DECLARACIÓN DE PRESTACIONES

DoP 0374

para el fischer Ceiling Anchor FDN II (anclaje mecánico para uso en hormigón) ES

1. Código de identificación única del producto tipo: **DoP 0374**
2. Usos previstos: **Fijación a posteriori en hormigón para sistemas no portantes redundantes, véase el apéndice, especialmente los anexos B1 - B3.**
3. Fabricante: **fischerwerke GmbH & Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Alemania**
4. Representante autorizado: **–**
5. Sistemas de evaluación y verificación de la constancia de las prestaciones (EVCP): **2+**
6. Documento de evaluación europeo: **EAD 330747-00-0601, Edition 06/2018**
   Evaluación técnica europea: **ETA-17/0736; 2025-04-10**
   Organismo de evaluación técnica: **DIBt- Deutsches Institut für Bautechnik**
   Organismos notificados: **2873 TU Darmstadt**
7. Prestaciones declaradas:

Seguridad en uso (BWR 4)

Resistencia característica a tracción (carga estática y cuasi-estática):

Resistencia de rotura del acero: NPD	E_S= 210 000 MPa
Résistance à la rupture par extraction glissement: NPD	
Resistencia de rotura por cono de hormigón: NPD	
Robustez Anexo C1	
Distancia mínima entre el borde y el centro: Anexos B2, C1	
Distancia al borde para evitar la rotura del acero sometido a carga: NPD	

Resistencia característica a cortante (carga estática y cuasi-estática):

Resistencia de rotura del acero (esfuerzo cortante): Anexo C1	$V_{Rk,S}$=NPD; k_7=NPD
Resistencia falla por arrancamiento lateral: NPD	
Resistencia de rotura del hormigón al borde: NPD	

Resistencia característica para todas las direcciones de carga y modos de falla para un diseño simplificado:

Resistencia característica: Anexo C1

Durabilidad:

Durabilidad: Anexo A1

Seguridad en caso de incendio (BWR 2)

Reacción al fuego:Clase (A1)

Resistencia al fuego:

Resistencia al fuego, rotura del acero (carga de tracción): Anexo C1
Resistencia al fuego, a la extracción (carga de tracción): Anexo C1
Resistencia al fuego, rotura del acero (esfuerzo cortante): Anexo C1

8. Documentación técnica adecuada o documentación técnica específica: **–**

Las prestaciones del producto identificado anteriormente son conformes con el conjunto de prestaciones declaradas. La presente declaración de prestaciones se emite, de conformidad con el Reglamento (UE) no 305/2011, bajo la sola responsabilidad del fabricante arriba identificado.

Firmado por y en nombre del fabricante por:

Dr. Ronald Mihala, Jefe de Desarrollo y Gestión de la Producción

Dieter Pfaff, Jefe de la Federación Internacional de Producción y Gestión de Calidad

Tumlingen, 2025-05-19

Esta DdR se ha preparado en distintos idiomas. En caso de que haya alguna controversia sobre la interpretación prevalecerá siempre la versión inglesa.

El Apéndice incluye información voluntaria y complementaria en idioma inglés que excede los requisitos legales (de idioma neutral).

Translation guidance Essential Characteristics and Performance Parameters for Annexes

Glosario de parámetros esenciales, característicos y de prestaciones para los anexos

Safety in case of fire (BWR 2) **Seguridad en caso de incendio (BWR 2)**		
1	Reaction to fire: **Reacción al fuego:**	Class Clase (A1)
Resistance to fire: **Resistencia al fuego:**		
2	Fire resistance to steel failure (tension load): **Resistencia al fuego, rotura del acero (carga de tracción):**	$N_{Rk,s,fi}$ [kN]
3	Fire resistance to pull-out failure (tension load): **Resistencia al fuego, a la extracción (carga de tracción):**	$N_{Rk,p,fi}$ [kN]
4	Fire resistance to steel failure (shear load): **Resistencia al fuego, rotura del acero (esfuerzo cortante):**	$V_{Rk,s,fi}$ [kN], $M^0_{Rk,s,fi}$ [Nm]
Safety and accessibility in use (BWR 4) **Seguridad en uso (BWR 4)**		
Characteristic resistance to tension load (static and quasi-static loading): **Resistencia característica a tracción (carga estática y cuasi-estática):**		
6	Resistance to steel failure: **Resistencia de rotura del acero:**	$N_{Rk,s}$ [kN], E_s [N/mm^2]
7	Resistance to pull- out failure: **Résistance à la rupture par extraction glissement:**	$N_{Rk,p}$ [kN], ψ_c, $\tau_{Rk,p}$ [N/mm^2]
8	Resistance to concrete cone failure: **Resistencia de rotura por cono de hormigón:**	$k_{cr,N}$, $k_{ucr,N}$ [-], h_{ef}, $c_{cr,N}$ [mm]
9	Robustness: **Robustez**	γ_{inst} [-]
10	Minimum edge distance and spacing: **Distancia mínima entre el borde y el centro:**	c_{min}, s_{min}, h_{min} [mm]
11	Edge distance to prevent splitting under load: **Distancia al borde para evitar la rotura del acero sometido a carga:**	$N^0_{Rk,sp}$ [kN], $c_{cr,sp}$ [mm]
Characteristic resistance to shear load (static and quasi-static loading): **Resistencia característica a cortante (carga estática y cuasi-estática):**		
12	Resistance to steel failure (shear load): **Resistencia de rotura del acero (esfuerzo cortante):**	$V_{Rk,s}$ [kN], $M^0_{Rk,s}$ [Nm], k_7 [-]
13	Resistance to pry-out failure: **Resistencia falla por arrancamiento lateral:**	k_8 [-]
14	Resistance to concrete edge failure: **Resistencia de rotura del hormigón al borde:**	d_{nom}, l_f [mm]
Characteristic resistance for all load directions and modes of failure for simplified design: **Resistencia característica para todas las direcciones de carga y modos de falla para un diseño simplificado:**		
15	Characteristic resistance: **Resistencia característica:**	F^0_{Rk} [kN], s_{cr}, c_{cr} [mm]
Durability: **Durabilidad:**		
16	Durability: **Durabilidad:**	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

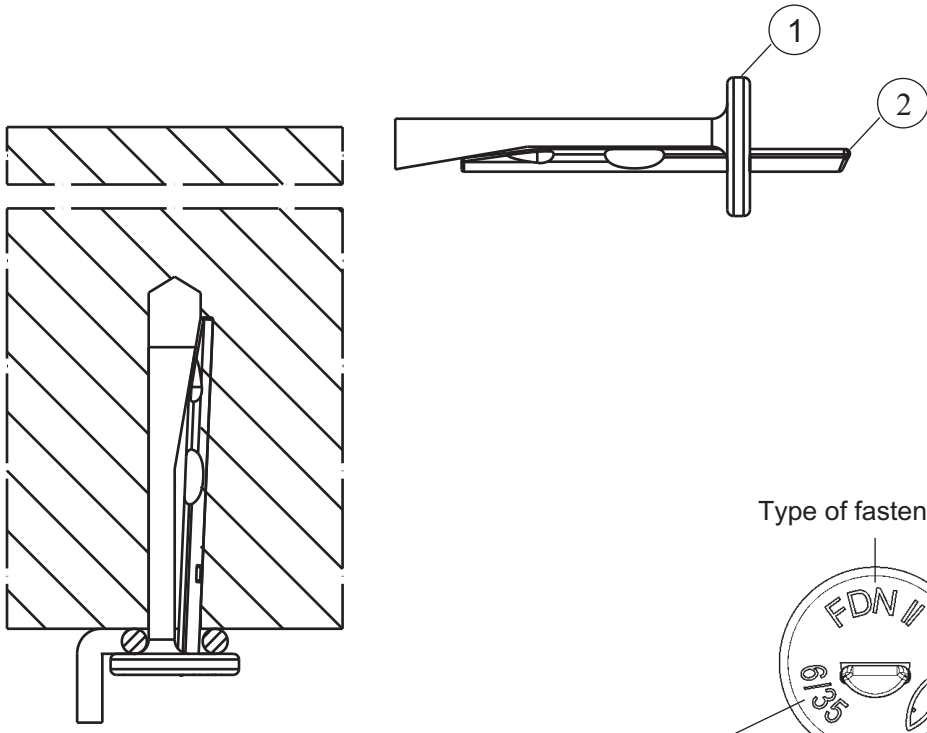
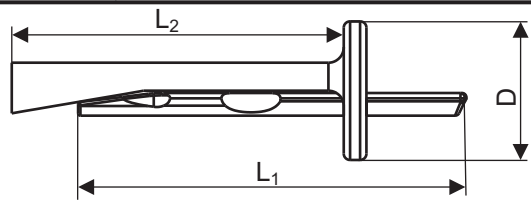


Tabelle A1.1: Materials

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.

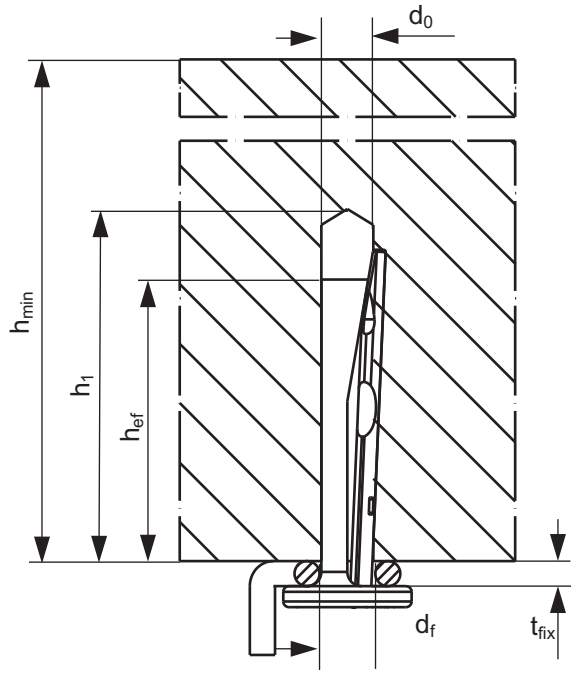
Use conditions (Environmental conditions):
- Anchorages subject to dry internal conditions.

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

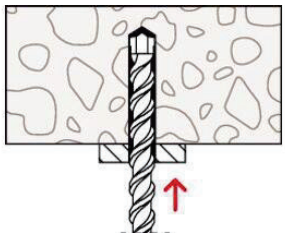
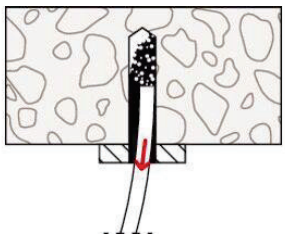
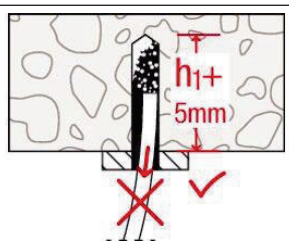
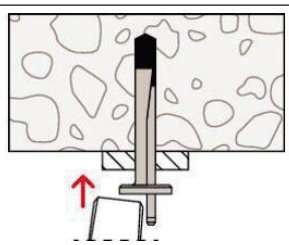
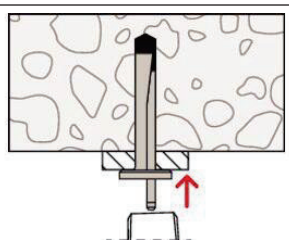
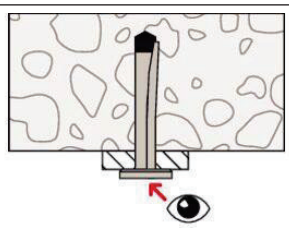
Intended use

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.