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CERTIFICATE OF APPROVAL
No CF 369

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

HOPPE (UK) LIMITED

Gailey Park Industrial Estate, Gravelly Way, Standeford,
Wolverhampton, WV10 7GW United Kingdom
Tel: 01902 484407 Fax: 01902 484457

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
ARRONE Range of Stainless Steel 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: 9th October 2006
Revised: 22nd October 2026
Valid to: 8th October 2031

warringtonfire certifire CERTIFICATION

certifire UKAS PRODUCT CERTIFICATION 0087

This certificate is the property of Warringtonfire Testing and Certification Limited
Registered in England and Wales
Registered Office: 3rd Floor, Davidson Building, 5 Southampton Street, London, WC2E 7HA. Company Registration No: 11371436

CERTIFICATE No CF 369
HOPPE (UK) LIMITED

1. This approval relates to the use of the following specific Nico high-performance, single axis hinges:

Reference	Description	Type	Dimension (mm) (H x W x T)	Material	EN1935 Grade
AR8180	Ball bearing hinges	Butt Hinge	102 x 76 x 3	Stainless Steel	13
AR8182	Ball bearing hinges	Butt Hinge	102 x 76 x 3	Stainless Steel	13
AR8184	Ball bearing hinges	Butt Hinge	102 x 102 x 3	Stainless Steel	13
AR8185	Ball bearing hinges	Butt Hinge	114 x 102 x 3	Stainless Steel	13
AR8187	Ball bearing hinges	Butt Hinge	102 x 76 x 3	Stainless Steel	13
AR8680	Ball bearing hinges	Butt Hinge	102 x 89 x 3	Stainless Steel	13
AR8186	Ball bearing hinges with dog bolts	Butt Hinge	102 x 76 x 3	Stainless Steel	13
AR8180 - DC	Ball bearing hinges with dual corners (radius and square)	Butt Hinge	102 x 76 x 3	Stainless Steel	13

Hinges available in multiple different finishes with both square and radiused corners.

2. 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.

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* and 30* minute, 60 minute, 90*** minute and 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.**

* *Only the following are approved for use with 20 and 30 minute ITT doorsets,* AR8180, AR8182, AR8186, AR8187 *and AR8180 - DC.*

** *Only the following are approved for use with 60 minute ITT doorsets,* AR8180, AR8182, AR8186, AR8187, AR8680 *and AR8180 - DC.*

*** *Only the following are approved for use with 90 and 120 minute ITT doorsets,* AR8680.

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.

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CERTIFICATE No CF 369
HOPPE (UK) LIMITED

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

      i) Door frame 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 density - 640 kg/m³.

   a. Steel-based assemblies (MM/IMM)

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

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7. For 90 minute and 120 minute timber based assemblies (ITT), the 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 'Interdens' 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 Hoppe 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	5 mm dia. Minimum
Length	No shorter than that tested (30mm)
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 Hoppe 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 door assemblies, the required additional intumescent protection will be as follows:

   i) The required protection for 30 minute ITT applications will be 1 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material (see 'Scope of Approval' below) behind both blades.

   ii) The required protection for 60 minute ITT applications will be 2 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material (see 'Scope of Approval' below) behind both blades.

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iii) 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 tested, 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 intumescent protection identified above 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. Regard should be paid to the maximum door mass permitted to be used with the hinge (see classifications).

11. For ITT timber based doorsets the hinges shall only be fitted using the fixings supplied by the hinge manufacturer.

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

13. This approval is applicable only to the specified hinges when mounted in the applications stated and used with door assemblies that are CERTIFIRE approved 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.

14. 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; and the required specification/design based on the key materials/ maximum size 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.

15. 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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CERTIFICATE No CF 369
HOPPE (UK) LIMITED

16. The following table show acceptable doorset types and fire resistance periods;

	Approved Door Type			
Class	**IMM**	**MM**	**ITT**	**ITM**
BS 476-22				
FD20	✓	✓	✓*	✗
FD30	✓	✓	✓*	✗
FD60	✓	✓	✓**	✗
FD90	✓	✓	✓***	✗
FD120	✓	✓	✓***	✗
FD240	✓	✓	✗	✗
EN 1634-1				
Integrity	**IMM**	**MM**	**ITT**	**ITM**
20	✓	✓	✓*	✗
30	✓	✓	✓*	✗
60	✓	✓	✓**	✗
90	✓	✓	✓***	✗
120	✓	✓	✓***	✗
240	✓	✓	✗	✗
Integrity/insulation	**IMM**	**MM**	**ITT**	**ITM**
20	✓	✓	✓*	✗
30	✓	✓	✓*	✗
60	✓	✓	✓**	✗
90	✓	✓	✓***	✗
120	✓	✓	✓***	✗
240	✓	✓	✗	✗

Key:

✓ - approved

✗ - Not approved

✓* * *Only the following are approved for use with 20 and 30 minute ITT doorsets,* AR8180, AR8182, AR8186, AR8187 *and AR8180 - DC.*

✓** ** *Only the following are approved for use with 60 minute ITT doorsets,* AR8180, AR8182, AR8186, AR8187, AR8680 *and AR8180 - DC.*

✓*** *** *Only the following are approved for use with 90 and 120 minute ITT doorsets,* AR8680

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17. Doors are classified 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.

Scope of Approval:

- The hinges may not be fitted to timber doorsets without perimeter intumescent fire seals within the frame rebate.
- 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 with steel hinges of a minimum size of 102 mm x 76 mm.
- As identified in Annex E of EN1935, where doors incorporate closers without backcheck the effective door mass should assumed to be 20% higher than the actual door mass. For back-check closers the effective door mass should assumed to be 75 % higher than the actual door mass.
- AR8180, AR8182, AR8186, AR8187 *and AR8180 – DC are approved for use with 20 and 30 minute ITT doorsets.*
- AR8180, AR8182, AR8186, AR8187, AR8680 *and AR8180 – DC are approved for use with 60 minute ITT doorsets.*
- AR8680 *are approved for use with 90 and 120 minute ITT doorsets,*

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Classification codes

The approval provides the following classifications for AR8180, AR8182, AR8184, AR8185, AR8187, AR8680 *and AR8180 - DC*:

4	7	6	1	1	4	0	13

The approval provides the following classifications for AR8186:

4	7	6	1	1	4	1	13

Further Information

Further information regarding the details contained in this certificate may be obtained from Hoppe (UK) Limited (Tel: 01902 484407).

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

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