DÉCLARATION DES PERFORMANCES

DoP 0374
pour Clou fischer FDN II (fixation mécanique pour utilisation dans le béton) FR

1. Code d'identification unique du type de produit: **DoP 0374**
2. Usage(s) prévu(s): **Fixation dans le béton pour les systèmes redondants non structurels, voir annexes, en particulier les annexes B1 - B3.**

3. Fabricant: **fischerwerke GmbH & Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Allemagne**

4. Mandataire: **–**

5. Système(s) d'évaluation et de vérification de la constance des performances: **2+**

6. Document d'évaluation européen: **EAD 330747-00-0601, Edition 06/2018**
   Evaluation Technique Européenne: **ETA-17/0736; 2025-04-10**
   Organisme d'évaluation technique: **DIBt- Deutsches Institut für Bautechnik**
   Organisme(s) notifié(s): **2873 TU Darmstadt**

7. Performance(s) déclarée(s):

Sécurité d'utilisation (BWR 4)

Résistance caractéristique à la charge de traction (charge statique et quasi-statique):

Résistance à la rupture de l'acier: NPD — E_S= 210 000 MPa
Résistance à l'extraction glissement: NPD
Résistance à la rupture du cône béton: NPD
Robustesse: Annexe C1
Distance au bord et entraxe mini.: Annexes B2, C1
Distance au bord pour éviter la rupture par fendage sous charge: NPD

Résistance caractéristique à la charge de cisaillement (charge statique et quasi-statique):

Résistance à la rupture de l'acier (charge de cisaillement) : Annexe C1 — $V_{Rk,s}$=NPD; k_7=NPD
Résistance à la rupture par effet de levier : NPD
Résistance à la rupture du béton en bord de dalle: NPD

Résistance caractéristique pour toutes les directions de charges et modes de ruine pour dimensionnement simplifié:

Résistance caractéristique: Annexe C1

Durabilité:

Durabilité: Annexe A1

Sécurité en cas d'incendie (BWR 2)

Réaction au feu:Classe (A1)

Résistance au feu:

Résistance en cas d'incendie, rupture de l'acier (charge de traction) : Annexe C1
Résistance en cas d'incendie, extraction glissement (charge de traction) : Annexe C1
Résistance en cas d'incendie, rupture de l'acier (charge de cisaillement) : Annexe C1

8. Documentation technique appropriée et/ou documentation technique spécifique: **–**

Les performances du produit identifié ci-dessus sont conformes aux performances déclarées. Conformément au règlement (UE) no 305/2011, la présente déclaration des performances est établie sous la seule responsabilité du fabricant mentionné ci-dessus.

Signé pour le fabricant et en son nom par:

Dr. Ronald Mihala, Direction du développement et de la gestion de la production

Dieter Pfaff, Chef de la Fédération Internationale de Production et Gestion de la Qualité

Tumlingen, 2025-05-19

Cette DoP a été préparée en plusieurs langues. En cas de différend relatif à l'interprétation, la version anglaise prévaudra.

L'annexe comprend des informations volontaires et complémentaires en langue anglaise dépassant les exigences légales (spécifiées de manière neutre).

Translation guidance Essential Characteristics and Performance Parameters for Annexes

Guide de traduction des caractéristiques essentielles et des paramètres de performance pour les annexes

Safety in case of fire (BWR 2) **Sécurité en cas d'incendie (BWR 2)**		
1	Reaction to fire: **Réaction au feu:**	Class Classe (A1)
Resistance to fire: **Résistance au feu:**		
2	Fire resistance to steel failure (tension load): **Résistance en cas d'incendie, rupture de l'acier (charge de traction) :**	$N_{Rk,s,fi}$ [kN]
3	Fire resistance to pull-out failure (tension load): **Résistance en cas d'incendie, extraction glissement (charge de traction) :**	$N_{Rk,p,fi}$ [kN]
4	Fire resistance to steel failure (shear load): **Résistance en cas d'incendie, rupture de l'acier (charge de cisaillement) :**	$V_{Rk,s,fi}$ [kN], $M^0_{Rk,s,fi}$ [Nm]
Safety and accessibility in use (BWR 4) **Sécurité d'utilisation (BWR 4)**		
Characteristic resistance to tension load (static and quasi-static loading): **Résistance caractéristique à la charge de traction (charge statique et quasi-statique):**		
6	Resistance to steel failure: **Résistance à la rupture de l'acier:**	$N_{Rk,s}$ [kN], E_s [N/mm^2]
7	Resistance to pull- out failure: **Résistance à l'extraction glissement:**	$N_{Rk,p}$ [kN], ψ_c, $\tau_{Rk,p}$ [N/mm^2]
8	Resistance to concrete cone failure: **Résistance à la rupture du cône béton:**	$k_{cr,N}$, $k_{ucr,N}$ [-], h_{ef}, $c_{cr,N}$ [mm]
9	Robustness: **Robustesse:**	γ_{inst} [-]
10	Minimum edge distance and spacing: **Distance au bord et entraxe mini.:**	c_{min}, s_{min}, h_{min} [mm]
11	Edge distance to prevent splitting under load: **Distance au bord pour éviter la rupture par fendage sous charge:**	$N^0_{Rk,sp}$ [kN], $c_{cr,sp}$ [mm]
Characteristic resistance to shear load (static and quasi-static loading): **Résistance caractéristique à la charge de cisaillement (charge statique et quasi-statique):**		
12	Resistance to steel failure (shear load): **Résistance à la rupture de l'acier (charge de cisaillement) :**	$V_{Rk,s}$ [kN], $M^0_{Rk,s}$ [Nm], k_7 [-]
13	Resistance to pry-out failure: **Résistance à la rupture par effet de levier :**	k_8 [-]
14	Resistance to concrete edge failure: **Résistance à la rupture du béton en bord de dalle:**	d_{nom}, l_f [mm]
Characteristic resistance for all load directions and modes of failure for simplified design: **Résistance caractéristique pour toutes les directions de charges et modes de ruine pour dimensionnement simplifié:**		
15	Characteristic resistance: **Résistance caractéristique:**	F^0_{Rk} [kN], s_{cr}, c_{cr} [mm]
Durability: **Durabilité:**		
16	Durability: **Durabilité:**	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

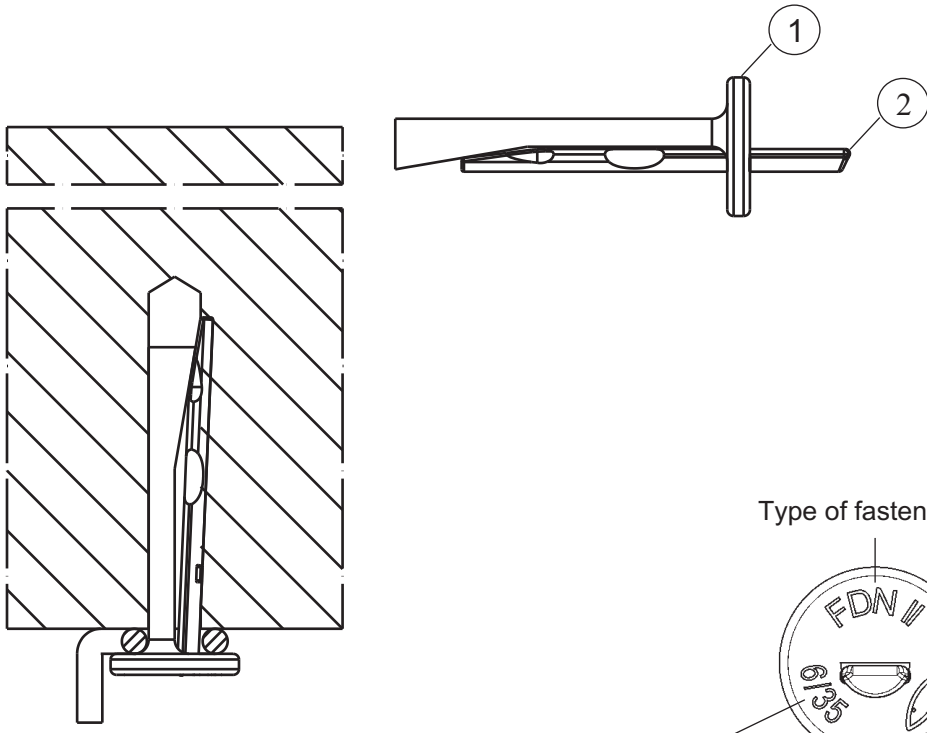
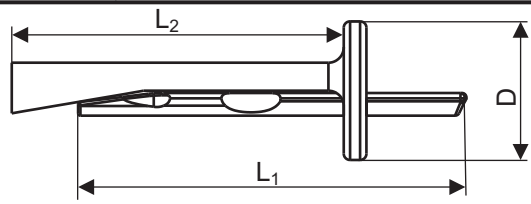


Tabelle A1.1: Materials

Part	Description	Material
1	Shaft	Steel, galvanised ≥ 5µm according to EN ISO 4042:2022
2	Pin	Steel, galvanised ≥ 5µm 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	[mm]	36	43	66	73
	shaft	L_2		30,5	37,5	60,5	67,5
Diameter of the head		D ≥		13			



(Figures not to scale)

Specifications of intended use

Anchorages 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.

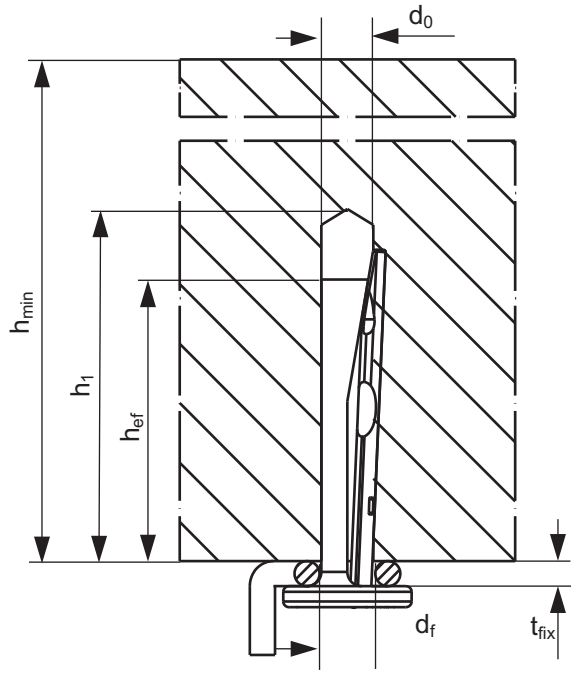
Use conditions (Environmental conditions):
- Anchorages subject to dry internal conditions.

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 of oblique tension load it is not on the direction of the load application.

Table B2.1: Installation parameters

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



(Figure not to scale)

fischer Ceiling Anchor FDN II

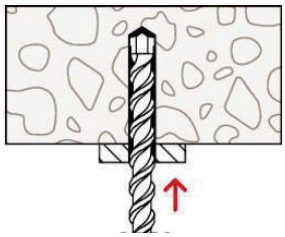
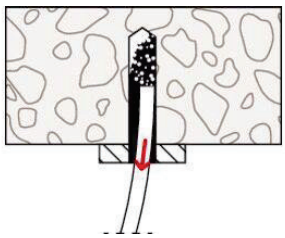
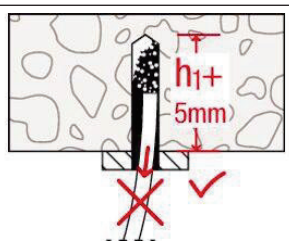
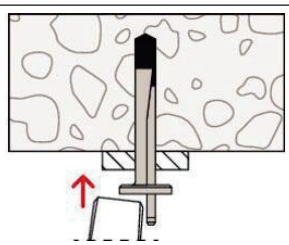
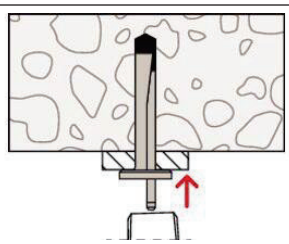
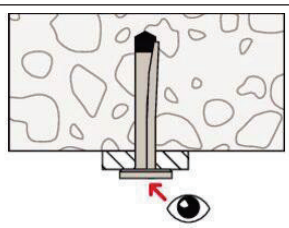
Intended use

Installation parameters

Annex B 2

Appendix 4 / 6

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 flish 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)

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		γ_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		γ_{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.