

PRESTANDADEKLARATION

DoP 0374

för fischer Ceiling Anchor FDN II (Metallankare för användning i betong)

SV

1. Produktypens unika identifikationskod:

DoP 0374
2. Avsedd användning/avsedda användningar:

Efterinstallerat fästelement för användning i betong i icke-strukturella system, se bilaga, särskilt bilagor B1 - B3.
3. Tillverkare:

fischerwerke GmbH & Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Tyskland
4. Tillverkarens representant:

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5. System för bedömning och fortlopande kontroll av prestanda:

2+
6. Europeiskt bedömningsdokument:

EAD 330747-00-0601, Edition 06/2018

Europeisk teknisk bedömning:

ETA-17/0736; 2025-04-10

Tekniskt bedömningsorgan:

DIBt- Deutsches Institut für Bautechnik

Anmält/anmälda organ:

2873 TU Darmstadt

7. Angiven prestanda:
- Säkerhet vid användning (BWR 4)**

Karakteristisk bärförmåga för spänning (för statisk och kvasi-statisk belastning):

Stålets motståndskraft: NPD

E_s= 210 000 MPa

Motstånd mot att skruven dras ut: NPD

Motstånd i betongkonen: NPD

Kraftighet: Bilaga C1

Minsta kant- och axelavstånd: Bilagor B2, C1

Kantavstånd för att slippa sprickor under last: NPD

- Karakteristisk bärförmåga för skjuvning (för statisk och kvasi-statisk belastning):**
- Motstånd i stålet (tvärlast): Bilaga C1

V_{Rk,s}=NPD; k₇=NPD

Motstånd mot fläkning: NPD

Motstånd mot skador i betong: NPD

- Karaktäristiskt motståndskraft för laster i alla riktningar och motstånd mot fel. En förenklad design:**
- Karaktäristiskt motståndskraft: Bilaga C1

- Hållbarhet:**
- Hållbarhet: Bilaga A1

- Säkerhet vid brand (BWR 2)**
- Reaktion vid brand:Klass (A1)
- Motståndskraft mot eld:**
- Brandmotstånd i stålet (tvärlast): Bilaga C1

Brandmotstånd mot utdrag (draglast): Bilaga C1

Brandmotstånd i stålet (tvärlast): Bilaga C1

8. Lämplig teknisk dokumentation och/eller särskild teknisk dokumentation:
-

Prestandan för ovanstående produkt överensstämmer med den angivna prestandan. Denna prestandadeklARATION har utfärdats i enlighet med förordning (EU) nr 305/2011 på eget ansvar av den tillverkare som anges ovan.

Undertecknad på tillverkarens vägnar av:



Dr. Ronald Mihala, Chef för utveckling och produktionsledning
Tumlingen, 2025-05-19



Dieter Pfaff, Chef för Internationella Produktionsfederationen och Kvalitetsledning

Denna DoP har förberetts på olika språk. I händelse av tvist om tolkningen ska den engelska versionen alltid råda.

Bilagan innehåller frivilliga och kompletterande information på engelska som överskrider (det specifika språkets) lagkrav.

Translation guidance Essential Characteristics and Performance Parameters for Annexes

Översättningsråd Grundläggande karaktäristik och prestandaparametrar för Annex

Safety in case of fire (BWR 2)		
Säkerhet vid brand (BWR 2)		
1	Reaction to fire: Reaktion vid brand:	Class Klass (A1)
Resistance to fire: Motståndskraft mot eld:		
2	Fire resistance to steel failure (tension load): Brandmotstånd i stålet (tvärlast):	$N_{Rk,s,fi}$ [kN]
3	Fire resistance to pull-out failure (tension load): Brandmotstånd mot utdrag (draglast):	$N_{Rk,p,fi}$ [kN]
4	Fire resistance to steel failure (shear load): Brandmotstånd i stålet (tvärlast):	$V_{Rk,s,fi}$ [kN], $M^0_{Rk,s,fi}$ [Nm]
Safety and accessibility in use (BWR 4)		
Säkerhet vid användning (BWR 4)		
Characteristic resistance to tension load (static and quasi-static loading): Karaktäristisk bärförmåga för spänning (för statisk och kvasi-statisk belastning):		
6	Resistance to steel failure: Stålets motståndskraft:	$N_{Rk,s}$ [kN], E_s [N/mm ²]
7	Resistance to pull- out failure: Motstånd mot att skruven dras ut:	$N_{Rk,p}$ [kN], ψ_c , $T_{Rk,p}$ [N/mm ²]
8	Resistance to concrete cone failure: Motstånd i betongkonen:	$k_{cr,N}$, $k_{ucr,N}$ [-], h_{ef} , $c_{cr,N}$ [mm]
9	Robustness: Kraftighet:	γ_{inst} [-]
10	Minimum edge distance and spacing: Minsta kant- och axelavstånd:	c_{min} , s_{min} , h_{min} [mm]
11	Edge distance to prevent splitting under load: Kantavstånd för att slippa sprickor under last:	$N^0_{Rk,sp}$ [kN], $c_{cr,sp}$ [mm]
Characteristic resistance to shear load (static and quasi-static loading): Karaktäristisk bärförmåga för skjuvning (för statisk och kvasi-statisk belastning):		
12	Resistance to steel failure (shear load): Motstånd i stålet (tvärlast):	$V_{Rk,s}$ [kN], $M^0_{Rk,s}$ [Nm], k_7 [-]
13	Resistance to pry-out failure: Motstånd mot fläkning:	k_8 [-]
14	Resistance to concrete edge failure: Motstånd mot skador i betong:	d_{nom} , l_f [mm]
Characteristic resistance for all load directions and modes of failure for simplified design: Karaktäristiskt motståndskraft för laster i alla riktningar och motstånd mot fel. En förenklad design:		
15	Characteristic resistance: Karaktäristisk motståndskraft:	F^0_{Rk} [kN], s_{cr} , c_{cr} [mm]
Durability: Hållbarhet:		
16	Durability: Hållbarhet:	Description

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.

Product and 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 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	See Annex C 1

3.2 Safety in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance for all load directions and modes of failure for simplified design	See Annex C 1
Durability	See Annex B 1

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

In accordance with European Assessment Document EAD No. 330747-00-0601, the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

Product installation conditions, product marking and product dimensions

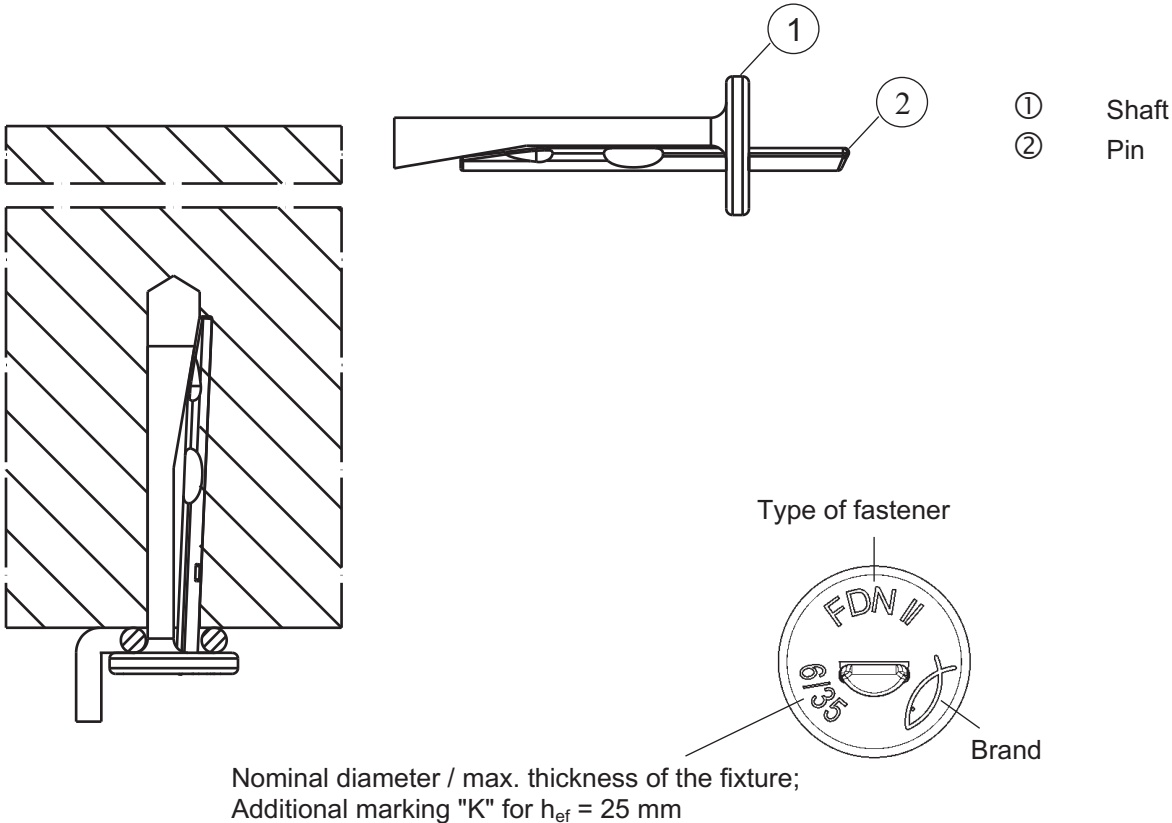
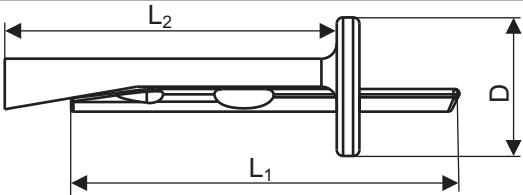


Tabelle A1.1: Materials

Part	Description	Material
1	Shaft	Steel, galvanised $\geq 5\mu\text{m}$ according to EN ISO 4042:2022
2	Pin	Steel, galvanised $\geq 5\mu\text{m}$ according to EN ISO 4042:2022

Table A1.2: Dimensions

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



(Figures not to scale)

fischer Ceiling Anchor FDN II

Product description

Product installation conditions, product marking and product dimensions

Annex A 1

Appendix 2 / 6

Specifications of intended use

Anchorage subject to:

Size	FDN II 6
Static and quasi-static loads	✓
Only for redundant non-structural systems according to EN 1992-4:2018	
Fire exposure	

Base materials:

- Compacted reinforced and unreinforced normal weight concrete without fibres according to EN 206:2013+A2:2021.
- Strength classes C12/15 to C50/60 according to EN 206:2013+A2:2021.
- Cracked and uncracked concrete.

Use conditions (Environmental conditions):

- Anchorages 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 and quasi-static loading are designed in accordance with EN 1992-4:2018, Design Method C or Technical Report CEN/TR 17079.
- In case of requirements to resistance to fire local spalling of the concrete cover must be avoided.

Installation:

- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Use of the fastener only as supplied by the manufacturer without exchanging the components of the fastener.
- Anchor installation in accordance with the manufacturer's specifications and drawings and using the appropriate tools.
- Check of concrete being well compacted, e.g. without significant voids.
- Positioning of the drill holes without damaging the reinforcement.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of aborted hole or smaller distance if the aborted hole is filled with high strength mortar (e.g. FIS HB, FIS SB, FIS EM Plus, FIS V Plus) and if under shear or oblique tension load it is not on the direction of the load application.

fischer Ceiling Anchor FDN II

Intended use
Specifications

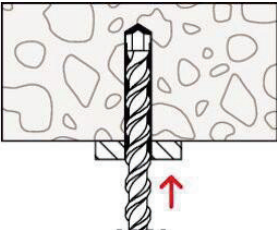
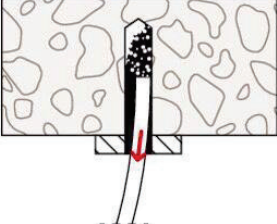
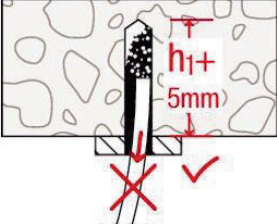
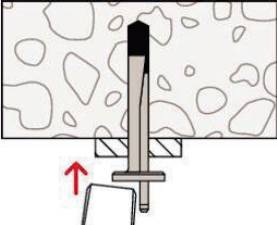
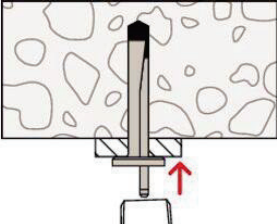
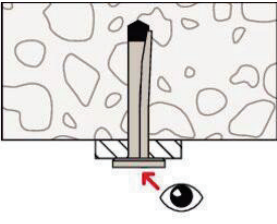
Annex B 1
Appendix 3 / 6

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 drill bit diameter	$d_{cut,max}$		6,40					
Effective embedment depth	h_{ef}	[mm]	25	32	25	32		
Depth of drill hole to deepest point	with hole cleaning without hole cleaning		h_1	$\geq$	30	37	30	37
				35	42	35	42	
Minimum thickness of concrete member	h_{min}		80					

(Figure not to scale)

fischer Ceiling Anchor FDN II			Annex B 2 Appendix 4 / 6		
Intended use Installation parameters					

Installation instructions

	1. Drill the hole: hammer or hollow drilling only.
	2. Clean the drill hole (only relates to hammer drilling).
	3. Cleaning of the drill hole not necessary, if the drill hole is 5 mm deeper (only relates to hammer drilling).
	4. Set the fastener: Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
	5. Set the pin, until flush to the surface: Positioning of the drill holes without damaging the reinforcement.
	6. Installed fastener: 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.

(Figures not to scale)

fischer Ceiling Anchor FDN II

Intended use

Installation instructions

Annex B 3

Appendix 5 / 6

Table C1.1: Characteristic resistance for design method C

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 un-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	50
Partial safety factor		$\gamma_M^{2)}$	[-]	1,5	
Shear load with lever arm					
Characteristic bending resistance		$M_{Rk,s}^0$	[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	
For all load directions				
R30	Characteristic resistance	$F_{Rk,fi30}$	[kN]	1,00
R60		$F_{Rk,fi60}$		0,50
R90		$F_{Rk,fi90}$		0,34
R120		$F_{Rk,fi120}$		0,26
R180		$F_{Rk,fi180}$		0,17
Spacing and edge distance				
R30 – R180		$s_{cr,fi}$	[mm]	200
		$c_{cr,fi}$		150
Shear load with lever arm				
R30	Characteristic bending resistance	$M^0_{Rk,s,fi30}$	[Nm]	0,67
R60		$M^0_{Rk,s,fi60}$		0,33
R90		$M^0_{Rk,s,fi90}$		0,22
R120		$M^0_{Rk,s,fi120}$		0,16
R180		$M^0_{Rk,s,fi180}$		0,11

For fire exposure from one side c_{min} and s_{min} see Table C1.1.

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

Appendix 6 / 6