**YDEEVNEDEKLARATION**

**Nr. 0010 – DA**

1. Varetypens unikke identifikationskode: **fischer FIF-CS-8**

2. Tilsigtet anvendelse:

| **Produkt** | **Anvendelsesområde/r** |
|---|---|
| Nylondübel til anvendelse i beton og murværk | Til fastgørelse af udvendig isolering med pudslag., Se appendiks, specifikt appendiks B 1 - B 3. |

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

4. Bemyndiget repræsentant: **--**

5. System eller systemer til vurdering og kontrol af konstansen af ydeevnen: **2+**

6a. Harmoniseret standard: ---

Notificeret organ/notificerede organer: ---

6b. Europæisk vurderingsdokument: **ETAG 014; 2011-02**

Europæisk teknisk vurdering: **ETA-15/0006; 2015-03-25**

Teknisk vurderingsorgan: **ETA-Danmark A/S**

Notificeret organ/notificerede organer: **1343 – MPA Darmstadt**

7. Deklareret ydeevne/deklarerede ydeevner:

**Sikkerhed ved anvendelse (BWR 4)**

| | |
|---|---|
| Vigtige karakteristika | Se appendiks, specifikt appendiks C 1 - C 3 |

8. Relevant teknisk dokumentation og/eller specifik teknisk dokumentation: ---

Ydeevnen for den vare, der er anført ovenfor, er i overensstemmelse med den deklarerede ydeevne. Denne ydeevnedeklaration er udarbejdet i overensstemmelse med forordning (EU) nr. 305/2011 på eneansvar af den fabrikant, der er anført ovenfor.

Underskrevet for fabrikanten og på dennes vegne af:

Andreas Bucher, Dipl.-Ing.

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

Tumlingen, 2015-04-09

- Denne DoP er tilgængelig i forskellige sprogversioner. I tilfælde af forskellige fortolkninger gælder den engelske version..
- Appendixet indeholder frivillige og udvidede informationer på engelsk. De overgår de lokale (sprogneutrale) retslige krav.

# 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

**Hygiene, health and the environment (BWR3):**
The product does not contain/release dangerous substances specified in TR 034, dated March 2012.

Regarding the dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

**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 Guideline for European Technical Assessment of "Plastic anchors for fixing of external thermal insulation composite systems with rendering", ETAG 014, Edition February 2011.

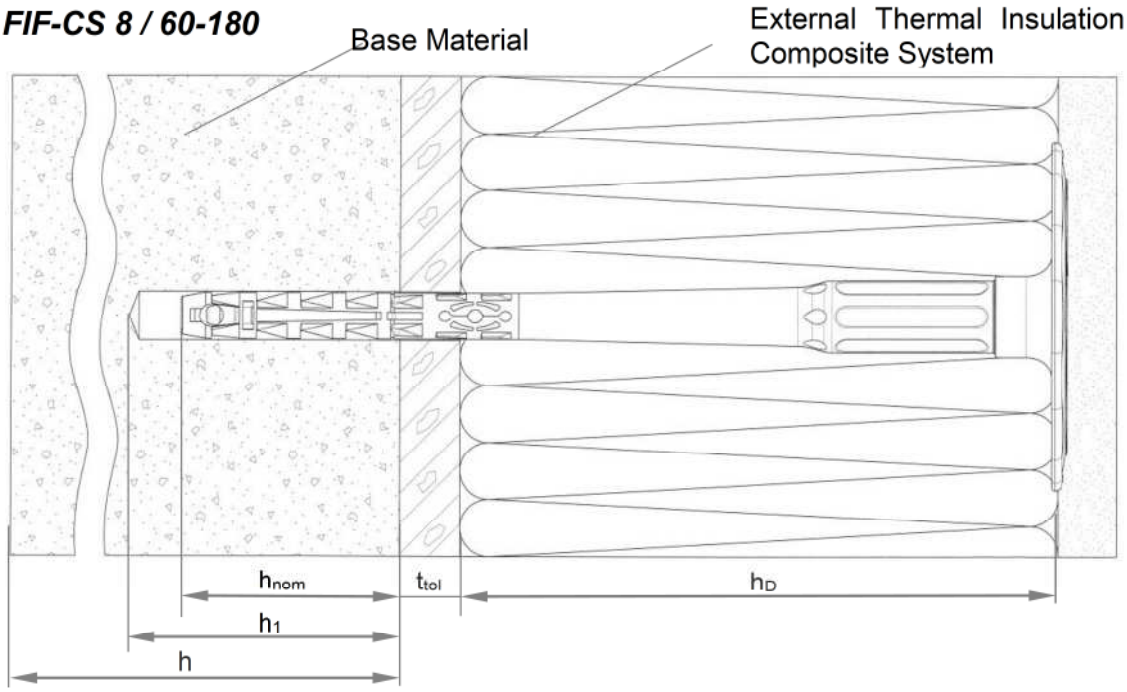
In addition to the specific clauses relating to dangerous substances contained in this European technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

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

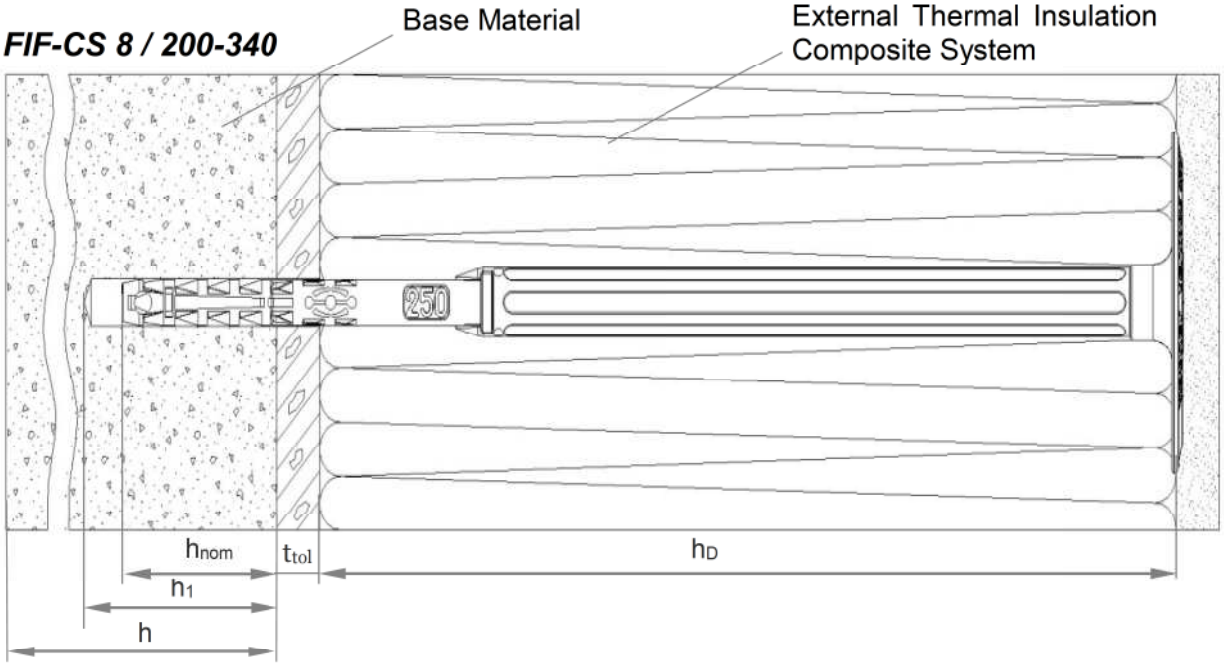
## 4.1 AVCP system

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+.

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




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

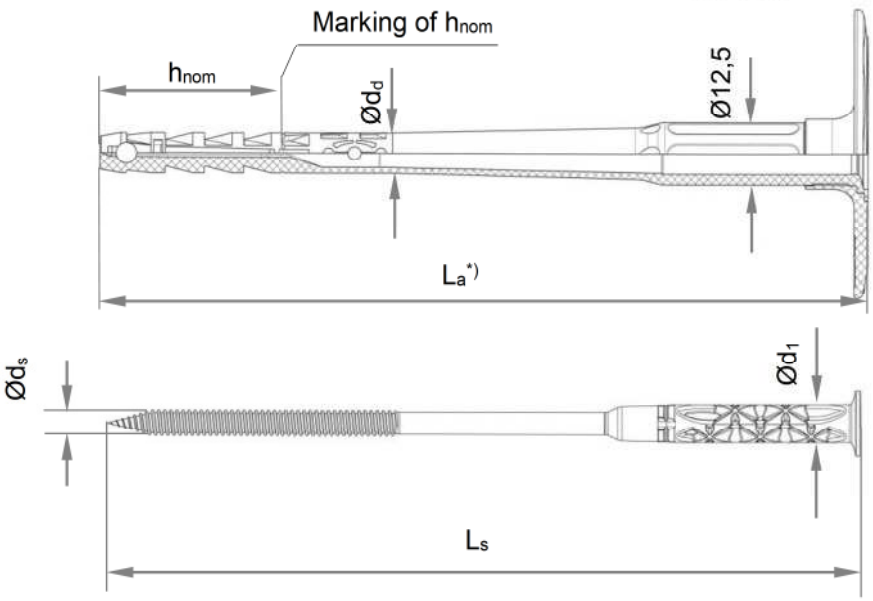


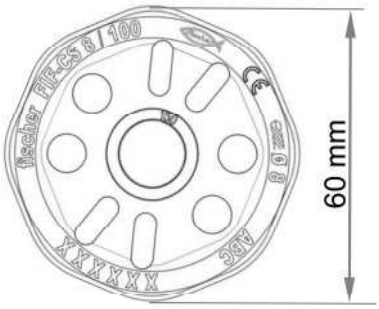

**Legend**

| | | |
|---|---|---|
| $h_{nom}$ | = | 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** |
| Product description - Installed anchor | |

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

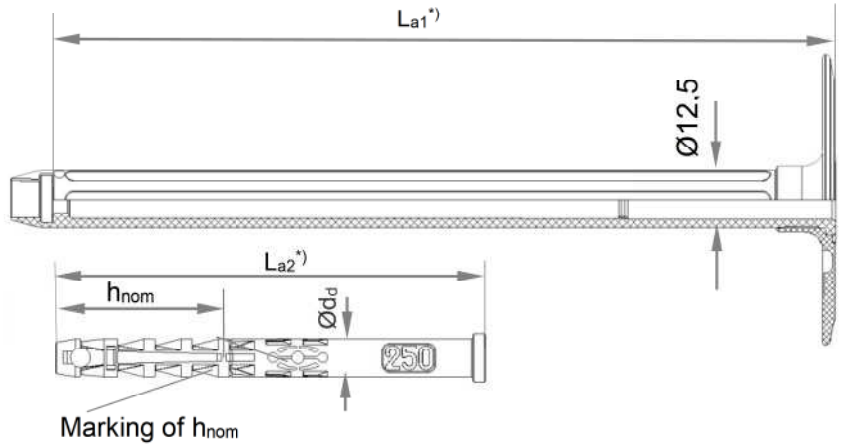


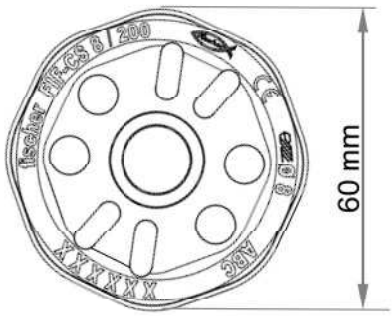




*) FIF-CS 8 / 60-180:
$110 \le L_a \le 230$

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

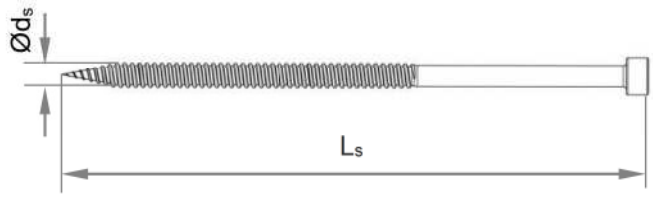
## Shaft / Anchor sleeve / Specific screw for FIF-CS 8 200-340



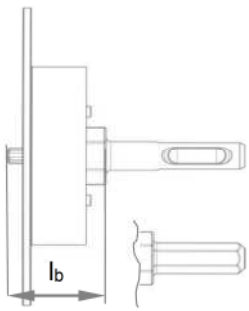




*) FIF-CS 8 / 200-340:
$250 \le L_a \le 390$

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 | |

**Table A1: Slip-on plates, diameters and material**

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

**Table A2: 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 8 Renovation type 200-260** | 8 | 35 | - | 250-310 | 5,4 | ($L_{a1}$ + $L_{a2}$) – 75mm | - | 100 | T25 |

**Table A3: 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 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**

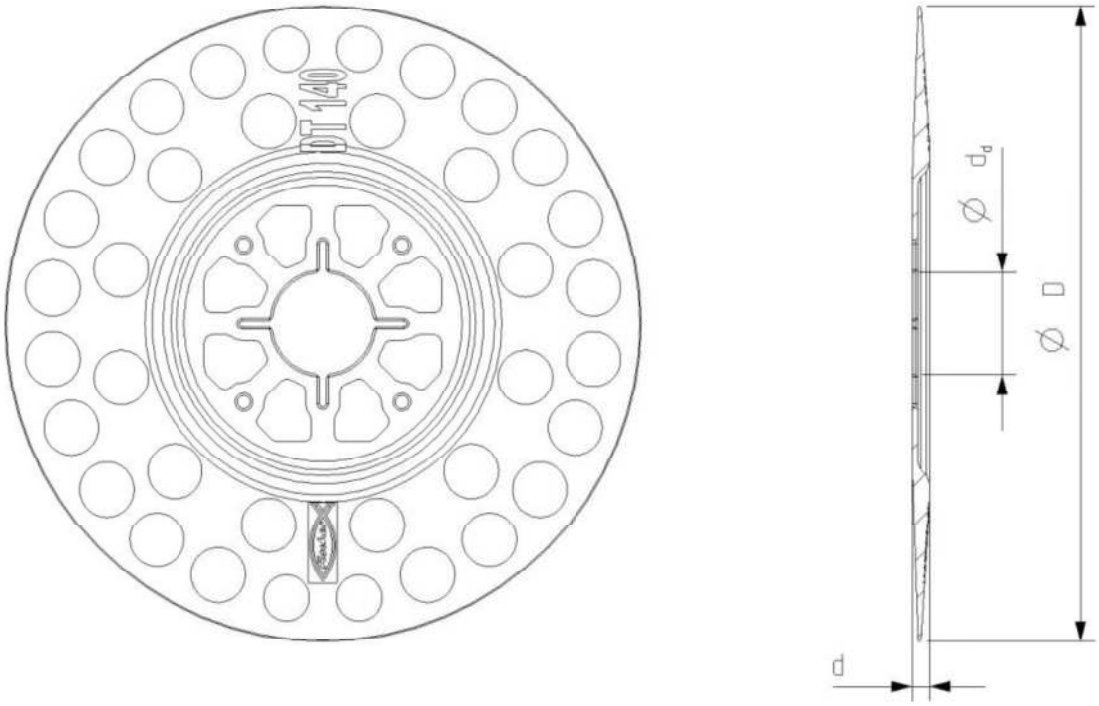



**Table A4: Slip-on plates, diameters and material**

| 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.
- For other base materials of the use categories A, B and C the characteristic resistance of the anchor may be determined by job site tests according to ETAG 014 Edition February 2011, Annex D.

**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 ETAG 014 Edition February 2011 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 for non-structural applications, according to ETAG 014 Edition February 2011.

**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°C to +40°C
- Exposure to UV due to solar radiation of the anchor not protected by rendering ≤ 6 weeks.

**Table B1: Installation parameters for use categories A, B and C**

| 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] | 45/55*) |
| Overall plastic anchor embedment depth in the base material | $h_{nom}$ | ≥ | [mm] | 35/45*) |

*) only valid for weather shall acc. to Annex C1

**Table B2: Installation parameters for cat. "C" only valid for tested masonry units (see Table C1 Annex 1)**

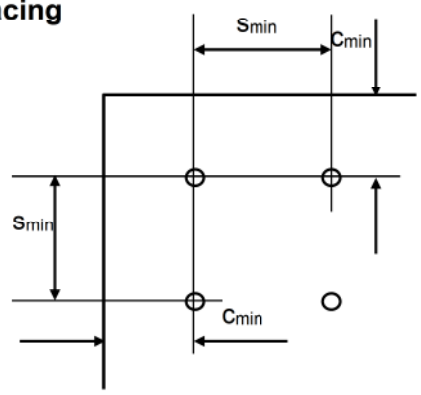
| Anchor type | | | | FIF-CS-8 |
|---|---|---|---|---|
| Nominal drill hole diameter | $d_0$ | = | [mm] | 8 |
| Cutting diameter of drill bit | $d_{cut}$ | ≤ | [mm] | 8,45 |
| Depth of drill hole to deepest point | $h_1$ | ≥ | [mm] | 35 |
| Overall plastic anchor embedment depth in the base material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

**Table B3: Anchor distances and dimensions of members**

| Anchor type | | | | FIF-CS-8 |
|---|---|---|---|---|
| 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

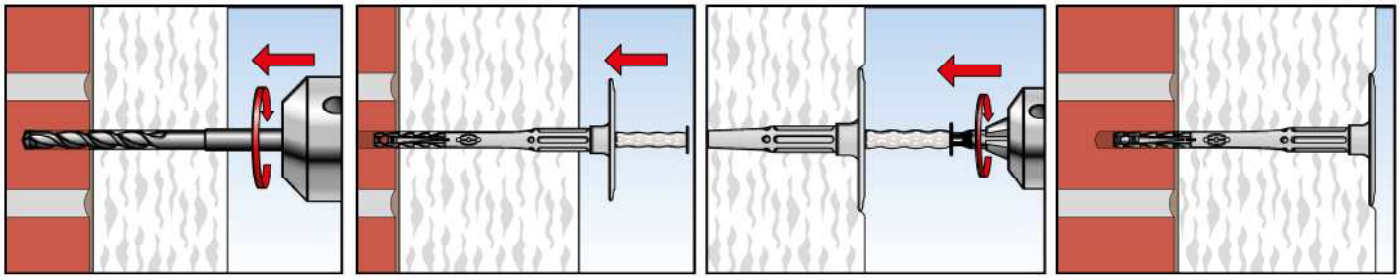
**Scheme of distances and spacing**




| fischer FIF-CS-8 | Annex B2 |
|---|---|
| Installation parameters for use categories | |

**Installation instructions**

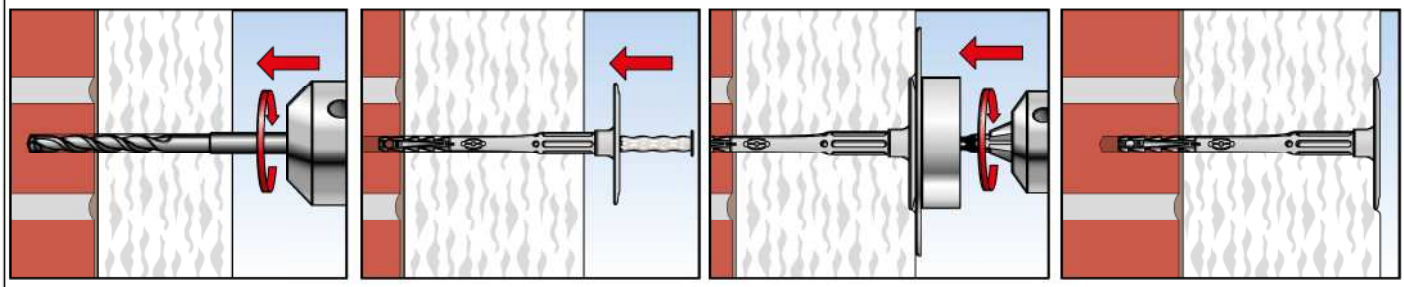
**Standard setting of anchor (plain surface)**



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** |
| Procedure | |

**Table C1: Characteristic resistance to tension loads $N_{Rk}$ in concrete and masonry for a single anchor**

| Base material | Bulk density class ρ [kg/dm³] | Minimum compressive strength $f_b$ [N/mm²] | Remarks | Drill mode[1] | Characteristic resistance FIF-CS 8 $N_{Rk}$ [kN] |
|---|---|---|---|---|---|
| Concrete ≥ C12/15 and < C 50/60 | - | | EN 206-1:2000 | H | **1,2** |
| Concrete C50/60 | | | | H | **1,5** |
| Weather resistant concrete shell ≥C20/25 | - | - | EN 206-1:2000 ; h≥ 42 mm | H | **1,2** |
| Weather resistant skins concrete C 50/60 | - | - | EN 206-1:2000 ; h≥ 42 mm | | **1,5** |
| Solid Clay bricks e.g. acc. to DIN 105-100:2012-01, EN 771-1:2011, Mz | ≥ 1,8 | 20 | Cross section reduced up to 15% by perforation vertically to the resting area | H | **1,5** |
| Calcium silicate solid bricks, e.g. acc. to DIN V 106:2005-10, EN 771-2:2011, KS | ≥ 1,8 | 20 | Cross section reduced up to 15% by perforation vertically to the resting area | H | **1,5** |
| | | 12 | | | **0,9** |
| Solid lightweight concrete block, e.g. acc. to DIN V 18152-100:2005-10 EN 771-3:2011 Vbl | ≥ 1,4 | 8 | Cross section reduced up to 10% by perforation vertically to the resting area | H | **0,5** |
| Solid concrete block, e.g. acc. to DIN V 18152-100:2005-10 EN 771-3:2011, Vbn | ≥ 2,0 | 20 | Cross section reduced up to 10% by perforation vertically to the resting area | H | **1,2** |
| | | 12 | | | **0,75** |
| Vertically perforated clay bricks e.g. acc. to DIN 105-100:2012-01, EN 771-1:2011, HLz | ≥ 1,0 | 12 | Cross section between 15% and 50% by perforation vertically to the resting area. Exterior web thickness ≥ 12 mm | R | **0,6** |
| | ≥ 1,6 | 48 | | | **1,5** |
| Hollow calcium silicate brick, acc. to DIN V 106:2005-10, EN 771-2:2011, KSL | ≥ 1,4 | 20 | Cross section more than 15% by perforation vertically to the resting area. Exterior web thickness ≥ 23 mm | H | **0,9** |
| | | 12 | | | **0,5** |
| Hollow brick light-weight concrete, e.g. acc. to DIN V 18153-100: 2005-10, EN 771-3:2011 | ≥ 0,9 | 4 | Exterior web thickness ≥ 20 mm | H | **0,5** |
| Hollow brick concrete, e.g. acc. to DIN V 18153-100: 2005-10, EN 771-3:2011 | ≥ 1,2 | 10 | Exterior web thickness ≥ 38 mm | H | **1,2** |
| | | 8 | | | **0,9** |
| | | 6 | | | **0,75** |
| | | 4 | | | **0,5** |
| Partial safety factor | | | | $\gamma_M$[2] | **2,0** |

1) H = Hammer drilling, R = Rotary drilling
2) In absence of other national regulatuions

Cat. "C" values valid for reduced anchorage depth 25mm

**Table C2: 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 C3: 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 (EN 206-1:2000) | 0,40 | < 0,3 |
| Concrete C50/60 (EN 206-1:2000) | 0,50 | < 0,3 |
| Weather resistant concrete shell ≥ C20/C25 (EN 206-1:2000) | 0,40 | < 0,4 |
| Weather resistant concrete shell C50/60 (EN 206 1:2000) | 0,50 | < 0,4 |
| Clay brick DIN 105-100:2012-01, EN 771-1:2011, Mz 20 | 0,50 | < 0,3 |
| Calcium silicate solid bricks DIN V 106:2005-10 EN 771-2 :2011,KS 20 | 0,50 | < 0,3 |
| Calcium silicate solid bricks DIN V 106:2005-10 EN 771-2 :2011,KS 12 | 0,30 | |
| Solid lightweight concrete block DIN V 18152-100:2005-10 EN 771-3 :2011,Vbl 8 | 0,17 | < 0,2 |

| fischer FIF-CS-8 | Annex C2 |
|---|---|
| Performance - Point thermal transmittance, plate stiffness and displacements | |

**Table C4.1: Displacements**

| Base material | Tension load $F_{Rd}$ [kN] | Displacements $\delta_m$ [mm] |
|---|---|---|
| Solid concrete block DIN V 18152-100:2005-10 EN 771-3:2011,Vbn 20 | 0,40 | < 0,3 |
| Solid concrete block DIN V 18152-100:2005-10 EN 771-3:2011,Vbn 12 | 0,25 | |
| Vertically perforated clay brick DIN 105-100:2012-01 EN 771-1:2011,Hlz 12 | 0,20 | < 0,2 |
| Vertically perforated clay brick DIN 105-100:2012-01 EN 771-1:2011,Hlz 48 | 0,50 | < 0,3 |
| Hollow calcium silicate brick DIN V 106:2005-10 EN 771-2:2011, KSL 20 | 0,30 | < 0,2 |
| Hollow calcium silicate brick DIN V 106:2005-10 EN 771-2:2011, KSL 12 | 0,17 | |
| Hollow brick light-weight concrete DIN V 18153-100: 2005-10 EN 771-3:2011, Hbl 4 | 0,17 | < 0,1 |
| Hollow brick concrete DIN V 18153-100: 2005-10 EN 771-3:2011, Hbn 10 | 0.40 | < 0,2 |
| Hollow brick concrete DIN V 18153-100: 2005-10 EN 771-3:2011, Hbn 8 | 0,30 | |
| Hollow brick concrete DIN V 18153-100: 2005-10 EN 771-3:2011, Hbn 6 | 0,25 | |
| Hollow brick concrete DIN V 18153-100: 2005-10 EN 771-3:2011, Hbn 4 | 0,17 | |