



YDEEVNEDEKLARATION



DoP: 0123

til fischer loftanker FDN II (Metalanker til brug i beton (let befæstigelse)) – DA

1. Varetypens unikke identifikationskode: **DoP: 0123**
2. Tilsigtet anvendelse: **Til (redundant) flerpunktsbefæstigelse i revnet og ikke-revnet beton. Anvendes ved redundante systemer (flerpunkts-befæstigelse) fx til nedhængte lofter i fx beton., Se appendiks, specifikt appendiks B 1 - B 2**
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+**
6. Europæisk vurderingsdokument: **ETAG 001; 2013-04**
Europæisk teknisk vurdering: **ETA-17/0736; 2018-01-30**
Teknisk vurderingsorgan: **DIBt**
Notificeret organ/notificerede organer: **1343 – MPA Darmstadt**
7. Deklareret ydeevne/deklarerede ydeevner:

Mekanisk styrke og stabilitet (BWR 1), Sikkerhed ved anvendelse (BWR 4)

- **Karakteristiske værdier: Se appendiks, specifikt appendiks C 1**

Brandbeskyttelse (BWR 2)

- **Brandegenskaber: Ankret overholder kravene i klasse A1**
- **Brandbeskyttelse: Se appendix, specielt appendiks C 1**

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

Ydeevnen til 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 til fabrikanten og på dennes vegne af:

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Tumlingen, 2018-02-06

- 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.

Specific Part

1 Technical description of the product

The fischer Ceiling Anchor FDN II is an anchor made of galvanized steel which is placed into a drilled hole and anchored by deformation-controlled expansion.

The product description is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document

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

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, 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)

The essential characteristics regarding mechanical resistance and stability are included under the Basic Works Requirement Safety in use.

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Anchorage satisfy requirements for Class A1
Resistance to fire	See Annex C 1

3.3 Safety in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance in concrete	See Annex C 1

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

In accordance with guideline for European technical approval ETAG 001, April 2013 used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011 the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

Product installation conditions, product marking and product dimensions

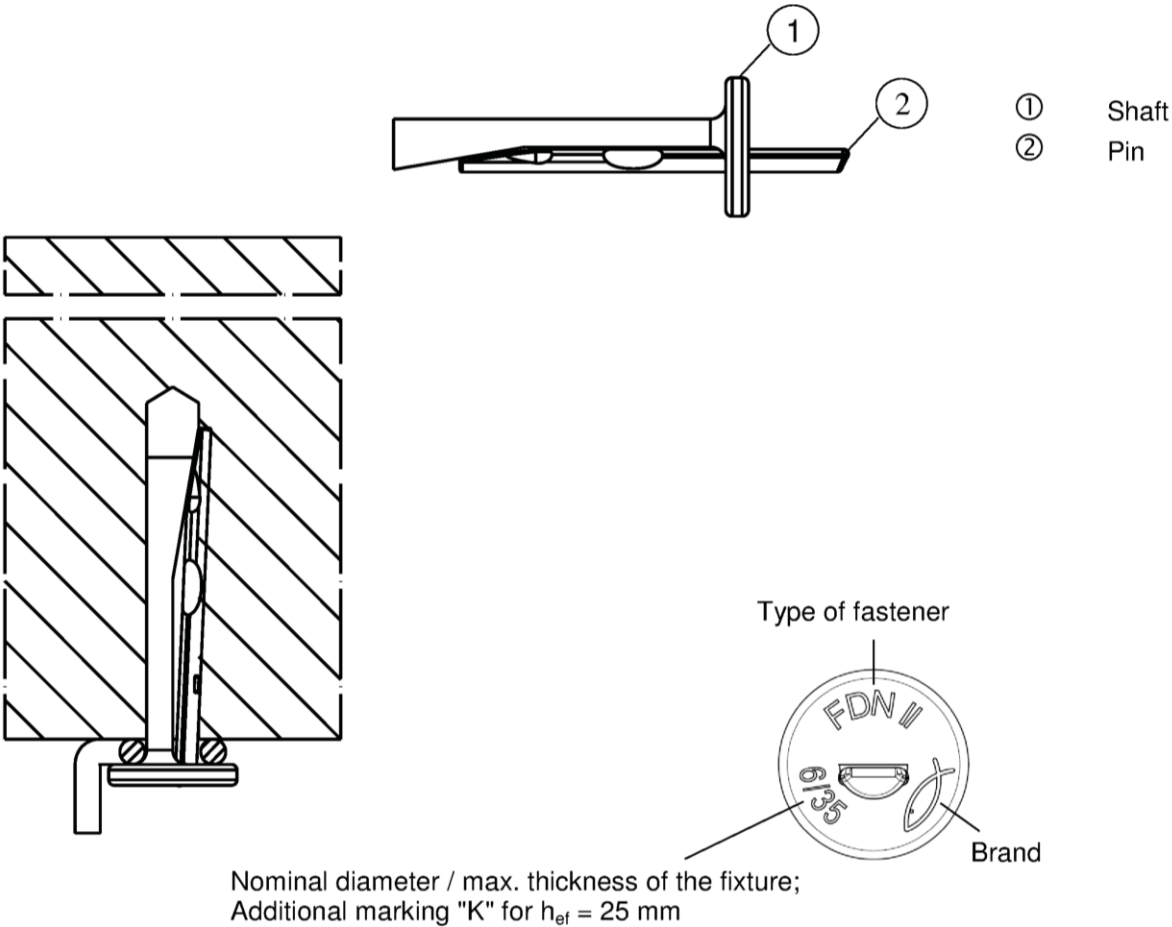
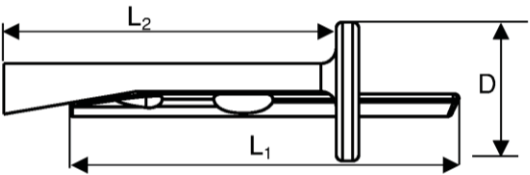


Table A1.1: Dimensions

Size	FDN II			
	6/5 K	6/5	6/35 K	6/35
Length of the pin L_1	36	43	66	73
Length of the shaft L_2	30,5	37,5	60,5	67,5
Diameter of the head $D \geq$	13			



(Fig. not to scale)

fischer Ceiling Anchor FDN II

Product description

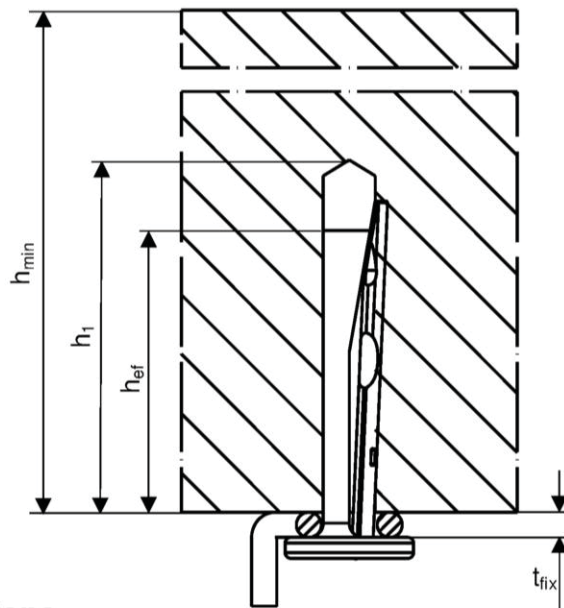
Product installation conditions, product marking and product dimensions

Annex A 1

Specifications of intended use	
Anchorage subject to:	
Size	FDN II 6
Static and quasi-static loads	✓
Use for multiple fixture of non-structural applications according to ETAG 001, Part 6	
Fire exposure	
Base materials: • Reinforced and unreinforced normal weight concrete according to EN 206-1:2000 • Strength classes C12/15 to C50/60 according to EN 206-1:2000 • Cracked and non-cracked concrete Use conditions (Environmental conditions): • Anchorage subject to dry internal conditions Design: • Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work • Verifiable calculation notes and drawings have to be prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.). • Anchorages under static or quasi-static actions have to be designed for Design Method C in accordance with: – ETAG 001, Annex C, Design Method C, Edition August 2010 – CEN/TS 1992-4:2009 • Anchorages under fire exposure have to be designed in accordance with – EOTA Technical Report TR 020, Edition May 2004 – CEN/TS 1992-4:2009, Annex D (it must be ensured that local spalling of the concrete cover does not occur)	
fischer Ceiling Anchor FDN II	
Intended use	Annex B 1
Specifications	

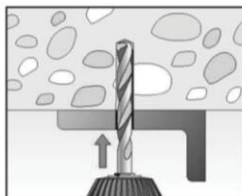
Table B2.1: Installation parameters

Size			FDN II			
			6/5 K	6/5	6/35 K	6/35
Thickness of the fixture	t_{fix}	$\leq$	5		35	
Nominal drill hole diameter	d_0		6			
Diameter of clearance hole in the fixture	d_f	$\leq$	7			
Maximum bit diameter	$d_{cut,max}$	[mm]	6,40			
Effective embedment depth	h_{ef}		25	32	25	32
Depth of drill hole with hole cleaning	h_1		30	37	30	37
to deepest point without hole cleaning			35	42	35	42
Minimum thickness of concrete member	h_{min}		80			

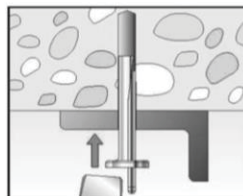


Installation instructions

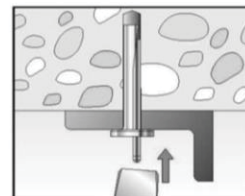
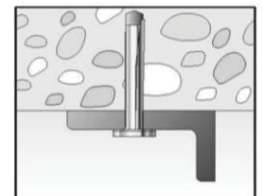
- Hammer or hollow drilling only
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site
- Positioning of the drill holes without damaging the reinforcement
- In case of aborted hole: New drilling at a minimum distance twice the depth of aborted hole away of or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not in the direction of the load application



1: Drill the hole



2: Set the fastener


3: Set the pin, until
flush to the surface


4: Installed fastener

(Fig. not to scale)

fischer Ceiling Anchor FDN II

Intended use

Installation parameters and installation instructions

Annex B 2

Table C1.1: Characteristic resistance

Size		FDN II 6		
For all load directions and for all failures modes				
Effective embedment depth		h_{ef} [mm]	25	32
Characteristic resistance in cracked and non- cracked concrete	C12/15	F_{Rk} [kN]	2,0	2,5
	C20/25 to C50/60		2,5	3,5
Characteristic	edge distance	$c_{cr,N} = c_{min}$ [mm]	70	60
	spacing		$s_{cr,N} = s_{min}$	60
Partial safety factor		$\gamma_M^{2)}$ [-]	1,5	
Shear load with lever arm				
Characteristic bending resistance		$M^0_{Rk,s}$ [Nm]	4,4	
Partial safety factor for steel failure		$\gamma_{Ms}^{1)}$ [-]	1,25	

¹⁾ In absence of other national regulations

²⁾ The installation safety factor $\gamma_2 = \gamma_{inst} = 1,0$ is included

Table C1.2: Characteristic resistance under fire exposure for all effective embedment depths

Size			FDN II 6
Steel failure for tension and shear load			
R30	$F_{Rk,s,fi30}$	Characteristic resistance [kN]	1,00
R60	$F_{Rk,s,fi60}$		0,50
R90	$F_{Rk,s,fi90}$		0,34
R120	$F_{Rk,s,fi120}$		0,26
R180	$F_{Rk,s,fi180}$		0,17
Spacing and edge distance			
R30 – R120	$s_{cr,fi}$	[mm]	200
	$c_{cr,fi}$		150

For fire exposure from more than one side $c_{min} \geq 300$ mm

fischer Ceiling Anchor FDN II**Performances**

Characteristic resistance and characteristic resistance under fire exposure

Annex C 1