DECLARAÇÃO DE DESEMPENHO

N.o 0010 – PT

1. Código de identificação único do produto-tipo: **fischer FIF-CS-8**

2. Utilização(ões) prevista(s):

Produto	**Utilização/ões pretendida/s**
Âncoras plásticas para betão e alvenaria	Para fixação de sistemas de isolamento térmico de isolamento externo com renderização, Ver anexo, especialmente anexos B 1 - B 3.

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

4. Mandatário: **--**

5. Sistema(s) de avaliação e verificação da regularidade do desempenho (AVCP): **2+**

6a. Norma harmonizada: ---

Organismo(s) notificado(s): ---

6b. Documento de Avaliação Europeu **ETAG 014; 2011-02**

Avaliação Técnica Europeia **ETA-15/0006; 2015-03-25**

Organismo de Avaliação Técnica: **ETA-Danmark A/S**

Organismo(s) notificado(s): **1343 – MPA Darmstadt**

7. Desempenho(s) declarado(s):

Segurança na utilização (BWR 4)

Características essenciais	Ver anexo, especialmente anexos C 1 - C 3

8. Documentação Técnica Adequada e/ou Documentação Técnica Específica: ---

O desempenho do produto identificado acima está em conformidade com o conjunto de desempenhos declarados. A presente declaração de desempenho é emitida, em conformidade com o Regulamento (UE) n.o 305/2011, sob a exclusiva responsabilidade do fabricante identificado acima.

Assinado por e em nome do fabricante por:

Andreas Bucher, Dipl.-Ing.

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

Tumlingen, 2015-04-09

- Este DoP foi preparado em diferentes línguas. Em caso de litígio sobre a interpretação, a versão em inglês prevalecerá sempre.
- O Anexo inclui informações voluntárias e complementares em inglês que excedem os requisitos legais (linguisticamente especificados).

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.

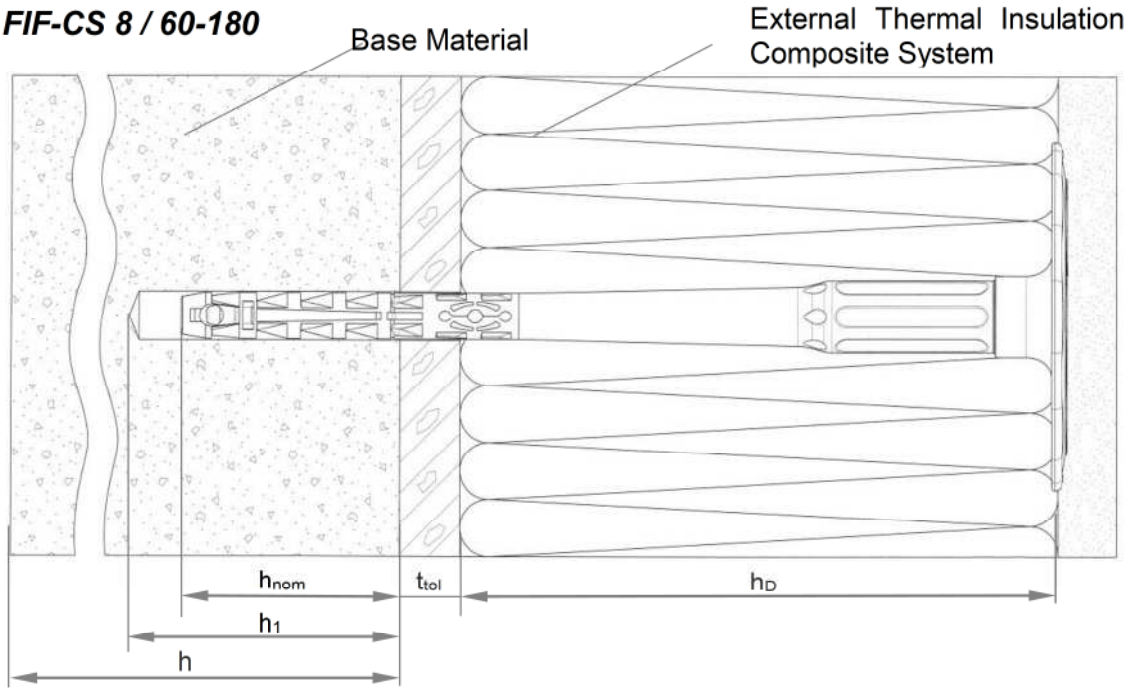
In addition to the specific clauses relating to dangerous substances contained in this European technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). 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)

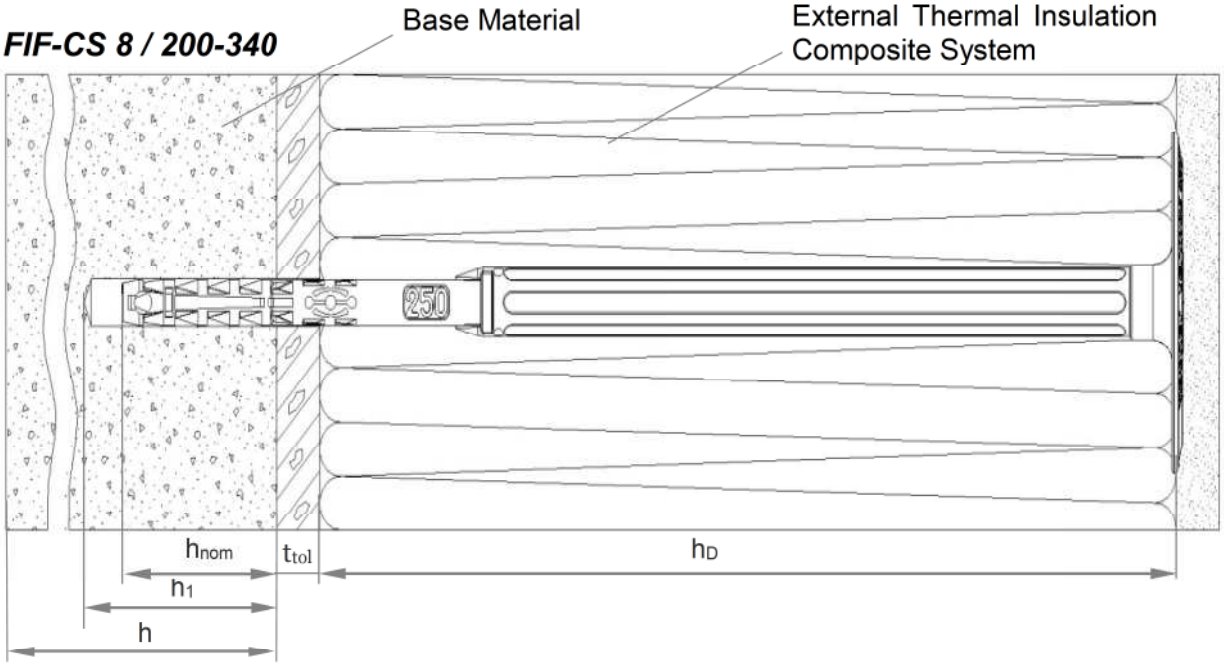
4.1 AVCP system

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

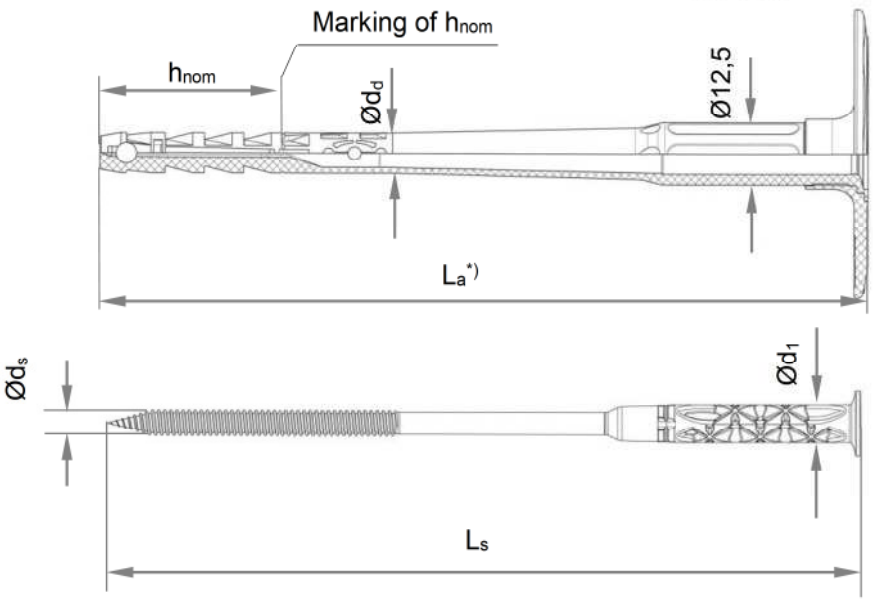


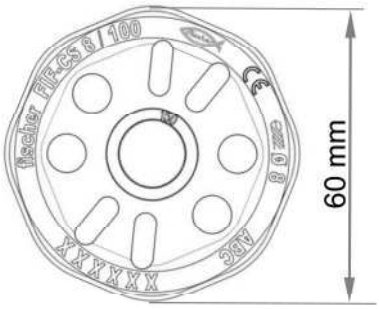
Legend

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

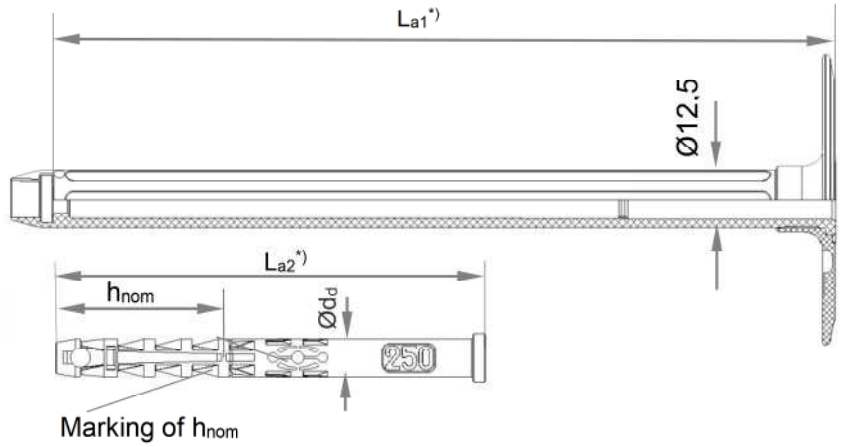


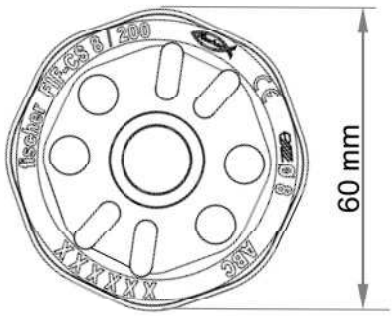


*) FIF-CS 8 / 60-180:
$110 \le L_a \le 230$

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

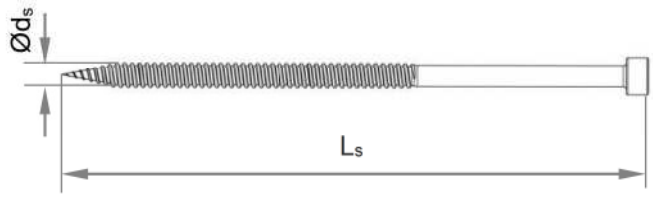
Shaft / Anchor sleeve / Specific screw for FIF-CS 8 200-340



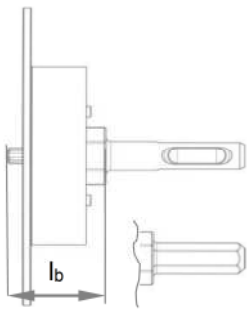


*) FIF-CS 8 / 200-340:
$250 \le L_a \le 390$

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) or specific screw (FIF-CS-8 / 200-340)	PA6 GF with Steel gal Zn A2G or A2F acc. to EN ISO 4042 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

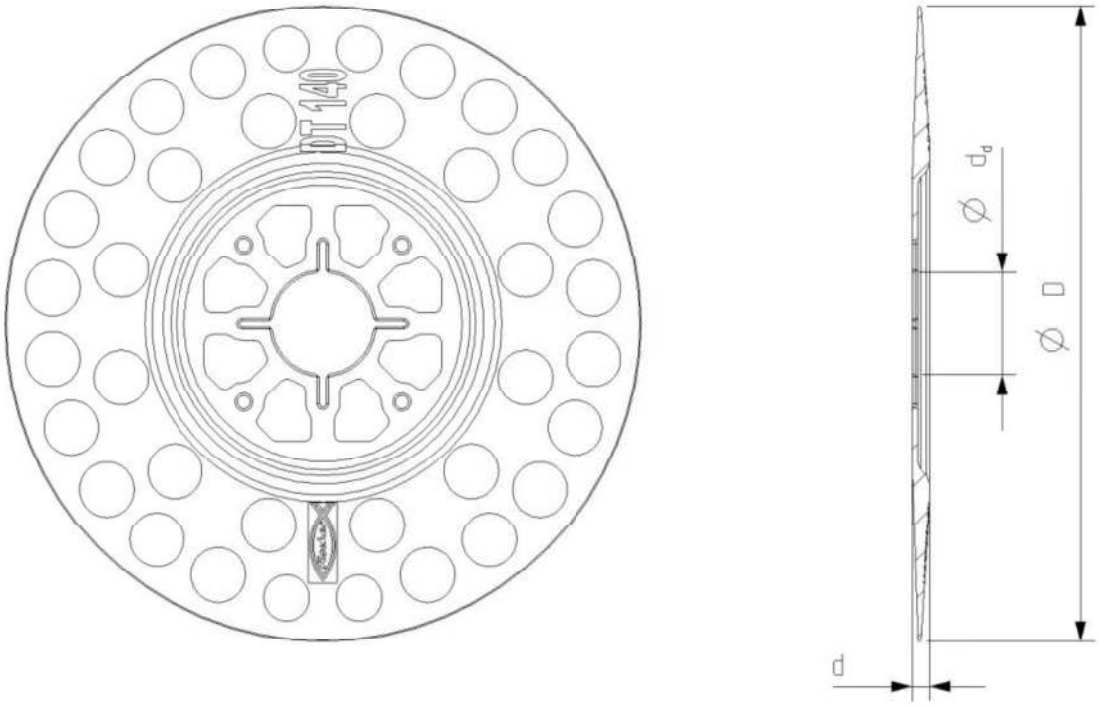


Table A4: Slip-on plates, diameters and material

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)

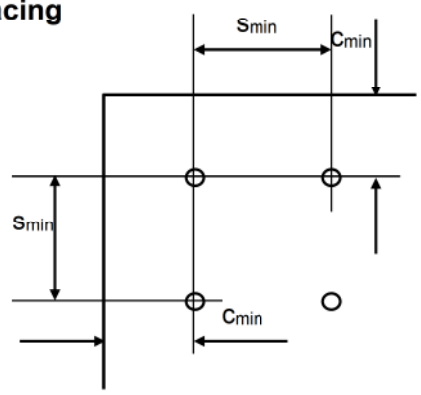
Anchor type				FIF-CS-8
Nominal drill hole diameter	d_0	=	[mm]	8
Cutting diameter of drill bit	d_{cut}	≤	[mm]	8,45
Depth of drill hole to deepest point	h_1	≥	[mm]	35
Overall plastic anchor embedment depth in the base material	h_{nom}	≥	[mm]	25

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

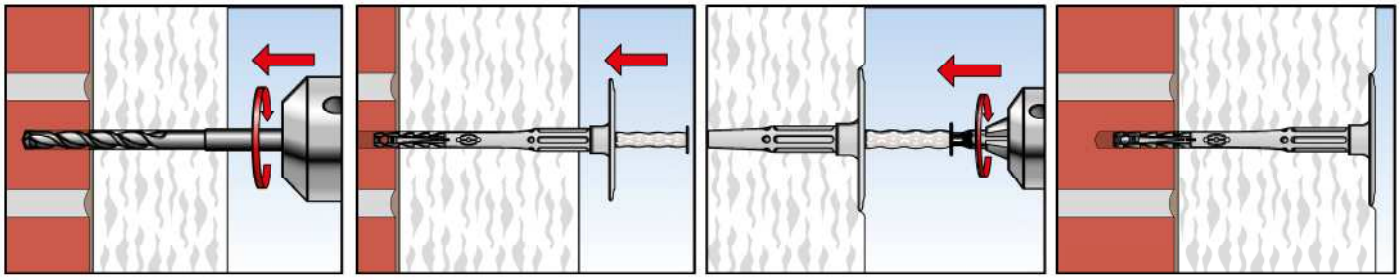
Scheme of distances and spacing



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

Installation instructions

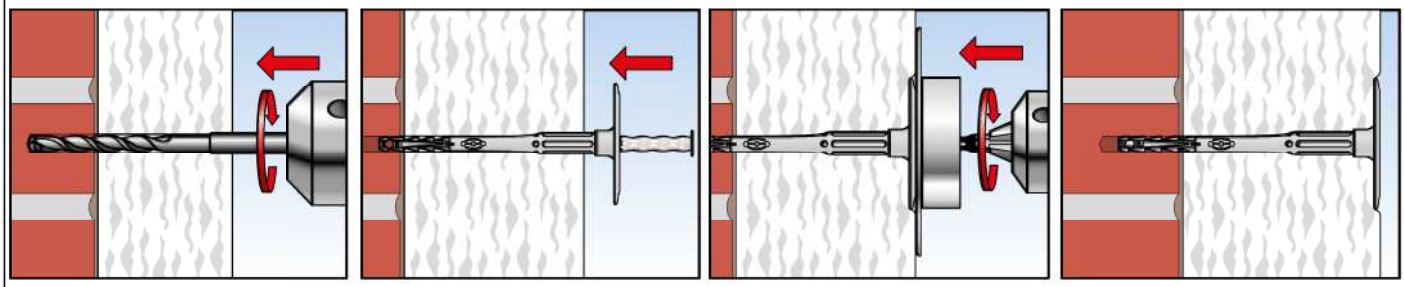
Standard setting of anchor (plain surface)



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				γ_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 χ [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 δ_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 δ_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	