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CERTIFICATE OF APPROVAL
No CF 5320

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, United Kingdom
Tel: 01228 672900 Fax: 01228 672928

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	TECHNICAL SCHEDULE
'Vier' VHP243 and VHC243 Stainless Steel Bearing Hinges	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: 22nd July 2015
Reissued: 6th August 2024
Valid to: 21st July 2030

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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 'Vier' Stainless Steel grade 14 single axis hinges. This approval relates to the following specific hinges:

Reference	Dimension	Description
VHP243	102 mm x 76 mm x 3.4 mm	Nylon bushes
VHC243	102 mm x 76 mm x 3 mm	Concealed nylon bushes
VHC243HT	102 mm x 76 mm x 3 mm	Concealed nylon bushes with Hospital Tip

The hinges are available in 201, 304 or 316 grade stainless steel, and with square or radiused corners.

3. This approval relates to the use of the above single axis hinges in contributing to the fire resistance performance of timber based doorsets and steel 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:-

Code ITT - 20 minute to 120 minute door assemblies door assemblies incorporating intumescent perimeter seals and consisting of timber faced and edged leaves with timber or cellulosic cores, hung in timber or cellulosic frames.

Code MM/IMM - 20 minute to 240 minute door assemblies consisting of uninsulated or insulated predominantly steel leaves, hung in steel frames with or without intumescent seals.

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.
   iv) Inspection and surveillance of factory production control
   v) On-going audit testing in accordance with TS24 requirements

6. The door assembly shall be a CERTIFIRE approved product or have achieved the appropriate fire resistance performance when tested at a laboratory accredited to IS/IEC 17025 (under International Laboratory accreditation Cooperation (ILAC) membership), in accordance with BS 476: Part 22: 1987 and/or BS EN 1634:1 with hinges of a similar size.

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.

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The following minimum specification shall be followed, unless the chosen doorset has evidence to the contrary with hinges of a similar size/specification:

a. 30 and 60 minute timber-based assemblies (ITT):

i) Door frame minimum density - 460 kg/m³ (30 minutes), 640 kg/m³ (60 minutes)

ii) Door leaves shall have a minimum thickness of 44 mm for 30 minute applications and 54 mm for 60 minute applications.

iii) Lipping minimum density - 640 kg/m³.

b. Steel-based assemblies (MM/IMM)

i) Door leaves shall have a minimum thickness of 44 mm for up to 240 minute applications.

7. For 90 minute and 120 minute timber-based assemblies (ITT), Zoo hinges shall only be fitted to doorsets which have previously been tested with hinges of a similar size, subject to the following requirements:

i) The required intumescent protection shall be as tested by the chosen door manufacturer. In all cases this shall be a minimum of a 2 mm thick 'mono ammonium phosphate or graphite-based intumescent sheet material incorporated beneath each hinge blade; however, this protection shall be increased as required based on the chosen doorset manufacturers test data.

ii) Where the perimeter intumescent fire seal tested within the chosen doorset by-passes the hinge, this detail shall be maintained.

iii) The critical dimensions of the Zoo hinge to be used shall be based on the size of the hinge tested originally by the chosen doorset manufacturer, with the following tolerance:

Hinge Specification of Chosen Doorset	
Component/dimension	**Tolerance/Rule**
Hinge blade	
Width	+0/-5% of tested hinge
Height	+/-20% of tested hinge
Thickness	+/-15% of tested hinge
Knuckle	
Diameter	Minimum 14 mm
Fixings	
Quantity	Maximum 4No. fixings tested
Size	4.7 mm dia. Minimum
Length	No shorter than that tested
Position (width)	+/-10% from the positions of the fixings in the tested hinge when measured with respect to the centre lines of the blade

Note: *Where the Zoo hinge does not comply with the parameters identified above it shall not be used in conjunction with the chosen 90 minute and 120 minute timber-based assemblies (ITT).*

8. When fitted to insulated timber-based door assemblies, the required additional intumescent protection will be as follows:

   i) The required protection for 30 minute ITT applications will be:

      a. 1 mm thickness of mono ammonium phosphate or graphite-based intumescent material (see 'Scope of Approval' below) behind both blades.

      Or

      b. 0.8 mm thick FlexiFire graphite-based intumescent material behind both blades.

   ii) The required protection for 60 minute ITT applications will be:

      a. 2 mm thickness of mono ammonium phosphate or graphite-based intumescent material (see 'Scope of Approval' below) behind both blades.

      Or

      b. 0.8 mm thick FlexiFire graphite-based intumescent material behind both blades

   iii) For 60 minute ITT applications only, 15 mm of perimeter intumescent fire seal within the edge of the door or frame rebate is required to by-pass the hinges.

   iv) The required intumescent protection for 90 and 120 minute ITT applications shall be as tested by the chosen door manufacturer. In all cases this shall be a minimum of a 2 mm thick mono ammonium phosphate or graphite-based intumescent sheet material (see 'Scope of Approval' below) incorporated beneath each hinge blade, however, this protection shall be increased as required based on the chosen doorset manufacturers test data.

Failure to install the protection will invalidate this certificate

9. 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.

10. Recessing for hinges shall result in a tight fit, allowing for any intumescent protection where required.

11. 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 classifications).

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12. The ITT doorsets shall be installed in accordance with BS 8214.

13. All door hardware is subject to the acceptance by the chosen door assembly supplier's tested, assessed, or certificated scope, which generally identifies the types of hardware approved, the required specification/design based on the key materials/ maximum size (e.g. Blade, knuckle, etc.), and the application of any additional intumescent protection.

    On this basis, approval should be sought from the specific door assembly supplier to ensure compliance based on this assessed/certificated scope.

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

	Approved Door Type			
Class	**IMM**	**MM**	**ITT**	**ITM**
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	✓	✓	✗	✗

Key:

✓ Approved

✗ Not Approved

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16. Doors are categorised as the following types:

Code ITT - 20 minute to 120 minute door assemblies door assemblies incorporating intumescent perimeter seals and consisting of timber faced and edged leaves with timber or cellulosic cores, hung in timber or cellulosic frames.

Code ITM - 20 minute to 120 minute door assemblies door assemblies incorporating intumescent perimeter seals and consisting of timber faced and edged leaves with timber or cellulosic cores, hung in steel 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 for the 'Vier' hinges:

4	7	7	1	1	4	0	14

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.
- 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-based doorset of the required classification period, in with stainless steel hinges of a minimum size of 100 mm x 75 mm.

Further Information

Further information regarding the details contained in this certificate may be obtained from Zoo Hardware Ltd (Tel: 01228 672900).

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

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