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## CERTIFICATE OF APPROVAL

### No CF 5581

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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

## BREUER & SCHMITZ GMBH & CO KG

Monhofer Str. 1, 42697, Germany  
Tel: +49 212 3960

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

BSW (RD) 804, V (RD) 804, RD  
818, P RD 818 and V RD 818  
Friction Bearing Hinge Range

#### 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: 1<sup>st</sup> December 2017  
Reissued: 18<sup>th</sup> March 2023  
Valid to: 17<sup>th</sup> March 2028



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## CERTIFICATE No CF 5581 BREUER & SCHMITZ GMBH & CO KG

### BSW (RD) 804, V (RD) 804, RD 818, P RD 818 and V RD 818 Friction Bearing Hinge Range

1. This approval relates to the use of BSW (RD) 804, V (RD) 804, RD 818 and V RD 818 bearing hinges. The approved range is as follows:

Reference	Dimension	Description
<b>(RD) 804</b>	102 x 76 x 3 mm	Mild Steel or Stainless Steel heavy duty friction-bearing hinge
	102 x 89 x 3 mm	
	102 x 102 x 3 mm	
	114 x 89 x 3 mm	
	114 x 102 x 3 mm	
	114 x 114 x 3 mm*	
	127 x 114 x 3 mm*	
	127 x 89 x 3 mm	
<b>V (RD) 804</b>	102 x 89 x 3 mm	Mild Steel or Stainless Steel heavy duty friction-bearing hinge with security stud
	114 x 89 x 3 mm	
	114 x 102 x 3 mm	
	114 x 114 x 3 mm*	
<b>RD 818</b>	89 x 89 x 3 mm	Mild Steel or Stainless Steel friction-bearing hinge with offset knuckle
	89 x 102 x 3 mm	
<b>V RD 818</b>	89 x 80 x 3 mm	Mild Steel or Stainless Steel friction-bearing hinge with offset knuckle and security stud
	89 x 89 x 3 mm	
	89 x 102 x 3 mm	
<b>P RD 818</b>	89 x 80 x 3 mm	Mild Steel or Stainless Steel friction-bearing hinge with offset knuckle and safety hooks
	89 x 89 x 3 mm	
	89 x 102 x 3 mm	
<b>002-208</b>	114 x 84 x 3 mm	Stainless steel heavy duty friction-bearing hinge

The BSW friction-bearing hinges are mild steel or stainless steel (as identified above), single axis, Grade 12 to EN1935. All hinges are available with either square or radiused corners, and are available in a range of finishes

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.





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#### BSW (RD) 804, V (RD) 804, RD 818, P RD 818 and V RD 818 Friction Bearing Hinge Range

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 120 minutes (Code ITT)\*.**

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

*\*114 mm wide hinges are not approved for use on 20 minute and 30 minute ITT door assemblies*

4. 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.

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 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 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>.

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### BSW (RD) 804, V (RD) 804, RD 818, P RD 818 and V RD 818 Friction Bearing Hinge Range

- 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 and mineral-based assemblies (ITT), BSW 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 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 BSW 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
<b>Hinge blade</b>	
Width	+0/-5% of tested hinge
Height	+/-20% of tested hinge
Thickness	+/-15% of tested hinge
<b>Knuckle</b>	
Diameter	Minimum 15 mm
<b>Fixings</b>	
Quantity	Maximum 4No. fixings tested
Size	5.1 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 BSW 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).





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#### BSW (RD) 804, V (RD) 804, RD 818, P RD 818 and V RD 818 Friction Bearing Hinge Range

6. When fitted to insulated timber or mineral composite door assemblies, the required additional intumescent protection will be as follows:
- i) 30 minute ITT applications - 1 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material behind both blades.
  - ii) 60 minute ITT applications - 2 mm thickness of mono ammonium phosphate or graphite-based intumescent sheet material behind both blades.
  - iii) 90 and 120 minute ITT applications - 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.
  - iv) 240 minute MM/IMM applications - no intumescent protection required.

*Failure to install the protection will invalidate this certificate*

8. The above 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.
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 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 minutes fire resistance performance when tested, or subsequently assessed to BS 476: Part 22: 1987 or EN 1634-1 with hinges of a similar size.
12. The ITT doorset shall be installed in accordance with BS 8214.
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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**BSW (RD) 804, V (RD) 804, RD 818, P RD 818 and V RD 818 Friction Bearing Hinge Range**

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

Class	Approved Door Type			
	IMM	MM	ITT	ITM
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
- ✓\* - 114 mm wide hinges are not approved for use on 20 minute and 30 minute ITT door assemblies



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#### BSW (RD) 804, V (RD) 804, RD 818, P RD 818 and V RD 818 Friction Bearing Hinge Range

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.

#### Scope of Approval:

- The hinges may not be fitted to timber doorsets without perimeter intumescent fire seals within the frame rebate or door edge.
- 114 mm wide hinges are not approved for use on 20 minute and 30 minute ITT door assemblies.
- 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, with steel hinges of a minimum size of 100 mm x 75 mm.

#### Classification codes

The approval provides the following classifications:

(RD) 804:

4	7	5	1	1	0*	0	12
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*\*Classification is dependent on hinge material and finish*





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**BSW (RD) 804, V (RD) 804, RD 818, P RD 818 and V RD 818 Friction Bearing Hinge Range**

**Classification codes – Continued:**

V (RD) 804:

4	7	7	1	1	0*	1	12
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RD 818:

4	7	6	1	1	0*	0	12
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V RD 818:

4	7	6	1	1	0*	1	12
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P RD 818:

4	7	6	1	1	0*	1	12
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002-208:

4	7	7	1	1	0*	1	12
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*\*Classification is dependent on hinge material and finish*

**Further Information**

Further information regarding the details contained in this certificate may be obtained from BREUER & SCHMITZ GMBH & CO KG (Tel: +49 212 3960).

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

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