**PRESTANDADEKLARATION**

**DoP: 0141**

för fischer FIF-CS-8 (Plastplugg för användning i betong och murverk) – **SV**

1. Produkttypens unika identifikationskod: **DoP: 0141**

2. Avsedd användning/avsedda användningar: **För användning i värmeisoleringssystem med putsskikt för bortledning av vinddrag , se bilaga, särskilt bilagor B 1 - B 3**

3. Tillverkare: **fischerwerke GmbH & Co. KG, Klaus-Fischer-Straße 1, 72178 Waldachtal, Tyskland**

4. Tillverkarens representant: **--**

5. System för bedömning och fortlöpande kontroll av prestanda: **2+**

6. Europeiskt bedömningsdokument: **330196-01-0604**

   Europeisk teknisk bedömning: **ETA-15/0006; 2018-05-31**

   Tekniskt bedömningsorgan: **ETA-Danmark A/S**

   Anmält/anmälda organ: **1343 – MPA Darmstadt**

7. Angiven prestanda:

**Mekanisk hållfasthet och stabilitet (BWR 1), Säkerhet i användningen (BWR 4)**

- **Viktiga kriterier: Se bilaga, i synnerhet bilagor C 1 - C 3**

**Säkerhet vid brand (BWR 2)**

- **EAD tillhandahåller inte bedömningskriterier, därför är ingen bedömning möjlig.**

8. Lämplig teknisk dokumentation och/eller särskild teknisk dokumentation: ---

Prestandan för ovanstående produkt överensstämmer med den angivna prestandan. Denna prestandadeklaration har utfärdats i enlighet med förordning (EU) nr 305/2011 på eget ansvar av den tillverkare som anges ovan.

Undertecknad på tillverkarens vägnar av:

Andreas Bucher, Dipl.-Ing.

Wolfgang Hengesbach, Dipl.-Ing., Dipl.-Wirtsch.-Ing.

Tumlingen, 2018-06-07

- Denna DoP har förberetts på olika språk. I händelse av tvist om tolkningen ska den engelska versionen alltid råda.
- Bilagan innehåller frivilliga och kompletterande information på engelska som överskrider (språk neutralt specificerade) lagkrav.

ETA-Danmark A/S
Göteborg Plads 1
DK-2150 Nordhavn
Tel. +45 72 24 59 00
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Authorised and notified according to Article 29 of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011

MEMBER OF EOTA

# European Technical Assessment ETA-15/0006 of 2018/05/31

I General Part

| | |
|---|---|
| **Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011:** ETA-Danmark A/S | |
| **Trade name of the construction product:** | fischer FIF-CS-8 |
| **Product family to which the above 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<br>Klaus-Fischer-Straße 1<br>DE-72178 Waldachtal |
| **Manufacturing plant:** | fischerwerke |
| **This European Technical Assessment contains:** | 14 pages including 3 annexes which form an integral part of the document |
| **This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:** | EAD 330196-01-0604 Plastic anchors made of virgin or non-virgin material for fixing of external thermal insulation composite systems with rendering |
| **This version replaces:** | The ETA with the same number issued on 2015-03-25 |

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (except the confidential Annexes referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

# II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

## 1 Technical description of product and intended use

**Technical description of the product**
The screwed-in anchor fischer FIF - CS 8 for fixing of external thermal insulation composite systems (ETICS) consists of an anchor sleeve made of polypropylene with a diameter of 8 mm and an insulation plate made of glass-fiber reinforced polyamide with a diameter of 60 mm. The color of the anchor sleeve is grey. The special compound screw is made of galvanized steel and glass-fiber reinforced polyamide. The anchor is expanded by screwing the screw into the sleeve. It is possible to install the anchor flush to the surface of the insulation.

The product description is given in Annex A.

## 2 Specification of the intended use in accordance with the applicable EAD

The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B1 to B3

The provisions made in this European Technical Assessment are based on an assumed intended working life of the anchor of 25 years.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body, 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 Characteristics of product

**Mechanical resistance and stability (BWR 1):**
The essential characteristics regarding mechanical resistance and stability are included under the Basic Works Requirement Safety in use.

**Safety in case of fire (BWR 2):**
No Performance determined

**Safety in use (BWR4):**
The essential characteristics are detailed in the Annex from C1 to C3.

**Sustainable use of natural resources (BWR7)**
No performance determined

Other Basic Requirements are not relevant.

**General aspects**
The verification of durability is part of testing of the essential characteristics. Durability is only ensured if the specifications of intended use according to Annex B are taken into account.

## 3.2 Methods of assessment

The assessment of fitness of the anchor for the intended use in relation to the requirements for mechanical resistance and stability and safety in use in the sense of the Basic Requirements 4 has been made in accordance with the EAD 330196-01-0604 Plastic anchors made of virgin or non-virgin material for fixing of external thermal insulation composite systems with rendering.

# 4 Assessment and verification of constancy of performance (AVCP)

## 4.1 AVCP system

According to the decision 97/463/EC of the European Commission, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

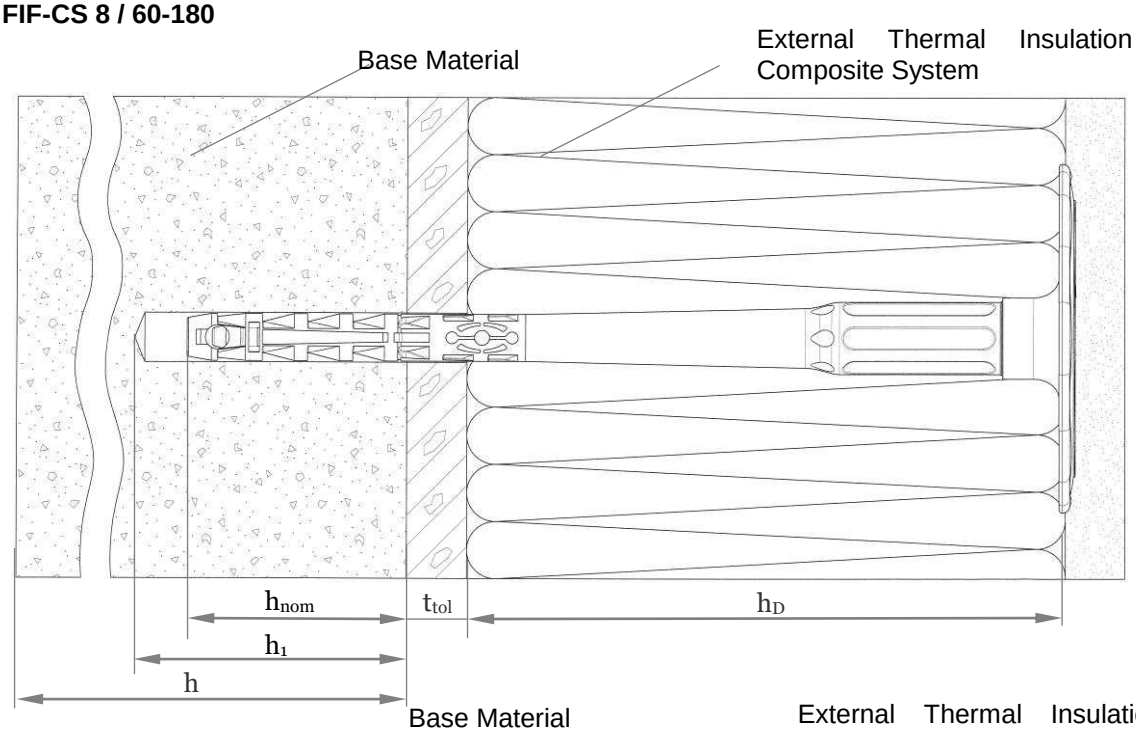
# 5 Technical details necessary for the implementation of the AVCP system, as foreseen in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking

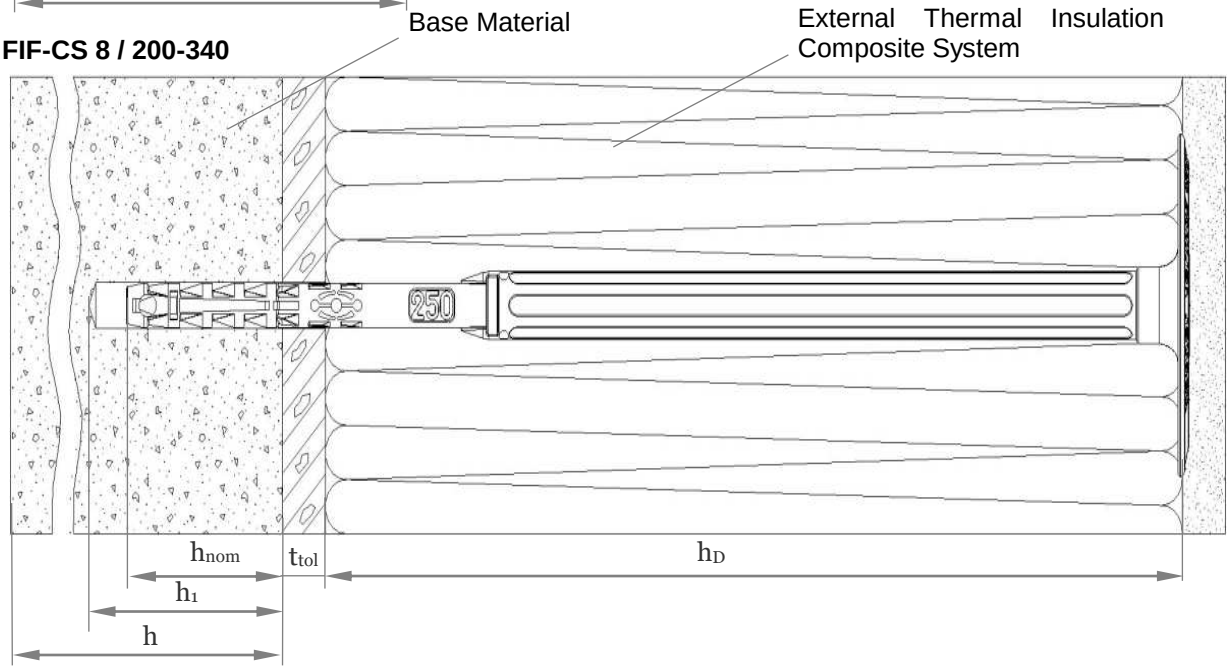
Issued in Copenhagen on 2018-05-31 by

Thomas Bruun
Managing Director, ETA-Danmark

**FIF-CS 8 / 60-180**




**FIF-CS 8 / 200-340**




**Legend**

$h_{nom}$ = Overall plastic anchor embedment depth in the base material

$h_1$ = Depth of drilled hole to deepest point

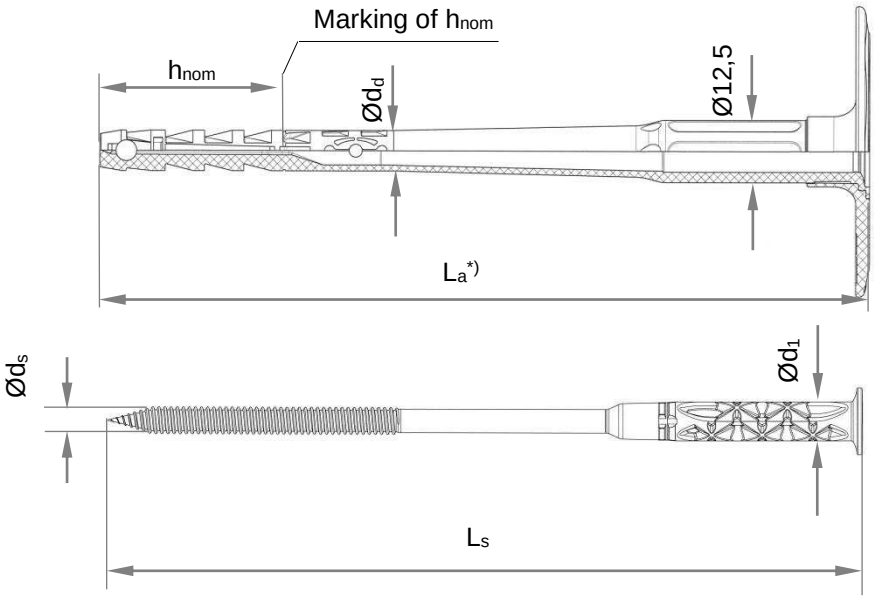
h = Thickness of member (wall)

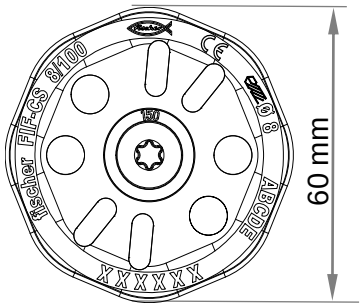
$h_D$ = Thickness of insulation material

$t_{tol}$ = Thickness of equalizing layer or non–load bearing coating

| | |
|---|---|
| **fischer FIF-CS-8** | **Annex A1** of European Technical Assessment ETA-15/0006 |
| Product description - Installed anchor | |

**Anchor sleeve / Specific screw for FIF-CS 8 / 60-180**

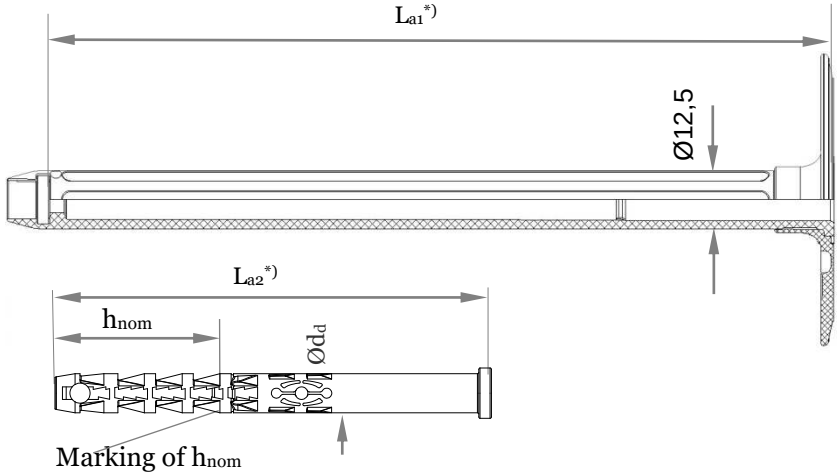


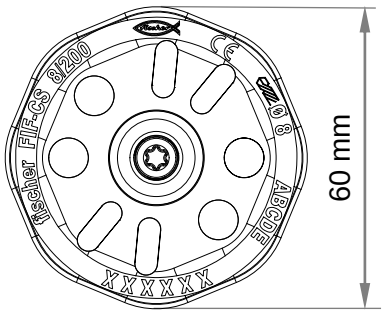




*) FIF-CS 8 / 60-180:
$110 \le L_a \le 230$

Thickness of insulation material:
$h_D = L_a - h_{nom} - t_{tol}$

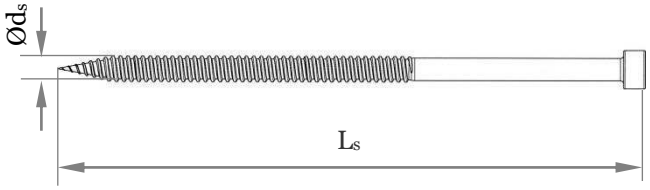
**Shaft / Anchor sleeve / Specific screw for FIF-CS 8 / 200-340**



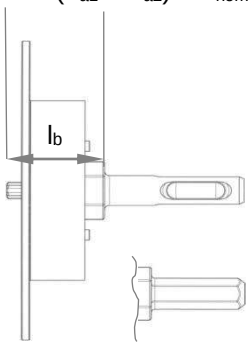




*) FIF-CS 8 / 200-340:
$250 \le L_a \le 390$

Thickness of insulation material: $h_D = (L_{a1} + L_{a2}) - h_{nom} - t_{tol}$




**Optional: plain surface setting**
Setting tool with long bit adapter or hexagonal adapter available




| | |
|---|---|
| **fischer FIF-CS-8** | **Annex A2** |
| Product description - Installed anchor | of European Technical Assessment ETA-15/0006 |

**Table A3.1: Marking**

| | **Designation** |
|---|---|
| Name and size of anchor | FIF-CS-8 |
| Example | **fischer FIF-CS-8 (optional) CE (optional) Ø 8 ABCDE (optional) and xxxxx additional marks possible** |

**Table A3.2: Dimensions [mm]**

| **Anchor type** | **Anchor sleeve** | | **Shaft** | | **Specific screw** | | | **Length of bits $l_b$** | |
|---|---|---|---|---|---|---|---|---|---|
| | Ø $d_d$ | $h_{nom}$ | $L_a$ | ($L_{a1}$+$L_{a2}$) | Ø $d_s$ | $l_s$ | Ø $d_1$ | $l_b$ [mm] | size |
| **FIF-CS 8 / 60-180** | 8 | 35 | 110-230 | - | 5,4 | $L_a$ | 8 | 30 | T30 |
| **FIF-CS 8 / 200-340** | 8 | 35 | - | 250-390 | 5,4 | ($L_{a1}$ + $L_{a2}$) – 155mm | - | 180 | T25 |
| **FIF-CS Renovation type 8 / 200-260** | 8 | 35 | - | 250-310 | 5,4 | ($L_{a1}$ + $L_{a2}$) – 75mm | - | 100 | T25 |

**Table A3.3: Materials**

| **Designation** | **Material** |
|---|---|
| Anchor sleeve | PP colour: grey |
| Shaft (FIF-CS-8 / 200-340) | PA6 GF colour: grey |
| Specific compound screw (FIF-CS-8 / 60-180)<br>or<br>specific screw (FIF-CS-8 / 200-340) | PA6 GF with Steel gal Zn A2G or A2F acc. to EN ISO 4042<br>Steel gal Zn A2G or A2F according to EN ISO 4042<br>or stainless steel 1.4362 duplex coating, 1.4401, 1.4571, 1.4529 acc. to EN 10088 |
| Anchor plate | PA6 GF colour: grey |

**Drawing of the slip-on plates**

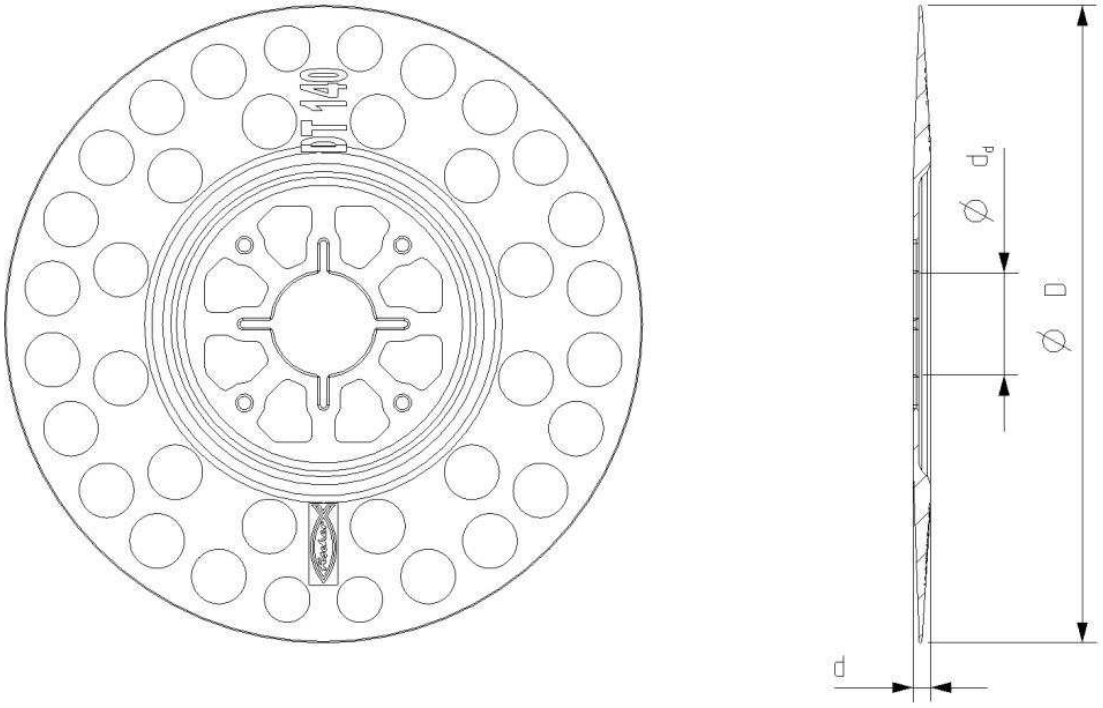



**Table A4.1: Slip-on plates, diameters and material**

| Slip-on plate | Ø D [mm] | Ø $d_d$ [mm] | d [mm] | Material |
|---|---|---|---|---|
| DT 90 / 110 / 140 | 90 / 110 / 140 | 22,5 | 3,9 | PA 6 GF |

## Specifications of intended use

**Anchorages 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 thermal insulation composite system.

**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.
- Hollow or perforated masonry (use category D), according to Annex C1.
- Hollow or perforated masonry (use category E), according to Annex C1.
- For other base materials of the use categories A, B, C, D or E the characteristic resistance of the anchor may be determined by job site tests according to EOTA Technical Report TR 051.

**Temperature Range:**

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

**Design:**

- The anchorages are designed under the responsibility of an engineer experienced in anchorages and masonry work with the partial safety factors $\gamma_M$ = 2,0 and $\gamma_F$ = 1,5, if there are no other national regulations.
- 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:**

- Drilling method 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℃ to +40℃
- Exposure to UV due to solar radiation of the anchor not protected by rendering ≤ 6 weeks

**Table B2.1: Installation parameters for use categories A, B, C, D and E**

| **Anchor type** | | | | **FIF-CS-8** |
|---|---|---|---|---|
| Nominal drill hole diameter | $d_0$ | = | [mm] | **8** |
| Cutting diameter of drill bit | $d_{cut}$ | ≤ | [mm] | **8,45** |
| Depth of drill hole to deepest point | $h_1$ | ≥ | [mm] | **45** |
| Overall plastic anchor embedment depth in the base material | $h_{nom}$ | ≥ | [mm] | **35** |

**Table B2.2: Installation parameters for cat. "C" only valid for tested masonry units (see Annex C1**

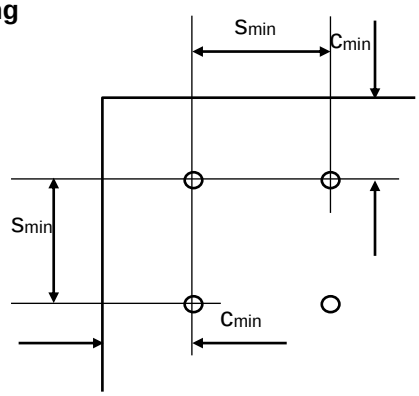
| **Anchor type** | | | | **FIF-CS** |
|---|---|---|---|---|
| Nominal drill hole diameter | $d_0$ | = | [mm] | **8** |
| Cutting diameter of drill bit | $d_{cut}$ | ≤ | [mm] | **8,45** |
| Depth of drill hole to deepest point | $h_1$ | ≥ | [mm] | **35** |
| Overall plastic anchor embedment depth in the base material | $h_{nom}$ | ≥ | [mm] | **25** |

**Table B2.3: Anchor distances and dimensions of members**

| **Anchor type** | | | | **FIF-CS** |
|---|---|---|---|---|
| Minimum thickness of member | $h^{1)}$ | ≥ | [mm] | **100** |
| Minimum spacing | $s_{min}$ | = | [mm] | **100** |
| Minimum edge distance | $c_{min}$ | = | [mm] | **100** |

1) not valid for weather shells acc. to C1

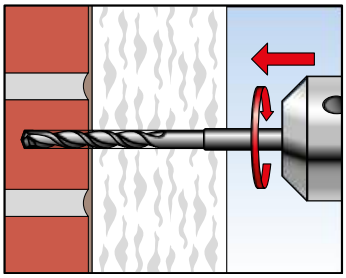
**Scheme of distances and spacing**



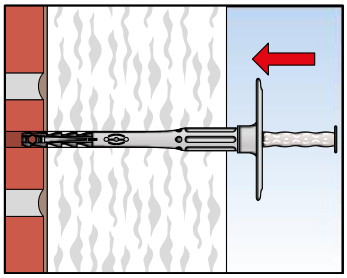

| **fischer FIF-CS-8** | **Annex B2** of European Technical Assessment ETA-15/0006 |
|---|---|
| Installation parameters for use categories | |

**Installation instructions**

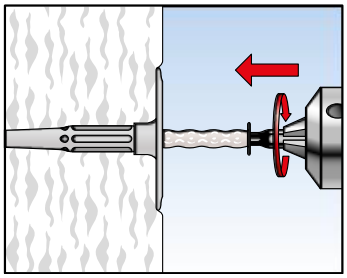
**Standard setting of anchor (plain surface)**



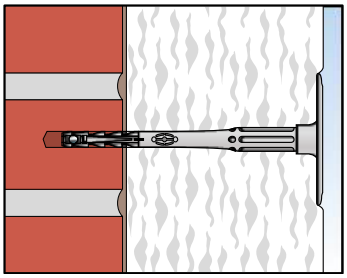
1. Drill hole by corresponding drilling method



2. Insert anchor manually



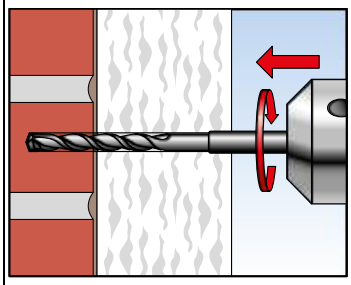
3. Set anchor by machine



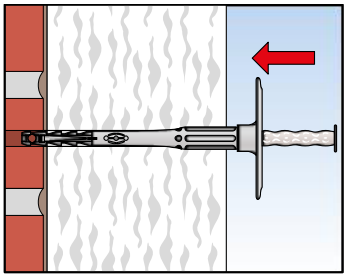
4. Correctly installed anchor

**Optional:**

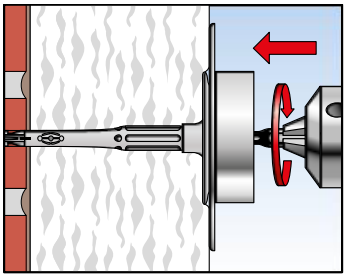
**Setting of anchor by setting tool**



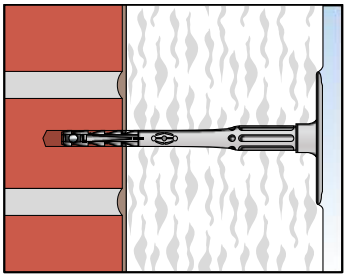
1. Drill hole by corresponding drilling method



2. Insert anchor manually



3. Set anchor by setting tool with the machine



4 .Correctly installed anchor

| | |
|---|---|
| **fischer FIF-CS-8** | **Annex B3** of European Technical Assessment ETA-15/0006 |
| Procedure | |

**Table C1.1: Char. resistance to tension loads NRk in concrete, masonry, LAC and AAC for a single anchor in kN**

| Base material | Use Cat. | Bulk density class ρ [kg/dm³] | Minimum compressive strength $f_b$ [N/mm²] | Remarks | Drill mode[1)] | Characteristic resistance FIF CS $N_{Rk}$ [kN] |
|---|---|---|---|---|---|---|
| Concrete<br>≥ C 12/15 - C 50/60 | A | - | | EN 206-1:2000 | H | **1,2** |
| Solid Clay bricks<br>e.g. acc. to<br>DIN 105-100:2012-01,<br>EN 771-1:2011, Mz | B | ≥ 1,8 | 20 | Cross section reduced up to 15% by perforation vertically to the resting area | H | **1,2** |
| Vertically perforated<br>clay bricks e.g. acc. to DIN 105-100:2012-01,<br>EN 771-1:2011, HLz | C | ≥ 1,0 | 12 | Cross section between 15% and 50% by perforation vertically to the resting area. Exterior web thickness ≥ 12 mm | R | **0,6[3)]** |
| Lightweight Aggregate Concrete<br>≥ LAC 6 | D | ≥ 0,9 | 6 | DIN EN 1520 | H | **0,6** |
| Autoclaved aerated concrete blocks, e.g. AAC acc. to<br>DIN V 4165-100:2005-10,<br>EN 771-4<br>hnom = 35mm | E | ≥ 0,50 | 4 | DIN V 4165-100 | R | **0,3** |
| Partial safety factor | | | | | $\gamma_M$[2)] | **2,0** |

1) H = Hammer drilling, R = Rotary drilling
2) In absence of other national regulations
3) Values also valid for reduced anchorage depth 25 mm (see Table B2.2)

**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 $\chi$ [W/K] |
|---|---|---|
| FIF-CS 8 / 60 – 180 flush mounted | 60 - 80 | 0,001 |
| | 100 - 180 | 0,002 |
| FIF-CS 8 / 200 – 340 flush mounted | 200 - max. | 0,001 |
| FIF-CS 8 / 200 - 260*) flush mounted | 200 - 220 | 0,001 |
| | 240 - 260 | 0,002 |

*) Renovation type

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

| Anchor type | Max. size of the anchor plate [mm] | Load resistance of the anchor plate [kN] | Plate stiffness [kN/mm] |
|---|---|---|---|
| FIF-CS-8 | 60 | 1,63 | 0,6 |

**Table C4: Displacements**

| Base material | Tension load $F_{Rd}$ [kN] | Displacements $\delta_m$ [mm] |
|---|---|---|
| Concrete ≥ C12/15 to C 50/60 (EN 206-1:2000) | 0,40 | < 0,3 |
| Clay brick DIN 105-100:2012-01, EN 771-1:2011, Mz 20 | 0,40 | < 0,3 |
| Vertically perforated Clay brick acc. to 105-100:2012-01, EN 771-1:2011, Hlz 12 | 0,20 | < 0,2 |
| Lightweight Aggregate Concrete ≥ LAC 6 DIN EN 1520 | 0,20 | < 0,2 |
| Autoclaved aerated concrete blocks acc. to DIN V 4165-100:2005-10 EN 771-4, AAC 4, $h_{nom}$ = 35 mm | 0,10 | < 0,1 |