CERTIFICATE OF APPROVAL
No CF 5231

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

N&C BUILDING MATERIALS

41-51 Freshwater Road, Romford, Essex RM8 1SP
Tel: 020 8586 4600 Fax: 020 8586 4646

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
N&C Building Materials Stainless Steel Ball 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: 30th January 2015
Reissued: 12th July 2021
Valid to: 27th June 2026

CERTIFICATE No CF 5231
N&C BUILDING MATERIALS

N&C Building Materials Stainless Steel Ball Bearing Hinges

1) This approval relates to the following N&C stainless steel, ball bearing single axis hinges:

Reference	Description
H0442716	SSS Finish, Ball Bearing Hinge CE Grade 13 - 102 x 76 x 3mm
H0442717	PSS Finish, Ball Bearing Hinge CE Grade 13 - 102 x 76 x 3mm
H0442718	PVD Finish, Ball Bearing Hinge CE Grade 13 - 102 x 76 x 3mm

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

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 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 up to 120 minutes (Code ITT).

Latched and unlatched, door assemblies consisting of uninsulated or insulated predominantly steel leaves, hung in steel frames with or without intumescent seals having a fire resistance up to 240 minutes (Code IMM/MM).

4) This approval relates to the use of the above single axis hinges in contributing to the fire resistance performance of timber/mineral based doorsets and steel based doorsets, as defined in BS EN 1634-1 or BS 476: Part 22: 1987.

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) Ongoing audit testing in accordance with TS24 requirements

Issued: 30th January 2015
Reissued: 12th July 2021
Valid to: 27th June 2026

CERTIFICATE No CF 5231
N&C BUILDING MATERIALS

N&C Building Materials Stainless Steel Ball Bearing Hinges

6) The door assembly shall be a CERTIFIRE approved product or have achieved the appropriate fire resistance performance when tested at a UKAS accredited laboratory in accordance with BS 476: Part 22: 1987 and/or BS EN 1634:1 with hinges of a similar size.

7) The hinges approved are stainless steel, ball bearing single axis, class 11 or 13. The hinges are of various finishes, grades of stainless steel and have square or radius corners. Only those hinges referenced above are approved by this certificate:

8) 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 and shall include hardwood timber lippings to the vertical edges having a minimum density of 640 kg/m³. 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 or graphite-based intumescent sheet material behind both blades.

b) FD60, E60 and EI60 applications (Code ITT) – Door leaves shall not less than 54 mm thick doors and shall include hardwood timber lippings to the vertical edges having a minimum density of 640 kg/m³. 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) All hinges must be bedded onto a 2 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material behind both blades.

a) Steel-based assemblies (MM/IMM)

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

b) Steel-based assemblies (MM/IMM)

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

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

Issued: 30th January 2015
Reissued: 12th July 2021
Valid to: 27th June 2026

CERTIFICATE No CF 5231
N&C BUILDING MATERIALS

N&C Building Materials Stainless Steel Ball Bearing Hinges

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 N&C 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 3No. 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 N&C 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 and mineral-based assemblies (ITT).

10) 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.

11) Regard should be paid to the maximum door mass permitted to be used with the hinge (see classifications).

12) For ITT timber and mineral-based doorsets the hinges shall only be fitted using the fixings supplied by the hinge manufacturer.

13) The doorset shall be installed in accordance with BS 8214.

Issued: 30th January 2015
Reissued: 12th July 2021
Valid to: 27th June 2026

CERTIFICATE No CF 5231
N&C BUILDING MATERIALS

N&C Building Materials Stainless Steel Ball Bearing Hinges

14) The approval relates to ongoing 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.

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

	Approved Door Type					
Class	**IMM**	**MM**	**ITT**	**ITM**	**ITC**	**TM**
FD20	✓	✓	✓	✗	✗	✗
FD30	✓	✓	✓	✗	✗	✗
FD60	✓	✓	✓	✗	✗	✗
FD90	✓	✓	✓	✗	✗	✗
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

Issued: 30th January 2015
Reissued: 12th July 2021
Valid to: 27th June 2026

CERTIFICATE No CF 5231
N&C BUILDING MATERIALS

N&C Building Materials Stainless Steel Ball Bearing Hinges

16) Doors are classified as the following types:

Code ITT - 20 minute to 120 minute doorsets containing intumescent seals and consisting of timber faced and edged leaves with timber, cellulosic or mineral cores, hung in timber-based frames.

Code ITM - 20 minute to 120 minute doorsets containing intumescent seals and consisting of timber faced and edged leaves with timber, cellulosic or mineral cores, hung in metal frames.

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

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

Classification codes

The above approval provides the following classifications:

All hinge models

4	7	6	1	1	4	0	13

Issued: 30th January 2015
Reissued: 12th July 2021
Valid to: 27th June 2026

CERTIFICATE No CF 5231
N&C BUILDING MATERIALS

N&C Building Materials Stainless Steel Ball Bearing Hinges

Further Information

Further information regarding the details contained in this certificate may be obtained from N&C Building Materials (Tel: 020 8586 4600).

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

Issued: 30th January 2015
Reissued: 12th July 2021
Valid to: 27th June 2026