



CERTIFICATE OF APPROVAL

No CF 5677

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

ERA HOME SECURITY LTD T/A ZOO HARDWARE LTD

Unit B, Dukes Drive, Kingmoor Park North, Carlisle Cumbria
CA6 4SH
TEL: 01228 672 900

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

ZHS43 Grade 11 Mild Steel Ball
Bearing Hinge

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: 15th January 2019
Revised: 23rd January 2023
Valid to: 24th October 2023





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ZHS43 Grade 11 Mild Steel Ball Bearing Hinge

1. This certification is provided to the client for its 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 the following hinges:

Reference	Description	Size
ZHS43	Grade 11 Mild Steel Ball Bearing Hinge	102 x 76 x 3 mm
ZHS43EB	Grade 11 Mild Steel Ball Bearing Hinge	102 x 76 x 3 mm
ZHS43CP	Grade 11 Mild Steel Ball Bearing Hinge	102 x 76 x 3 mm
ZHS43SC	Grade 11 Mild Steel Ball Bearing Hinge	102 x 76 x 3 mm
ZHS43FB	Grade 11 Mild Steel Ball Bearing Hinge	102 x 76 x 3 mm
ZHS43PCB	Grade 11 Mild Steel Ball Bearing Hinge	102 x 76 x 3 mm

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 up to 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 Zoo hinges are approved with either square or radiused corners.
7. The 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.
8. 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.

Signed
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9. Regard should be paid to the maximum door mass permitted to be used with the hinge (see classification).
10. All fixings shall be a minimum 4 mm diameter, and a minimum 25 mm long for ITT doorsets.
11. The doorset shall be installed in accordance with BS 8214.
12. 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/m³ (with leaf to frame gaps not greater than 3 mm).
 - i. All hinges must be bedded onto a 1 mm thickness of mono ammonium phosphate intumescent material or graphite-based intumescent sheet material (see 'Scope of Approval' below) 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 (with leaf to frame gaps not greater than 3 mm).
 - i. The hinges must be bedded on a 2 mm thickness of mono ammonium phosphate intumescent material or graphite-based intumescent sheet material (see 'Scope of Approval' below) behind both blades.
 - ii. In addition a minimum of 15 mm of perimeter intumescent fire seal shall by-pass the hinge blades,

Note: Failure to install intumescent protection identified above will invalidate this certificate

13. 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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14. 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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15. 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.

Scope of Approval:

- The hinges may not be fitted to timber doorsets without leaf/frame edge intumescent protection.
- Where graphite based intumescent sheet material is to be used in lieu of the 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.

Classification codes

The approval provides the following classification for all hinges:

3	7	4	1	1	4	0	11
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Further Information

Further information regarding the details contained in this certificate may be obtained from Zoo Hardware Ltd (Tel: 01228 672 900).

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

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