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## CERTIFICATE OF APPROVAL

### No CF 769

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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

## NICO MANUFACTURING LIMITED

109 Oxford Road, Clacton on Sea, Essex. CO15 3TJ

Tel: 01255 422333 Fax: 01255 432909

Have been assessed against the requirements of the Technical Schedule(s)  
denoted below and are approved for use subject to the conditions  
appended hereto:

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#### CERTIFIED PRODUCT

Nico High-Performance  
Architectural 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 Warringtonfire Testing and Certification Limited

Paul Duggan  
Certification Manager



Issued: 9<sup>th</sup> October 2020  
Valid to: 8<sup>th</sup> October 2025



## CERTIFICATE No CF 769 NICO MANUFACTURING LIMITED

### Nico Manufacturing Limited High-Performance Architectural Hinges

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 the following specific Nico high-performance, single axis hinges:

Ref.	Type	size mm	Material	Square (S) or Radiused (R)	EN1935 Grade
4513	Butt	89 x 88 x 2.6	Carbon Steel	R	10
4515	Strong Butt	101 x 74 x 2.6	Mild Steel	R & S	7
4535	Security Butt	101 x 74 x 2.6	Mild Steel	R & S	7
4542	Security Butt	102 x 90 x 2.6	Mild Steel	R	7
4710	LoadPro Lift-off	85 x 76 x 2.5	Mild Steel or 304 Stainless Steel	R	10
4715	LoadPro Lift-off	98 x 85 x 2.6	Mild Steel or 304 Stainless Steel	R	11
4717	LoadPro Lift-off	98 x 84 x 3	Mild Steel or 304 Stainless Steel	R	12
4718	LoadPro Security Lift-off	98 x 84 x 3	Mild Steel	R	12
4720	LoadPro Offset Lift-off	110 x 98 x 3	Mild Steel or 304 Stainless Steel	R	13
4722	LoadPro Symmetrical Lift-off	110 x 98 x 3	Mild Steel or 304 Stainless Steel	R	13
4715CZY	LoadPro Lift-off	98 x 85 x 2.6	Carbon steel	R	11
4715CZP	LoadPro Lift-off	98 x 85 x 2.6	Carbon steel	R	11
4815	LoadPro Bearing Butt	100 x 88 x 3	Mild Steel	R & S	12
4815	LoadPro Bearing Butt	100 x 88 x 3	304 Stainless steel	R & S	13
4817	LoadPro Butt	102 x 77 x 3	Mild Steel or 304 Stainless Steel	R & S	13
5315	Ball Bearing Butt	102 x 77 x 3	304 Stainless steel	R & S	13
5315 SEC	Ball Bearing Butt Security	102 x 77 x 3	304 Stainless steel	R	13
5315 T	Ball Bearing Butt	102 x 77 x 3	201 Stainless steel	R & S	13

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 up to 60 minutes (Code ITT).**



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4. 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
  
5. 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.
  
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. The following minimum specification will be followed:
  - a. 30 and 60 minute timber and mineral-based assemblies (ITT):
    - i) Door frame density - 460 kg/m<sup>3</sup> (30 minutes), 640 kg/m<sup>3</sup> (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/m<sup>3</sup>.
  
7. When fitted to insulated timber or mineral composite door assemblies, the required additional intumescent protection will be as follows:
  - i) ITT30 Applications
    - All hinges must be bedded onto a 1 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet (see 'Scope of Approval' below) material behind both blades

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#### ii) ITT60 Applications

- The 4000 series of hinges must be bedded on a 1 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material behind both blades, with a minimum of 6.5 mm of perimeter intumescent by-passing the hinge blades, or 2 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material behind both blades (no requirement for perimeter intumescent to by-pass).
- The 5000 series of hinges must be bedded on a 2 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material behind both blades (no requirement for perimeter intumescent to by-pass).

#### Failure to install the protection will invalidate 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
9. Regard should be paid to the maximum door mass permitted to be used with the hinge (see classifications).
10. For ITT timber and mineral-based doorsets the hinges shall only be fitted using the fixings supplied by the hinge manufacturer.
11. The ITT doorsets shall be installed in accordance with BS 8214.
12. 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.
13. The doorset shall be installed in accordance with BS 8214.
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:

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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16. 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 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 approval provides the following classifications which are specific to the individual model variants:

Hinge models: 4535, 4542 and 4515:

2	7	2	1	1	1/3/4	0	7
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**Nico Manufacturing Limited High Performance Architectural Hinges**

**Classification codes (continued)**

Hinge models: 4513 & 4710:

2	7	3	1	1	1/3/4	0	10
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Hinge models: 4715 – Mild steel:

3	7	4	1	1	1/3/4	0	11
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Hinge models: 4715C – Carbon steel:

3	7	4	1	1	4	0	11
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Hinge models: 4715 – Stainless steel:

3	7	4	1	1	4	0	11
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Hinge models: 4717 & 4718:

4	7	5	1	1	1/3/4	0	12
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Hinge models: 4720 & 4722 – Mild steel:

4	7	6	1	1	1/3/4	0	13
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Hinge models: 4720 & 4722 – Stainless steel:

4	7	6	1	1	4	0	13
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Hinge models: 4815 – Mild steel

4	7	5	1	1	1/3/4	0	12
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**Classification codes (continued)**

Hinge models: 4815 – Stainless steel

4	7	6	1	1	4	0	13
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Hinge models – Mild Steel: 4817:

4	7	6	1	1	1/3/4	0	13
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Hinge models – Stainless Steel: 4817:

4	7	6	1	1	4	0	13
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Hinge models: 5315, 5315 SEC & 5315 T:

4	7	6	1	1	4	0	13
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Note: the EN1935 corrosion grade of mild steel hinges will vary depending on the final finish:

- EB & NP = Grade 1
- SN & ZP = Grade 3
- C, CH, PB, S5 & ZY = Grade 4

**Further Information**

Further information regarding the details contained in this certificate may be obtained from Nico Manufacturing Limited (Tel: 01255 422333).

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

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