



## PRESTATIEVERKLARING



Nr. 0044 – NL

1. Unieke identificatiecode van het producttype: **fischer Inslag anker EA II**

2. Beoogd(e) gebruik(en):

| Product                                              | Beoogd gebruik                                                                                                                                                                                                      |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Metalen ankers voor gebruik in beton (lichte lasten) | 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 5 |

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+**

6a. Geharmoniseerde norm: ---

Aangemelde instantie(s): ---

6b. Europees beoordelingsdocument: **ETAG 001; 2013-04**

Europese technische beoordeling: **ETA-07/0142; 2016-12-09**

Technische beoordelingsinstantie: **DIBt**

Aangemelde instantie(s): **1343 – MPA Darmstadt**

7. Aangegeven prestatie(s):

### Veiligheid bij brand (BWR 2)

| Essentieel kenmerk | Prestatie                                             |
|--------------------|-------------------------------------------------------|
| Brandgedrag        | Verankeringen voldoen aan de vereisten voor klasse A1 |
| Brand weerstand    | Zie bijlage, in het bijzonder bijlage C 4             |

### Veiligheid in gebruik (BWR 4)

| Essentieel kenmerk                                                                   | Prestatie                                        |
|--------------------------------------------------------------------------------------|--------------------------------------------------|
| Karakteristieke weerstand tegen statische en quasi-statische belasting, Verplaatsing | Zie bijlage, in het bijzonder bijlages C 1 – C 3 |

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, 2016-12-15

- 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 drop-in anchor EA II is an anchor made of galvanized or stainless steel which is placed into a drilled hole and anchored by deformation-controlled expansion.

The fixture shall be anchored with a fastening screw or threaded rod according to Annex B 5.

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 4                               |

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

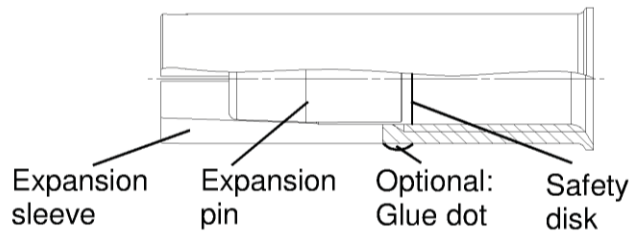
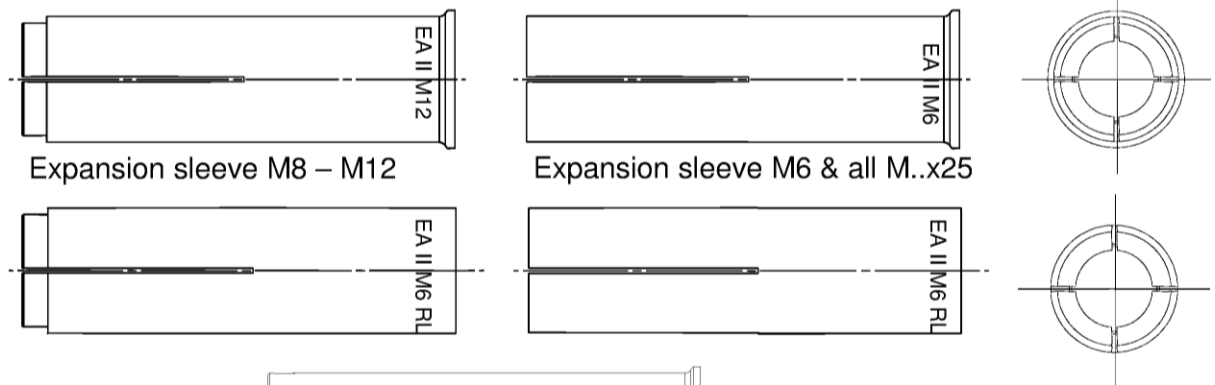
| Essential characteristic                                                     | Performance          |
|------------------------------------------------------------------------------|----------------------|
| Characteristic resistance for static and quasi-static loading, displacements | See Annex C 1 to C 3 |

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

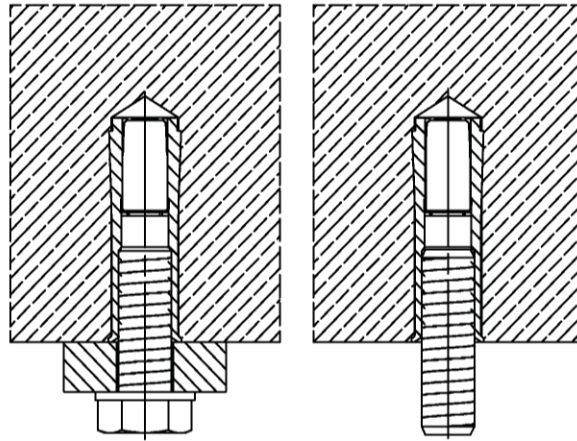
In accordance with guideline for European technical approval ETAG 001-6, April 2013 used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011 the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

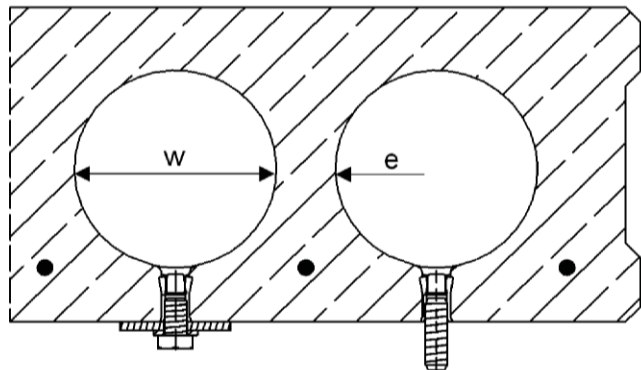
**Multiple use for non-structural applications only**



**Intended use in concrete**



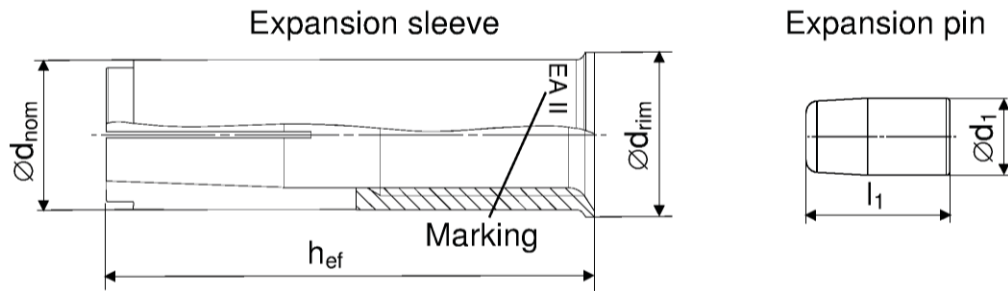
**Intended use in precast pre-stressed hollow concrete slabs ( $w/e \leq 4,2$ ) with a flange thickness  $\geq 35$  (or 30 mm → see Annex C2) and only for  $h_{ef} = 25$  mm**



fischer drop-in anchor EA II

**Product description**  
Installed condition  
Anchor types

**Annex A 1**



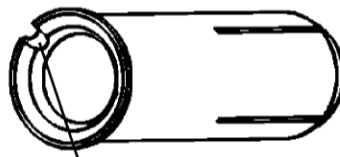
| Anchor size<br>EA II       | M6x25 | M6x30 | M8x25 | M8x30 | M8x40 | M10x25 | M10x30 | M10x40 | M12x25 | M12x50 | M12 D |
|----------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|
| $h_{ef}$ [mm]              | 25    | 30    | 25    | 30    | 40    | 25     | 30     | 40     | 25     | 50     | 50    |
| $\varnothing d_{nom}$ [mm] | 8     |       | 10    |       |       | 12     |        |        | 15     |        | 16    |
| $\varnothing d_{rim}$ [mm] | 9,5   |       | 11,5  |       |       | 13,5   |        |        | 16,5   |        | 17,5  |
| $\varnothing d_1$ [mm]     | 5     |       | 6,5   |       |       | 8,5    | 8      |        | 10     |        |       |
| $l_1$ [mm]                 | 9     | 14    | 8     | 13,5  |       | 9      | 13,5   | 18,5   | 10,5   | 18,5   |       |

#### Distinctive feature



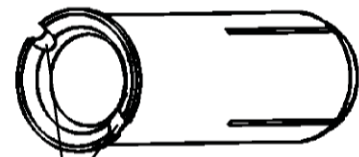
0× groove for:

- EA II M6x30..
- EA II M8x30..
- EA II M10x40..
- EA II M12x50..



1× groove for:

- EA II M6x25..
- EA II M8x25..
- EA II M10x25..
- EA II M12x25..



2× groove for:

- EA II M8x40..
- EA II M10x30..

#### Marking on anchor body

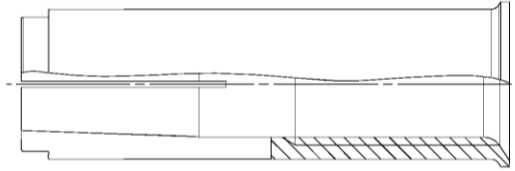
| galvanized steel (gvz) |                  | stainless steel (A4) |                     |
|------------------------|------------------|----------------------|---------------------|
| with rim               | rimless          | with rim             | rimless             |
| EA II M6x25            | EA II M6x25 RL   | EA II M6x30 A4       | EA II M6x30 RL A4   |
| EA II M6x30            | EA II M6x30 RL   | EA II M8x30 A4       | EA II M8x30 RL A4   |
| EA II M8x25            | EA II M8x25 RL   | EA II M8x40 A4       | EA II M8x40 RL A4   |
| EA II M8x30            | EA II M8x30 RL   | EA II M10x30 A4      | EA II M10x30 RL A4  |
| EA II M8x40            | EA II M8x40 RL   | EA II M10x40 A4      | EA II M10x40 RL A4  |
| EA II M10x25           | EA II M10x25 RL  | EA II M12x50 A4      | EA II M12x50 RL A4  |
| EA II M10x30           | EA II M10x30 RL  | EA II M12x50 DA4     | EA II M12x50 RL DA4 |
| EA II M10x40           | EA II M10x40 RL  |                      |                     |
| EA II M12x25           | EA II M12x25 RL  |                      |                     |
| EA II M12x50           | EA II M12x50 RL  |                      |                     |
| EA II M12x50 D         | EA II M12x50 RLD |                      |                     |

fischer drop-in anchor EA II

**Product description**  
Anchor types

**Annex A 2**

Expansion sleeve



Expansion pin



**Table A1: Materials**

| Designation                        | Material                                                                                                 |                                                           |
|------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
|                                    | galvanised steel ( $\geq 5 \mu\text{m}$ )                                                                | stainless steel                                           |
| Expansion sleeve                   | EN 10277:2008 or EN 10084:2008 or<br>EN 10111:2008 or EN 10263:2001 or<br>EN 10087:1998 or ASTM A29/A29M | EN 10088:2005                                             |
| Expansion pin                      |                                                                                                          |                                                           |
| Fastening screw or<br>threaded rod | steel, property class 4.6, 5.6, 5.8 or<br>8.8 according to EN ISO 898-1:2012                             | property class 50, 70 or 80<br>according EN ISO 3506:2009 |

fischer drop-in anchor EA II

**Product description**  
Material

**Annex A 3**

### Specifications of intended use

#### Anchorage subject to:

- Static and quasi-static loads
- Only to be used for multiple use for non-structural application
- Fire exposure: only in concrete C12/15 to C50/60, not prestressed hollow concrete slabs

#### Base materials:

- Reinforced or unreinforced normal weight concrete according to EN 206-1:2000
- Strength classes C12/15 to C50/60 according to EN 206-1:2000
- Precast prestressed hollow concrete slabs with  $w/e \leq 4,2$  and strength classes C30/37 to C50/60: M6x25, M8x25, M10x25 and M12x25
- Cracked concrete and non-cracked concrete: all sizes

#### Use conditions (Environmental conditions):

- Structures subject to dry internal conditions (zinc coated steel or stainless steel)
- Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal condition, if no particular aggressive conditions exist (stainless steel)

Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution (e.g. in desulphurization plants or road tunnels where de-icing materials are used)

#### Design:

- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work
- Verifiable calculation notes and drawings are 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.)
- Anchorages under static or quasi-static actions are to be designed in accordance with:
  - ETAG 001, Annex C, design method B and C, Edition August 2010 or
  - CEN/TS 1992-4:2009, design method B
- Fasteners are only to be used for multiple use for non-structural application, according to: ETAG 001 Part 6, Edition August 2010
- Anchorages under fire exposure are designed in accordance with:
  - EOTA Technical Report TR 020, Edition May 2004
  - CEN/TS 1992-4:2009
  - It must be ensured that local spalling of the concrete cover does not occur

#### Installation:

- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site
- Create drill hole with hammer drill or with hollow drill and vacuum cleaner
- The anchor may only be used once
- Anchor expansion by impact using the setting tools given in Annex B 4. The anchor is property set if the stop of the setting tool reaches the expansion sleeve. The manual setting tool with installation control leaves a visible mark on the sleeve, as illustrated in Annex B4 and B 5

fischer drop-in anchor EA II

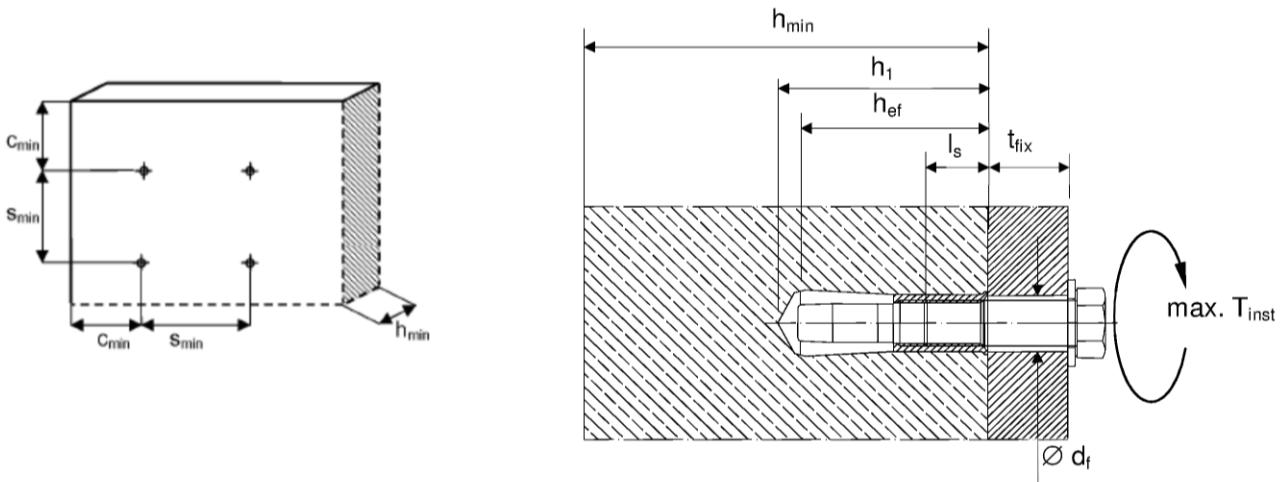
Intended Use  
Specifications

Annex B 1



**Table B1: Installation parameters for concrete C12/15 to C50/60**

| Anchor size                 |                        |      | M6 |     | M8  |     |     | M10 |     |     | M12 |     | M12D |
|-----------------------------|------------------------|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Nominal drill hole diameter | d <sub>0</sub>         | [mm] | 8  |     | 10  |     |     | 12  |     |     | 15  |     | 16   |
| Effective anchorage depth   | h <sub>ef</sub>        | [mm] | 25 | 30  | 25  | 30  | 40  | 25  | 30  | 40  | 25  | 50  | 50   |
| Maximum installation torque | max. T <sub>inst</sub> | [Nm] | 4  |     | 8   |     |     | 15  |     |     | 35  |     |      |
| Minimum drill hole depth    | h <sub>1</sub>         | [mm] | 27 | 32  | 27  | 33  | 43  | 27  | 33  | 43  | 27  | 54  | 54   |
| Minimum screw-in depth      | l <sub>s,min</sub>     | [mm] | 6  |     | 8   |     |     | 10  |     |     | 12  |     |      |
| Maximum screw-in depth      | l <sub>s,max</sub>     | [mm] | 14 |     | 14  |     |     | 14  |     | 17  | 14  | 22  |      |
| Clearance hole diameter     | Ø d <sub>f</sub> ≤     | [mm] | 7  |     | 9   |     |     | 12  |     |     | 14  |     |      |
| h <sub>min</sub> = 80 mm    |                        |      |    |     |     |     |     |     |     |     |     |     |      |
| Minimum spacing             | s <sub>min</sub>       | [mm] | 30 | 70  | 70  | 110 | 200 | 80  | 200 |     | 100 | -   | -    |
| Minimum edge distance       | c <sub>min</sub>       | [mm] | 60 | 150 | 100 | 150 |     | 120 | 150 |     | 130 | -   | -    |
| h <sub>min</sub> = 100 mm   |                        |      |    |     |     |     |     |     |     |     |     |     |      |
| Minimum spacing             | s <sub>min</sub>       | [mm] | 30 | 65  | 50  | 70  |     | 60  | 90  | 150 | 100 | 200 |      |
| Minimum edge distance       | c <sub>min</sub>       | [mm] | 60 | 115 | 100 | 115 |     | 100 | 160 | 180 | 110 |     |      |
| h <sub>min</sub> = 120 mm   |                        |      |    |     |     |     |     |     |     |     |     |     |      |
| Minimum spacing             | s <sub>min</sub>       | [mm] | 30 | 65  | 50  | 70  |     | 60  | 85  | 95  | 100 | 145 |      |
| Minimum edge distance       | c <sub>min</sub>       | [mm] | 60 | 115 | 100 | 115 |     | 100 | 140 | 150 | 110 | 200 |      |



Fastening screw or threaded rod:

- Minimum property class and materials according to table A1
- The length of the fastening screw or threaded rod shall be determined depending on thickness of fixture  $t_{fix}$ , admissible tolerances and maximum screw length  $l_{s,max}$  as well as minimum screw-in depth  $l_{s,min}$ .

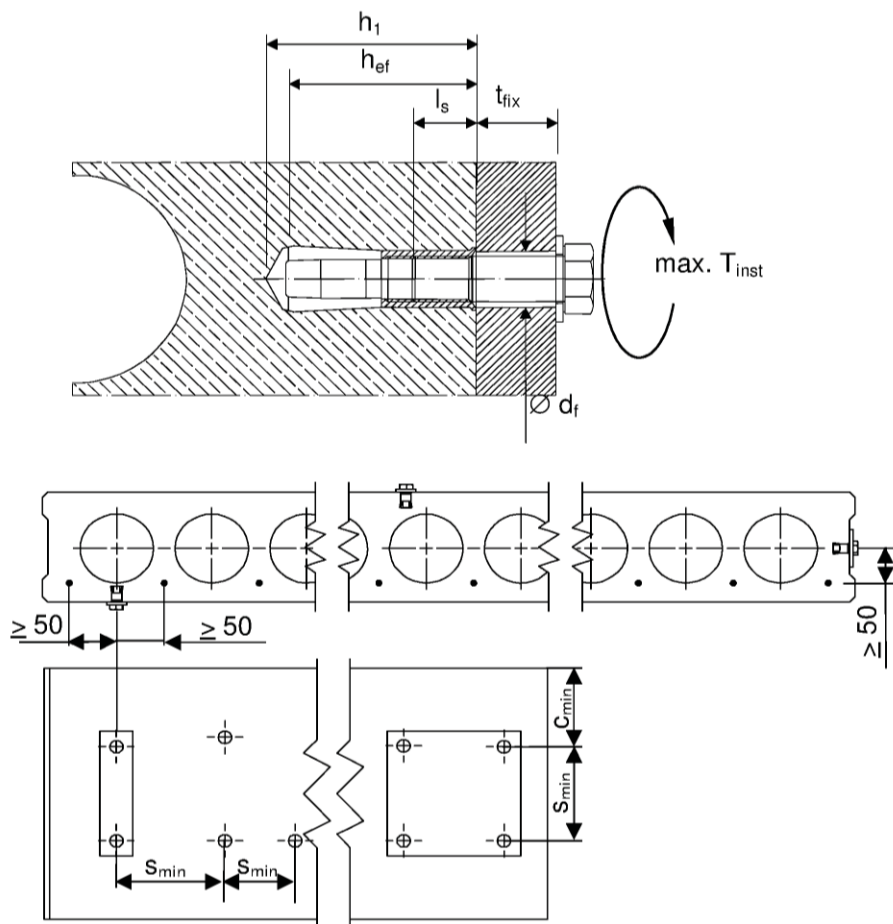
fischer drop-in anchor EA II

**Intended Use**  
Installation parameters

**Annex B 2**

**Table B2: Installation parameters for precast pre-stressed hollow concrete slabs**

| Anchor size                 |                    |      | M6  | M8 | M10 | M12 |
|-----------------------------|--------------------|------|-----|----|-----|-----|
| Nominal drill hole diameter | $d_0$              | [mm] | 8   | 10 | 12  | 15  |
| Effective anchorage depth   | $h_{ef}$           | [mm] | 25  |    |     |     |
| Maximum installation torque | max. $T_{inst}$    | [Nm] | 4   | 8  | 15  | 35  |
| Minimum drill hole depth    | $h_1$              | [mm] | 27  |    |     |     |
| Minimum screw-in depth      | $l_{s,min}$        | [mm] | 6   | 8  | 10  | 12  |
| Maximum screw-in depth      | $l_{s,max}$        | [mm] | 14  |    |     |     |
| Clearance hole diameter     | $\varnothing d_f$  | [mm] | 7   | 9  | 12  | 14  |
| Minimum spacing             | $s_{min} = s_{cr}$ | [mm] | 200 |    |     |     |
| Minimum edge distance       | $c_{min} = c_{cr}$ | [mm] | 150 |    |     |     |



Fastening screw or threaded rod:

- Minimum property class and materials according to table A1
- The length of the fastening screw or threaded rod shall be determined depending on thickness of fixture  $t_{fix}$ , admissible tolerances and maximum screw length  $l_{s,max}$  as well as minimum screw-in depth  $l_{s,min}$ .

fischer drop-in anchor EA II

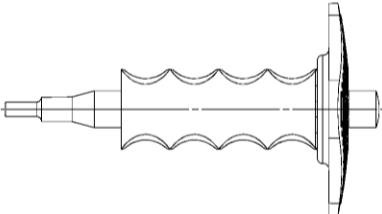
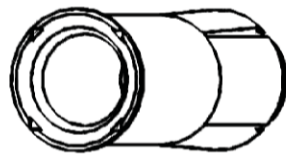
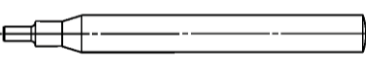
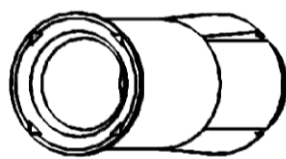
**Intended Use**  
Installation parameters

**Annex B 3**

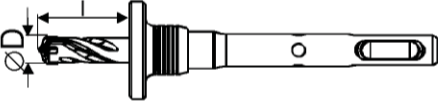


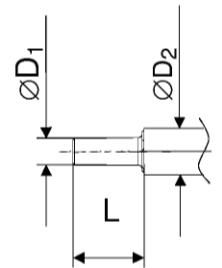
# Setting & drilling tools

## Setting tools

| Setting tools                                                                     | Marking                          | Description                         | Marking on EA II with rim and rimless                                               |
|-----------------------------------------------------------------------------------|----------------------------------|-------------------------------------|-------------------------------------------------------------------------------------|
|  | EHS Plus<br>M..x h <sub>ef</sub> | Manual setting tool with hand guard |  |
|  | EHS<br>M..x h <sub>ef</sub>      | Manual setting tool basic format    |  |
|  | EMS<br>M..x h <sub>ef</sub>      | Machine setting tool with SDS Plus  | No marking                                                                          |

## Drilling tools

|                                                                                     |               |            |
|-------------------------------------------------------------------------------------|---------------|------------|
|  | EBB<br>ØD x l | Stop drill |
| Or other usual drillers                                                             |               |            |



**Table B3: Parameters of setting tools**

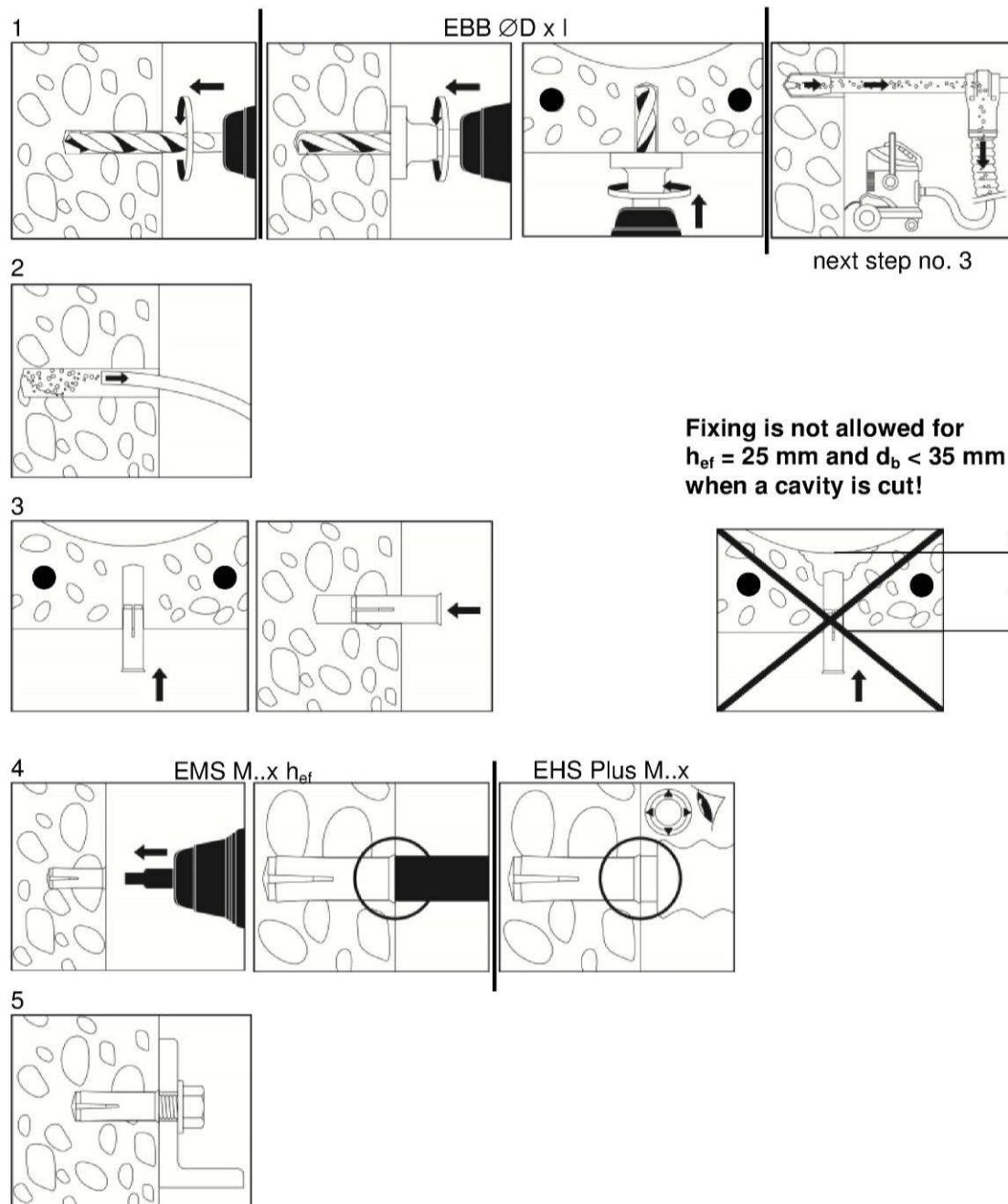
| Manual setting tool | Machine setting tool | Stop drill             | For anchor size              | Ø D1 | Ø D2 | L    |
|---------------------|----------------------|------------------------|------------------------------|------|------|------|
| EHS M6x25/30        | EMS M6x25/30         | EBB 8x25<br>EBB 8x30   | EA II M6x25<br>EA II M6x30   | 4,8  | 9,0  | 17,0 |
| EHS M8x25/30        | EMS M8x25/30         | EBB 10x25<br>EBB 10x30 | EA II M8x25<br>EA II M8x30   | 6,4  | 11,0 | 18,0 |
| EHS M8x40           | EMS M8x40            | EBB 10x40              | EA II M8x40                  |      |      | 28,0 |
| EHS M10x25/30       | EMS M10x25/30        | EBB 12x25<br>EBB 12x30 | EA II M10x25<br>EA II M10x30 | 7,9  | 13,0 | 18,0 |
| EHS M10x40          | EMS M10x40           | EBB 12x40              | EA II M10x40                 |      |      | 24,0 |
| EHS M12x25          | EMS M12x25           | EBB 15x25              | EA II M12x25                 | 10,2 | 16,5 | 15,2 |
| EHS M12x50          | EMS M12x50           | EBB 15x50              | EA II M12x50                 | 10,2 | 16,5 | 30,0 |
| EHS M12x50          | EMS M12x50           | EBB 16x50              | EA II M12x50 D               |      |      |      |

fischer drop-in anchor EA II

**Intended Use**  
Setting & Drilling tools

**Annex B 4**

## Installation instructions



| No. | Description                                                                          |
|-----|--------------------------------------------------------------------------------------|
| 1   | Create drill hole with hammer drill or with hollow drill and vacuum cleaner          |
| 2   | Clean from drill-dust                                                                |
| 3   | Set anchor till anchor is flush with surface of concrete                             |
| 4   | Expand the sleeve by driving the pin into the sleeve and control the correct setting |
| 5   | Fixation of fixture. Maximum installation torque max. $T_{inst}$ must not be crossed |

fischer drop-in anchor EA II

**Intended Use**  
Installation instructions

**Annex B 5**

**Table C1: Characteristic values due to design method B according to ETAG 001, Annex C or design method B according to CEN/TS 1992-4: 2009**

| Anchor size                                                        | Property class screw / rod | M6   |     | M8  |     |     | M10 |     |     | M12/M12D |     |
|--------------------------------------------------------------------|----------------------------|------|-----|-----|-----|-----|-----|-----|-----|----------|-----|
| Effective anchorage depth $h_{ef}$ [mm]                            |                            | 25   | 30  | 25  | 30  | 40  | 25  | 30  | 40  | 25       | 50  |
| <b>All load directions</b>                                         |                            |      |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $F_{RK}^{0,1)}$ [kN]<br>C12/15           | $\geq A4-50$               | -    | 2   | -   | 3   |     | -   | 3   | 5   | -        | 6   |
|                                                                    | $\geq 4.6$                 | 1,5  |     | 2   |     |     | 3   |     |     | 3        |     |
| Characteristic resistance $F_{RK}^{0,1)}$ [kN]<br>C20/25 to C50/60 | $\geq A4-50$               | -    | 3   | -   | 5   |     | -   | 5   | 7,5 | -        | 9   |
|                                                                    | $\geq 4.6$                 | 2    |     | 3   |     |     | 4   |     |     | 4        |     |
| Installation safety factor $\gamma_2 = \gamma_{inst}$              |                            | 1,0  | 1,2 | 1,0 | 1,2 |     | 1,0 | 1,2 |     | 1,0      |     |
| Characteristic spacing $s_{cr}$ [mm]                               |                            | 75   | 90  | 75  | 90  | 120 | 75  | 90  | 200 | 75       | 300 |
| Characteristic edge distance $c_{cr}$ [mm]                         |                            | 38   | 45  | 38  | 45  | 60  | 38  | 45  | 100 | 38       | 150 |
| <b>Steel failure with lever arm</b>                                |                            |      |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $M_{RK,s}^{0,2)}$ [Nm]                   | A4-50                      | -    | 8   | -   | 19  |     | -   | 37  |     | -        | 66  |
| Partial safety factor $\gamma_{Ms}$                                |                            | 2,38 |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $M_{RK,s}^{0,2)}$ [Nm]                   | A4-70                      | -    | 11  | -   | 26  |     | -   | 52  |     | -        | 92  |
| Partial safety factor $\gamma_{Ms}$                                |                            | 1,56 |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $M_{RK,s}^{0,2)}$ [Nm]                   | A4-80                      | -    | 12  | -   | 30  |     | -   | 60  |     | -        | 105 |
| Partial safety factor $\gamma_{Ms}$                                |                            | 1,33 |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $M_{RK,s}^{0,2)}$ [Nm]                   | 4.6                        | 6,1  |     | 15  |     |     | 30  |     |     | 52       |     |
| Partial safety factor $\gamma_{Ms}$                                |                            | 1,67 |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $M_{RK,s}^{0,2)}$ [Nm]                   | 5.6                        | 7,6  |     | 19  |     |     | 37  |     |     | 66       |     |
| Partial safety factor $\gamma_{Ms}$                                |                            | 1,67 |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $M_{RK,s}^{0,2)}$ [Nm]                   | 5.8                        | 7,6  |     | 19  |     |     | 37  |     |     | 66       |     |
| Partial safety factor $\gamma_{Ms}$                                |                            | 1,25 |     |     |     |     |     |     |     |          |     |
| Characteristic resistance $M_{RK,s}^{0,2)}$ [Nm]                   | 8.8                        | 12   |     | 30  |     |     | 60  |     |     | 105      |     |
| Partial safety factor $\gamma_{Ms}$                                |                            | 1,25 |     |     |     |     |     |     |     |          |     |

<sup>1)</sup> The anchor is to be used only for multiple use for non-structural applications, the definition of multiple use according to the Member States is given in the informative Annex 1 of ETAG 001 Part 6 (see: [www.eota.eu](http://www.eota.eu))

<sup>2)</sup> Characteristic bending moment  $M_{RK,s}^{0,2)}$  for the equation (5.5) in ETAG 001, Annex C respectively Characteristic bending moment  $M_{RK,s}^{0,2)}$  for the equation (D.5) in CEN/TS 1992-4-1

fischer drop-in anchor EA II

**Performances**

Characteristic values for tension loads in concrete according to design method B

**Annex C 1**

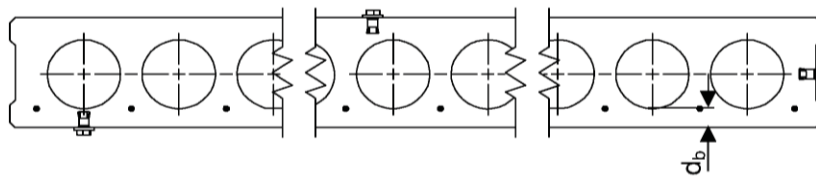
**Table C2: Characteristic values for  $h_{ef} = 25$  mm in precast pre-stressed hollow concrete slabs according to design method C with C30/37 to C50/60**

| Anchor size                                                   | Property class | M6                               | M8 | M10 | M12 |
|---------------------------------------------------------------|----------------|----------------------------------|----|-----|-----|
| Effective anchorage depth $h_{ef}$ [mm]                       | screw / rod    | 25                               |    |     |     |
| All Load directions                                           |                | galvanised steel; with rim       |    |     |     |
| Flange thickness $d_b$ [mm]                                   |                | $\geq 35$ (or 30 <sup>3)</sup> ) |    |     |     |
| Characteristic resistance C30/37 to C50/60 $F_{RK}^{1)}$ [kN] |                | 2                                | 3  | 4   |     |
| Installation safety factor $\gamma_2$                         |                | 1,0                              |    |     |     |
| Characteristic spacing $s_{cr} = s_{min}$ [mm]                |                | 200                              |    |     |     |
| Characteristic edge distance $c_{cr} = c_{min}$ [mm]          |                | 150                              |    |     |     |
| Steel failure with lever arm                                  |                |                                  |    |     |     |
| Characteristic resistance $M^0_{RK,s}^{2)}$ [Nm]              | 4.6            | 6,1                              | 15 | 30  | 52  |
| Partial safety factor $\gamma_{Ms}$                           |                | 1,67                             |    |     |     |
| Characteristic resistance $M^0_{RK,s}^{2)}$ [Nm]              | 5.6            | 7,6                              | 19 | 37  | 66  |
| Partial safety factor $\gamma_{Ms}$                           |                | 1,67                             |    |     |     |
| Characteristic resistance $M^0_{RK,s}^{2)}$ [Nm]              | 5.8            | 7,6                              | 19 | 37  | 66  |
| Partial safety factor $\gamma_{Ms}$                           |                | 1,25                             |    |     |     |
| Characteristic resistance $M^0_{RK,s}^{2)}$ [Nm]              | 8.8            | 12                               | 30 | 60  | 105 |
| Partial safety factor $\gamma_{Ms}$                           |                | 1,25                             |    |     |     |

<sup>1)</sup> The anchor is to be used only for multiple use for non-structural applications, the definition of multiple use according to the Member States is given in the informative Annex 1 of ETAG 001 Part 6 (see: [www.eota.eu](http://www.eota.eu))

<sup>2)</sup> Characteristic bending moment  $M_{RK,s}^{(2)}$  for the equation (5.5) in ETAG 001, Annex C

<sup>3)</sup> The anchor may be used in a flange thickness of 30 mm with the same characteristic resistance, but the drill hole is not allowed to cut a cavity (see Annex B5 Point 3).  
The use of the fischer stop drill EBB is recommended



fischer drop-in anchor EA II

#### Performances

Characteristic values for tension loads in hollow core slabs according to design method C

**Annex C 2**

**Table C3: Characteristic resistance under fire exposure<sup>3)</sup> in concrete C20/25 to C50/60 according to design method B, ETAG 001 Annex C or CEN/TS 1992-4: 2009**

| fire resistance class | EA II                                                   | property class                                | M6x25 | M6x30 | M8x25 | M8x30 | M8x40 | M10x25 | M10x30 | M10x40 | M12x25 | M12x50/<br>M12x50D |
|-----------------------|---------------------------------------------------------|-----------------------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------------------|
| All load directions   |                                                         |                                               |       |       |       |       |       |        |        |        |        |                    |
| R 30                  | Characteristic resistance<br>C20/25 to C50/60           | steel<br>≥ 4.6<br>or<br>≥ A4-50 <sup>2)</sup> | 0,5   | 0,6   | 0,9   | 1,3   | 0,6   | 0,9    | 1,8    | 0,6    | 2,3    |                    |
| R 60                  |                                                         |                                               | 0,5   | 0,6   | 0,9   | 1,5   |       |        |        |        |        |                    |
| R 90                  |                                                         |                                               | 0,4   | 0,6   |       |       | 0,9   |        | 0,5    | 1,3    |        |                    |
| R 120                 |                                                         |                                               | 0,3   | 0,5   |       |       | 0,6   |        |        |        |        |                    |
| R 30 – R 120          | Characteristic spacing<br>s <sub>cr,fi</sub> [mm]       |                                               | 100   | 120   | 100   | 120   | 160   | 100    | 120    | 160    | 100    | 200                |
|                       | Characteristic edge distance<br>c <sub>cr,fi</sub> [mm] |                                               | 50    | 115   | 50    | 140   | 140   | 50     | 140    | 160    | 50     |                    |

<sup>1)</sup> In absence of other national regulations, a partial safety factor for the resistance of  $\gamma_{m,fi}=1,0$  under fire stress is recommended

<sup>2)</sup> Not for M..x25

<sup>3)</sup> Not valid for precast pre-stressed hollow core slabs

fischer drop-in anchor EA II

**Performances**  
Characteristic loads for fire resistances

**Annex C 3**