

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-06/0180
of 1 March 2017

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

fischer TERMOZ 8 SV

Product family
to which the construction product belongs

Screwed-in plastic anchor for fixing of external thermal
insulation composite systems with rendering in concrete
and masonry

Manufacturer

fischerwerke GmbH & Co. KG
Klaus-Fischer-Straße 1
72178 Waldachtal
DEUTSCHLAND

Manufacturing plant

fischerwerke, Herstellwerk 1
fischerwerke, Herstellwerk 3

This European Technical Assessment
contains

12 pages including 3 annexes which form an integral part
of this assessment

This European Technical Assessment is
issued in accordance with Regulation (EU)
No 305/2011, on the basis of

European Assessment Document (EAD)
330335-00-0604

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Specific Part

1 Technical description of the product

The Fischer screwed-in anchor TERMOZ 8 SV consists of a two part anchor sleeve made of polyamide, an accompanying specific screw of galvanised steel or of galvanised steel with an additional Duplex-coating or of stainless steel and an accompanying insulation cover.

The serrated expanding part of the anchor sleeve is slotted.

The product description is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Mechanical resistance and stability (BWR 1)

| Essential characteristic | Performance |
|-----------------------------------|--------------|
| Characteristic tension resistance | See Annex C1 |
| Edge distances and spacing | See Annex B2 |
| Plate stiffness | See Annex C2 |
| Displacements | See Annex C2 |

3.2 Energy economy and heat retention (BWR 6)

| Essential characteristic | Performance |
|-----------------------------|--------------|
| Point thermal transmittance | See Annex C2 |

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD No. 330335-00-0604, the applicable European legal act is: [97/463/EC].

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided in the applicable European Assessment Document

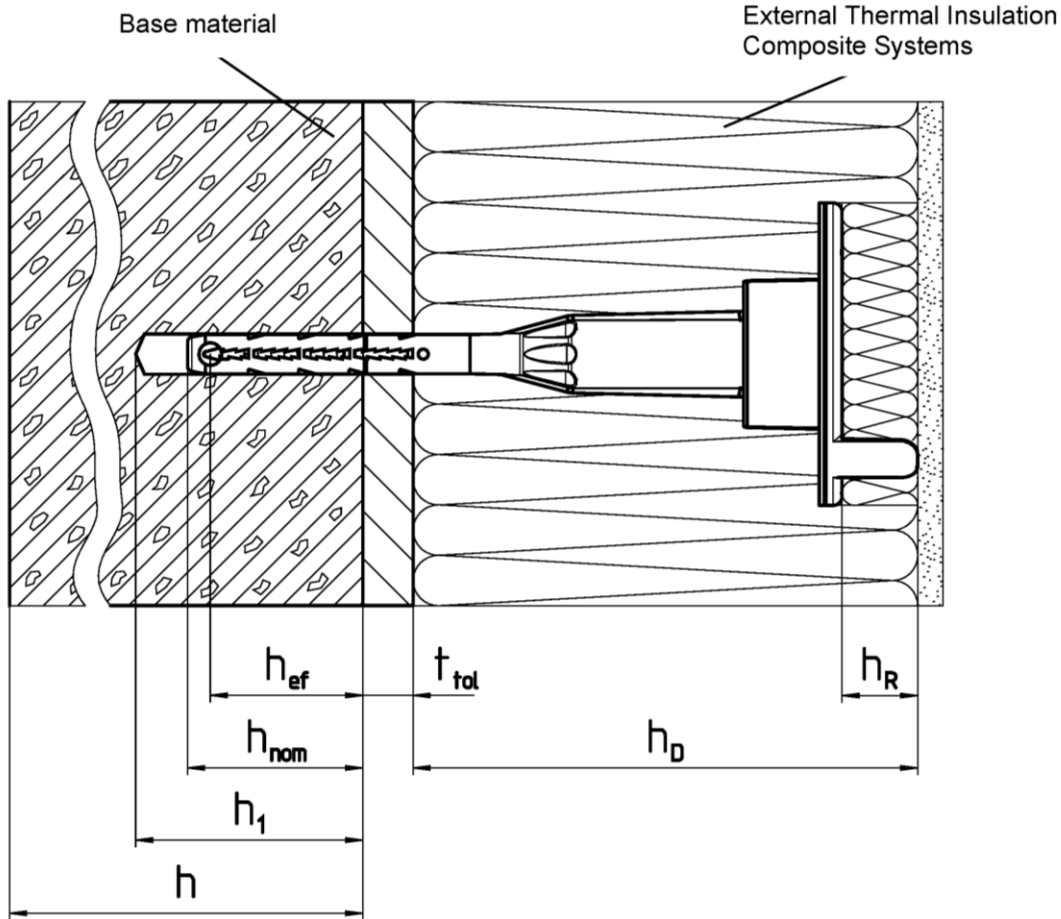
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 22 May 2017 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow
Head of Department

beglaubigt:
Ziegler

TERMOZ 8 SV



Intended use

Fixing of external thermal insulation composite systems (ETICS) in concrete and masonry

Legend

- h_{ef} = Effective anchorage depth
- h_{nom} = Overall embedment depth
- h_1 = Depth of drill hole in base material
- h = Thickness of base material
- h_D = Thickness of insulation material
- t_{tol} = Thickness of equalizing layer or non-load bearing coating
- h_R = Thickness of insulation cover

fischer screwed-in anchor TERMOZ 8 SV

Product description
Installed anchor

Annex A1

TERMOZ 8 SV

Screw

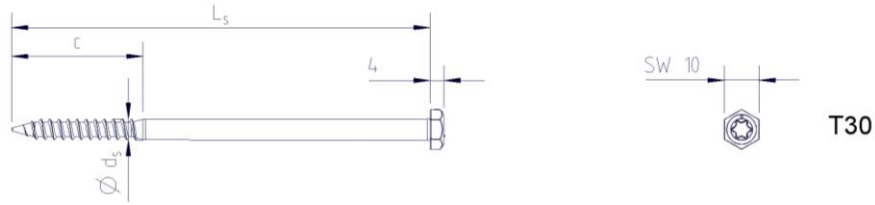
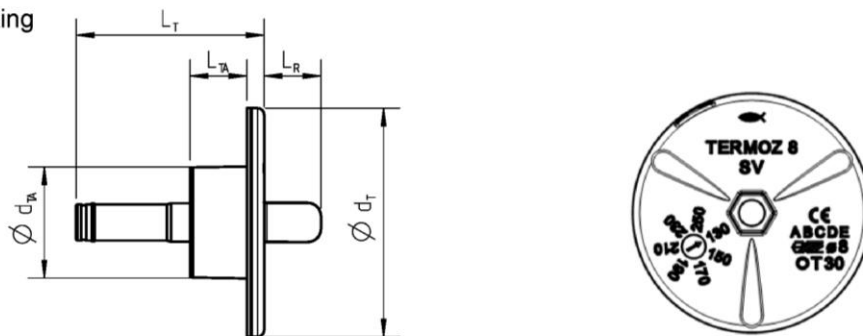
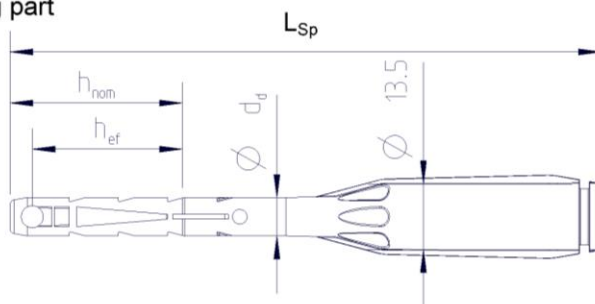


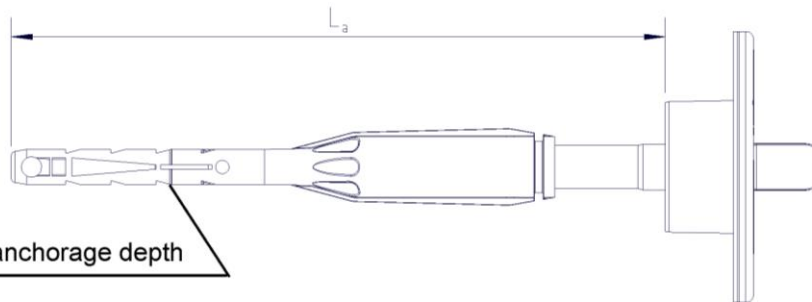
Plate and Marking



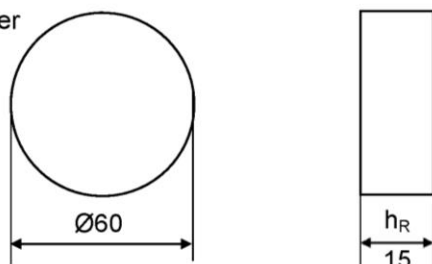
Expanding part



Assembling part



Insulation cover



fischer screwed-in anchor TERMOZ 8 SV

Product description
Anchor type and parts

Annex A2

Table A3.1 : Anchor type, parts and dimensions [mm]

| Anchor Type | Expanding part | | Screw | | | Plate part | | | | |
|-------------------|-------------------|----------|-------|-------|-----|------------|-------|-------------------|----------------------|----------|
| | $\varnothing d_d$ | L_{Sp} | L_S | d_S | c | L_T | L_R | $\varnothing d_T$ | $\varnothing d_{TA}$ | L_{TA} |
| TERMOZ 8 SV x 130 | 8 | 120 | 120 | 6 | 40 | 64,5 | 15 | 60 | 30 | 15 |
| TERMOZ 8 SV x 150 | | | 140 | | | 84,5 | | | | |
| TERMOZ 8 SV x 170 | | | 160 | | | 104,5 | | | | |
| TERMOZ 8 SV x 190 | | | 180 | | | 124,5 | | | | |
| TERMOZ 8 SV x 210 | | | 200 | | | 144,5 | | | | |
| TERMOZ 8 SV x 230 | | | 220 | | | 164,5 | | | | |
| TERMOZ 8 SV x 250 | | | 240 | | | 184,5 | | | | |

$$h_D = L_a - t_{tol} - h_{nom}$$

$$L_a = L_S + 25 \text{ mm}$$

Table A3.2: Materials

| Name | Material |
|------------------|---|
| Expanding part | Polyamide 6; colour grey |
| Plate part | Polyamide 6, GF; colour grey |
| Insulation cover | Polystyrol PS ≥ 15 Mineral wool Type HD |
| Screw | <ul style="list-style-type: none"> - Steel ($f_{uk} \geq 420 \text{ N/mm}^2$; $f_{yk} \geq 520 \text{ N/mm}^2$) gvz A2F acc. to EN ISO 4042 <li style="text-align: center;">or - Steel gvz A2F acc. to EN ISO 4042 + Duplex-coating type Delta-Seal in three layers (overall thickness $\geq 6\mu\text{m}$) <li style="text-align: center;">or - Stainless steel material No. 1.4401 or 1.4571 ($f_{uk} \geq 700 \text{ N/mm}^2$; $f_{yk} \geq 350 \text{ N/mm}^2$) |

fischer screwed-in anchor TERMOZ 8 SV

Product description
Anchor types, dimensions and material

Annex A3

Specifications of intended use

Anchorage subject to:

- The anchor may only be used for transmission of wind suction loads and shall not be used for the transmission of dead loads of the external thermal insulation composite system (ETICS).

Base materials:

- Normal weight concrete (use category A), according to Annex C1.
- Solid masonry (use category B), according to Annex C1.
- Hollow or perforated masonry (use category C), according to Annex C1.
- Lightweight aggregate concrete (use category D), according to Annex C1.
- Autoclaved aerated concrete (use category E), according to Annex C1.
- For other base materials of the use categories A, B, C, D and E the characteristic resistance of the anchor may be determined by job site tests acc. to EOTA Technical Report TR 051 Edition December 2016.

Temperature Range:

- 0°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C).

Design:

- The anchorages are designed in accordance with EAD 330335-00-0604 under the responsibility of an engineer experienced in anchorages and masonry work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchors is indicated on the design drawings.
- Fasteners are only to be used for multiple fixings of ETICS.

Installation:

- Drillmethod according to Annex C1.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters on the site.
- Installation temperature from 0°C to +40°C
- Exposure to UV due to solar radiation of the anchor not protected by rendering ≤ 6 weeks.

fischer screwed-in anchor TERMOZ 8 SV

Intended use
Specification

Annex B1

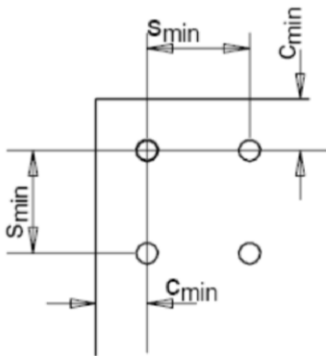
Table B2.1: Installation parameters

| | | | | |
|-------------------------------|-----------|---|------|------|
| Drill hole diameter | d_0 | = | [mm] | 8 |
| Cutting diameter of drill bit | d_{cut} | ≤ | [mm] | 8,45 |
| Depth of drill hole | h_1 | ≥ | [mm] | 45 |
| Effective anchorage depth | h_{ef} | ≥ | [mm] | 30 |
| Nominal anchorage depth | h_{nom} | ≥ | [mm] | 35 |

Table B2.2: Minimum distances and spacing

| | | | | |
|-----------------------------|-----------|---|------|-----|
| Minimum thickness of member | h | = | [mm] | 100 |
| Minimum spacing | s_{min} | = | [mm] | 100 |
| Minimum edge distance | c_{min} | = | [mm] | 100 |

Scheme of distance and spacing

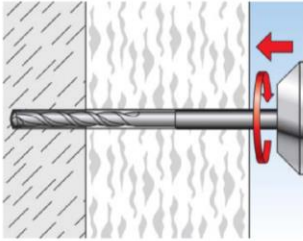


fischer screwed-in anchor TERMOZ 8 SV

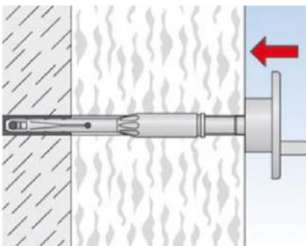
Intended use
Installation parameters
Minimum distances and spacing

Annex B2

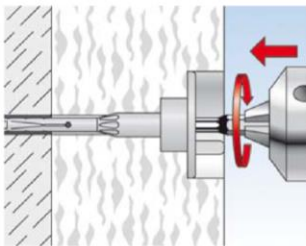
Installation instructions



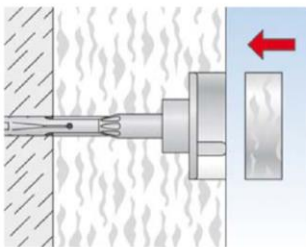
1. Drill the bore hole acc. to Table B2.1 using the drill method described in the corresponding Annex C1.



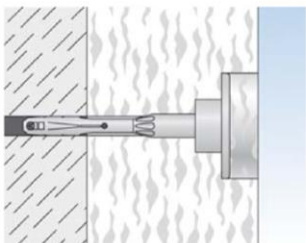
2. Insert anchor manually. Setting is finished when the surface of the ring is flush with the surface of the insulation material.



3. Set anchor by screwdriver with the correct bit until the plastic element at the plate part is flat with the insulation surface.



4. Put on polystyrene or mineral wool cap.



5. Correctly installed anchor.

fischer screwed-in anchor TERMOZ 8 SV

Intended use
Installation instructions

Annex B3

Table C1.1: Characteristic resistance N_{Rk} in [kN] to tension load for a single anchor

| Base material | Use cat. ¹⁾ | Bulk density [kg/dm ³] | Min. compressive strength β [N/mm ²] | Remarks | Drill method ²⁾ | N_{Rk} [kN] |
|---|------------------------|---------------------------------------|--|--|----------------------------|------------------|
| Normal weight concrete C12/15 - C50/60 acc. to EN 206-1:2000 | A | - | - | - | H | 1,5 |
| Solid clay bricks, acc. to EN 771-1:2011, Mz | B | $\geq 2,0$ | 12 | Cross section reduced up to 15 % perforation vertically to the resting area | H | 1,5 |
| Calcium silicate solid bricks, acc. to EN 771-2:2011, KS | B | $\geq 1,8$ | 12 | Cross section reduced up to 15 % perforation vertically to the resting area | H | 1,5 |
| Lightweight concrete solid blocks, acc. to EN 771-3:2011, Vbl | B | $\geq 0,7$ | 4 | Cross section reduced up to 15% by perforation vertically to the resting area | R | 0,3 |
| Hollow calcium silicate brick, acc. to EN 771-2:2011, KSL | C | $\geq 1,4$ | 12 | Cross section reduced more than 15% and less than 50% by perforation vertically to the resting area. Exterior web thickness ≥ 24 mm | H | 1,5 |
| Vertically perforated clay bricks, acc. to EN 771-1:2011, HLz | C | $\geq 1,0$ | 12 | Cross section reduced more than 15% and less than 50% by perforation vertically to the resting area. Exterior web thickness ≥ 14 mm | R | 1,2 |
| Lightweight concrete hollow blocks, acc. to EN 771-3:2011, Hbl | C | $\geq 0,9$ | 2 | Cross section reduced more than 15% and less than 50% by perforation vertically to the resting area. Exterior web thickness ≥ 38 mm | R | 0,4 |
| Lightweight aggregate concrete, acc. to EN 1520:2011, LAC2 | D | $\geq 0,8$ | 2 | - | R | 0,2 |
| Autoclaved aerated concrete blocks, acc. to EN 771-4:2011, AAC | E | $\geq 0,5$ | 4 | - | R | 0,4 |
| Partial safety factor | | | | | γ_M ³⁾ | 2,0 |

¹⁾ See Annex B1

²⁾ R = Rotary drilling | H = Hammer drilling

³⁾ In absence of other national regulations

fischer screwed-in anchor TERMOZ 8 SV

Performance
Characteristic resistance

Annex C1

Table C2.1: Point thermal transmittance acc. to EOTA Technical Report TR 025 : 2007 – 06

| Anchor type | Thickness of insulation material h_D [mm] | Point thermal transmittance χ [W/K] |
|-------------|---|--|
| TERMOZ 8 SV | 80 - 220 | 0,002 |

Table C2.2: Plate stiffness acc. to EOTA Technical Report TR 026 : 2007 – 06

| Anchor type | Diameter of the anchor plate [mm] | Load resistance of the anchor plate [kN] | Plate stiffness [kN/mm] |
|-------------|-----------------------------------|--|-------------------------|
| TERMOZ 8 SV | 60 | 2,13 | 1,1 |

Table C2.3: Displacements

| Base material | Tension load F [kN] | Displacements δ [mm] |
|---|-----------------------|-----------------------------|
| Concrete C12/15 – C50/60, acc. to EN 206-1:2000 | 0,5 | < 0,5 |
| Lightweight concrete hollow blocks, acc. to EN 771-3:2011, Hbl | 0,13 | < 0,3 |
| Lightweight concrete solid blocks, acc. to EN 771-3:2011, Vbl | 0,1 | < 0,2 |
| Lightweight aggregate concrete, acc. to EN 1520:2011, LAC2 | 0,07 | < 0,2 |
| Autoclaved aerated concrete blocks, acc. to EN 771-4:2011, AAC | 0,13 | < 0,2 |
| Solid clay bricks, acc. to EN 771-1:2011, Mz | 0,5 | < 0,5 |
| Calcium silicate solid bricks, acc. to EN 771-2:2011, KS | 0,5 | < 0,5 |
| Vertically perforated clay bricks, acc. to EN 771-1:2011, HLz | 0,4 | < 0,4 |
| Hollow calcium silicate brick, acc. to EN 771-2:2011, KSL | 0,5 | < 0,5 |

fischer screwed-in anchor TERMOZ 8 SV

Performance
Point thermal transmittance, plate stiffness and displacements

Annex C2