



## PRESTATIEVERKLARING



**DoP: 0123**

voor fischer Ceiling Anchor FDN II (Metalen ankers voor gebruik in beton (lichte lasten)) – NL

1. Unieke identificatiecode van het producttype: **DoP: 0123**
2. Beoogd(e) gebruik(en): **Voor meervoudig dragende niet constructieve systemen in gescheurd en ongescheurd beton. Voor meervoudig dragende systemen zoals plafonds en installaties, zie bijlage, in het bijzonder bijlages B 1 tot en met B 2**
3. Fabrikant: **fischerwerke GmbH & Co. KG, Klaus-Fischer-Straße 1, 72178 Waldachtal, Duitsland**
4. Gemachtigde: --
5. Het systeem of de systemen voor de beoordeling en verificatie van de prestatiebestendigheid: **2+**
6. Europees beoordelingsdocument: **ETAG 001; 2013-04**  
Europese technische beoordeling: **ETA-17/0736; 2018-01-30**  
Technische beoordelingsinstantie: **DIBt**  
Aangemelde instantie(s): **1343 – MPA Darmstadt**
7. Aangegeven prestatie(s):  
**Mechanische weerstand en stabiliteit (BWR 1), Veiligheid in gebruik (BWR 4)**
  - **Karakteristieke waarden:** Zie bijlage, in het bijzonder bijlage C 1  
**Veiligheid bij brand (BWR 2)**
  - **Brandgedrag:** Verankeringen voldoen aan de vereisten voor klasse A1
  - **Brand weerstand:** Zie bijlage, in het bijzonder bijlage C 1
8. Geëigende technische documentatie en/of specifieke technische documentatie: ---  
De prestaties van het hierboven omschreven product zijn conform de aangegeven prestaties. Deze prestatieverklaring wordt in overeenstemming met Verordening (EU) nr. 305/2011 onder de exclusieve verantwoordelijkheid van de hierboven vermelde fabrikant verstrekt.

Ondertekend voor en namens de fabrikant door:

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Wolfgang Hengesbach, Dipl.-Ing., Dipl.-Wirtsch.-Ing.

Tumlingen, 2018-02-06

- Deze prestatieverklaring is opgesteld in verschillende talen. Bij een geschil over de interpretatie prevaleert de engelse versie.
- De bijlage bevat vrijwillige en aanvullende informatie in de Engelse taal boven op de (taal-neutraal gespecificeerde) wettelijke voorschriften.

## Specific Part

### 1 Technical description of the product

The fischer Ceiling Anchor FDN II is an anchor made of galvanized steel which is placed into a drilled hole and anchored by deformation-controlled expansion.

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 Mechanical resistance and stability (BWR 1)

The essential characteristics regarding mechanical resistance and stability are included under the Basic Works Requirement Safety in use.

#### 3.2 Safety in case of fire (BWR 2)

| Essential characteristic | Performance                                 |
|--------------------------|---------------------------------------------|
| Reaction to fire         | Anchorage satisfy requirements for Class A1 |
| Resistance to fire       | See Annex C 1                               |

#### 3.3 Safety in use (BWR 4)

| Essential characteristic              | Performance   |
|---------------------------------------|---------------|
| Characteristic resistance in concrete | See Annex C 1 |

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

In accordance with guideline for European technical approval ETAG 001, April 2013 used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011 the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

Product installation conditions, product marking and product dimensions

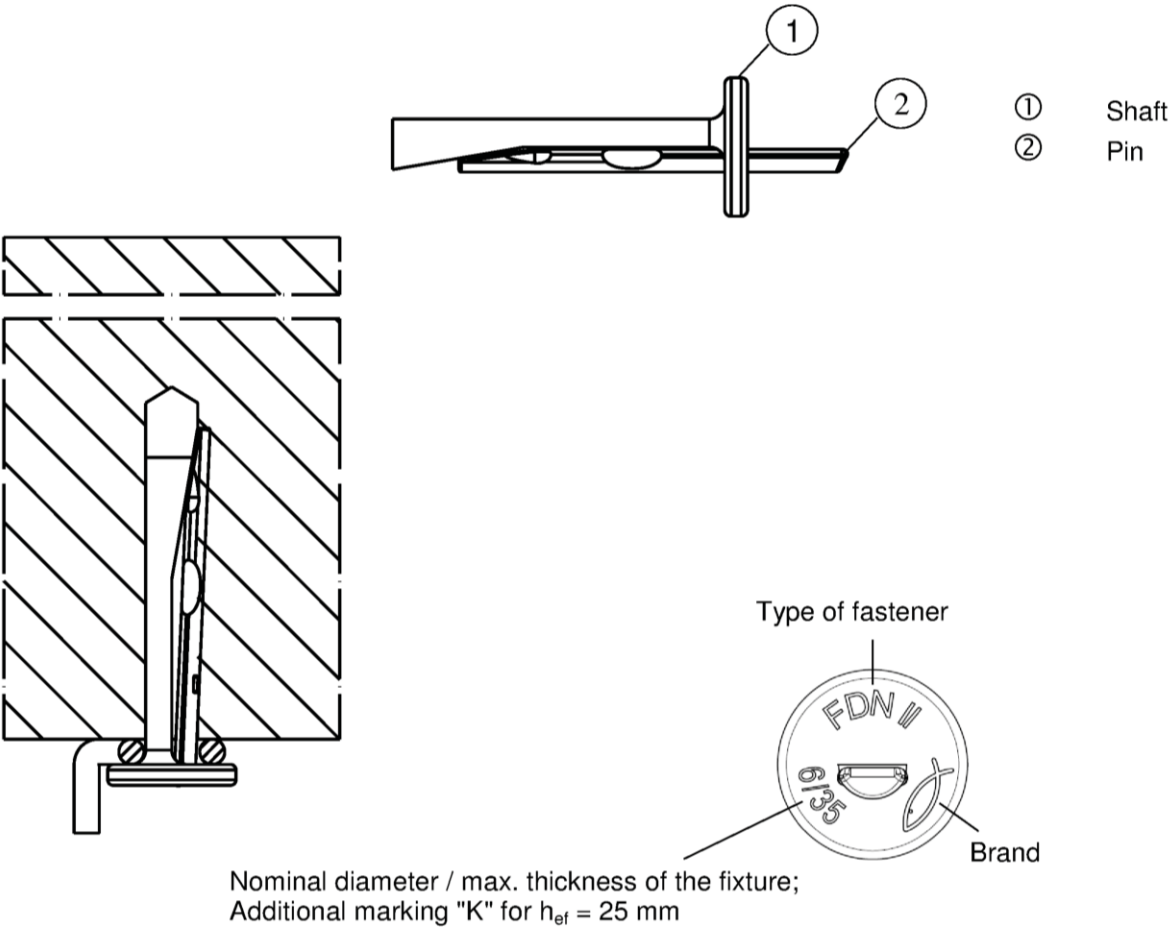
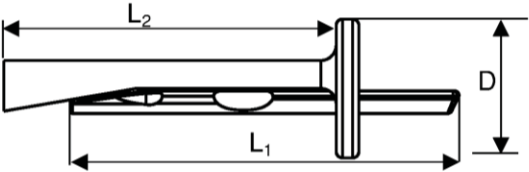


Table A1.1: Dimensions

| Size                          |             | FDN II |      |        |      |
|-------------------------------|-------------|--------|------|--------|------|
|                               |             | 6/5 K  | 6/5  | 6/35 K | 6/35 |
| Length of the                 | pin $L_1$   | 36     | 43   | 66     | 73   |
|                               | shaft $L_2$ | 30,5   | 37,5 | 60,5   | 67,5 |
| Diameter of the head $D \geq$ |             | 13     |      |        |      |



(Fig. not to scale)

fischer Ceiling Anchor FDN II

Product description

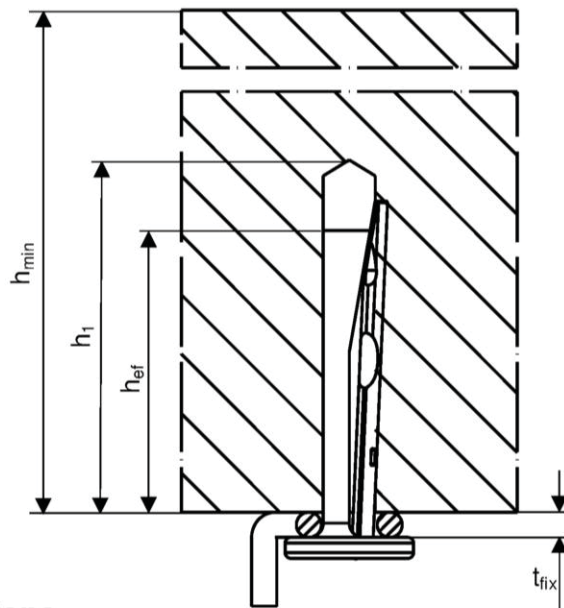
Product installation conditions, product marking and product dimensions

Annex A 1

| Specifications of intended use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------|
| Anchorage subject to:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |           |
| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FDN II 6 |           |
| Static and quasi-static loads                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ✓        |           |
| Use for multiple fixture of non-structural applications according to ETAG 001, Part 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |           |
| Fire exposure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |           |
| <p><b>Base materials:</b></p> <ul style="list-style-type: none"><li>• Reinforced and unreinforced normal weight concrete according to EN 206-1:2000</li><li>• Strength classes C12/15 to C50/60 according to EN 206-1:2000</li><li>• Cracked and non-cracked concrete</li></ul> <p><b>Use conditions (Environmental conditions):</b></p> <ul style="list-style-type: none"><li>• Anchorage subject to dry internal conditions</li></ul> <p><b>Design:</b></p> <ul style="list-style-type: none"><li>• Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work</li><li>• Verifiable calculation notes and drawings have to be prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.).</li><li>• Anchorages under static or quasi-static actions have to be designed for Design Method C in accordance with:<ul style="list-style-type: none"><li>– ETAG 001, Annex C, Design Method C, Edition August 2010</li><li>– CEN/TS 1992-4:2009</li></ul></li><li>• Anchorages under fire exposure have to be designed in accordance with<ul style="list-style-type: none"><li>– EOTA Technical Report TR 020, Edition May 2004</li><li>– CEN/TS 1992-4:2009, Annex D (it must be ensured that local spalling of the concrete cover does not occur)</li></ul></li></ul> |          |           |
| fischer Ceiling Anchor FDN II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | Annex B 1 |
| Intended use<br>Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |           |

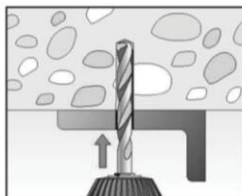
**Table B2.1:** Installation parameters

| Size                                      |                      |        | FDN II |     |        |      |    |
|-------------------------------------------|----------------------|--------|--------|-----|--------|------|----|
|                                           |                      |        | 6/5 K  | 6/5 | 6/35 K | 6/35 |    |
| Thickness of the fixture                  | $t_{\text{fix}}$     | $\leq$ | 5      |     | 35     |      |    |
| Nominal drill hole diameter               | $d_0$                |        | 6      |     |        |      |    |
| Diameter of clearance hole in the fixture | $d_f$                | $\leq$ | 7      |     |        |      |    |
| Maximum bit diameter                      | $d_{\text{cut,max}}$ |        | 6,40   |     |        |      |    |
| Effective embedment depth                 | $h_{\text{ef}}$      | [mm]   | 25     | 32  | 25     | 32   |    |
| Depth of drill hole with hole cleaning    | $h_1$                |        | $\geq$ | 30  | 37     | 30   | 37 |
| to deepest point without hole cleaning    |                      |        |        | 35  | 42     | 35   | 42 |
| Minimum thickness of concrete member      | $h_{\text{min}}$     |        | 80     |     |        |      |    |

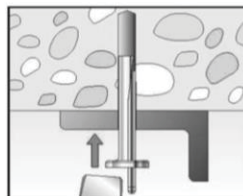


### Installation instructions

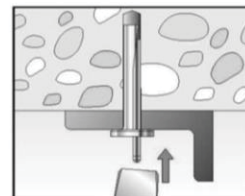
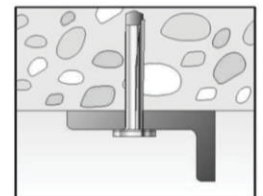
- Hammer or hollow drilling only
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site
- Positioning of the drill holes without damaging the reinforcement
- In case of aborted hole: New drilling at a minimum distance twice the depth of aborted hole away of or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not in the direction of the load application



1: Drill the hole



2: Set the fastener


3: Set the pin, until  
flush to the surface


4: Installed fastener

*(Fig. not to scale)*

### fischer Ceiling Anchor FDN II

#### Intended use

Installation parameters and installation instructions

### Annex B 2

**Table C1.1:** Characteristic resistance

| Size                                                                 |                  | FDN II 6                  |                      |     |
|----------------------------------------------------------------------|------------------|---------------------------|----------------------|-----|
| For all load directions and for all failures modes                   |                  |                           |                      |     |
| Effective embedment depth                                            |                  | $h_{ef}$ [mm]             | 25                   | 32  |
| Characteristic resistance<br>in cracked and non-<br>cracked concrete | C12/15           | $F_{Rk}$ [kN]             | 2,0                  | 2,5 |
|                                                                      | C20/25 to C50/60 |                           | 2,5                  | 3,5 |
| Characteristic                                                       | edge distance    | $C_{cr,N} = C_{min}$ [mm] | 70                   | 60  |
|                                                                      | spacing          |                           | $S_{cr,N} = S_{min}$ | 60  |
| Partial safety factor                                                |                  | $\gamma_M^{2)}$ [-]       | 1,5                  |     |
| Shear load with lever arm                                            |                  |                           |                      |     |
| Characteristic bending resistance                                    |                  | $M^0_{Rk,s}$ [Nm]         | 4,4                  |     |
| Partial safety factor for steel failure                              |                  | $\gamma_{Ms}^{1)}$ [-]    | 1,25                 |     |

<sup>1)</sup> In absence of other national regulations

<sup>2)</sup> The installation safety factor  $\gamma_2 = \gamma_{inst} = 1,0$  is included

**Table C1.2:** Characteristic resistance under fire exposure for all effective embedment depths

| Size                                     |                  |                                | FDN II 6 |
|------------------------------------------|------------------|--------------------------------|----------|
| Steel failure for tension and shear load |                  |                                |          |
| R30                                      | $F_{Rk,s,fi30}$  | Characteristic resistance [kN] | 1,00     |
| R60                                      | $F_{Rk,s,fi60}$  |                                | 0,50     |
| R90                                      | $F_{Rk,s,fi90}$  |                                | 0,34     |
| R120                                     | $F_{Rk,s,fi120}$ |                                | 0,26     |
| R180                                     | $F_{Rk,s,fi180}$ |                                | 0,17     |
| Spacing and edge distance                |                  |                                |          |
| R30 – R120                               | $S_{cr,fi}$      | [mm]                           | 200      |
|                                          | $C_{cr,fi}$      |                                | 150      |

For fire exposure from more than one side  $c_{min} \geq 300$  mm

**fischer Ceiling Anchor FDN II****Performances**

Characteristic resistance and characteristic resistance under fire exposure

**Annex C 1**