# ДЕКЛАРАЦИЯ ЗА ЕКСПЛОАТАЦИОННИ ПОКАЗАТЕЛИ

**DoP 0254**

за fischer FIF-CS-8 (Пластмасови анкери за употреба в бетон и мазилки) BG

| | | |
|---|---|---|
| 1. | Уникален идентификационен код на типа продукт: | **DoP 0254** |
| 2. | Предвидена употреба/употреби: | **Навивен пластмасов дюбел комплект с винт за фиксиране на външни топлоизолационни композитни системи (ETICS) с мазилка в бетон и зидария, виж Приложението, по-специално Приложения B1 - B3.** |
| 3. | Производител: | **fischerwerke GmbH & Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Германия** |
| 4. | Упълномощен представител: | **–** |
| 5. | Система/системи за оценяване и проверка на постоянството на експлоатационните показатели: | **2+** |
| 6. | Европейски документ за оценяване: | **EAD 330196-01-0604** |
| | Европейска техническа оценка: | **ETA-15/0006; 2018-05-31** |
| | Орган за техническа оценка: | **ETA-Danmark A/S** |
| | Нотифициран орган/органи: | **2873 TU Darmstadt** |

7. Декларирани експлоатационни показатели:

| | | |
|---|---|---|
| **Безопасност при употреба (BWR 4)** | | |
| **Характерна товароносимост:** | **Характерна устойчивост при усилия на опън:** | **Приложение C1** |
| | **Минимално отстояние от ръба:** | **Приложение B2** |
| | **Минимално междуосово разстояние:** | **Приложение B2** |
| **изместванията:** | **Натоварване на опън с частичен фактор:** | **Приложение C2** |
| | **изместванията:** | **Приложение C2** |
| **Твърдост на плочата:** | **Диаметър на шайбата, на дюбела:** | **Приложение C2** |
| | **Устойчивост на натоварване, на закрепената плоча:** | **Приложение C2** |
| | **Твърдост на плочата:** | **Приложение C2** |
| **Икономия на енергия и задържане на топлина (BWR 6)** | | |
| **Топлинна пропускливост:** | **Точкова топлопропускливост на дюбела:** | **Приложение C2** |
| | **Дебелина на изолационната плоча, на ЕТИС:** | **Приложение C2** |

| | | |
|---|---|---|
| 8. | Подходяща техническа документация и/или специфична техническа документация: | **–** |

Експлоатационните показатели на продукта, посочени по-горе, са в съответствие с декларираните експлоатационни показатели. Настоящата декларация за експлоатационни показатели се издава в съответствие с Регламент (ЕС) № 305/2011, като отговорността за нея се носи изцяло от посочения по-горе

Подписано за и от името на производителя от:

Dr.-Ing. Oliver Geibig, Управляващ директор Бизнес звена и инженеринг

Jürgen Grün, Управляващ директор Химически крепежи и Качество

Tumlingen, 2021-01-15

Тази Декларация за съответствие е изготвена на различни езици. В случай, че възникне спор, относно интерпретирането, трябва да се вземе предвид английската версия.

Приложението съдържа доброволна и допълнителна информация на английски език в обем и съдържание, надхвърлящи (независимо от езика) законовите изисквания.

# 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

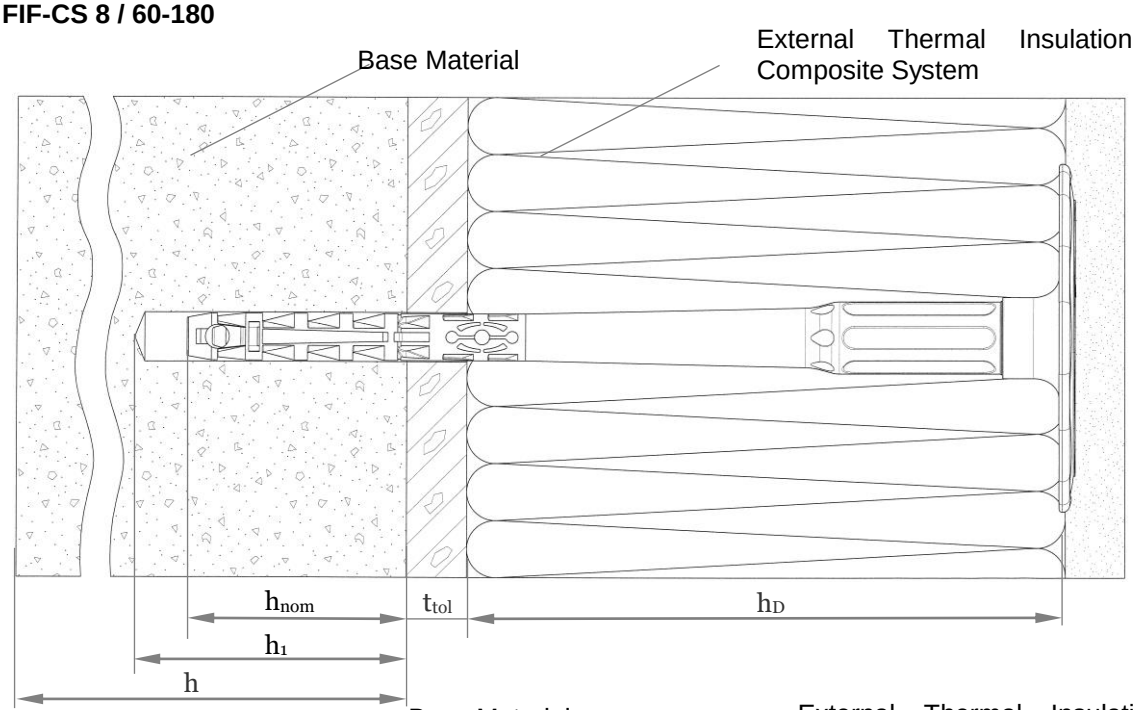
The assessment of fitness of the anchor for the intended use in relation to the requirements for mechanical resistance and stability and safety in use in the sense of the Basic Requirements 4 has been made in accordance with the EAD 330196-01-0604 Plastic anchors made of virgin or non-virgin material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

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

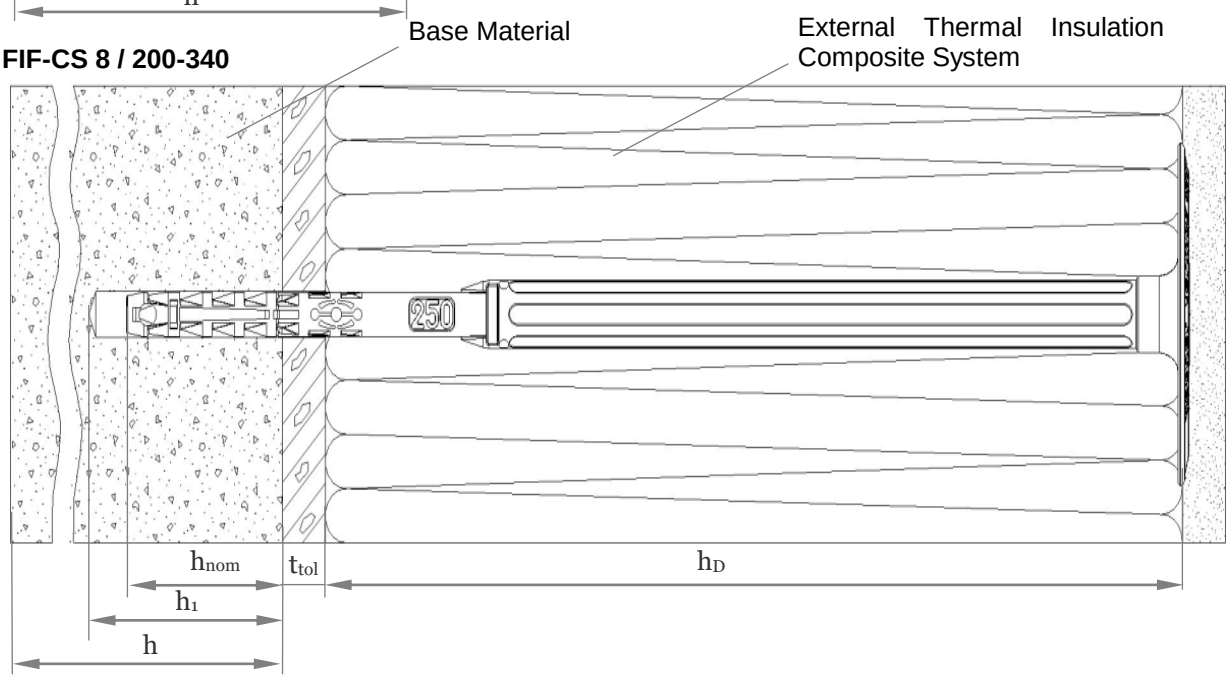
## 4.1 AVCP system

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+.

**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

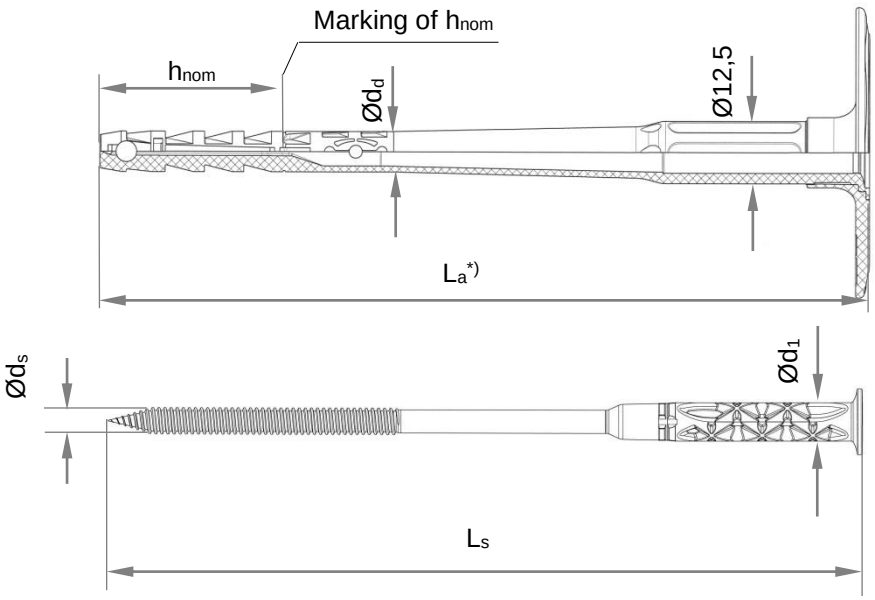
h = Thickness of member (wall)

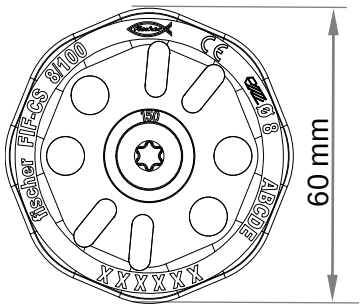
$h_D$ = Thickness of insulation material

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

| | |
|---|---|
| **fischer FIF-CS-8** | **Annex A1** |
| Product description - Installed anchor | Appendix 4 / 12 |

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

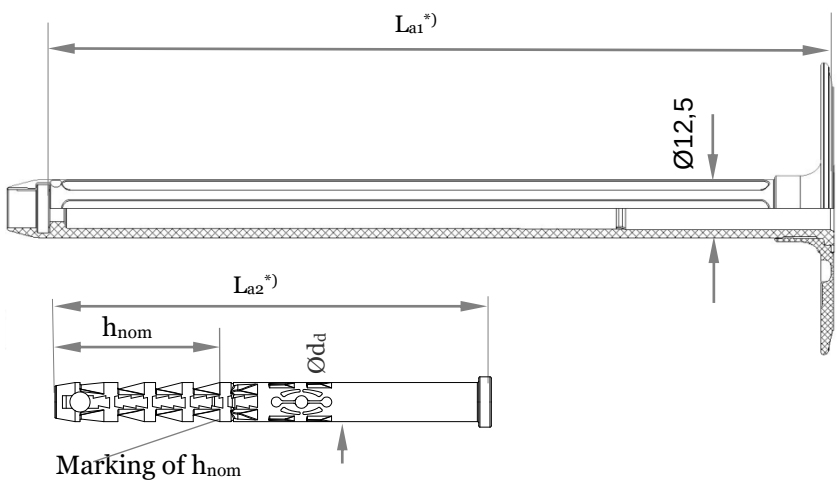


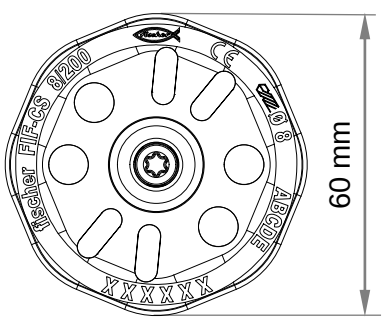




*) FIF-CS 8 / 60-180:
$110 \le L_a \le 230$

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

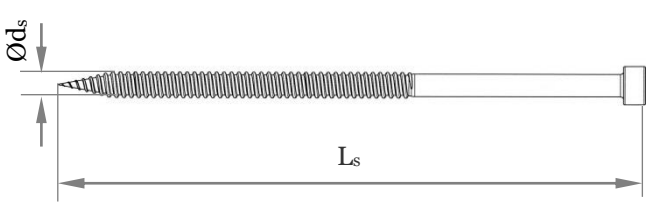
**Shaft / Anchor sleeve / Specific screw for FIF-CS 8 / 200-340**



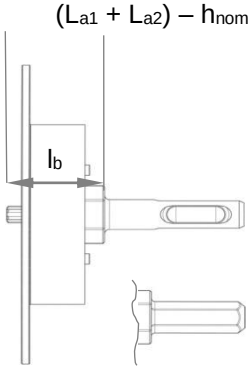




*) FIF-CS 8 / 200-340:
$250 \le L_a \le 390$

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 | Appendix 5 / 12 |

**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** |

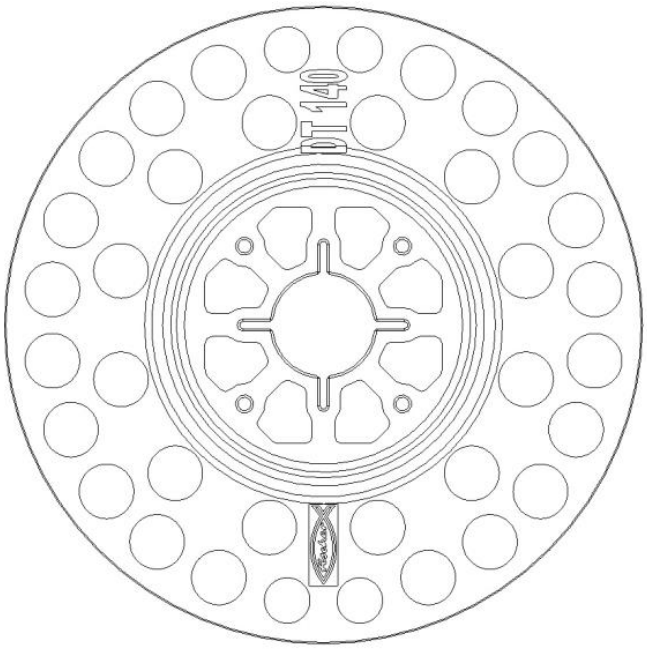
**Table A3.2: Dimensions [mm]**

| 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) or 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**



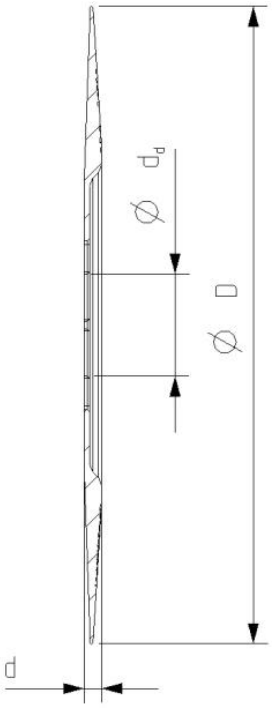




**Table A4.1: Slip-on plates, diameters and material**

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

**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°C to +40°C
- 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**

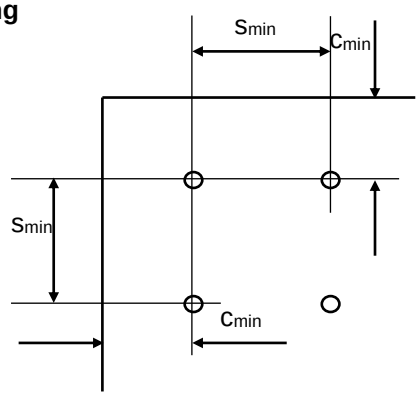
| Anchor type | | | | FIF-CS |
|---|---|---|---|---|
| Nominal drill hole diameter | $d_0$ | = | [mm] | **8** |
| Cutting diameter of drill bit | $d_{cut}$ | ≤ | [mm] | **8,45** |
| Depth of drill hole to deepest point | $h_1$ | ≥ | [mm] | **35** |
| Overall plastic anchor embedment depth in the base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

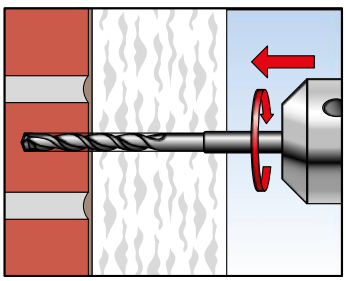
1) not valid for weather shells acc. to C1

**Scheme of distances and spacing**

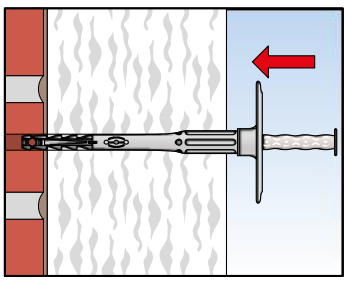


**Installation instructions**

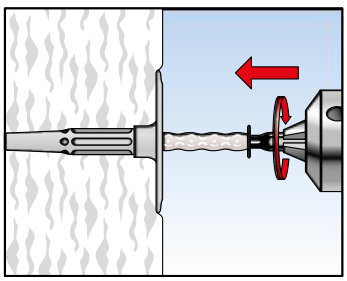
**Standard setting of anchor (plain surface)**



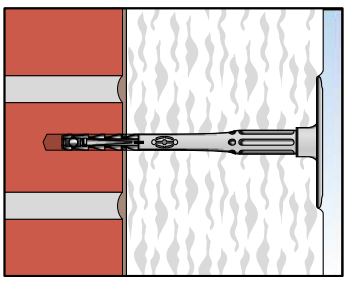
1. Drill hole by correspond-ding drilling method



2. Insert anchor manually



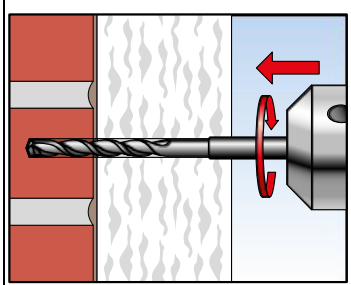
3. Set anchor by machine



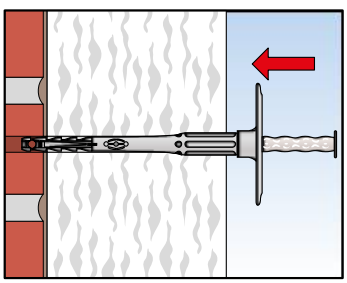
4. Correctly installed anchor

**Optional:**

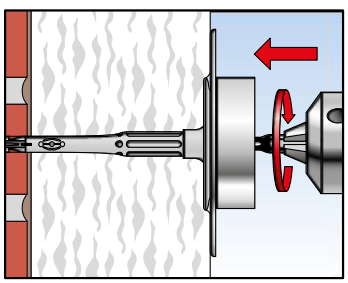
**Setting of anchor by setting tool**



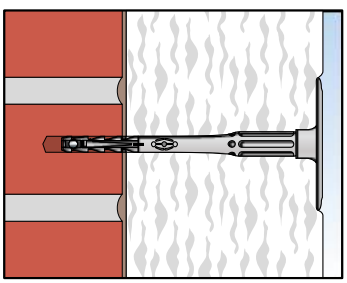
1. Drill hole by corresponding drilling method



2. Insert anchor manually



3. Set anchor by setting tool with the machine



4 .Correctly installed anchor

**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 |