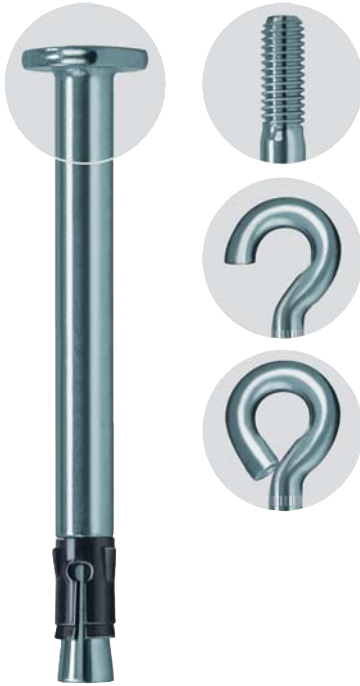


## The installation-friendly hammer-set anchor for multiple fixings

High performance steel anchors 4



### VERSIONS

- Zinc-plated steel
- Stainless steel
- Highly corrosion-resistant steel

### BUILDING MATERIALS

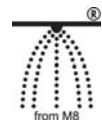
#### Approved for:

- 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

### CERTIFICATES



### ADVANTAGES

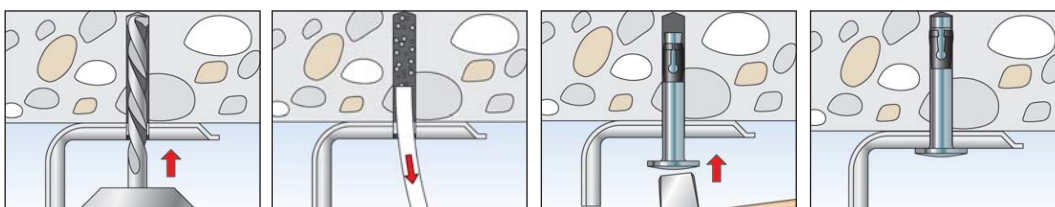
- The special active principle allows for a simple hammer-set installation and, therefore, a short processing time.
- The extremely short anchor depth prevents reinforcement hits, and creates the conditions for a trouble-free installation.
- The optimised expansion clip ensures hold when placing in the 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.

### APPLICATIONS

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

### FUNCTIONING

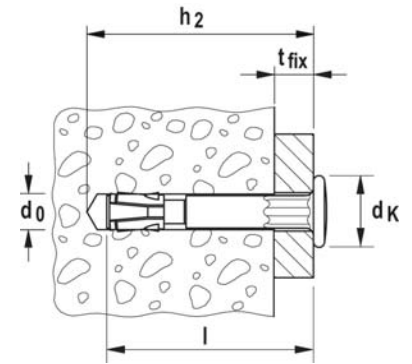
- The FNA II with nail head is suitable for push-through installation. The FNA II M6 is suitable for pre-positioned and push-through installation. The FNA II OE and H are suitable for pre-positioned installation.
- The installed FNA II nail anchor expands automatically under load. The cone is pulled 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.



## TECHNICAL DATA



Nail anchor **FNA II** with nail head



|                          | Zinc-plated steel           | Stainless steel | Highly corrosion resistant steel | Approval | Drill hole diameter | Min. drill hole depth for through fixings | Anchor length | Max. fixture thickness | Head-Ø              | Sales unit |  |
|--------------------------|-----------------------------|-----------------|----------------------------------|----------|---------------------|---|---------------|------------------------|---------------------|------------|--|
|                          | Art.-No.                    | Art.-No.        | Art.-No.                         | ETA      | d <sub>0</sub> [mm] | h <sub>2</sub> [mm]                       | l [mm]        | t <sub>fix</sub> [mm]  | d <sub>k</sub> [mm] | [pcs]      |  |
| Item                     | gvz                         | A4              | C                                |          |                     |   |               |                        |                     |            |  |
| <b>FNA II 6 x 25/5</b>   | <b>044121</b> <sup>1)</sup> | —               | —                                | ■        | 6                   | 40  | 35            | 5                      | 13.0                | 100        |  |
| <b>FNA II 6 x 30/5</b>   | <b>044115</b> <sup>1)</sup> | <b>044122</b>   | —                                | ■        | 6                   | 45  | 40            | 5                      | 13.0                | 100        |  |
| <b>FNA II 6 x 30/5</b>   | —                           | —               | <b>044124</b>                    | ■        | 6                   | 45  | 40            | 5                      | 13.0                | 25         |  |
| <b>FNA II 6 x 30/30</b>  | <b>044116</b>               | <b>044123</b>   | —                                | ■        | 6                   | 70  | 65            | 30                     | 13.0                | 50         |  |
| <b>FNA II 6 x 30/30</b>  | —                           | —               | <b>044125</b>                    | ■        | 6                   | 70  | 65            | 30                     | 13.0                | 25         |  |
| <b>FNA II 6 x 30/50</b>  | <b>044117</b>               | <b>046024</b>   | <b>500569</b>                    | ■        | 6                   | 90  | 85            | 50                     | 13.0                | 50         |  |
| <b>FNA II 6 x 30/75</b>  | <b>044118</b>               | —               | <b>500573</b> <sup>2)</sup>      | ■        | 6                   | 115                                       | 110           | 75                     | 13.0                | 50         |  |
| <b>FNA II 6 x 30/100</b> | <b>044119</b>               | —               | <b>500574</b> <sup>3)</sup>      | ■        | 6                   | 140                                       | 135           | 100                    | 13.0                | 50         |  |
| <b>FNA II 6 x 30/120</b> | <b>044120</b>               | —               | <b>500575</b> <sup>3)</sup>      | ■        | 6                   | 160                                       | 155           | 120                    | 13.0                | 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-S

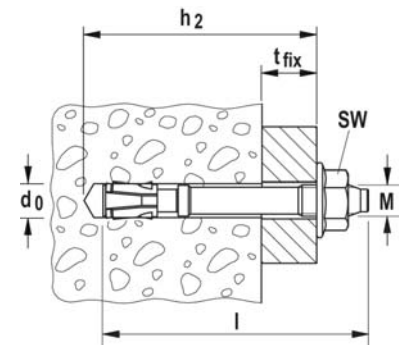
2) On request.

3) Delivery time on request.

## TECHNICAL DATA



Nail anchor **FNA II M6** with thread and flange nut

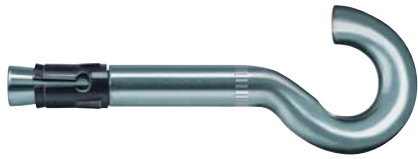


|                              | Zinc-plated steel           | Stainless steel             | Highly corrosion resistant steel | Approval | Drill hole diameter | Min. drill hole depth for through fixings | Anchor length | Max. fixture thickness | Thread | Width across nut | Sales unit |
|------------------------------|-----------------------------|-----------------------------|----------------------------------|----------|---------------------|---|---------------|------------------------|--------|------------------|------------|
|                              | Art.-No.                    | Art.-No.                    | Art.-No.                         | ETA      | d <sub>0</sub> [mm] | h <sub>2</sub> [mm]                       | l [mm]        | t <sub>fix</sub> [mm]  | M      | ○ SW [mm]        | [pcs]      |
| Item                         | gvz                         | A4                          | C                                |          |                     |   |               |                        |        |                  |            |
| <b>FNA II 6 x 25 M6/5</b>    | <b>044111</b>               | —                           | —                                | ■        | 6                   | 40  | 45            | 5                      | M 6    | 10               | 100        |
| <b>FNA II 6 x 30 M6/5</b>    | <b>044109</b>               | —                           | —                                | ■        | 6                   | 45  | 50            | 5                      | M 6    | 10               | 100        |
| <b>FNA II 6 x 30 M6/5</b>    | —                           | <b>044112</b> <sup>2)</sup> | —                                | ■        | 6                   | 45  | 50            | 5                      | M 6    | 10               | 50         |
| <b>FNA II 6 x 30 M6/5</b>    | —                           | —                           | <b>044113</b> <sup>2)</sup>      | ■        | 6                   | 45  | 50            | 5                      | M 6    | 10               | 25         |
| <b>FNA II 6 x 30 M6 x 41</b> | <b>044110</b> <sup>1)</sup> | —                           | —                                | ■        | 6                   | 40  | 41            | —                      | M 6    | 10               | 100        |
| <b>FNA II 6 x 30 M6/10</b>   | <b>046022</b>               | —                           | —                                | ■        | 6                   | 45  | 55            | 10                     | M 6    | 10               | 100        |
| <b>FNA II 6 x 30 M8/5</b>    | <b>044114</b>               | —                           | —                                | ■        | 6                   | 45  | 51            | 5                      | M 8    | 13               | 50         |

1) without nut; e.g. for fixing of pipe clamps

2) with nut and washer (no flange nut)

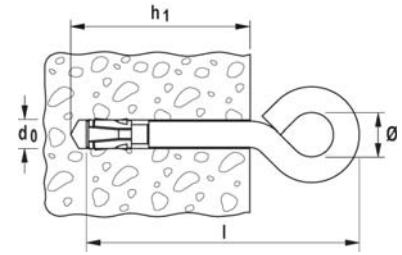
## TECHNICAL DATA



Nail anchor **FNA II-H** with hook



Nail anchor **FNA II-OE** with eye



|                         | Zinc-plated steel | Approval | Drill hole diameter | Anchor length | Min. drill hole depth | Inner diameter of the hook/eye | Sales unit |  |  |
|-------------------------|-------------------|----------|---------------------|---------------|-----------------------|--------------------------------|------------|--|--|
|                         | Art.-No.          | ETA      | $d_0$<br>[mm]       | $l$<br>[mm]   | $h_1$<br>[mm]         | $\varnothing$ [mm]             | [pcs]      |  |  |
| Item                    | gvz               |          |                     |               |                       |                                |            |  |  |
| <b>FNA II 6 x 25 H</b>  | <b>044126</b>     | —        | 6                   | 54            | 35                    | 10                             | 50         |  |  |
| <b>FNA II 6 x 25 OE</b> | <b>044127</b>     | ■        | 6                   | 54            | 35                    | 10                             | 50         |  |  |

## TECHNICAL DATA



Machine setting tool **FNA S-SDS**



Machine setting tool **FNA S-SBO** for mounting on the drill bit (drill-Ø 6mm)



Hand tool **FNA S-H**

| Item             | Art.-No.      |                                  |   | Sales unit [pcs] |
|------------------|---------------|----------------------------------|---|------------------|
| <b>FNA S-SDS</b> | <b>061547</b> | for all FNA II with nail head    | The ideal setting tool for the serial installation with SDS-plus adapter for driving in FNA II with nail head using a hammer drill. | 1                |
| <b>FNA S-SBO</b> | <b>061548</b> | for all FNA II with nail head    | For a power saving and fast installation to be placed on the drill.   | 1                |
| <b>FNA S-H</b>   | <b>095990</b> | for FNA II with metric thread M6 | E.g. for the fixing of installation of mounting rails. Chuck with outer diameter of 15mm for the installation of FNA II M6 by hand. | 1                |

## LOADS

### Nail anchor FNA II

zinc plated steel / stainless steel / high corrosion resistant steel

| Highest permissible loads <sup>1)</sup> for a single fixing point <sup>6)</sup> as part of a multiple fixing of non-structural systems <sup>4)</sup> in concrete C20/25 up to C50/60 <sup>3)</sup> . |                         |   |   |   |   |   |   | Minimum spacings while reducing the load   |  |
|--|-------------------------|---|---|---|---|---|---|--|--|
| Type   | Material fixing element | Effective anchorage depth<br>$h_{ef}$<br>[mm] | Minimum member thickness<br>$h_{min}$<br>[mm] | Maximum torque moment<br>$T_{inst}$<br>[Nm] | Permissible load<br>$F_{perm}^{2)}$<br>[kN] | Required edge distance for<br><br>Max. Load c<br>[mm] | Required spacing for<br><br>Max. Load s<br>[mm] | Min. spacing<br><br>$s_{min}^{5)}$<br>[mm] | Min. edge distance<br><br>$c_{min}^{5)}$<br>[mm] |
| <b>FNA II 6 x 25</b>   | gvz                     | 25  | 80  | -   | 1,4   | 100<br>for $s \geq 200$                               | 100<br>for $c \geq 200$                         | 40   | 40   |
| <b>FNA II 6 x 30</b>   | gvz                     | 30  |   | -   | 2,4   |   |   |  |  |
|  | A 4                     |   |   |   |   |   |   |  |  |
|  | C                       |   |   |   |   |   |   |  |  |
| <b>FNA II 6 x 25 M6</b>  | gvz                     | 25  |   | 4   | 1,4   |   |   |  |  |
| <b>FNA II 6 x 30 M6</b>  | gvz                     | 30  |   | 4   | 2,4   |   |   |  |  |
|  | A 4                     |   |   |   |   |   |   |  |  |
|  | C                       |   |   |   |   |   |   |  |  |
| <b>FNA II 6 x 30 M8</b>  | gvz                     | 30  | 4   | 2,4   |   |   |   |  |  |
| <b>FNA II 6 x 25 OE</b>  | gvz                     | 25  | -   | 0,7   |   |   |   |  |  |

For the design the complete approval ETA - 06/0175 has to be considered.

<sup>1)</sup> The partial safety factors for material resistance as regulated in the approval as well as a partial safety factor for load actions of  $\gamma_L = 1,4$  are considered.

<sup>2)</sup> Valid for tensile load, shear load and oblique load under any angle. For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

<sup>3)</sup> For concrete compressive strength C12/15 see approval.

<sup>4)</sup> Multiple use is defined acc ETAG 001 Part 6 with min. 3 fixing points with min. one anchor per fixing point and a permissible load of 1.4 kN or min. 4 fixing points with min. one anchor an a permissible load of 2.1 kN.

<sup>5)</sup> Minimum possible axial spacings resp. edge distances. Smaller permissible loads acc. approval are required.

<sup>6)</sup> A fixing point is defined as a single anchor or a group of 2 or 4 anchor.