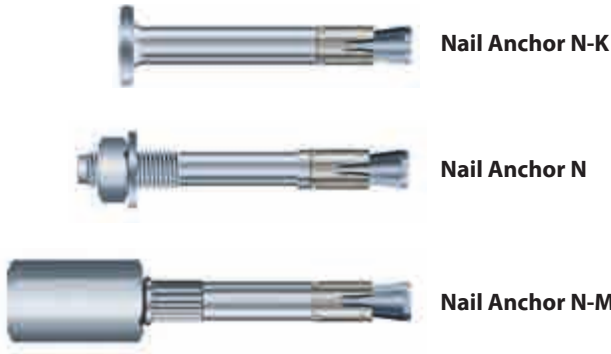
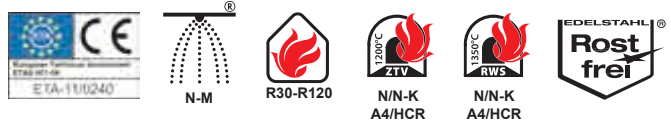


# Nail Anchor N

Steel, zinc plated / Stainless steel A4 / HCR



**Range of loading:** 0,71 kN - 2,81 kN  
**Range of concrete quality:** C12/15 - C50/60



## Description

The Nail Anchor N combines the advantages of a wedge anchor with an even easier installation. The Nail Anchor is simply hammered through the fixture into the concrete. Applying torque is not necessary in the threaded versions. When the load is applied the Nail Anchor expands automatically and anchors to the concrete. There is a nail head (N-K) version, a M6 external thread (N) version and a dual threaded sleeve M8/M10 (N-M).

The Nail anchor in stainless Steel A4/316 and stainless Steel HCR is also tested according to ZTV and RWS tunnel temperature curve in cracked concrete. Load capacities see Page 169.

## Advantages

- ETA assessment for redundant fastenings in cracked and non-cracked concrete
- Fast and simple mounting
- Reduced anchorage depth (25 mm) for reduced drilling costs
- Very small edge distances and spacings
- Loads up to 2,81 kN
- Only one product for two applications: dual thread M8/M10 (N-M)

## Applications

Ceiling constructions, piping, cladding etc.

## Nail Anchor N



- Steel, zinc plated
- With thread M6

| Description  | Ref. No. | Drill hole Ø | Standard anchorage depth              |                                    |                                    | Reduced anchorage depth                   |  |  | Anchor length | Pkg. content | Weight per pkg. |
|--------------|----------|--------------|---------------------------------------|------------------------------------|------------------------------------|---|--|--|---------------|--------------|-----------------|
|              |          |              | Fixture thickness t <sub>fix</sub> mm | Drill hole depth h <sub>1</sub> mm | Anchorage depth h <sub>ef</sub> mm | Fixture thickness t <sub>fix,red</sub> mm | Drill hole depth h <sub>1,red</sub> mm | Anchorage depth h <sub>ef,red</sub> mm |               |              |                 |
| N 6-0-5/44   | 60005101 | 6            | 0                                     | 40                                 | 30                                 | 5   | 35                                     | 25                                     | 44            | 200          | 2,22            |
| N 6-5-10/49  | 60010101 | 6            | 5                                     | 40                                 | 30                                 | 10  | 35                                     | 25                                     | 49            | 200          | 2,39            |
| N 6-10-15/54 | 60015101 | 6            | 10                                    | 40                                 | 30                                 | 15  | 35                                     | 25                                     | 54            | 200          | 2,58            |

## Nail Anchor N-K



- Steel, zinc plated
- With Nailhead

| Description    | Ref. No. | Drill hole Ø | Standard anchorage depth              |                                    |                                    | Reduced anchorage depth                   |  |  | Anchor length | Pkg. content | Weight per pkg. |
|----------------|----------|--------------|---------------------------------------|------------------------------------|------------------------------------|---|--|--|---------------|--------------|-----------------|
|                |          |              | Fixture thickness t <sub>fix</sub> mm | Drill hole depth h <sub>1</sub> mm | Anchorage depth h <sub>ef</sub> mm | Fixture thickness t <sub>fix,red</sub> mm | Drill hole depth h <sub>1,red</sub> mm | Anchorage depth h <sub>ef,red</sub> mm |               |              |                 |
| N-K 6-0-5/39   | 60105101 | 6            | 0                                     | 40                                 | 30                                 | 5   | 35                                     | 25                                     | 39            | 200          | 2,24            |
| N-K 6-5-10/44  | 60110101 | 6            | 5                                     | 40                                 | 30                                 | 10  | 35                                     | 25                                     | 44            | 200          | 2,29            |
| N-K 6-10-15/49 | 60115101 | 6            | 10                                    | 40                                 | 30                                 | 15  | 35                                     | 25                                     | 49            | 200          | 2,54            |
| N-K 6-15-20/54 | 60120101 | 6            | 15                                    | 40                                 | 30                                 | 20  | 35                                     | 25                                     | 54            | 200          | 2,74            |
| N-K 6-30-35/69 | 60135101 | 6            | 30                                    | 40                                 | 30                                 | 35  | 35                                     | 25                                     | 69            | 200          | 3,44            |
| N-K 6-50-55/89 | 60155101 | 6            | 50                                    | 40                                 | 30                                 | 55  | 35                                     | 25                                     | 89            | 100          | 2,19            |

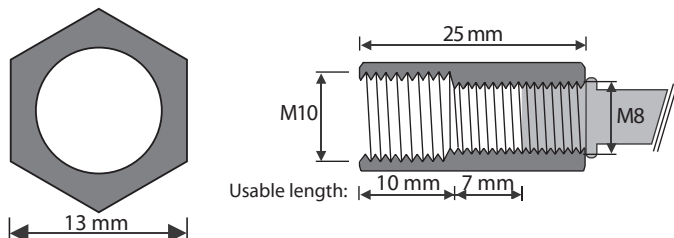
**Nail Anchor N-M**



- Steel, zinc plated
- Connecting thread M8 and M10

| Description    | Ref. No. | Drill hole | Drill hole depth | Anchorage depth | Anchor length | Pkg. content | Weight per pkg. |
|----------------|----------|------------|------------------|-----------------|---------------|--------------|-----------------|
|                |          | Ø          | h <sub>1</sub>   | h <sub>ef</sub> | l             |              |                 |
|                |          | mm         | mm               | mm              | mm            | pcs          | kg              |
| N-M 6-25 M8/10 | 60310101 | 6          | 35               | 25              | 58            | 100          | 2,75            |
| N-M 6-30 M8/10 | 60315101 | 6          | 40               | 30              | 63            | 100          | 2,85            |

**Dimensions threaded sleeve N-M:**



**Nail Anchor N A4**



- Stainless steel A4
- With thread M6

| Description | Ref. No. | Drill hole Ø | Standard anchorage depth              |                                    |                                    | Reduced anchorage depth                   |  |  | Anchor length | Pkg. content | Weight per pkg. |
|-------------|----------|--------------|---------------------------------------|------------------------------------|------------------------------------|---|--|--|---------------|--------------|-----------------|
|             |          |              | Fixture thickness t <sub>fix</sub> mm | Drill hole depth h <sub>1</sub> mm | Anchorage depth h <sub>ef</sub> mm | Fixture thickness t <sub>fix,red</sub> mm | Drill hole depth h <sub>1,red</sub> mm | Anchorage depth h <sub>ef,red</sub> mm |               |              |                 |
| N 6-5/49 A4 | 61010501 | 6            | 5                                     | 40                                 | 30                                 | -   | -                                      | -                                      | 49            | 200          | 2,39            |

**Nail Anchor N-KA4**



- Stainless steel A4
- With Nailhead

| Description    | Ref. No. | Drill hole Ø | Standard anchorage depth              |                                    |                                    | Reduced anchorage depth <sup>1)</sup>     |  |  | Anchor length | Pkg. content | Weight per pkg. |
|----------------|----------|--------------|---------------------------------------|------------------------------------|------------------------------------|---|--|--|---------------|--------------|-----------------|
|                |          |              | Fixture thickness t <sub>fix</sub> mm | Drill hole depth h <sub>1</sub> mm | Anchorage depth h <sub>ef</sub> mm | Fixture thickness t <sub>fix,red</sub> mm | Drill hole depth h <sub>1,red</sub> mm | Anchorage depth h <sub>ef,red</sub> mm |               |              |                 |
| N-K 6-0/39 A4  | 61105501 | 6            | 0                                     | 40                                 | 30                                 | 5   | 35                                     | 25 <sup>1)</sup>                       | 39            | 200          | 2,24            |
| N-K 6-5/44 A4  | 61110501 | 6            | 5                                     | 40                                 | 30                                 | 10  | 35                                     | 25 <sup>1)</sup>                       | 44            | 200          | 2,29            |
| N-K 6-10/49 A4 | 61115501 | 6            | 10                                    | 40                                 | 30                                 | 15  | 35                                     | 25 <sup>1)</sup>                       | 49            | 200          | 2,54            |
| N-K 6-15/54 A4 | 61120501 | 6            | 15                                    | 40                                 | 30                                 | 20  | 35                                     | 25 <sup>1)</sup>                       | 54            | 200          | 2,74            |
| N-K 6-20/59 A4 | 61125501 | 6            | 20                                    | 40                                 | 30                                 | 25  | 35                                     | 25 <sup>1)</sup>                       | 59            | 200          | 2,91            |
| N-K 6-30/69 A4 | 61135501 | 6            | 30                                    | 40                                 | 30                                 | 35  | 35                                     | 25 <sup>1)</sup>                       | 69            | 200          | 3,44            |
| N-K 6-50/89 A4 | 61155501 | 6            | 50                                    | 40                                 | 30                                 | 55  | 35                                     | 25 <sup>1)</sup>                       | 89            | 100          | 2,19            |

<sup>1)</sup>According to ETAG 001, Part 6 reduced anchorage depth is only permitted for indoor use.

**Nail Anchor N HCR**



- High corrosion resistant steel 1.4529 (HCR)
- With thread M6

| Description  | Ref. No. | Drill hole Ø | Standard anchorage depth              |                                    |                                    | Reduced anchorage depth                   |  |  | Anchor length | Pkg. content | Weight per pkg. |
|--------------|----------|--------------|---------------------------------------|------------------------------------|------------------------------------|---|--|--|---------------|--------------|-----------------|
|              |          |              | Fixture thickness t <sub>fix</sub> mm | Drill hole depth h <sub>1</sub> mm | Anchorage depth h <sub>ef</sub> mm | Fixture thickness t <sub>fix,red</sub> mm | Drill hole depth h <sub>1,red</sub> mm | Anchorage depth h <sub>ef,red</sub> mm |               |              |                 |
| N 6-5/49 HCR | 61010651 | 6            | 5                                     | 40                                 | 30                                 | -   | -                                      | -                                      | 49            | 200          | 2,39            |



... a solid connection

### Nail Anchor N-K HCR



→ High corrosion resistant steel 1.4529 (HCR)

→ With Nailhead

| Description     | Ref. No. | Drill hole<br>Ø | Standard anchorage depth                       |   |   | Reduced anchorage depth <sup>1)</sup>              |   |   | Anchor<br>length<br>mm | Pkg.<br>content<br>pcs. | Weight per<br>pkg.<br>kg |
|-----------------|----------|-----------------|--|---|---|--|---|---|------------------------|-------------------------|--------------------------|
|                 |          |                 | Fixture<br>thickness<br>t <sub>fix</sub><br>mm | Drill hole<br>depth<br>h <sub>1</sub><br>mm | Anchorage<br>depth<br>h <sub>ef</sub><br>mm | Fixture<br>thickness<br>t <sub>fix,red</sub><br>mm | Drill hole<br>depth<br>h <sub>1,red</sub><br>mm | Anchorage<br>depth<br>h <sub>ef,red</sub><br>mm |                        |                         |                          |
| N-K 6-5/44 HCR  | 61110651 | 6               | 5  | 40  | 30  | 10   | 35  | 25 <sup>1)</sup>                                | 44                     | 200                     | 2,29                     |
| N-K 6-15/54 HCR | 61120651 | 6               | 15   | 40  | 30  | 20   | 35  | 25 <sup>1)</sup>                                | 54                     | 200                     | 2,54                     |
| N-K 6-30/69 HCR | 61135651 | 6               | 30   | 40  | 30  | 35   | 35  | 25 <sup>1)</sup>                                | 69                     | 200                     | 3,44                     |
| N-K 6-50/89 HCR | 61155651 | 6               | 50   | 40  | 30  | 55   | 35  | 25 <sup>1)</sup>                                | 89                     | 100                     | 2,19                     |

<sup>1)</sup>According to ETAG 001, Part 6 reduced anchorage depth is only permitted for indoor use.

### Setting Tool

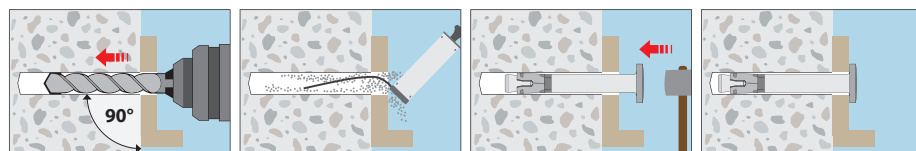


→ Setting Tool for Nail Anchor N-K

→ With SDS plus connection

| Description | Ref. No. | Pkg. content<br>pcs | Weight per<br>pkg.<br>kg |
|-------------|----------|---------------------|--------------------------|
| N-K SWZ SDS | 09795101 | 1                   | 0,05                     |

### Installation





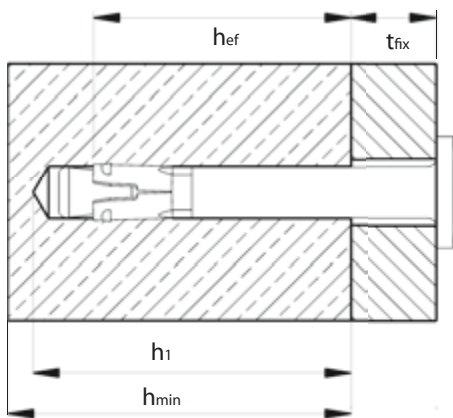
**Extract from Permissible Service Conditions of European Technical Assessment ETA-11/0240**

Multiple use for non-structural applications. Total safety factor as per ETAG 001 included ( $\gamma_M$  and  $\gamma_F$ ). The maximum load per fixing point for multiple use for non-structural applications may, depending on national regulations, be below the approved load of the anchor. The approved loads per fixing point are regulated for their respective countries in the ETAG 001, Part 6. Load capacities under fire exposure see page 166.

| Loads and performance data                | Nail Anchor steel zinc plated, stainless steel A4, HCR | N 6  |      |                                |                       |                    |                    |                    |                    |
|---|--|------|------|--------------------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|
|   |  | N-K  |      |                                |                       | N-M                |                    |                    |                    |
| Effective anchorage depth                 | $h_{ef}$ [mm]  | 25   | 30   | cracked / non-cracked concrete |                       |                    |                    | 25                 | 30                 |
| Approved loads (Picture 1)                | C12/15 appr. F [kN]                                    | 1,43 | 1,90 | 1,43                           | 1,90                  | 1,43 <sup>1)</sup> | 1,90 <sup>1)</sup> | 1,43 <sup>1)</sup> | 1,90 <sup>1)</sup> |
|   | C20/25 - C50/60 appr. F [kN]                           | 2,14 | 2,81 | 2,14                           | 2,81                  | 2,14 <sup>1)</sup> | 2,81 <sup>1)</sup> | 2,14 <sup>1)</sup> | 2,81 <sup>1)</sup> |
| Approved loads (Picture 2)                | C12/15 appr. F [kN]                                    | 0,71 | 0,95 | 0,71                           | 0,95                  | 0,71 <sup>1)</sup> | 0,95 <sup>1)</sup> | 0,71 <sup>1)</sup> | 0,95 <sup>1)</sup> |
|   | C20/25 - C50/60 appr. F [kN]                           | 0,95 | 1,19 | 0,95                           | 1,19                  | 0,95 <sup>1)</sup> | 1,19 <sup>1)</sup> | 0,95 <sup>1)</sup> | 1,19 <sup>1)</sup> |
| Approved bending moments                  | appr. M [Nm]   | 5,3  | 5,3  | 7,3                            | 7,3/7,7 <sup>2)</sup> | 7,3                | 7,3                | 7,3                | 7,3                |
| Minimum thickness of concrete slab        | $h_{min}$ [mm]   | 80   | 80   | 80                             | 80                    | 80                 | 80                 | 80                 | 80                 |
| <b>Installation parameters</b>            |  |      |      |                                |                       |                    |                    |                    |                    |
| Drill hole diameter                       | $d_o$ [mm]   | 6    | 6    | 6                              | 6                     | 6                  | 6                  | 6                  | 6                  |
| Diameter of clearance hole in the fixture | $d_r$ [mm]   | 7    | 7    | 7                              | 7                     | 7                  | 7                  | 7                  | 7                  |
| Diameter nailhead                         | [mm]   | -    | -    | 13                             | 13                    | -                  | -                  | -                  | -                  |
| Depth of drill hole                       | $h_1$ [mm]   | 35   | 40   | 35                             | 40                    | 35                 | 40                 | 35                 | 40                 |
| Installation torque                       | $\leq T_{inst}$ [Nm]                                   | 4    | 4    | -                              | -                     | -                  | -                  | -                  | -                  |

<sup>1)</sup>When applying a shear load to anchor version N-M, shear load with lever arm must be proven.

<sup>2)</sup>Steel zinc plated / stainless steel A4, HCR



**Respective spacing and edge distances [mm]:**

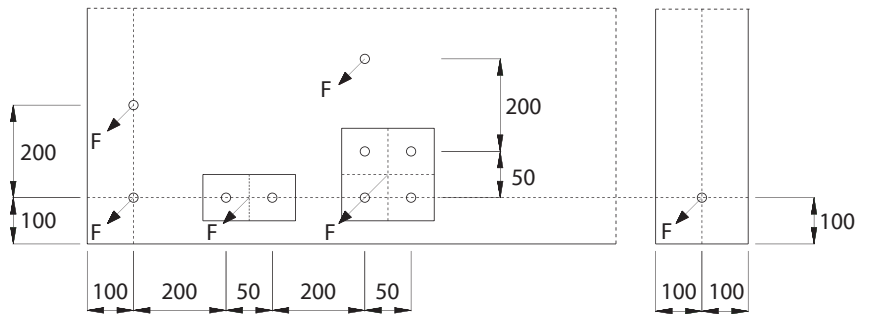
The approved load F is for one fixing point.

One fixing point can be:

- **Single anchor,**
- **Pair of anchors** with spacing  $s \geq 50$  mm or
- **Group of four anchors** with  $s \geq 50$  mm

If the spacing in a fixing point is greater than or equal to the respective spacing between the fixing points, the characteristic resistances apply to every single anchor.

**Picture 1: maximum loads**



**Picture 2: minimum spacing and edge distance**

