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Authorised and notified according
to Article 29 of the Regulation (EU)
No 305/2011 of the European
Parliament and of the Council of 9
March 2011

MEMBER OF EOTA



European Technical Assessment ETA-26/0037 of 2026/07/30

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:

fischer DFNH Plus nails

Product family to which the above construction product belongs:

Power-actuated fastener for multiple use in concrete for non-structural applications

Manufacturer:

fischerwerke GmbH & Co. KG
Klaus-Fischer-Strasse 1
72178 Waldachtal
Germany

Manufacturing plant:

fischerwerke

This European Technical Assessment contains:

10 pages including 6 annexes which form an integral part of the document

This European Technical Assessment is issued in accordance with Article 95(4) of Regulation (EU) 2024/3110, on the basis of:

EAD 330083-04-0601

This version replaces:

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II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product

The fischer DFNH Plus nails are intended for multiple use for non-structural applications in cracked or uncracked concrete of strength classes C20/25 to C50/60. The fasteners can be subjected to static or quasi-static loading.

The power-actuated fasteners are driven into concrete by using a power-actuated fastening tool (fischer FXC 85 or fischer FGC 100). They are anchored in concrete by sintering and mechanical interlock. The nails are installed through a fixture with thickness according to Annex B.

The fastener is a type 2b with a minimum embedment depth of 15 mm

The product description is given in Annex A.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

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

The verifications and assessment methods on which this EAD is based lead to the assumption of a working life of the fastener of at least 50 years.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body, 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)

See Annex C.

3.2 Safety in case of fire (BWR 2)

Reaction to fire:

Class A1 in accordance with the Commission Decision 96/603/EC.

Resistance to fire:

See Annex C.

3.3 Durability

Durability is ensured if the specifications of intended use according to Annex B are taken into account.

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

In accordance with EAD 330083-04-0601, the applicable European legal act is: 97/161/EC.
The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking.

Issued in Copenhagen on 2026-07-30
by



Christian Lundgaard Pedersen

f/Thomas Bruun
Managing Director, ETA-Danmark

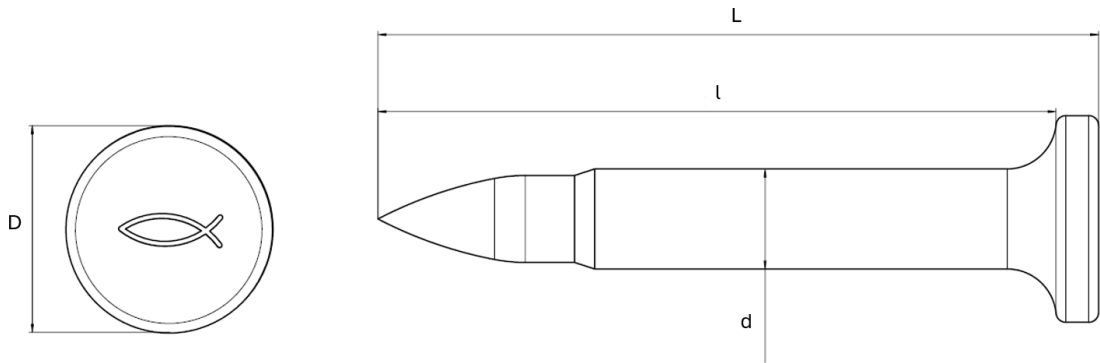
Power actuated fastener DFNH Plus 22 NP, DFNH Plus 27 NP, DFNH Plus 32 NP for concrete applications.



Table A1.1: Fastener information

Fasteners

Type	Length L [mm]	Shaft diameter d [mm]	Shaft length l [mm]	Head diameter D [mm]	Material	Colour / Material of the plastic strip
DFNH Plus 22 NP	22	3,05	20,7	6,3	Hardened C-steel, mechanical zinc plated $\geq 8\mu\text{m}$	Black / HDPE
DFNH Plus 27 NP	27	3,05	25,7	6,3	Hardened C-steel, mechanical zinc plated $\geq 8\mu\text{m}$	Black / HDPE
DFNH Plus 32 NP	32	3,05	30,7	6,3	Hardened C-steel, mechanical zinc plated $\geq 8\mu\text{m}$	Black / HDPE



(figures not to scale)

fischer Direct fastening nails DFNH Plus 22 NP, DFNH Plus 27 NP, DFNH Plus 32 NP

Product description
Products

Annex A1

Specification of intended use

Anchorage subject to:

- Static and quasi-static loads.

Base materials:

- Compacted reinforced or unreinforced normal weight concrete of strength classes C20/25 to C50/60 without fibers according to EN 206:2013+A2:2021.
- Cracked and uncracked concrete.

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions.

Design:

- The structural design of the fastening is conducted under responsibility of a designer, experienced in fastenings and concrete works.
- Verifiable calculation notes and drawings are 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.).
- Design of fastenings according to EN 1992-4:2018.
- The fasteners may only be used for multiple fastenings of non-load-bearing systems with the following definitions:
 - Number of fixing points to fasten the fixture $n_1 \geq 6$
 - Fastener per fixing point $n_2 = 1$
 - Maximum characteristic fastening resistance in any load direction per fixing point $F_{Rk,lim} \leq 0,45kN$
- The fixture to be fastened must be designed in such a way, that in case of excessive slippage or failure of one fastener, the load can be transferred to adjacent fasteners without significantly deviating from the fastening requirements. The fixture must meet the limit state, serviceability, and load-bearing capacity requirements.

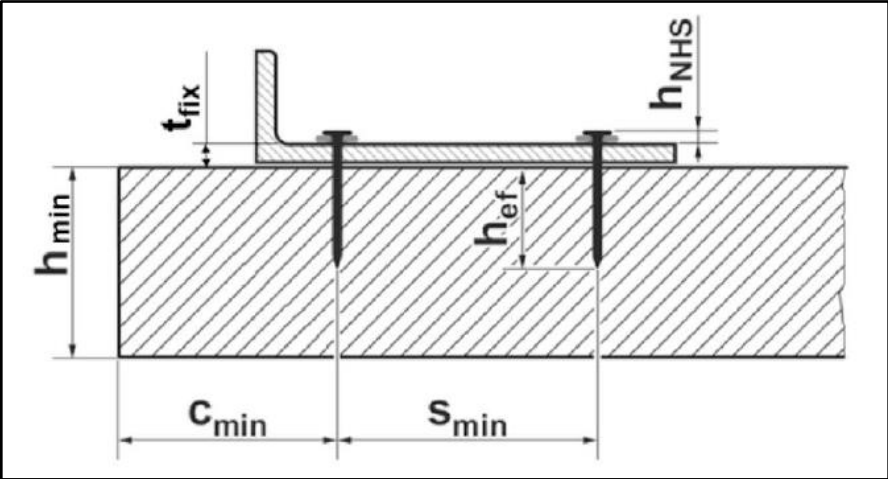
fischer Direct fastening nails DFNH Plus 22 NP, DFNH Plus 27 NP, DFNH Plus 32 NP

Intended use
Specifications

Annex B1

Table B2.1: Installation parameters

Minimum and maximum thickness of the fastening for DFNH Plus nails				
Product name		DFNH Plus 22 NP	DFNH Plus 27 NP	DFNH Plus 32 NP
Length of nails L	[mm]	22	27	32
Effective anchorage depth h_{ef}	[mm]	≥ 15	≥ 15	≥ 15
Min. thickness of the fixture $t_{fix,min}$	[mm]	0,5	2	5
Max. thickness of the fixture $t_{fix,max}$	[mm]	2	7	12
Nail head standoff h_{NHS}	[mm]	$\leq 7 - t_{fix}$	$\leq 12 - t_{fix}$	$\leq 17 - t_{fix}$
Concrete thickness, spacing and edge distance				
Minimum thickness of concrete member h_{min}	[mm]	80		
Minimum allowable spacing of the fasteners s_{min}	[mm]	45		
Minimum allowable edge distance c_{min}	[mm]	80		



(figures not to scale)

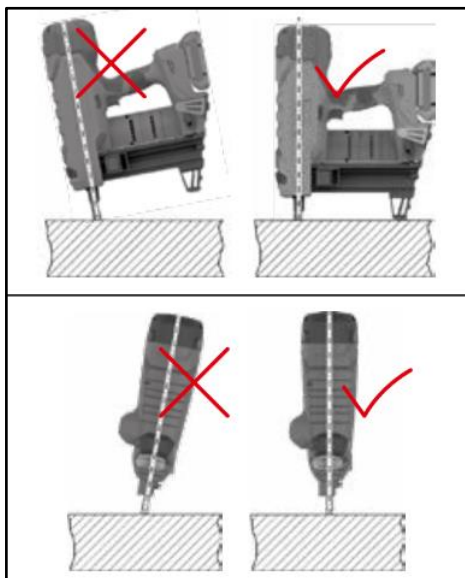
fischer Direct fastening nails DFNH Plus 22 NP, DFNH Plus 27 NP, DFNH Plus 32 NP

Intended use
Installation parameters

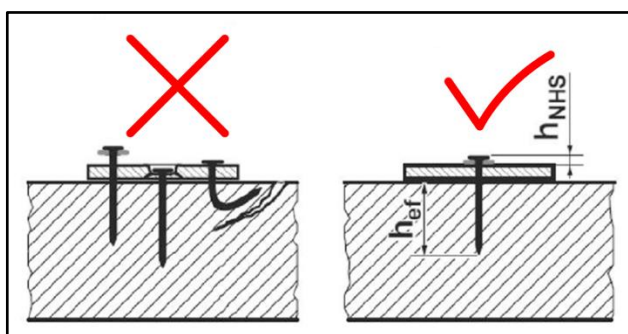
Annex B2

Installation instructions

- Fastener installation carried out by appropriately qualified personnel according to the design drawings and under the supervision of the person responsible for technical matters on the site.
- Fastener installation in accordance with the manufacturer's specifications and drawings and using the specified installation device.
- Fasteners to be installed perpendicular to the surface of the base material.



- Pay attention to setting defects during installation. A setting defect is present if the nail can be pulled out of the concrete by hand.
- Ensure a minimum effective anchorage depth of 15 mm. If the embedment depth is smaller than 15 mm, the nail must be assumed as a setting defect and it must not be loaded.



- Damages on the concrete surface, caused by setting defects, have to be repaired according to EN1504-3:2005. A new fastener is set at a minimum distance of ≥ 80 mm and $\geq 3 h_{ef}$ of the edge of the damaged surface.
- Use of setting tools according to Annex B4.

(figures not to scale)

fischer Direct fastening nails DFNH Plus 22 NP, DFNH Plus 27 NP, DFNH Plus 32 NP

Intended use
Installation instructions

Annex B3

Setting tools

Setting tool fischer **FXC 85**
with fasteners DFNH Plus 22, 27, 32 NP



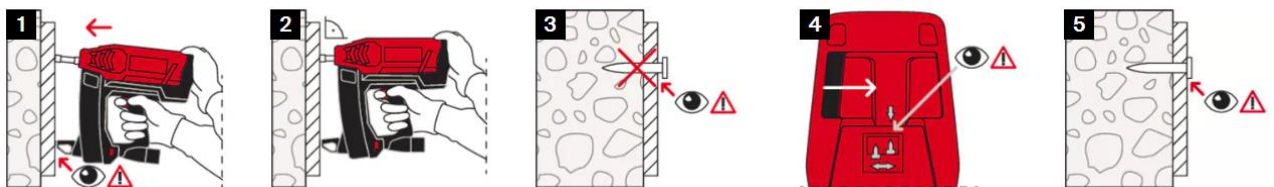
FXC85, fully automatic, battery powered

Setting tool fischer **FGC 100** with gas can **FC165**
and with fasteners DFNH Plus 22, 27, 32 NP



FGC100, fully automatic, gas powered (FC165)

Use instructions for the setting tools:



(figures not to scale)

fischer Direct fastening nails DFNH Plus 22 NP, DFNH Plus 27 NP,
DFNH Plus 32 NP

Intended use
Setting tools

Annex B4

Characteristic values

Table C1.1: Characteristic values under static or quasi-static loads

Characteristic values			DFNH Plus nails
Characteristic fastening resistance in all load directions in uncracked concrete	$F_{Rk,ucr}$	[kN]	0,31
Characteristic fastening resistance in all load directions in cracked concrete	$F_{Rk,cr}$	[kN]	0,16
Partial factor	$\gamma_M^{1)}$	[-]	1,5
Factor for installation	γ_{inst}	[-]	1,4
Characteristic bending resistance	$M_{Rk,s}^0$	[Nm]	6,70
Displacement under tensile load at $F_{disp} = 0,145 \text{ kN}$	δ_{N0}	[mm]	0,1
	$\delta_{N\infty}$	[mm]	0,2
Displacement under shear stress at $F_{disp} = 0,145 \text{ kN}$	δ_{V0}	[mm]	0,1
	$\delta_{V\infty}$	[mm]	0,2

1) Valid unless other national rules apply

Building material class A1

Table C1.2: Characteristic values under fire exposure

Characteristic values			DFNH Plus nails	Fire resistance class
Characteristic fastening resistance in all load directions	$F_{Rk,fi}$	[kN]	0,040	R30 – R90
			0,036	R120
Characteristic bending resistance	$M_{Rk,s,fi}^0$	[Nm]	0,040	R30
			0,035	R60
			0,030	R90
			0,027	R120
Characteristic minimum allowable spacing	$S_{min,fi}$	[mm]	150	R30 – R120
Characteristic maximum allowable spacing	$S_{max,fi}$	[mm]	600	R30 – R120
Characteristic allowable edge distance	$C_{min,fi}$	[mm]	300	R30 – R120

fischer Direct fastening nails DFNH Plus 22 NP, DFNH Plus 27 NP, DFNH Plus 32 NP

Performances

Characteristic values under static or quasi static loads
Characteristic values under fire exposure

Annex C1