

**VYHLÁSENIE O PARAMETROCH****DoP 0235**

pre fischer nail anchor FNA II (mechanická kotva do betónu)

SK

1. Jedinečný identifikačný kód typu výrobku:**DoP 0235**2. Zamýšľané použitie/použitia:**Dodatočné, viacnásobné upevnenie v betóne pre nenosné konštrukcie.**3. Výrobcu:**Pozri prílohu, najmä prílohy****fischerwerke GmbH & Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Nemecko**4. Splnomocnený zástupca:**-**5. Systém(-y) posudzovania a overovania nemennosti parametrov:**2+**6. Európsky hodnotiaci dokument:**EAD 330747-00-0601, Edition 06/2018****ETA-06/0175; 2021-03-02****DBIT- Deutsches Institut für Bautechnik****Notifikovaný(-é) subjekt(-y):****2873 TU Darmstadt**7. Deklarované parametre:**Bezpečnosť pri používaní (BWR 4)**Charakteristická odolnosť v ľahu
(statické a kvázistatické zaťaženie):

Odolnosť voči porušeniu ocele:

NPD

Odolnosť voči porušeniu vytiahnutím:

NPD

Odolnosť voči porušeniu betónového kužeľa:

NPD

Robustnosť:

Prílohy C1Minimálna vzdialenosť od okraj a osová
Vzdialenosť od okraja voči rozštiepliu pri zaťažení:**Prílohy B2, C1****NPD**Charakteristická odolnosť v šmyku (statické a
kvázistatické zaťaženie):

Odolnosť voči porušeniu ocele: (Zaťaženie šmykom)

NPD

Odolnosť voči vylomeniu:

NPD

Odolnosť voči poškodeniu hrany betónu

NPDCharakteristická únosnosť pre všetky smery
zaťaženia a spôsoby porušenia pre zjednodušený
návrh:

Charakteristická únosnosť:

Prílohy C1

životnosť:

životnosť:

Prílohy A2, B1**Bezpečnosť v prípade požiaru (BWR 2)**

Reakcia na oheň:

Trieda (A1)

Odolnosť proti ohňu:

Požiarna odolnosť voči porušeniu ocele (Zaťaženie

NPD

Požiarna odolnosť voči vytiahnutiu (Zaťaženie

NPD

Požiarna odolnosť voči porušeniu ocele (Zaťaženie

NPDPožiarna odolnosť pre všetky smery zaťaženia a
spôsoby poruchy:**Prílohy C2**



8. Vhodná technická dokumentácia a/alebo špecifická
technická dokumentácia: -

Uvedené parametre výrobku sú v zhode so súborom deklarovaných parametrov. Toto vyhlásenie o parametroch sa v súlade s nariadením (EÚ) č. 305/2011 vydáva na výhradnú zodpovednosť uvedeného výrobcu.

Podpísal(-a) za a v mene výrobcu:

Dr. Oliver Geibig, konateľ oddelenia Produkt management & vývoj
Tumlingen, 2021-03-16

Jürgen Grün, konateľ oddelenia Chemická výroba & kvalita

Toto vyhlásenie o vlastnostiach bolo vyhotovené v rôznych jazykoch. V prípade, že dôjde k rozdielnemu výkladu má anglická verzia vždy prednosť.

Príloha obsahuje dobrovoľné a doplňujúce informácie v anglickom jazyku. Tieto vychádzajú zo zákonom stanovených požiadaviek (jazykovo neutrálnych).

Specific Part

1 Technical description of the product

The fischer nail anchor FNA II is an anchor made of galvanised (FNA II) or stainless steel (FNA II R) or high corrosion resistant steel (FNA II HCR). The anchor is pushed into a predrilled cylindrical drill hole and expanded by loading.

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 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	See Annex C 2

3.2 Safety in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance to tension and shear load (static and quasi-static loading)	See Annex B 2 and C 1
Durability	See Annex B 1

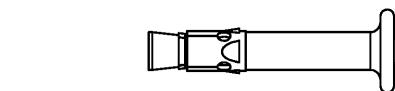
4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

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+

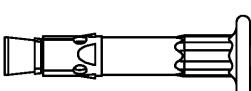
**Only for multiple use for non-structural applications according to
EAD 330747-00-0601**

Design types:



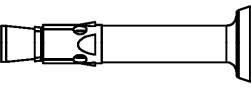
Nail head

FNA II 6x25/..
FNA II 6x30/..



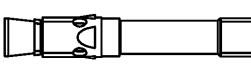
Nail head RB

FNA II 6x25/.. RB
FNA II 6x30/.. RB



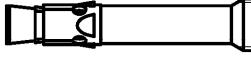
Threaded bolt with ISO
standard metric thread
M6

FNA II 6x25 M6/..
FNA II 6x30 M6/..



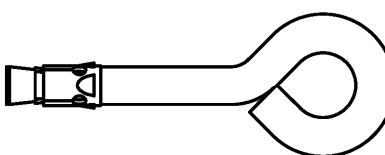
Threaded bolt with ISO
standard metric thread
M8

FNA II 6x25 M8/..
FNA II 6x30 M8/..

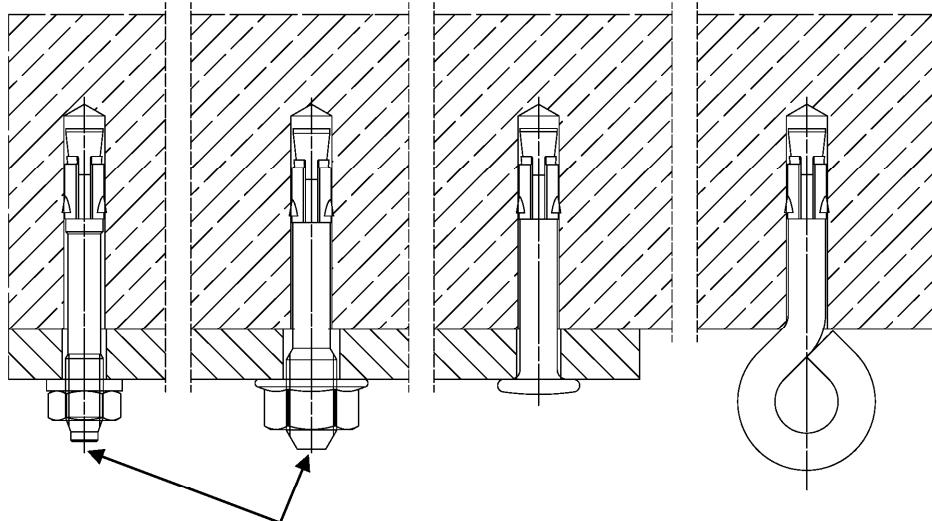


FNA II OE with eye

FNA II 6x25 OE
FNA II 6x30 OE



Intended use:



Additional marking only galvanised steel for $h_{ef} = 25$ mm (centring, bar or points)

(Fig. not to scale)

fischer nail anchor FNA II

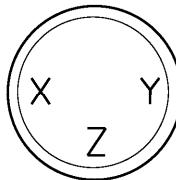
Product description

Product and intended use

Annex A 1

Marking:

Nail head



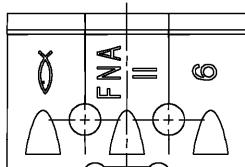
Marking at **X**: "O" for $h_{ef} = 25$ mm
and "I" for $h_{ef} = 30$ mm;

Marking at **Y**: t_{fix}

Marking at **Z**: "R" or "HCR" (stainless steel)

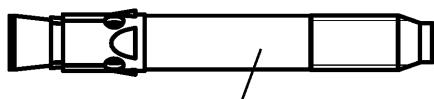
Expansion sleeve (or bolt)

e.g.:



For stainless steel additional marking "R" or "HCR"

Shaft (threaded bolt)

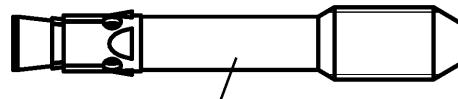


Marking e.g.: 6/10
thread size/thickness of the fixture

Marking-Codes for **Y**:

	A	Q	T	N	P	B	L	H	U
t_{fix}	5	10	15	20	25	30	35	40	45
	D	V	S	W	X	E	M	Z	K
t_{fix}	50	55	60	65	70	75	80	85	90
	(A)	F	(B)	(D)	(E)	G	J		
t_{fix}	95	100	105	110	115	120	125		

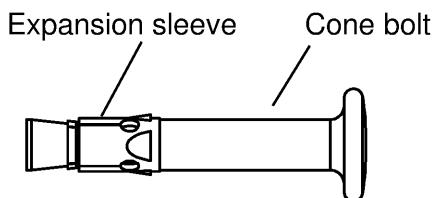
At $t_{fix} > 125$ mm the corresponding figure is marked.



Marking e.g.: 8/10
thread size /thickness of the fixture
Exception: 8/5 no marking

Table A2.1: Materials FNA II

Part	Designation	Material		
		FNA II	FNA II R	FNA II HCR
Steel grade	Steel	Stainless steel R		High corrosion resistant steel HCR
	Zinc plated $\geq 5 \mu\text{m}$, ISO 4042:2018	Acc. to EN 10088:2014 Corrosion resistance class CRC III acc. to EN 1993-1-4:2015		Acc. to EN 10088:2014 Corrosion resistance class CRC V acc. to EN 1993-1-4:2015
1	Expansion sleeve	Cold strip, EN 10139:2016 or stainless steel EN 10088:2014	Stainless steel EN 10088:2014	Stainless steel EN 10088:2014
2	Cone bolt	Cold form steel or free cutting steel		High corrosion resistant steel EN 10088:2014



(Fig. not to scale)

fischer nail anchor FNA II

Product description
Marking and materials

Annex A 2

Specifications of intended use

Fastenings subject to:

Size	FNA II, FNA II R, FNA II HCR
Hammer drilling with standard drill bit	
Static and quasi-static loads	All types
Cracked and uncracked concrete	✓
Fire exposure	

Base materials:

- Compacted reinforced and unreinforced normal weight concrete without fibres (cracked and uncracked) according to EN 206:2013+A1:2016
- Strength classes C12/15 to C50/60 according to EN 206:2013+A1:2016

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions (FNA II, FNA II R, FNA II HCR) with $h_{ef} \geq 25$ mm
- For all other conditions according to EN 1993-1-4:2006 + A1:2015 corresponding to corrosion resistance class
 - CRC III: for FNA II R with $h_{ef} \geq 30$ mm
 - CRC V: for FNA II HCR with $h_{ef} \geq 30$ mm

Design:

- Fastenings are to be designed under the responsibility of an engineer experienced in fastenings and concrete work
- Verifiable calculation notes and drawings have 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.)
- Simplified design method C according to EN 1992-4:2018 Annex G

Installation:

- Fastener installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters on site
- Use of the fastener only as supplied by the manufacturer without exchanging the components of the fastener
- Checking before placing the fastener to ensure that the strength class of the concrete in which the fastener is to be placed, is in the range given and is not lower than that of the concrete to which the characteristic loads apply
- Check of concrete being well compacted, e.g. without significant voids
- Drill hole created perpendicular +/- 5° to concrete surface, positioning without damaging the reinforcement
- In case of aborted hole: new drilling at a minimum distance twice the depth of the aborted drill hole or smaller distance if the aborted drill 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 in the direction of load application

fischer nail anchor FNA II

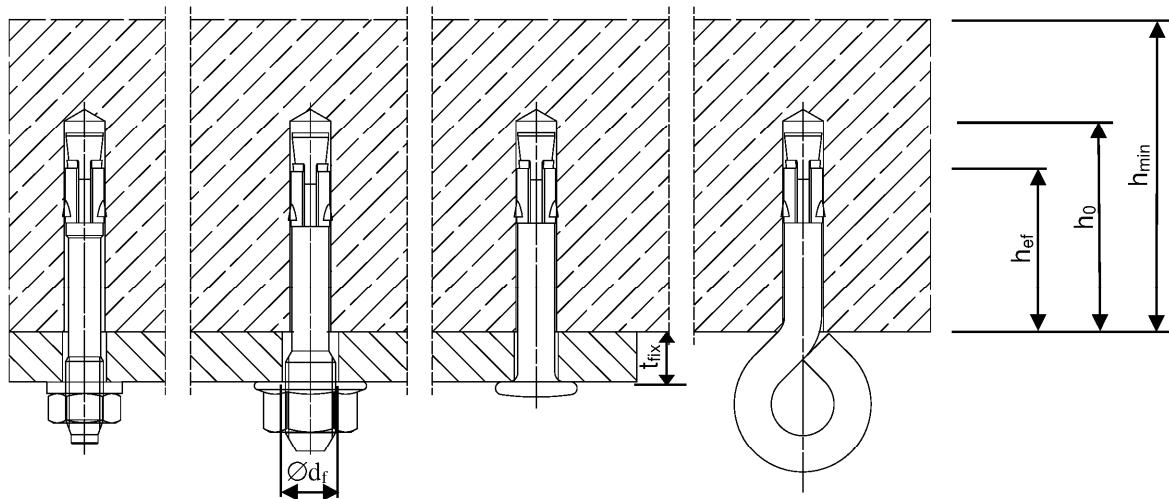
**Intended Use
Specifications**

Annex B 1

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Table B2.1: Installation parameters

Effective embedment depth	$h_{ef} \geq$	[mm]	25	30
Nominal drill bit diameter	$d_0 =$		6	
Cutting diameter of drill bit	$d_{cut,max} \leq$		6,4	
Depth of drill hole	$h_0 \geq$		31	36
Diameter of clearance hole in the fixture for all FNA II except for M8 and OE	$d_f \leq$		7	
Diameter of clearance hole in the fixture for M8	$d_f \leq$		9	
Maximum torque moment (only threaded types)	max. $T_{inst} \leq$	[Nm]	4	
Minimum thickness of member	h_{min}	[mm]	80	
Maximum thickness of fixture	max. t_{fix}		400	



(Fig. not to scale)

fischer nail anchor FNA II

Intended Use
Installation parameters

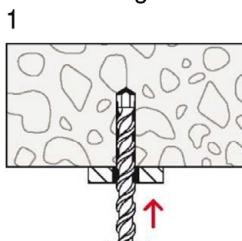
Annex B2

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Installation instruction:

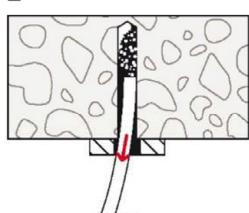
Drill the hole

Push through installation



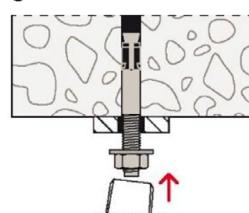
Clean the hole

2



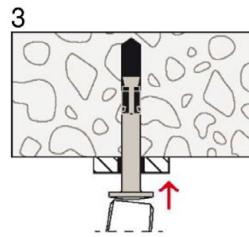
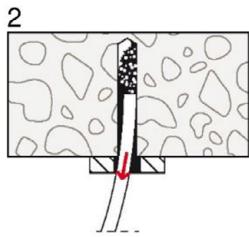
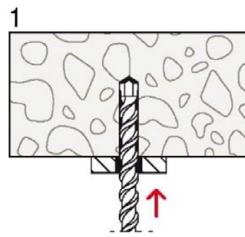
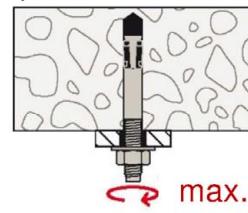
Set the fastener

3

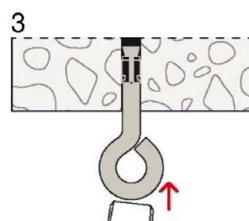
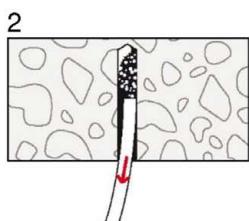
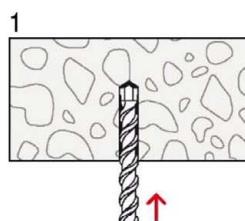
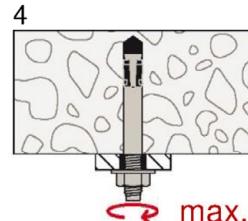
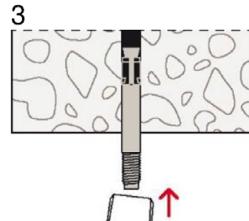
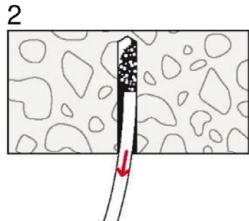
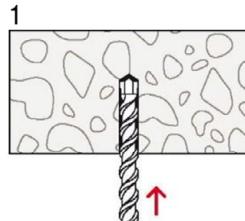


Apply max. T_{inst}

4



Pre-positioned installation



(Fig. not to scale)

fischer nail anchor FNA II

Intended Use

Installation instruction

Annex B 3

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Table C1.1: Characteristic resistance of a fixing point¹⁾ for all load directions

Table C2.1: Characteristic resistance of a fixing point²⁾ under fire exposure in concrete C20/25 to C50/60

Characteristic resistance under fire exposure for all load directions for $h_{ef} = 25 \text{ mm}$

Type of anchor	Spacing	Edge distance	Effective anchorage depth	Characteristic resistance $F_{Rk,fi} [\text{kN}]$			
	$s_{cr,fi} \geq [\text{mm}]$	$c_{cr,fi} \geq [\text{mm}]$	$h_{ef} \geq [\text{mm}]$	R 30	R 60	R 90	R 120
FNA II 6x25/..	100	50	25	0,6	0,5	0,3	0,3
FNA II 6x25 M6/..				0,6	0,35		
FNA II 6x25 M8/..				0,3	0,2		
FNA II 6x25 OE				0,3	0,2		

Characteristic resistance under fire exposure for all load directions for $h_{ef} = 30 \text{ mm}$

Type of anchor	Spacing	Edge distance	Effective anchorage depth	Characteristic resistance $F_{Rk,fi} [\text{kN}]$			
	$s_{cr,fi} \geq [\text{mm}]$	$c_{cr,fi} \geq [\text{mm}]$	$h_{ef} \geq [\text{mm}]$	R 30	R 60	R 90	R 120
FNA II 6x30/..	120	60	30	0,9	0,8	0,5	0,3
	100	50		0,6	0,35		
FNA II 6x30 M6/..	120	60	30	0,9	0,7	0,3	0,3
	100	50		0,6	0,35		
FNA II 6x30/.. R/HCR	120	60	30	0,9	0,7	0,5	0,5
	100	50		0,6	0,35		
FNA II 6x30 M6/.. R/HCR	120	60	30	0,9	0,7	0,5	0,5
	100	50		0,6	0,35		
FNA II 6x30 OE R/HCR	100	50		0,3	0,2		0,1

Characteristic resistance under fire exposure for all load directions for $h_{ef} = 30 + 5^1) \text{ mm}$

Type of anchor	Spacing	Edge distance	Effective anchorage depth	Characteristic resistance $F_{Rk,fi} [\text{kN}]$			
	$s_{cr,fi} \geq [\text{mm}]$	$c_{cr,fi} \geq [\text{mm}]$	$h_{ef} \geq [\text{mm}]$	R 30	R 60	R 90	R 120
FNA II 6x30/.. R/HCR	140	70	30+5 ¹⁾	1,3	1,0	0,7	0,7
	100	50		0,7	0,7		

Characteristic resistance under fire exposure for shear load without level arm

Type of anchor	Characteristic resistance $M^0_{Rk,s,fi} [\text{Nm}]$			
	R 30	R 60	R 90	R 120
FNA II 6x25 OE/..	0,2	0,1	0,08	0,07
FNA II 6x25/..; FNA II 6x25 .. RB; /..	0,9	0,7	0,4	0,3
FNA II 6x25 M6/..; FNA II 6x25 M8/.. / ..	0,3	0,2	0,2	0,2
FNA II 6x30/..; FNA II 6x30 .. RB; /.. R/HCR	4,4	2,0	1,2	0,8
FNA II 6x30 M6/..; FNA II 6x30 M8/.. /.. R/HCR	2,8	1,3	0,8	0,5

¹⁾ The effective anchorage depth $h_{ef} = 30 + 5 \text{ mm}$ is reached by setting the anchor FNA II 6x30/... 5 mm deeper with an anchor that is 5 mm longer than required for the actual thickness of the fixture.

²⁾ A fixing point is defined as a single anchor or a group of 2 or 4 anchors

In case of fire attack from more than one side, the edge distance shall be $c_{fi,min} \geq 300 \text{ mm}$

fischer nail anchor FNA II

Performances

Characteristic resistance under fire exposure

Annex C 2