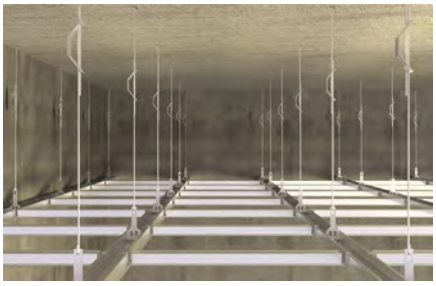
Nail anchor FNA II

The installation-friendly hammerset anchor for multiple fixings.



Suspended ceilings

Fire protection boards

Applications

- Fire protection plates
- Fire protection boards
- Ventilation systems
- Wire and nonious hangers
- Mounting rails
- Metal clamps
- Substructures made of wood and metal

Advantages

- The special active principle allows for a simple hammerset installation and, therefore, a short processing time.
- The extremely short anchor depth prevents reinforcement hits, and creates the conditions for a trouble-free installation.
- The optimised expansion clip ensures hold when placing in the drill hole, and prevents it falling out during overhead installations.
- The massive shaft cross-section guarantees a high load-bearing capacity, thus offering an extremely high level of safety.
- A range of head shapes allows for the fixing of wide-ranging fixtures, and for the ideal adaptation to suit the intended use.

Certificates / Features

ETA-16/0175, multiple use for non-structural applications in concrete

R 120

ZTV

RWS

Inox Stainless Steel

from M8

Building materials

Approved for:

- Concrete C12/15 to C50/60, cracked, for multiple fixings of non-structural applications

Also suitable for:

- Solid sand-lime brick
- Natural stone with dense structure
- Prestressed hollow-core concrete slabs

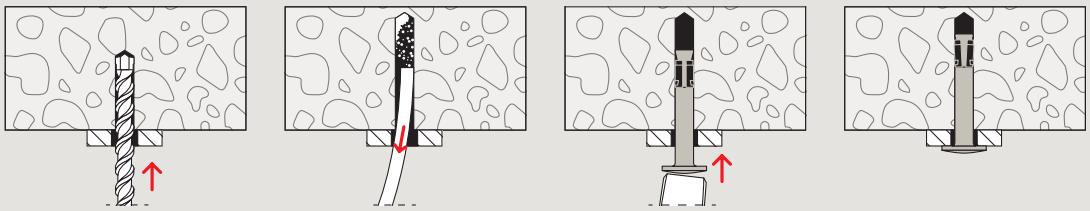
Versions

- Galvanised steel
- Stainless steel
- Highly corrosion-resistant steel

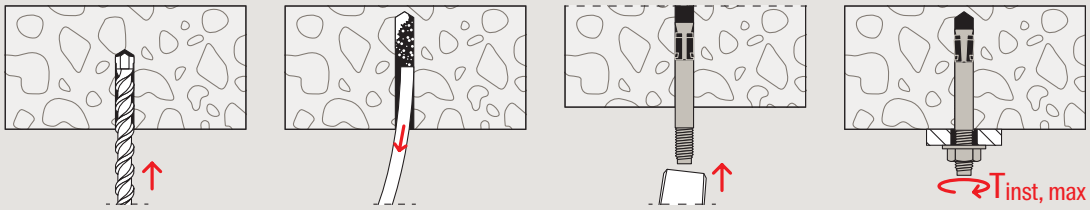
Functioning

- The FNA II with nail head is suitable for push-through installation. The FNA II M6 is suitable for pre-positioned and push-through installation. The FNA II OE and H are suitable for pre-positioned installation.
- The installed nail anchor FNA II expands automatically under load. The cone is pulled into the expansion clip and expands it against the drill hole wall.
- Available setting tools:
  FNA S-SBO to slip onto the drill,
  FNA S-SDS for series installation with a drilling hammer,
  FNA S-H for the manual installation of mounting rails.

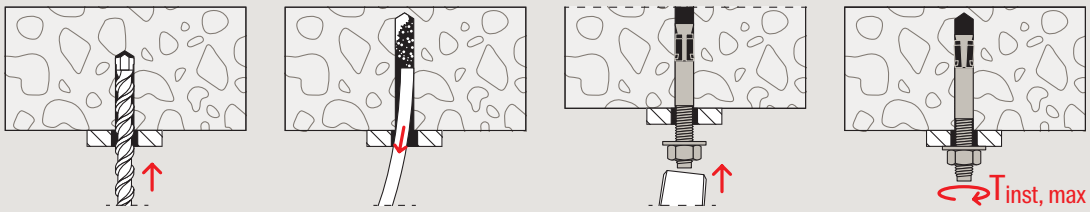
Installation FNA II



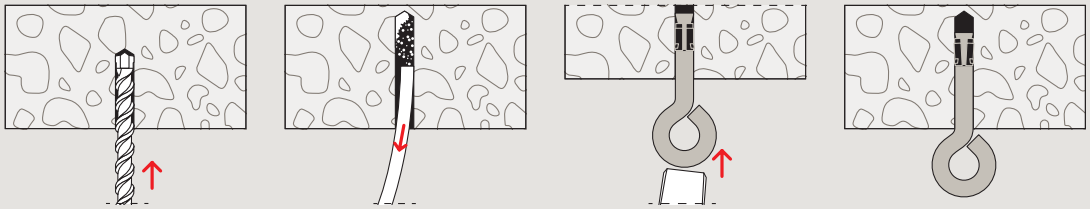
Pre-positioned installation FNA II M6

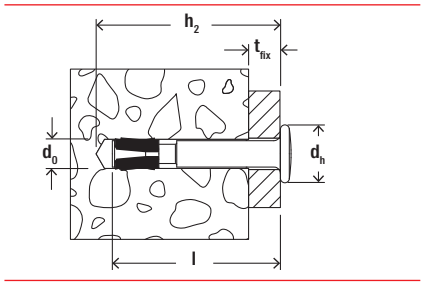


Push-through installation FNA II M6



Installation FNA II OE





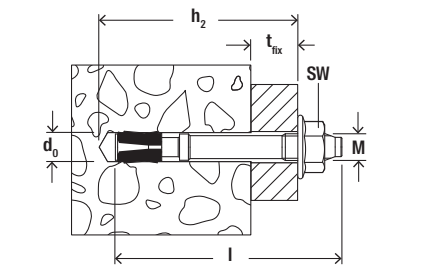
Technical data

Nail anchor FNA II

FNA II FNA II R FNA II HCR

	Galvanised steel	Stainless steel	Highly corrosion-resistant steel	Approval	Drill diameter	Min. drill hole depth for through fixings	Anchor length	Max. fixture thickness	Head-ø	Sales unit
					d_0	h_2	l	t_{fix}	d_h	
	Item no.	Item no.	Item no.	ETA	[mm]	[mm]	[mm]	[mm]	[mm]	[pcs]
Item	gvz	R	HCR							
FNA II 6 x 25/5	044121[1]	–	–	●	6	40	37.5	5	13	100
FNA II 6 x 30/5	044115[1]	044122	–	●	6	45	42.5	5	13	100
FNA II 6 x 30/5	–	–	044124	●	6	45	42.5	5	13	25
FNA II 6 x 30/15	530419	–	–	●	6	55	52.5	15	13	50
FNA II 6 x 30/30	044116	044123	–	●	6	70	67.5	30	13	50
FNA II 6 x 30/30	–	–	044125	●	6	70	67.5	30	13	25
FNA II 6 x 30/40	–	046023	–	●	6	80	77.5	40	13	50
FNA II 6 x 30/50	044117	046024	500569	●	6	90	87.5	50	13	50
FNA II 6 x 30/60	–	046025	–	●	6	100	97.5	60	13	50
FNA II 6 x 30/75	044118	–	500573[2]	●	6	115	112.5	75	13	50
FNA II 6 x 30/100	044119	–	500574[2]	●	6	140	137.5	100	13	50
FNA II 6 x 30/120	044120	–	500575[2]	●	6	160	157.5	120	13	50

[1] With hexagon below the nail head for anti-rotation lock of hole and wire hangers (for example) and centring for optional setting tool FNA II S.
[2] Delivery time on request.



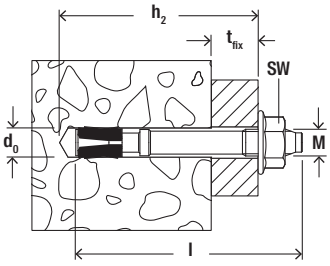
Technical data

Nail anchor FNA II M6

FNA II M6 FNA II M6 R FNA II M6 HCR

	Galvanised steel	Stainless steel	Highly corrosion-resistant steel	Approval	Drill diameter	Min. drill hole depth for through fixings	Anchor length	Max. fixture thickness	Thread	Width across nut	Sales unit
					d_0	h_2	l	t_{fix}	M	SW	
	Item no.	Item no.	Item no.	ETA	[mm]	[mm]	[mm]	[mm]		[mm]	[pcs]
Item	gvz	R	HCR								
FNA II 6 x 25 M6/5	044111	–	–	●	6	40	45	5	M6	10	100
FNA II 6 x 30 M6/5	044109	–	–	●	6	45	50	5	M6	10	100
FNA II 6 x 30 M6/5	–	044112[1]	–	●	6	45	50	5	M6	10	50

[1] With nut and washer (no flange nut).
[2] Without nut, e.g. for fixing of pipe clamps.



Technical data

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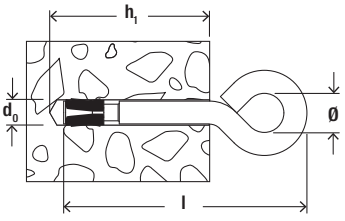
Nail anchor FNA II M6

FNA II M6 FNA II M6 R FNA II M6 HCR

	Galvanised steel	Stainless steel	Highly corrosion-resistant steel	Approval	Drill diameter	Min. drill hole depth for through fixings	Anchor length	Max. fixture thickness	Thread	Width across nut	Sales unit
					d_0	h_2	l	t_{fix}	M	SW	
	Item no.	Item no.	Item no.	ETA	[mm]	[mm]	[mm]	[mm]		[mm]	[pcs]
Item	**gvz**	**R**	**HCR**								
FNA II 6 x 30 M6/5	–	–	044113[1]	●	6	45	50	5	M6	10	25
FNA II 6 x 30 M6/10	046022	–	–	●	6	45	55	10	M6	10	100
FNA II 6 x 30 M6 x 41	044110[2]	–	–	●	6	40	41	–	M6	10	100
FNA II 6 x 30 M8/5	044114	–	–	●	6	45	51	5	M8	13	50

[1] With nut and washer (no flange nut).
[2] Without nut, e.g. for fixing of pipe clamps.

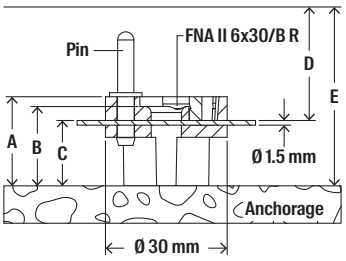


Technical data

Nail anchor FNA II-H / Nail anchor FNA II-OE

FNA II-H FNA II-OE

		Approval	Drill diameter	Anchor length	Min. drill hole depth	Inner diameter of the hook/eye	Sales unit
			d_0	l	h_1	d_H	
	Item no.	ETA	[mm]	[mm]	[mm]	[mm]	[pcs]
Item							
FNA II 6 x 25 H	044126	–	6	54	35	10	50
FNA II 6 x 25 OE	044127	●	6	54	35	10	50



Technical data

Spacer FNA II

Spacer FNA II

Item	Item no.	Height A [mm]	Height B [mm]	Height C [mm]	Adapted for	Sales unit [pcs]
Spacer FNA II 30x17/13	**504533**	17	15	13	FNA II 6/15	1,000
Spacer FNA II 30x22/18	**502724**	22	20	18	FNA II 6/20	1,000
Pin 16	**504534**	–	–	–	–	1,000

The Spacer enables the fixing of reinforcement mats for sprayed mortar on concrete walls in tunnels. The guaranteed same distance through the spacer between the reinforcement mat and the wall ensures maximum safety in the passive fire protection.

Technical data

Setting tool FNA II

FNA II S-SDS

FNA II S-SBO

FNA II S-H

Item	Item no.	Match	Contents	Sales unit [pcs]
FNA II S-SDS	**061547**	for all FNA II with nail head	Optimum professional setting tool with SDS fixture - the ideal setting tool for series installation	1
FNA II S-SBO	**061548**	for all FNA II with nail head	Optimum setting tool for mopunting on the drill - for effortless and speedy installation	1
FNA II S-H	**095990**	for all FNA II with metric thread M6	Hand setting tool with outer diameter of 15 mm for installation of installation channels	1

Loads

Nail anchor FNA II

Permissible loads for a single anchor[1] for multiple use of redundant non-structural applications* in normal concrete C20/25 up to C50/60[2].
For the design the complete current assessment ETA-06/0175 has to be considered.

					Cracked and non-cracked concrete		
	Material/ surface	Effective anchorage depth	Minimum member thickness	Maximum installation torque	Permissible load (F_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads		
Type		h_{ef} [mm]	h_{min} [mm]	$T_{inst,max}$ [Nm]	F_{perm} [3] [kN]	s_{min} [mm]	c_{min} [mm]
FNA II 6 x 25	gvz	25	80	-	1.4	40	40
FNA II 6 x 30	gvz	30	80	-	2.4	40	40
	R	30	80	-	2.4	40	40
	HCR	30	80	-	2.4	40	40
FNA 6 x 25 M6	gvz	25	80	4	1.4	40	40
FNA 6 x 30 M6	gvz	30	80	4	2.4	40	40
	R	30	80	4	2.4	40	40
	HCR	30	80	4	2.4	40	40
FNA II 6 x 30 M8	gvz	30	80	4	2.4	40	40
FNA II 6 x 25 OE	gvz	25	80	-	0.7	40	40

* In addition to the load table above, the following must be considered for multiple fastening of non-structural redundant systems:
A multiple fixing (redundant system) according to EN 1992-4 and CEN/TR 17079 is defined by
- at least 3 fixing points (per attached element) with at least one anchor at each fixing point and a permissible load per fixing point of 1.4 kN
- or by at least 4 fixing points with at least one anchor each fixing point and a permissible load per fixing point of 2.1 kN
- Additionally, it has to be proven that the stiffness of the attached element shall be large enough to ensure that in case of excessive slip or failure of a fastener the load on this fastener or fixing point can be transferred to neighbouring fixing points without significantly violating the requirements on the attached element in the serviceability and ultimate limit state.

For further details see EN 1992-4 section 7.3 and CEN/TR 17079.

[1] Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of γ_L = 1.4 are considered.
[2] For concrete strength class C12/15 see ETA.
[3] Valid for tensile load, shear load and oblique load under any angle. In the case of combinations of tensile, shear loads and bending moments, the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018.