates to the hinges when 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 (Code ITT) 54 mm thick for 60 minute applications. The door frame shall consist of hardwood timber with a minimum density of 640 kg/m<sup>3</sup> for 60 minute applications (with leaf to frame gaps not greater than 3 mm). The hinges must be bedded onto a 2 mm thickness of mono ammonium phosphate intumescent material behind both blades for all 60 minute applications.



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6. This approval also relates to the hinges used with latched or unlatched single-leaf or double-leaf door assemblies consisting of metal faced and edged leaves in metal frames (Codes MM/IMM) not less than 45 mm thick.
7. The above hinges may only be fitted to previously tested door assemblies when fitted in the manner described in this certificate and when particular aspects of the door assembly are maintained.
8. Hinges shall only be fitted using the fixings supplied by the hinge manufacturer.
9. 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. Timber based doorsets should have achieved at least 60 minutes fire resistance, and metal based doorset up to 240 minutes fire resistance, when tested, or subsequently assessed to BS 476: Part 22: 1987 or EN 1634-1. In either case regard should be paid to the maximum door mass permitted to be used with the hinge (see classification).
10. Timber doorset shall be installed in accordance with BS 8214: 2008.
11. 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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Hager Companies Inc. Stainless Steel Ball Bearing Hinges

**Matrix of acceptable doorset types**

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

See CERTIFIRE Technical Schedules for designation of doorset types i.e. ITT, etc.

**Key:**

- ✓ - approved
- ✗ - Not approved

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**Hager Companies Inc. Stainless Steel Ball Bearing Hinges**

**Scope of Approval:**

- All applications apply to glazed and unglazed doorsets.
- For all ITT timber doorset applications both blades of all hinges must be bedded onto a 2 mm thickness of mono ammonium phosphate intumescent sheet.
- For all ITT timber doorset applications the door frame shall consist of timber with a minimum density of 640 kg/m<sup>3</sup> (with leaf to frame gaps less than 4mm).
- For all ITT timber doorset applications the door leaf shall be a minimum of 54 mm thick and include timber lippings to the vertical edges having a minimum density of 640 kg/m<sup>3</sup>.
- For all MM & IMM steel doorset applications the door leaf shall be a minimum of 45 mm thick.

**Classification codes**

The above approval provides the following classifications:

<b>4</b>	<b>7</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>13</b>
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**Further Information**

Further information regarding the details contained in this certificate may be obtained from Hager Companies Inc. (Tel: + 314 772 4400).

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