CERTIFICATE OF APPROVAL
No CF 5810

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

SIMONSWERK GmbH
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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
TECTUS Concealed Adjustable Hinge Range	**The Contribution Of Variable Geometry Unsprung And Concealed Hinges To The Performance Of Fire Resisting Door Assemblies**

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Duggan
Certification Manager

Issued:	22nd December 2021
Revised:	10th January 2022
Audit Test Frequency:	Annually
Valid to:	21st December 2026

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TECTUS Concealed Adjustable Hinge Range

1. This approval relates to the use of the following specific Simonswerk concealed adjustable hinges:

Ref.	*Type*	*Size mm*	*Description*	*Fire Rating*
TECTUS TE 340 3D FR	Zinc Body /Aluminium Arm	160 x 28	Integral Intumescent Kit*	30 mins
TECTUS TE 540 3D FR	Zinc Body /Aluminium Arm	200 x 32	Integral Intumescent Kit*	30 mins
TECTUS TE 640 3D FR	Zinc Body /Aluminium Arm	240 x 32	Integral Intumescent Kit*	30 mins
TECTUS TE 540 A8 3D FR	Zinc Body /Aluminium Arm	200 x 32/37	Integral Intumescent Kit*	30 mins
TECTUS TE 640 A8 3D FR	Zinc Body /Aluminium Arm	240 x 32/37	Integral Intumescent Kit*	30 mins
TECTUS TE 541 3D FVZ	Zinc Body /Aluminium Arm	185 x 28/32		30 mins
TECTUS TE 340 3D ENERGY	Zinc Body /Aluminium Arm	160 x 28	Conductor Hinge	30 mins
TECTUS TE 540 3D ENERGY	Zinc Body /Aluminium Arm	200 x 32	Conductor Hinge	30 mins
TECTUS TE 640 3D ENERGY	Zinc Body /Aluminium Arm	240 x 32	Conductor Hinge	30 mins
TECTUS TE 540 A8 3D ENERGY	Zinc Body /Aluminium Arm	200 x 32/37	Conductor Hinge	30 mins
TECTUS TE 640 A8 3D ENERGY	Zinc Body /Aluminium Arm	240 x 32/37	Conductor Hinge	30 mins
TECTUS TE 526 3D	Stainless Steel Body / Arm	155 x 26	Stainless Steel	30 and 60 mins
TECTUS TE 527 3D	Steel Body /Steel Arm	155 x 26	Mild Steel	30 and 60 mins
TECTUS TE 526 3D ENERGY	Stainless Steel Body / Arm	155 x 26	Conductor Hinge	30 and 60 mins
TECTUS TE 527 3D ENERGY	Steel Body /Steel Arm	155 x 26	Conductor Hinge	30 and 60 mins

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 their use with the following door assemblies:-

Zinc Body /Aluminium Arm variants - 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 30 minutes only (Code ITT).

Stainless Steel/Steel Body/Arm variants - 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 30 and 60 minutes (Code ITT).

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

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5. The hinges are approved on the basis of:

   i) Initial type testing to EAD 020001-00—0405, and EN 1634-1
   ii) An appraisal against TS83
   iii) Certification of quality management system.
   iv) Inspection and surveillance of factory production control
   v) On-going audit testing in accordance with TS83 requirements

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.

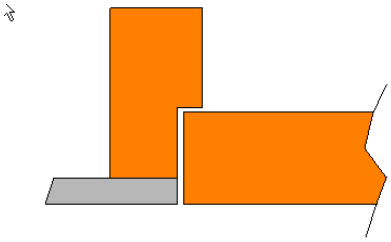
7. The hinges should only be used with door assemblies of proven fire resistance (as defined in BS EN 1634-1 or BS 476: Part 22: 1987) with hinges of a similar size, the critical aspects of the doorset construction are considered to be the material of the door frame, the leaf to frame clearance gaps 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. <u>All hinges except TE 541 3D FVZ</u> - 30 minute timber and mineral-based assemblies (ITT)<u>:</u>

      i) Door frame minimum density - 460 kg/m³
      ii) Door leaves shall have a minimum thickness of 44 mm
      iii) Lipping minimum density - 640 kg/m^3.

   b. <u>TE 541 3D FVZ only</u> - 30 minute timber and mineral-based assemblies (ITT):

      i) Door frame minimum density - 460 kg/m³ opening face of frame clad with a minimum of 12 mm plasterboard:



ii) Door leaves shall have a minimum thickness of 44 mm

iii) Lipping minimum density - 640 kg/m^3.

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c. TE526 and TE527 variants only - 60 minute timber and mineral-based assemblies (ITT):

i) Door frame minimum density - 640 kg/m^3 (60 minutes)

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

iii) Lipping minimum density - 640 kg/m^3.

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

i) ITT 30 – 'FR' variants – Intumescent protection is automatically incorporated with the hinge mechanism, therefore no additional intumescent is required.

ii) ITT 30 – 'FVZ' and 'ENERGY' variants – The appropriate Simonswerk kits consisting of Interdens mono ammonium phosphate intumescent sheet material as follows:

Hinge code	Intumescent kit	Thickness
TECTUS TE 541 3D FVZ	8821	1 mm to all faces of the body and 2 mm thickness behind the hinge forends
TECTUS TE 340 3D ENERGY	8825	2 mm to all faces of the body and behind the hinge forends
TECTUS TE 540 3D ENERGY	8823	2 mm to all faces of the body and behind the hinge forends
TECTUS TE 640 3D ENERGY	8824	2 mm to all faces of the body and behind the hinge forends
TECTUS TE 540 A8 3D ENERGY	8826	2 mm to all faces of the body and behind the hinge forends
TECTUS TE 640 A8 3D ENERGY	8827	2 mm to all faces of the body and behind the hinge forends

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TECTUS TE 527 3D	8820	1 mm to all faces of the body and behind the hinge forends
TECTUS TE 526 3D	8820	1 mm to all faces of the body and behind the hinge forends
TECTUS TE 527 3D ENERGY	8820	1 mm to all faces of the body and behind the hinge forends
TECTUS TE 526 3D ENERGY	8820	1 mm to all faces of the body and behind the hinge forends

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iii) ITT 60 – TE526 and TE527 variants only – Simonswerk kit '8820' consisting of 1 mm thick Interdens mono ammonium phosphate intumescent sheet material shall be incorporated to all faces of the body and behind the hinge forends. Additionally for ITT60 applications only the perimeter intumescent fire seal shall by-passed the hinge by a minimum of 15 mm.

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

11. For ITT timber and mineral-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. 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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14. The following table show acceptable doorset types and fire resistance periods:

	Approved Door Type				
Class	**IMM**	**MM**	**ITT**	**ITM**	**ITC**
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

✓* - TE526 and TE527 variants (stainless steel/steel body / Arm) variants only

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15. 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 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 the ‘‘FVZ’, ‘ENERGY’, TE526 and TE527 hinge variants are used the hinges shall be protected by the appropriate Interdens mono ammonium phosphate kit as identified previously.
    - Additionally for ITT60 applications only the perimeter intumescent fire seal shall by-passed the hinge by a minimum of 15 mm.

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Classification codes

The approval provides the following classifications:

Ref.	*Classification*							
TECTUS TE 340 3D FR	**3**	**7**	**4**	**1**	**1**	**4**	**0**	**11**
TECTUS TE 540 3D FR	**4**	**7**	**6**	**1**	**1**	**4**	**1**	**13**
TECTUS TE 640 3D FR	**4**	**7**	**6**	**1**	**1**	**4**	**1**	**14**
TECTUS TE 540 A8 3D FR	**4**	**7**	**5**	**1**	**1**	**4**	**1**	**12**
TECTUS TE 640 A8 3D FR	**4**	**7**	**7**	**1**	**1**	**4**	**1**	**14**
TECTUS TE 541 3D FVZ	**4**	**7**	**5**	**1**	**1**	**4**	**0**	**12**
TECTUS TE 340 3D ENERGY	**3**	**7**	**4**	**1**	**1**	**4**	**0**	**11**
TECTUS TE 540 3D ENERGY	**4**	**7**	**6**	**1**	**1**	**4**	**1**	**13**
TECTUS TE 640 3D ENERGY	**4**	**7**	**6**	**1**	**1**	**4**	**1**	**14**
TECTUS TE 540 A8 3D ENERGY	**4**	**7**	**5**	**1**	**1**	**4**	**1**	**12**
TECTUS TE 640 A8 3D ENERGY	**4**	**7**	**7**	**1**	**1**	**4**	**1**	**14**
TECTUS TE 527 3D	**4**	**7**	**6**	**1**	**1**	**4**	**0**	**13**
TECTUS TE 526 3D	**4**	**7**	**6**	**1**	**1**	**4**	**0**	**13**
TECTUS TE 527 3D ENERGY	**4**	**7**	**6**	**1**	**1**	**4**	**0**	**13**
TECTUS TE 526 3D ENERGY	**4**	**7**	**6**	**1**	**1**	**4**	**0**	**13**

Further Information

Further information regarding the details contained in this certificate may be obtained from SIMONSWERK GmbH (Tel: +49 5242 413 0).

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

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