



ETA-Danmark A/S
Göteborg Plads 1
DK-2150 Nordhavn
Tel. +45 72 24 59 00
Internet www.etadanmark.dk

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-26/0038 of 2026/07/30

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 cable, pipe and installation system fixings

Product family to which the above construction product belongs:

Power-actuated fastener for multiple use in concrete for non-structural applications

Manufacturer:

fischerwerke GmbH & Co. KG
Klaus-Fischer-Strasse 1
72178 Waldachtal
Germany

Manufacturing plant:

fischerwerke

This European Technical Assessment contains:

21 pages including 17 annexes which form an integral part of the document

This European Technical Assessment is issued in accordance with Article 95(4) of Regulation (EU) 2024/3110, on the basis of:

EAD 330083-04-0601

This version replaces:

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II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product

The cable, pipe and installation fixtures KB DF, SHA II, RC DF and FF DF consist of the power-actuated fastener made of galvanized steel and the fixture according to Annex A3-A4 made of plastics.

The cable, pipe and installation fixtures BSM DF, BSMZ DF, TH-E DF, TH-I DF, FF-M DF and CB DF consist of the power-actuated fastener made of galvanized steel and the fixture according to Annex A5-A7 made of steel.

The power-actuated fasteners are driven into the concrete by using a power-actuated fastening tool (fischer FXC 85 or fischer FGC 100). They are anchored in concrete by sintering and mechanical interlock.

The fastener is a type 2b with a minimum embedment depth of 15 mm.

The product description is given in Annex A.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

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

The verifications and assessment methods on which this EAD is based lead to the assumption of a working life of the fastener of at least 50 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 Mechanical resistance and stability (BWR 1)

See Annex C1-C4.

3.2 Safety in case of fire (BWR 2)

Reaction to fire:

Class A1 in accordance with the Commission Decision 96/603/EC.

The fixtures made of plastic are considered to be small components and, therefore, do not need to be tested because their contribution to fire is negligible.

Resistance to fire:

No performance assessed.

3.3 Durability

Durability is ensured if the specifications of intended use according to Annex B are taken into account.

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

In accordance with EAD 330083-04-0601, the applicable European legal act is: 97/161/EC.
The system to be applied is: **2+**

5 Technical details necessary for the implementation of the AVCP system, as provided for 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 2026-07-30
by



Christian Lundgaard Pedersen

f/Thomas Bruun
Managing Director, ETA-Danmark

Cable, pipe and installation systems fixings consist of the fixture and power actuated fastener

Fixtures:

KB 8 DF	KB 16 DF	SHA II
		
RC DF	FF DF	FF base DF
		
BSM DF	BSMZ DF	FF-M DF
		
TH-E DF	TH-I DF	CB DF
		

Fastener DFNH Plus 22 NP, DFNH Plus 27 NP, DFNH Plus 32 NP:

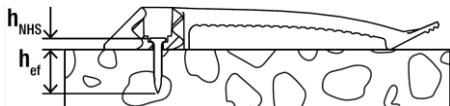
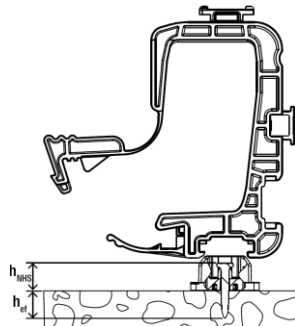
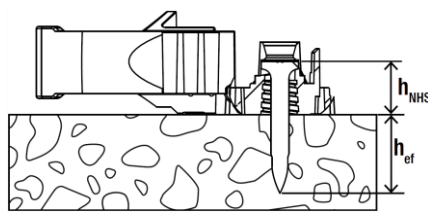
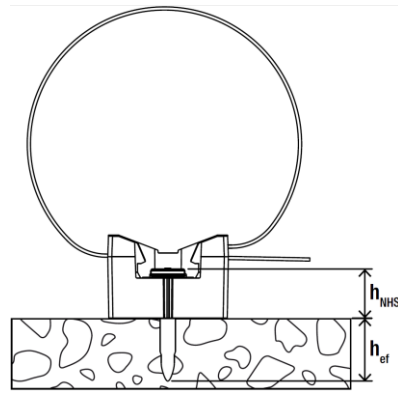
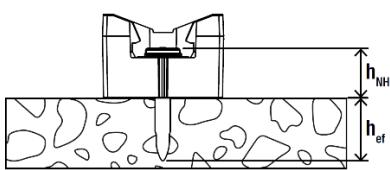
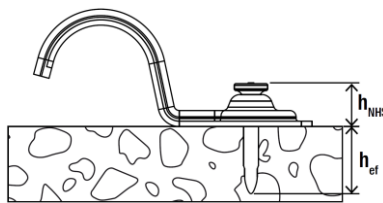
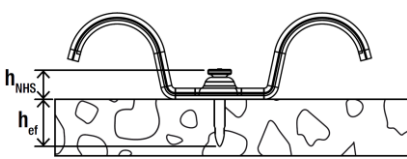
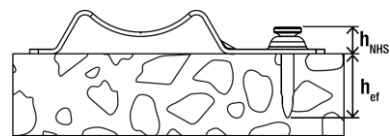
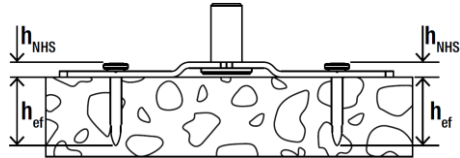
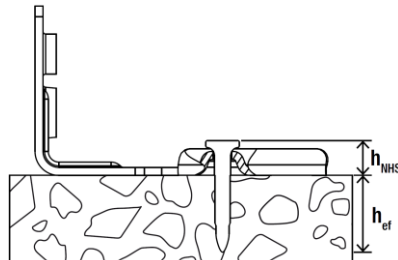
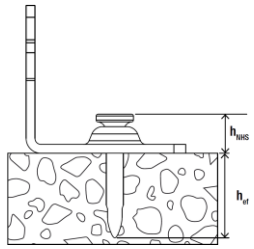


(figures not to scale)

fischer cable, pipe and Installation systems fixings

Product description
Products

Annex A1

Installed fixtures:		
KB 8 DF	KB 16 DF	SHA II
		
RC DF	FF DF	FF base DF
		
BSM DF	BSMZ DF	FF-M DF
		
TH-E DF	TH-I DF	CB DF
		
(figures not to scale)		
fischer cable, pipe and Installation systems fixings		Annex A2
Product description Installed products		

Dimensions and material

Table A3.1: Cable, pipe and installation fixtures made of plastics

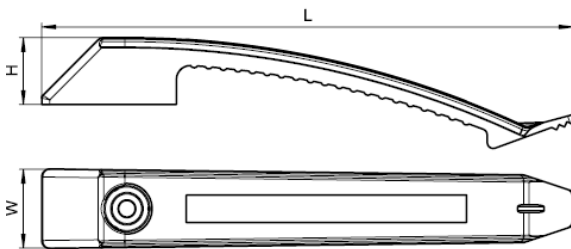
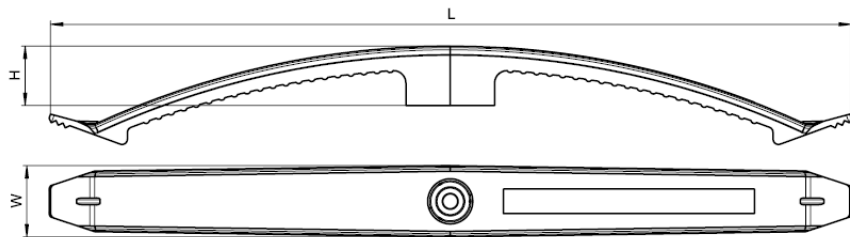
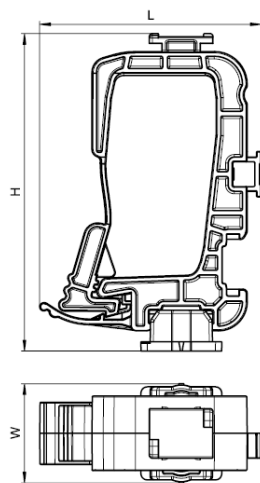
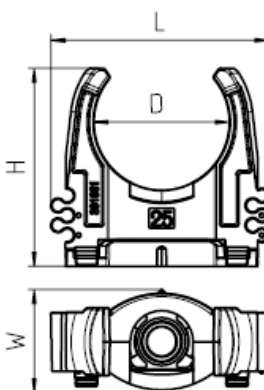
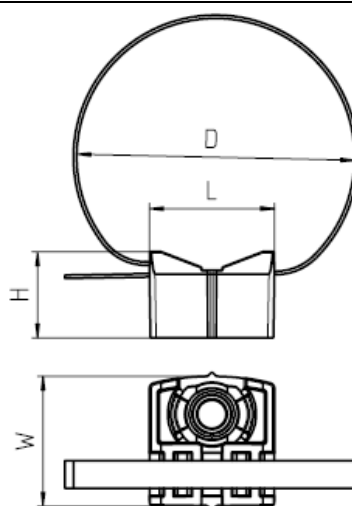
Fixtures	Type	Dimensions			
KB DF		L [mm]	W [mm]	H [mm]	t_{fix} [mm]
	KB 8 DF	135	17	17	3
					
	KB 16 DF	225,5	17	17	3
					
	All sizes	Polyamide 6, light grey			
SHA II		L [mm]	W [mm]	H [mm]	t_{fix} [mm]
	SHA II 20	73,5	32	102,5	4,5
	SHA II 40	83,5	32	132,5	4,5
	All sizes	Polypropylene, light grey			
					
(figures not to scale)					
fischer cable, pipe and Installation systems fixings					Annex A3
Product description Dimensions and material					

Table A4.1: Cable, pipe and installation fixtures made of plastics (continued)

RC DF		L [mm]	W [mm]	H [mm]	D [mm]	t_{fix} [mm]
	RC 16 DF	38,5	17	28	16	7,5
	RC 20 DF	38,5	17	30,5	20	7,5
	RC 25 DF	38,5	17	35	25	7,5
	RC 32 DF	45	17	40,5	32	7,5
	RC 40 DF	55	17	46,5	40	7,5
	All sizes	Polyamide 6.6, light grey				



FF DF		L [mm]	W [mm]	H [mm]	D [mm]	t_{fix} [mm]
	FF 16-32	22,5	24	15,5	16 - 32	7,5
	FF 32-64	22,5	24	15,5	32 - 65	7,5
	FF base DF	22,5	24	15,5	-	7,5
	All sizes	Polyamide 6.6, light grey				



(figures not to scale)

fischer cable, pipe and Installation systems fixings	Annex A4
Product description Dimensions and material	

Table A5.1: Cable, pipe and installation fixtures made of steel

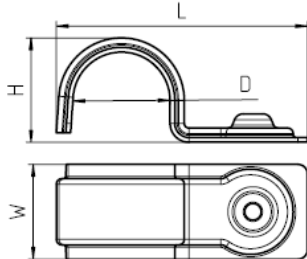
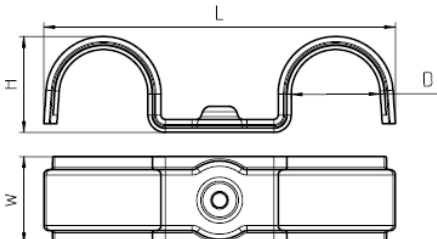
Fixtures	Type	Dimensions				
BSM DF		L [mm]	W [mm]	H [mm]	D [mm]	t_{fix} [mm]
	BSM 6 DF	39	20	9	6,5	6
	BSM 8 DF	41	20	11	8,5	6
	BSM 10 DF	43	20	13	10,5	6
	BSM 12 DF	45	20	15	12,5	6
	BSM 16 DF	49	20	19	16,5	6
	BSM 20 DF	53	20	23	20,5	6
	BSM 22 DF	55	20	25	22,5	6
	BSM 25 DF	58	20	28	25,5	6
	BSM 28 DF	61	20	31	28,5	6
	BSM 32 DF	65	20	35	32,5	6
	BSM 40 DF	73	20	43	40,5	6
	All sizes	Steel, zinc plated $\geq 5\mu m$				
						
BSMZ DF		L [mm]	W [mm]	H [mm]	D [mm]	t_{fix} [mm]
	BSMZ 6 DF	53	20	9	6,5	6
	BSMZ 8 DF	57	20	11	8,5	6
	BSMZ 10 DF	61	20	13	10,5	6
	BSMZ 12 DF	65	20	15	12,5	6
	BSMZ 16 DF	73	20	19	16,5	6
	BSMZ 20 DF	81	20	23	20,5	6
	BSMZ 22 DF	85	20	25	22,5	6
	BSMZ 25 DF	91	20	28	25,5	6
	BSMZ 28 DF	97	20	31	28,5	6
	All sizes	Steel, zinc plated $\geq 5\mu m$				
						
fischer cable, pipe and Installation systems fixings						Annex A5
Product description Dimensions and material						

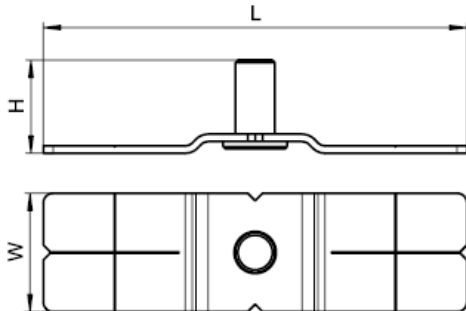
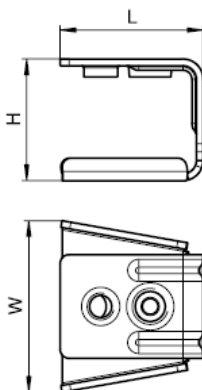
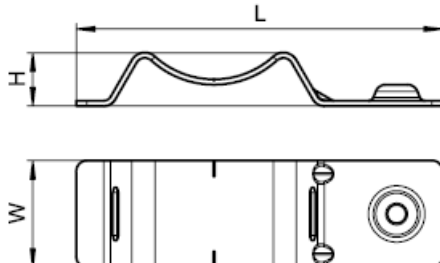
Table A6.1: Cable, pipe and installation fixtures made of steel (continued)					
TH-E DF		L [mm]	W [mm]	H [mm]	t _{fix} [mm]
	TH-E M8 DF	86	24	19	1,3
	All sizes	Steel, zinc plated ≥ 5µm			
					
TH-I DF		L [mm]	W [mm]	H [mm]	t _{fix} [mm]
	TH-I M6/8 DF	32	38	27	4,5
	All sizes	Steel, zinc plated ≥ 5µm			
					
FF-M DF		L [mm]	W [mm]	H [mm]	t _{fix} [mm]
	FF-M base DF	68,5	20	10	4
	All sizes	Steel, zinc plated ≥ 5µm			
					
(figures not to scale)					
fischer cable, pipe and Installation systems fixings					Annex A6
Product description Dimensions and material					

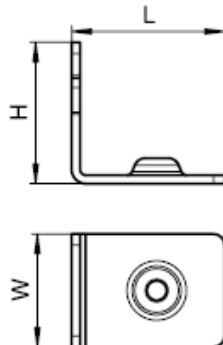
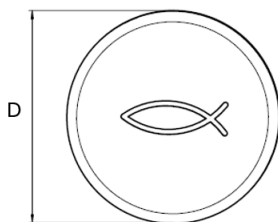
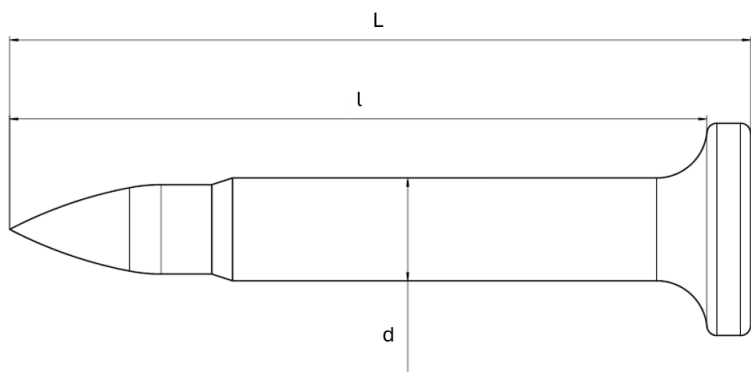
Table A7.1: Cable, pipe and installation fixtures made of steel (continued)					
CB DF		L [mm]	W [mm]	H [mm]	t_{fix} [mm]
CB DF		27	20	25	4,5
All sizes		Steel, zinc plated $\geq 5\mu\text{m}$			
					

Table A7.2: Fasteners				
Fastener		DFNH Plus 22 NP	DFNH Plus 27 NP	DFNH Plus 32 NP
Total length L	[mm]	22	27	32
Shaft length l	[mm]	20,7	25,7	30,7
Shaft diameter d	[mm]	3,05	3,05	3,05
Head diameter D	[mm]	6,3	6,3	6,3
Material	[-]	Hardened C-steel, mechanical zinc plated $\geq 8\mu\text{m}$		
 				
(figures not to scale)				

fischer cable, pipe and Installation systems fixings		Annex A7
Product description Dimensions and material		

Specifications of intended use

Anchorage subject to :

- Static and quasi-static loads.

Base materials:

- Compacted reinforced or unreinforced normal weight concrete of strength classes C20/25 to C50/60 without fibers according to EN 206:2013+A2:2021.
- Cracked and uncracked concrete.

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions.
- Minimum long-term temperature of -40 °C for fixtures made of steel and -20 °C for fixtures made of plastics.
- Maximum long-term temperature of 80 °C for fixtures made of steel and 35°C for fixtures made of plastics.

Design:

- The structural design of the fastening is conducted under responsibility of a designer, experienced in fastenings and concrete works.
- Verifiable calculation notes and drawings are to be prepared taking account of the loads to be anchored. The position of the fastener is indicated on the design drawings (e.g. position of the fastener relative to reinforcement or to supports, etc.).
- Design of fastenings according to EN 1992-4:2018.
- The fasteners may only be used for multiple fastenings of non-load-bearing systems with the following definitions:
 - Number of fixing points to fasten the fixture $n_1 \geq 6$
 - Number of fasteners per fixing point $n_2 = 1$
 - Maximum characteristic fastening resistance in any load direction per fixing point $F_{Rk,lim} \leq 0,45kN$
- The fixture to be fastened must be designed in such a way, that in case of excessive slippage or failure of one fastener, the load can be transferred to adjacent fasteners without significantly deviating from the fastening requirements. The fixture must meet the limit state, serviceability, and load-bearing capacity requirements.

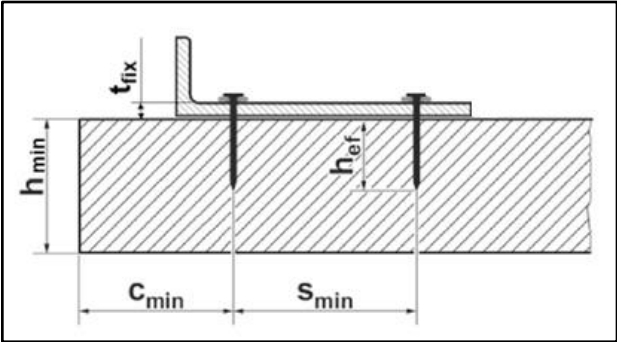
fischer cable, pipe and Installation systems fixings

Intended use
Specifications

Annex B1

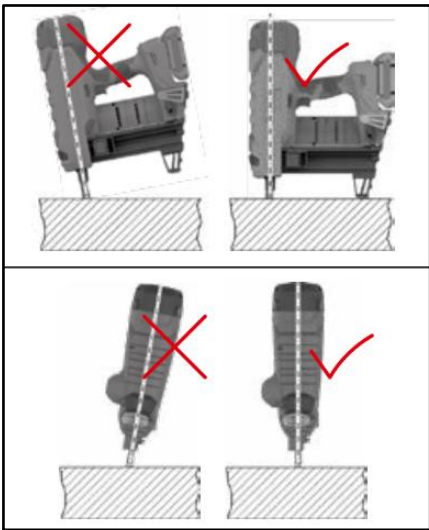
Table B2.1: Installation parameters

		DFNH Plus 22 NP	DFNH Plus 27 NP	DFNH Plus 32 NP
Effective anchorage depth h_{ef}	[mm]	≥ 15	≥ 15	≥ 15
Max. thickness of the fixture t_{fix}	[mm]	2	7	12
Max. nail head standoff above concrete surface h_{NHS}	[mm]	≤ 7	≤ 12	≤ 17
Minimum thickness of concrete member h_{min}	[mm]	80	80	80
Minimum spacing of the fasteners s_{min}	[mm]	45	45	45
Minimum allowable edge distance c_{min}	[mm]	80	80	80



Installation instructions:

- Fastener installation carried out by appropriately qualified personnel according to the design drawings and under the supervision of the person responsible for technical matters on the site.
- Fastener installation in accordance with the manufacturer’s specifications and drawings and using the specified installation device.
- Fasteners to be installed perpendicular to the surface of the base material.



(figures not to scale)

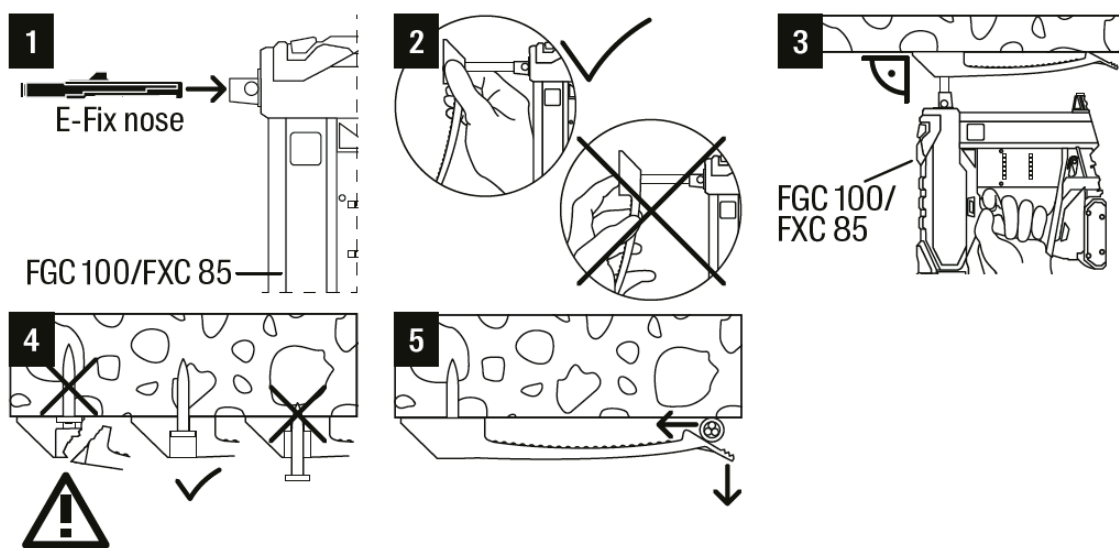
fischer cable, pipe and Installation systems fixings

Intended use
 Installation

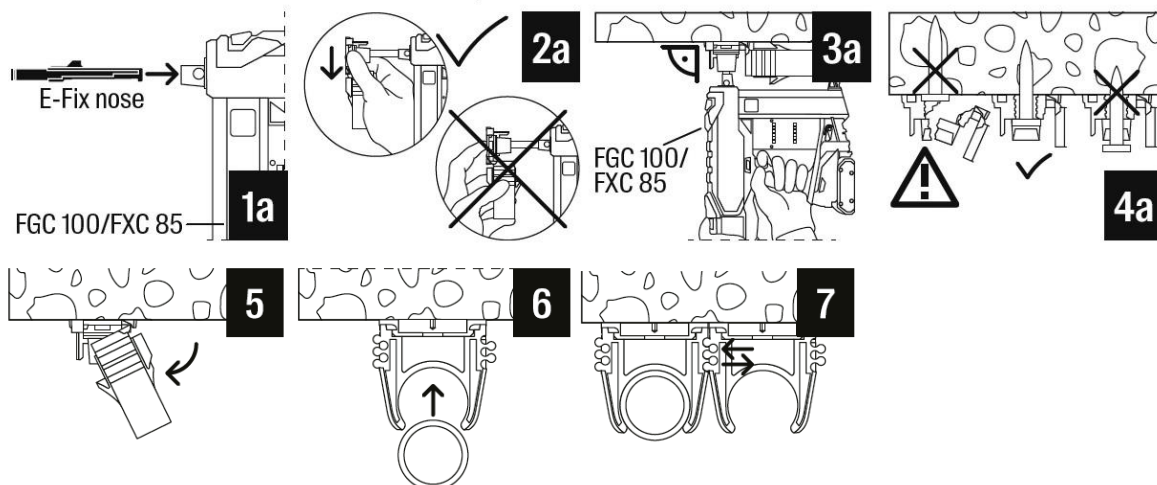
Annex B2

- Pay attention to setting defects during installation. A setting defect is present if the nail can be pulled out of the concrete by hand.
- Ensure a minimum effective anchorage depth of 15mm. If the embedment depth is smaller than 15mm, the nail must be assumed as a setting defect and it must not be loaded.
- Damages on the concrete surface, caused by setting defects, have to be repaired according to EN1504-3:2005. A new fastener is set at a minimum distance of ≥ 80 mm and $\geq 3 h_{ef}$ of the edge of the damaged surface.
- Use of setting tools according to Annex B6.

Installation instructions KB DF:



Installation instructions RC DF:



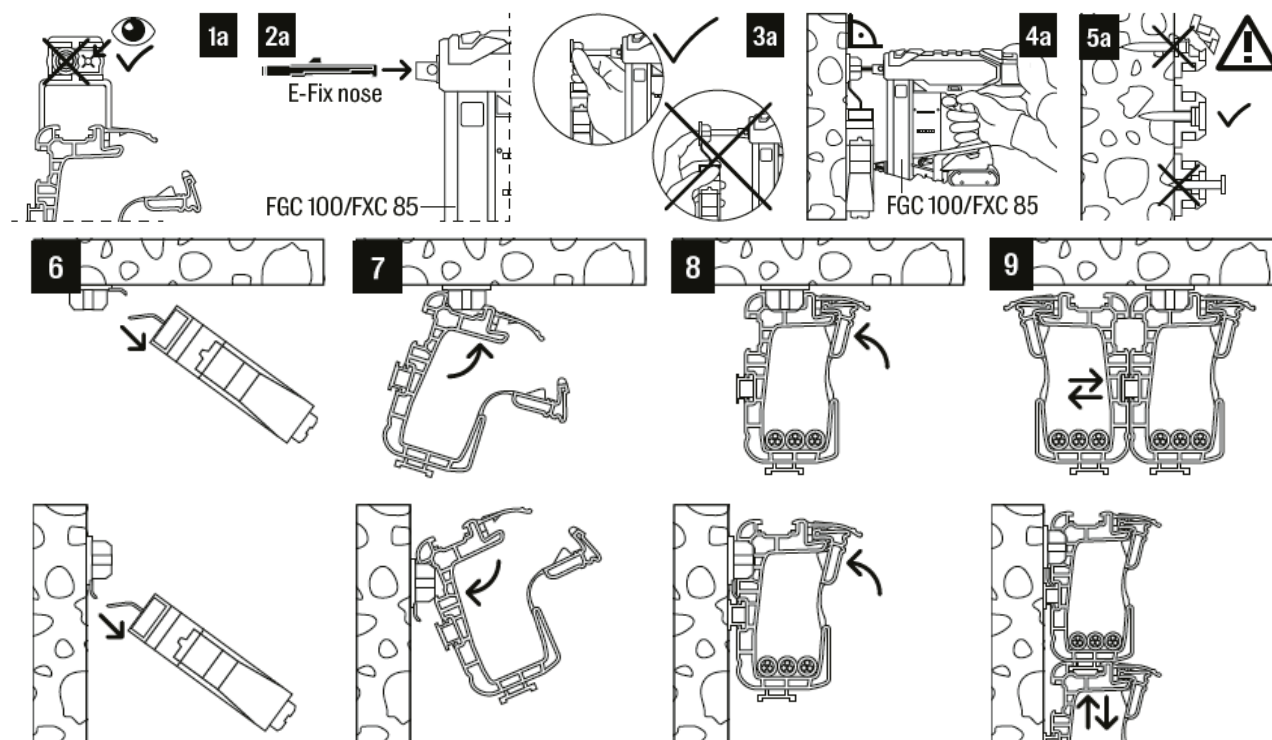
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fischer cable, pipe and Installation systems fixings

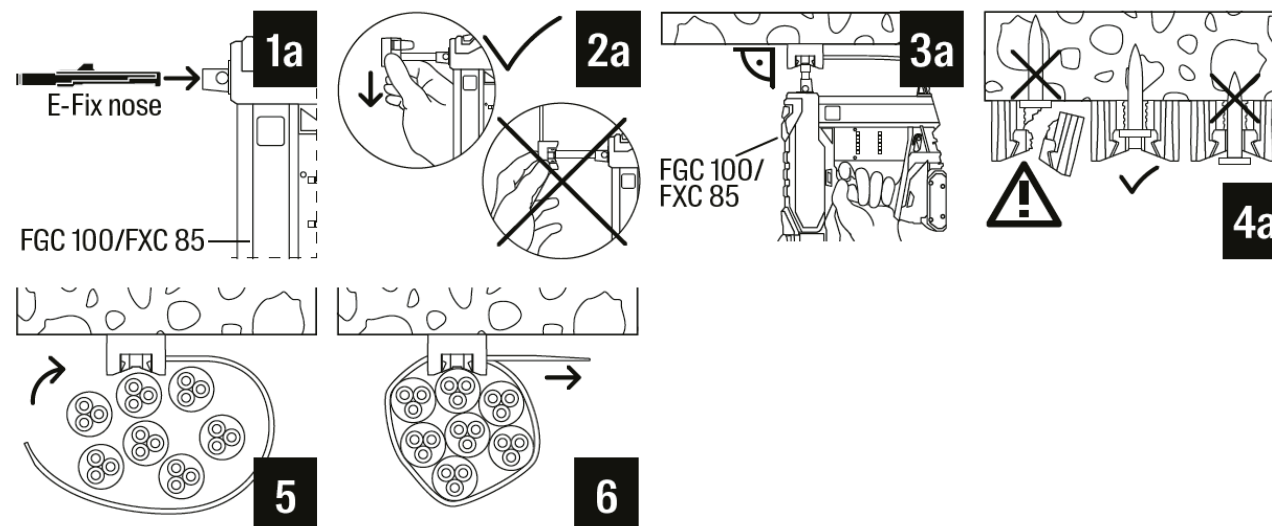
Intended use
Installation

Annex B3

Installation instructions SHA II:



Installation instruction FF DF:



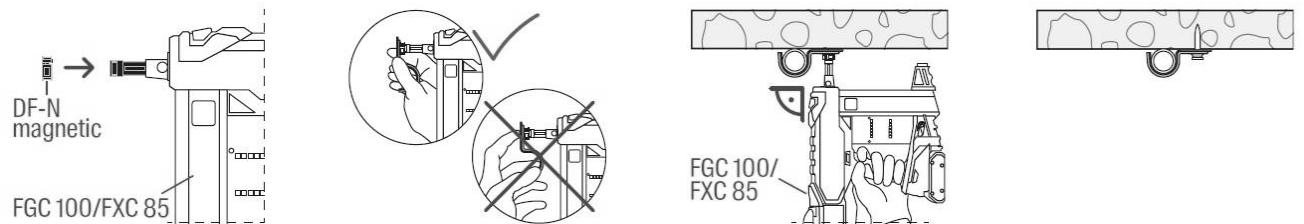
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fischer cable, pipe and Installation systems fixings

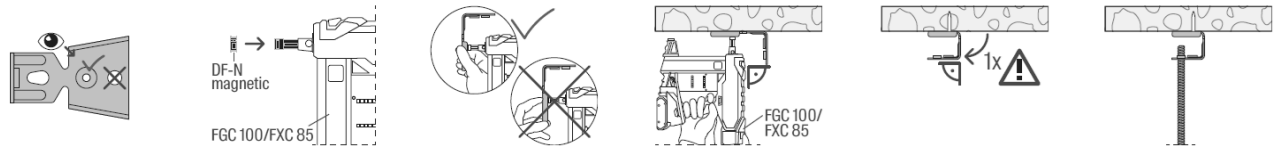
Intended use
Installation

Annex B4

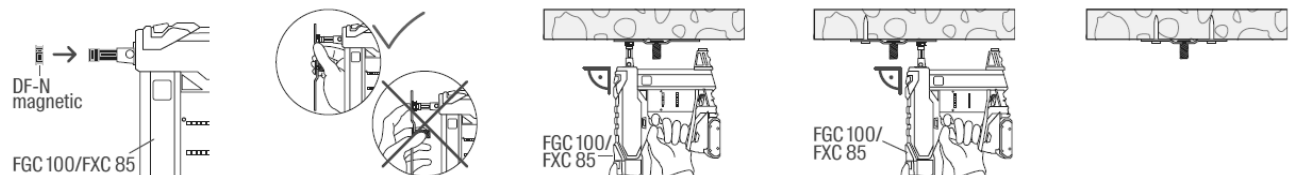
Installation instruction BSM DF / BSMZ DF / CB DF / FF-M DF:



Installation instruction TH-I DF:



Installation instruction TH-E DF:



Check nail head standoff after installation:

For fastener control, the nail head standoff h_{NHS} is measured as shown in Annex A2. The permissible maximum nail head standoffs are given in Table B2.1 in Annex B2.

(figures not to scale)

fischer cable, pipe and Installation systems fixings

Intended use
Installation

Annex B5

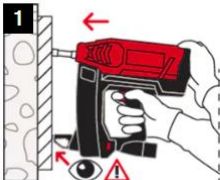
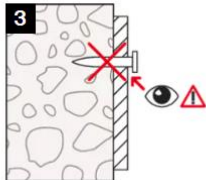
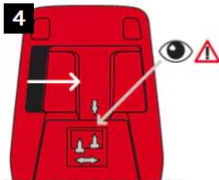
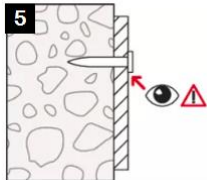
Setting tools		
Setting tool fischer FXC 85 with fasteners DFNH Plus 22, 27, 32 NP		Setting tool fischer FGC 100 with gas can FC165 and with fasteners DFNH Plus 22, 27, 32 NP
		
FXC85, fully automatic, battery powered		FGC100, fully automatic, gas powered (FC165)
Use instructions for the setting tools:		
    		
(figures not to scale)		
fischer cable, pipe and Installation systems fixings		Annex B6
Intended use Setting tools		

Table C1.1: Characteristic resistance of the fastener including plastics fixture			
RC 16 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr,21^{\circ}C}$	[N]	28
	$F_{Rk,ucr,35^{\circ}C}$	[N]	22
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr,21^{\circ}C}$	[N]	28
	$F_{Rk,cr,35^{\circ}C}$	[N]	22
RC 20 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr,21^{\circ}C}$	[N]	36
	$F_{Rk,ucr,35^{\circ}C}$	[N]	29
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr,21^{\circ}C}$	[N]	36
	$F_{Rk,cr,35^{\circ}C}$	[N]	29
RC 25 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr,21^{\circ}C}$	[N]	23
	$F_{Rk,ucr,35^{\circ}C}$	[N]	19
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr,21^{\circ}C}$	[N]	23
	$F_{Rk,cr,35^{\circ}C}$	[N]	19
RC 32 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr,21^{\circ}C}$	[N]	24
	$F_{Rk,ucr,35^{\circ}C}$	[N]	19
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr,21^{\circ}C}$	[N]	24
	$F_{Rk,cr,35^{\circ}C}$	[N]	19
RC 40 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr,21^{\circ}C}$	[N]	22
	$F_{Rk,ucr,35^{\circ}C}$	[N]	17
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr,21^{\circ}C}$	[N]	22
	$F_{Rk,cr,35^{\circ}C}$	[N]	17
fischer cable, pipe and Installation systems fixings		Annex C1	
Performances Characteristic values of resistance under static or quasi-static loads			

Table C2.1: Characteristic resistance of the fastener including plastics fixture (continued)			
KB 8 DF			
Characteristic resistance for uncracked concrete, tension loads only	$F_{Rk,ucr,21^{\circ}C}$	[N]	84
	$F_{Rk,ucr,35^{\circ}C}$	[N]	67
Characteristic resistance for cracked concrete, tension loads only	$F_{Rk,cr,21^{\circ}C}$	[N]	61
	$F_{Rk,cr,35^{\circ}C}$	[N]	61
KB 16 DF			
Characteristic resistance for uncracked concrete, tension loads only	$F_{Rk,ucr,21^{\circ}C}$	[N]	84
	$F_{Rk,ucr,35^{\circ}C}$	[N]	67
Characteristic resistance for cracked concrete, tension loads only	$F_{Rk,cr,21^{\circ}C}$	[N]	61
	$F_{Rk,cr,35^{\circ}C}$	[N]	61
SHA 20 II			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr,21^{\circ}C}$	[N]	261
	$F_{Rk,ucr,35^{\circ}C}$	[N]	261
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr,21^{\circ}C}$	[N]	135
	$F_{Rk,cr,35^{\circ}C}$	[N]	135
SHA 40 II			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr,21^{\circ}C}$	[N]	221
	$F_{Rk,ucr,35^{\circ}C}$	[N]	221
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr,21^{\circ}C}$	[N]	77
	$F_{Rk,cr,35^{\circ}C}$	[N]	77
FF base DF			
Characteristic resistance for uncracked concrete, tension loads only	$F_{Rk,ucr,21^{\circ}C}$	[N]	96
	$F_{Rk,ucr,35^{\circ}C}$	[N]	96
Characteristic resistance for cracked concrete, tension loads only	$F_{Rk,cr,21^{\circ}C}$	[N]	50
	$F_{Rk,cr,35^{\circ}C}$	[N]	50
fischer cable, pipe and Installation systems fixings		Annex C2	
Performances Characteristic values of resistance under static or quasi-static loads			

Table C3.1: Characteristic resistance of the fastener including plastics fixture (continued)			
FF 16-32 DF			
Characteristic resistance for uncracked concrete, tension loads only	$F_{Rk,ucr,21^{\circ}C}$	[N]	214
	$F_{Rk,ucr,35^{\circ}C}$	[N]	214
Characteristic resistance for cracked concrete, tension loads only	$F_{Rk,cr,21^{\circ}C}$	[N]	110
	$F_{Rk,cr,35^{\circ}C}$	[N]	110
FF 32-63 DF			
Characteristic resistance for uncracked concrete, tension loads only	$F_{Rk,ucr,21^{\circ}C}$	[N]	151
	$F_{Rk,ucr,35^{\circ}C}$	[N]	151
Characteristic resistance for cracked concrete, tension loads only	$F_{Rk,cr,21^{\circ}C}$	[N]	78
	$F_{Rk,cr,35^{\circ}C}$	[N]	78
Partial factor for all fasteners including plastics fixture	$\gamma_M^{1)}$	[-]	2,5
1) Valid unless other national rules apply			
fischer cable, pipe and Installation systems fixings			Annex C3
Performances Characteristic values of resistance under static or quasi-static loads			

Table C4.1: Characteristic resistance of the fastener including metal fixture			
BSMZ 6-28 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr}$	[N]	108
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr}$	[N]	60
BSM 6-40 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr}$	[N]	54
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr}$	[N]	30
TH-E M8 DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr}$	[N]	214
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr}$	[N]	119
TH-I M6/M8 DF			
Characteristic resistance for uncracked concrete, tension loads only	$F_{Rk,ucr}$	[N]	144
Characteristic resistance for cracked concrete, tension loads only	$F_{Rk,cr}$	[N]	80
FF-M base DF			
Characteristic resistance for uncracked concrete, tension and shear loads or a combination of both	$F_{Rk,ucr}$	[N]	27
Characteristic resistance for cracked concrete, tension and shear loads or a combination of both	$F_{Rk,cr}$	[N]	15
CB DF			
Characteristic resistance for uncracked concrete, tension load only	$F_{Rk,ucr}$	[N]	43
Characteristic resistance for cracked concrete, tension load only	$F_{Rk,cr}$	[N]	24
Partial factor for all fasteners including metal fixture	$\gamma_M^{1)}$	[-]	2,5
1) Valid unless other national rules apply			
fischer cable, pipe and Installation systems fixings	Annex C4		
Performances Characteristic values of resistance under static or quasi-static loads			