

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-21/0970**  
**of 3 December 2021**

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Chemofast Drop-in Anchor EA/ EA-B

Product family  
to which the construction product belongs

Fastener for use in concrete  
for redundant non-structural systems

Manufacturer

CHEMOFAST Anchoring GmbH  
Hanns-Martin-Schleyer-Straße 23  
47877 Willich  
DEUTSCHLAND

Manufacturing plant

Werk 2, Deutschland

This European Technical Assessment  
contains

19 pages including 3 annexes which form an integral part  
of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 330747-00-0601, Edition 06/2018

**European Technical Assessment**

**ETA-21/0970**

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**Page 2 of 19 | 3 December 2021**

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## Specific Part

### 1 Technical description of the product

The Chemofast Drop-in Anchor EA/ EA-B is a fastener 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 A2.

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 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	See Annex C5

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

Essential characteristic	Performance
Characteristic resistance for all load directions and modes of failure for simplified design	See Annex B3, C1 to C4
Durability	See Annex B1

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

In accordance with European Assessment Document EAD No. 330747-00-0601, the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document**

















Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 3 December 2021 by Deutsches Institut für Bautechnik

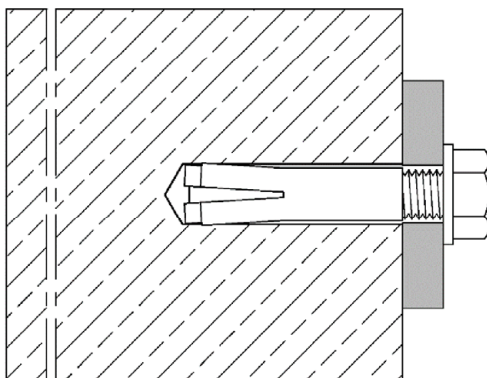
Dipl.-Ing. Beatrix Wittstock  
Head of Section

*beglaubigt:*  
Baderschneider

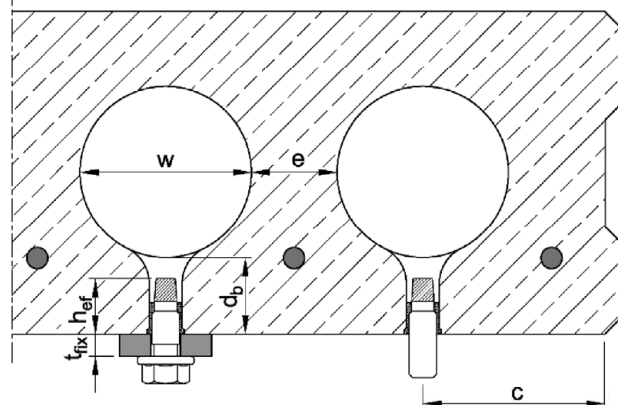
## Drop-in Anchor EA / EA-B

Anchor sizes and variations					
Drop-in Anchor EA ( <u>without</u> shoulder)			Drop-in Anchor EA-B ( <u>with</u> shoulder)		
Anchorage depth $h_{ef} \geq 30$ mm (zinc plated, A4 or HCR)					
EA M6x30			EA-B M6x30		
EA M8x30			EA-B M8x30		
EA M8x40			EA-B M8x40		
EA M10x40			EA-B M10x30 (nur verzinkt)		
EA M12x50			EA-B M10x40		
EA M16x65			EA-B M12x50		
			EA-B M16x65		
Drop-in Anchor EA-B ( <u>with</u> shoulder)					
Anchorage depth $h_{ef} = 25$ mm (zinc plated)					
EA-B M6x25					
EA-B M8x25					
EA-B M10x25					
EA-B M12x25					

### Installation situation EA/EA-B in concrete



### Installation situation EA-B in precast pre-stressed hollow core slabs for $h_{ef} = 25$ mm



$$w / e \leq 4,2$$

- w = core width
- e = web thickness
- $d_b$  = flange thickness  $\geq 35$  mm (or  $\geq 30$  mm, see Annex C3)
- $h_{ef}$  = anchorage depth
- $t_{fix}$  = thickness of fixture
- c = edge distance

### Chemofast Drop-in Anchor EA/ EA-B

#### Product description

Anchor sizes and variations / Installation situations

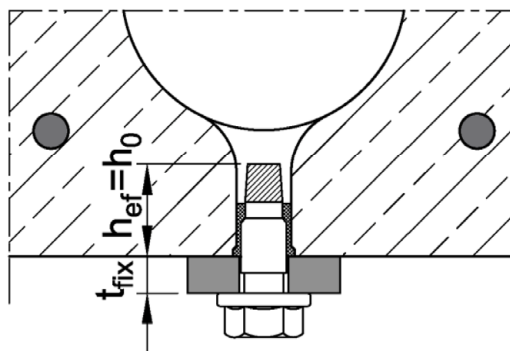
### Annex A1

**Table A1: Materials**

Part	Designation	Steel, zinc plated	Stainless steel A4	High corrosion resistant steel HCR
1	Anchor sleeve	Cold formed or machining steel, galvanized, EN ISO 4042:2018	Stainless steel (e.g. 1.4401, 1.4404, 1.4571) EN 10088:2014, EN ISO 3506:2020	Stainless steel, 1.4529, 1.4565, EN 10088:2014, EN ISO 3506:2020
2	Cone	Cold formed or machining steel	Stainless steel (e.g. 1.4401, 1.4404, 1.4571) EN 10088:2014	

**Requirements on the fastening screw or the threaded rod and nut according to the engineering documents:**

- Minimum screw-in depth  $L_{smin}$  see Table B1 and B2
- The length of screw or the threaded rod shall be determined depending on the thickness of fixture  $t_{fix}$ , available thread length  $L_{th}$  (= maximum screw-in depth) and the minimum screw-in depth  $L_{smin}$ .
- $A_5 > 8 \%$  Ductility
- Materials
  - **Steel, zinc plated**, property class 4.6 / 4.8 / 5.6 / 5.8 or 8.8 according to EN ISO 898-1:2013 or EN ISO 898-2:2012
  - **Stainless steel A4** or **high corrosion resistant steel HCR**, property class 70 or 80 according to EN ISO 3506:2020



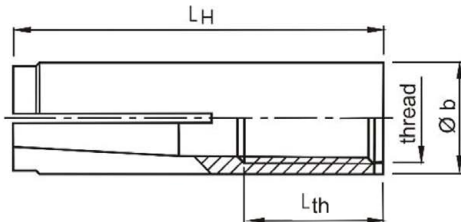
**Chemofast Drop-in Anchor EA/ EA-B**

**Product description**  
Materials

**Annex A2**


## Anchor sleeve

### Anchor version without shoulder (EA)



**Marking:** see Table A2

e.g.:  E M8x40

 identifying mark of manufacturing plant

E anchor identity (version without shoulder)

ES anchor identity (version with shoulder)

M8 size of thread

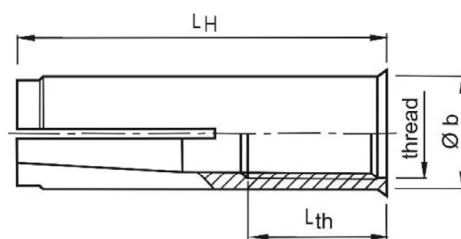
40 anchorage depth

additional marking

A4 stainless steel

HCR high corrosion resistant steel

### Anchor version with shoulder (EA-B)



### Cone

































M6x25 to M12x25,  
M6x30 and M10x30



remaining sizes

**Table A2: Dimensions and marking**

Anchor size	Anchor sleeve				Marking			Cone
	thread	Ø b	L <sub>H</sub>	L <sub>th</sub>	Version E (without sleeve)	Version ES (with sleeve)	alternative	
M6x25	M6	8	25	12	-	 ES M6x25	-	
M6x30	M6	8	30	13	 E M6x30	 ES M6x30	 E M6	
M8x25	M8	10	25	12	-	 ES M8x25	-	
M8x30	M8	10	30	13	 E M8x30	 ES M8x30	 E M8	
M8x40	M8	10	40	20	 E M8x40	 ES M8x40	 E M8x40	
M10x25	M10	12	25	12	-	 ES M10x25	-	
M10x30	M10	12	30	12	-	 ES M10x30	 E M10x30	
M10x40	M10	12	40	15	 ES M10x40	 ES M10x40	 E M10	
M12x25	M12	15	25	12	-	 ES M12x25	-	
M12x50	M12	15	50	18	 E M12x50	 ES M12x50	 E M12	
M16x65	M16	19,7	65	23	 E M16x65	 ES M16x65	 E M16	

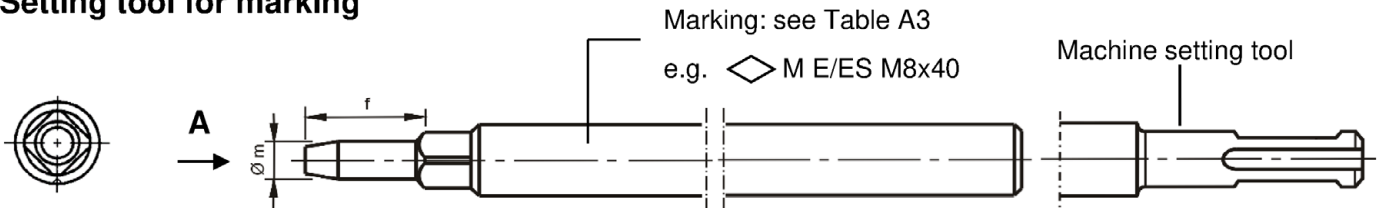
\* Dimensions in mm

## Chemofast Drop-in Anchor EA/ EA-B

**Product description**  
Dimensions and Marking

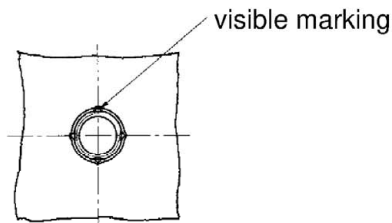
**Annex A3**

## Setting tool for marking

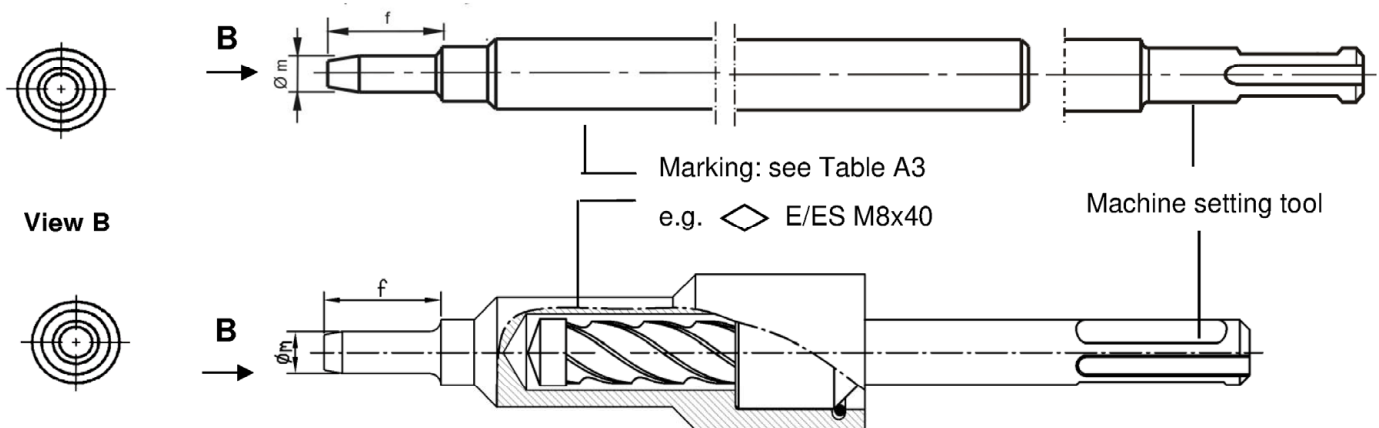


View A

**Verification of correct installation with setting tool for marking**  
The setting tool leaves a visible marking after correct installation.



## Setting tool



View B

**Table A3: Dimensions and marking of setting tools**

Anchor size	Ø m	f	Setting tool for marking		Setting tool	
			Marking	alternative	Marking	alternative
M6x25	4,9	17	◇ M ES M6x25	-	◇ ES M6x25	-
M6x30	4,9	17	◇ M E/ES M6x30	◇ M E M6	◇ E/ES M6x30	◇ E M6
M8x25	6,4	17	◇ M ES M8x25	-	◇ ES M8x25	-
M8x30	6,4	18	◇ M E/ES M8x30	◇ M E M8	◇ E/ES M8x30	◇ E M8
M8x40	6,4	28	◇ M E/ES M8x40	◇ M E M8x40	◇ E/ES M8x40	◇ E M8x40
M10x25	8,0	18	◇ M ES M10x25	-	◇ ES M10x25	-
M10x30	8,0	18	◇ M ES M10x30	◇ M E M10x30	◇ ES M10x30	◇ E M10x30
M10x40	8,0	24	◇ M E/ES M10x40	◇ M E M10	◇ E/ES M10x40	◇ E M10
M12x25	10,0	15,5	◇ M ES M12x25	-	◇ ES M12x25	-
M12x50	10,0	30	◇ M E/ES M12x50	◇ M E M12	◇ E/ES M12x50	◇ E M12
M16x65	13,5	36	◇ M E/ES M16x65	◇ M E M16	◇ E/ES M16x65	◇ E M16

\* Dimensions in mm

## Chemofast Drop-in Anchor EA/ EA-B

### Product description

Setting tools / Dimensions and marking of setting tools

## Annex A4



## Specifications of intended use

Drop-in Anchor EA / EA-B	Anchorage depth h <sub>ef</sub> ≥ 30 mm						
	M6x30	M8x30	M8x40	M10x30	M10x40	M12x50	M16x65
Steel, zinc plated	✓						
Stainless steel A4 and high corrosion resistant steel HCR	✓			-	✓		
Static and quasi-static loads	✓						
Fire exposure	✓						
Cracked and uncracked concrete	✓						
Solid concrete <b>C20/25 to C50/60</b>	✓						

Drop-in Anchor EA-B	Anchorage depth $h_{ef} = 25$ mm			
	M6x25	M8x25	M10x25	M12x25
Steel, zinc plated	✓			
Stainless steel A4 and high corrosion resistant steel HCR	-			
Static and quasi-static loads	✓			
Fire exposure (solid concrete, C20/25 to C50/60)	✓			
Cracked and uncracked concrete	✓			
Solid concrete <b>C12/15 to C50/60</b>	✓			
Precast pre-stressed hollow core slabs C30/37 to C50/60	✓			

**Use only for redundant, non-structural systems!**

### Base materials:

- Compacted, reinforced or unreinforced normal weight concrete (without fibers) acc. to EN 206:2013 + A1:2016

### Use conditions:

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

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

## Chemofast Drop-in Anchor EA/ EA-B

Intended use  
Specifications

**Annex B1**

## Specifications of intended use

### 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.)
- The strength class and the length of the fastening screw or threaded rod shall be defined by the designing engineer
- Anchorages are designed acc. to EN 1992-4:2018 (if necessary in connection with TR 055, Edition February 2018)

### Installation:

- Anchor installation in accordance with the manufacturer's specifications and drawings and using the appropriate tools
- Drill hole by hammer drilling or vacuum drilling

## Chemofast Drop-in Anchor EA/ EA-B

Intended use  
Specifications

Annex B2

**Table B1: Installation parameters for  $h_{ef} \geq 30$  mm**

Anchor size			M6x30	M8x30	M8x40	M10x30	M10x40	M12x50	M16x65
Depth of drill hole E	$h_0 =$	[mm]	30	30	40	30	40	50	65
Depth of drill hole ES	$h_0 \geq$	[mm]	30	30	40	30	40	50	65
Drill hole diameter	$d_0 =$	[mm]	8	10	10	12	12	15	20
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8,45	10,45	10,45	12,5	12,5	15,5	20,55
Maximum installation torque	$T_{inst} \leq$	[Nm]	4	8	8	15	15	35	60
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	7	9	9	12	12	14	18
Thread length	$L_{th}$	[mm]	13	13	20	12	15	18	23
Minimum screw-in depth	$L_{sdmin}$	[mm]	7	9	9	10	11	13	18
<b>Steel, zinc plated</b>									
Minimum thickness of member	$h_{min}$	[mm]	100	100	100	120	120	130	160
Minimum spacing	$s_{min}$	[mm]	55	60	80	100	100	120	150
Minimum distance	$c_{min}$	[mm]	95	95	95	115	135	165	200
<b>Stainless steel A4, HCR</b>									
Minimum thickness of member	$h_{min}$	[mm]	100	100	100	-	130	140	160
Minimum spacing	$s_{min}$	[mm]	50	60	80	-	100	120	150
Minimum distance	$c_{min}$	[mm]	80	95	95	-	135	165	200

**Table B2: Installation parameters for  $h_{ef} = 25$  mm**

Anchor size			M6x25	M8x25	M10x25	M12x25
Depth of drill hole	$h_0 \geq$	[mm]	25	25	25	25
Drill hole diameter	$d_0 =$	[mm]	8	10	12	15
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8,45	10,45	12,5	15,5
Maximum installation torque	$T_{inst} \leq$	[Nm]	4	8	15	35
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	7	9	12	14
Thread length	$L_{th}$	[mm]	12	12	12	12
Minimum screw-in depth	$L_{sdmin}$	[mm]	6	8	10	12
<b>Minimum thickness of member</b>	<b><math>h_{min,1}</math></b>	<b>[mm]</b>	<b>80</b>			
Minimum spacing	$s_{min}$	[mm]	30	70	70	100
Minimum edge distance	$c_{min}$	[mm]	60	100	100	130
<b>Standard thickness of member</b>	<b><math>h_{min,2}</math></b>	<b>[mm]</b>	<b>100</b>			
Minimum spacing	$s_{min}$	[mm]	30	50	60	100
Minimum edge distance	$c_{min}$	[mm]	60	100	100	110
<b>Installation in precast pre-stressed hollow core slabs C30/37 to C50/60</b>						
Spacing	$s_{min}$	[mm]	200			
Edge distance	$c_{min}$	[mm]	150			

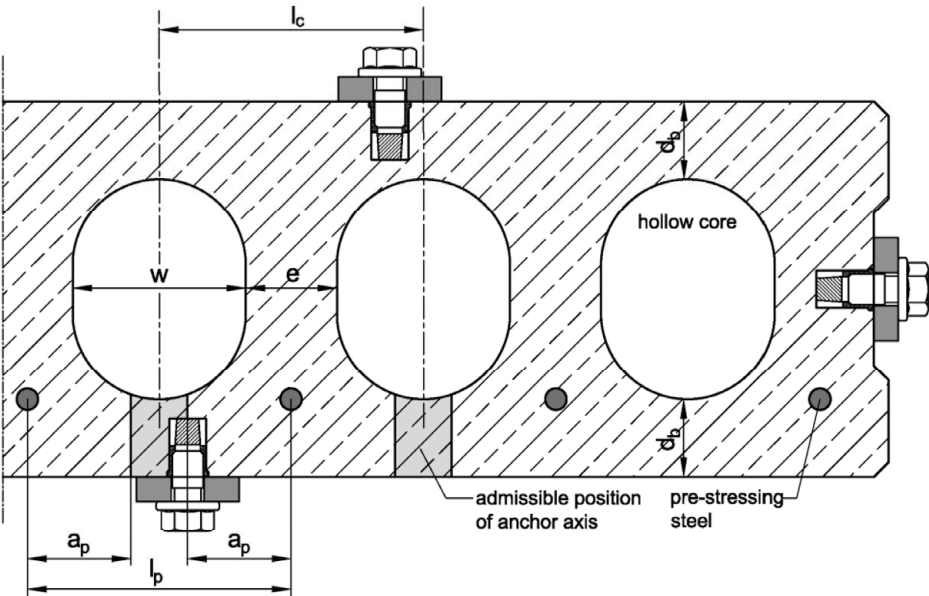
**Chemofast Drop-in Anchor EA/ EA-B**

**Intended use**  
Installation parameters

**Annex B3**

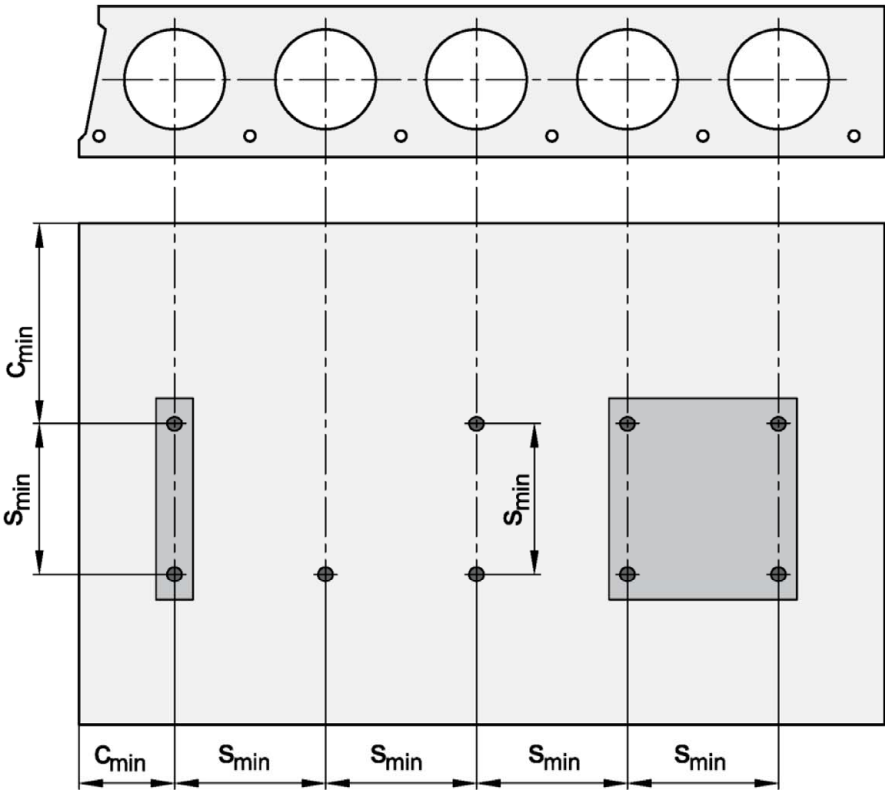
**Admissible anchor positions in precast pre-stressed hollow core slabs ( $w / e \leq 4,2$ )**

- Core distance:  
 $l_c \geq 100 \text{ mm}$
- Pre-stressing steel distance:  
 $l_p \geq 100 \text{ mm}$
- Distance between anchor position and pre-stressing steel:  
 $a_p \geq 50 \text{ mm}$



**Minimum spacing and edge distance of anchors and distance in precast pre-stressed hollow core slabs**

- Minimum edge distance  
 $c_{min} \geq 150 \text{ mm}$
- Minimum spacing  
 $s_{min} \geq 200 \text{ mm}$


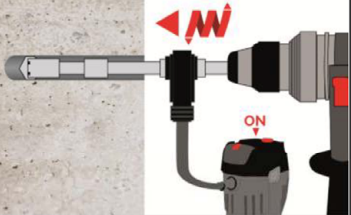
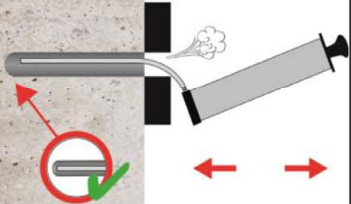
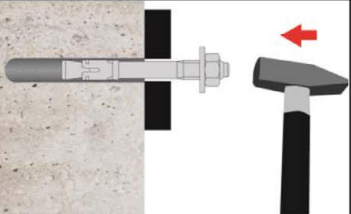
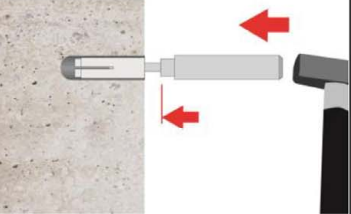
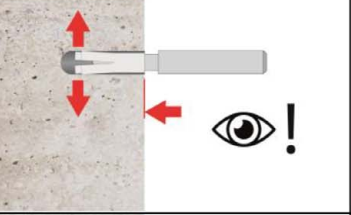



**Chemofast Drop-in Anchor EA/ EA-B**

**Intended use**  
Installation in precast pre-stressed hollow core slabs

**Annex B4**

## Installation instructions for solid concrete slabs

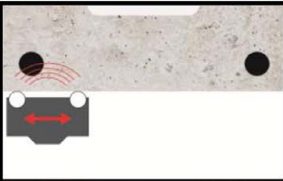

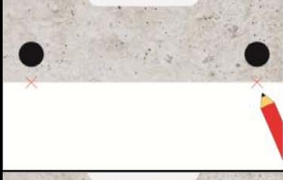

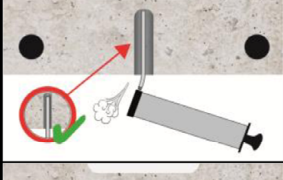
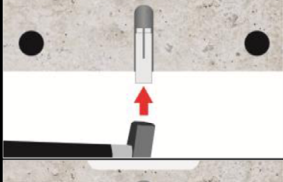
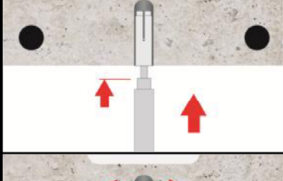

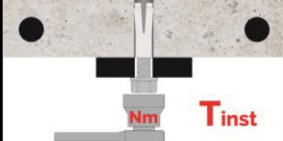
1		Drill the hole with a hammer drill (HD) or compressed air drill (CD) perpendicular to the surface of the anchoring surface.
2		If using a hollow drill bit system (HDB) to drill the hole, proceed to step 4.
3		Blow out dust. Alternatively, vacuum clean down to the bottom of the hole.
4		Drive in anchor.
5		Drive in cone by using setting tool.
6		Shoulder of setting tool must fit on anchor rim.
7		Turn in screw or threaded rod with nut, observe minimum screw-in depth (see Annex B2).

### Chemofast Drop-in Anchor EA/ EA-B

**Intended use**  
Installation instructions for solid concrete slabs

**Annex B5**

## Installation instructions for precast pre-stressed hollow core slabs

1		Search for the position of the reinforcement.
2		Mark the position of the pre-stressing steel and search for the other position of the pre-stressing steel.
3		Mark the positions of next pre-stressing steel.
4		Drill hole while maintaining the required distances.
5		Blow out dust. Alternatively vacuum clean down to the bottom of the hole.
6		Drive in anchor.
7		Drive in cone by using setting tool.
8		Shoulder of setting tool must fit on anchor rim.
9		Turn in screw or threaded rod with nut, observe the minimum screw-in depth (see Annex B3).

### Chemofast Drop-in Anchor EA/ EA-B

#### Intended use

Installation instructions for precast pre-stressed hollow core slabs

#### Annex B6



**Table C1: Characteristic resistance for  $h_{ef} \geq 30$  mm in solid concrete slabs**

Anchor size			M6x30	M8x30	M8x40	M10x30	M10x40	M12x50	M16x65
Installation factor	$\gamma_{inst}$	[-]	1,0						
Load in any direction									
Characteristic resistance in concrete <b>C20/25 to C50/60</b>	$F^0_{Rk}$	[kN]	3	5	6	6	6	6	16
Partial factor	$\gamma_{M^{1)}}$	[-]	1,8	2,16		2,1	2,16	1,8	1,8
Spacing	$s_{cr}$	[mm]	130	180	210	230	170	170	400
Edge distance	$c_{cr}$	[mm]	65	90	105	115	85	85	200
Shear load with lever arm, steel zinc plated									
Characteristic resistance <b>(Property class 4.6)</b>	$M^0_{Rk,s}$	[Nm]	6,1	15	15	30	30	52	133
Partial factor	$\gamma_{Ms^{1)}}$	[-]	1,67						
Characteristic resistance <b>(Property class 4.8)</b>	$M^0_{Rk,s}$	[Nm]	6,1	15	15	30	30	52	133
Partial factor	$\gamma_{Ms^{1)}}$	[-]	1,25						
Characteristic resistance <b>(Property class 5.6)</b>	$M^0_{Rk,s}$	[Nm]	7,6	19	19	37	37	65	166
Partial factor	$\gamma_{Ms^{1)}}$	[-]	1,67						
Characteristic resistance <b>(Property class 5.8)</b>	$M^0_{Rk,s}$	[Nm]	7,6	19	19	37	37	65	166
Partial factor	$\gamma_{Ms^{1)}}$	[-]	1,25						
Characteristic resistance <b>(Property class 8.8)</b>	$M^0_{Rk,s}$	[Nm]	12	30	30	59	60	105	266
Partial factor	$\gamma_{Ms^{1)}}$	[-]	1,25						
Shear load with lever arm, stainless steel A4 / HCR									
Characteristic resistance <b>(Property class 70)</b>	$M^0_{Rk,s}$	[Nm]	11	26	26	- <sup>2)</sup>	52	92	233
Partial factor	$\gamma_{Ms^{1)}}$	[-]	1,56						
Characteristic resistance <b>(Property class 80)</b>	$M^0_{Rk,s}$	[Nm]	12	30	30	- <sup>2)</sup>	60	105	266
Partial factor	$\gamma_{Ms^{1)}}$	[-]	1,33						

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

<sup>2)</sup> Anchor version is not part of the ETA

### Chemofast Drop-in Anchor EA/ EA-B

#### Performance

Characteristic resistance for  $h_{ef} \geq 30$  mm in solid concrete

**Annex C1**

**Table C2:** Characteristic resistance for  $h_{ef} = 25$  mm in **solid concrete slabs**

Anchor size			M6x25	M8x25	M10x25	M12x25
Installation factor	$\gamma_{inst}$	[-]	1,0			
Load in any direction						
Characteristic resistance in concrete <b>C12/15 and C16/20</b>	$F^0_{Rk}$	[kN]	2,5	2,5	3,5	3,5
Characteristic resistance in concrete <b>C20/25 to C50/60</b>	$F^0_{Rk}$	[kN]	3,5	4,0	4,5	4,5
Partial factor	$\gamma_M^{1)}$	[-]	1,5			
Spacing	$s_{cr}$	[mm]	75	75	75	75
Edge distance	$c_{cr}$	[mm]	38	38	38	38
Shear load with lever arm						
Characteristic resistance <b>(Property class 4.6)</b>	$M^0_{Rk,s}$	[Nm]	6,1	15	30	52
Partial factor	$\gamma_{Ms}^{1)}$	[-]	1,67			
Characteristic resistance <b>(Property class 4.8)</b>	$M^0_{Rk,s}$	[Nm]	6,1	15	30	52
Partial factor	$\gamma_{Ms}^{1)}$	[-]	1,25			
Characteristic resistance <b>(Property class 5.6)</b>	$M^0_{Rk,s}$	[Nm]	7,6	19	37	65
Partial factor	$\gamma_{Ms}^{1)}$	[-]	1,67			
Characteristic resistance <b>(Property class 5.8)</b>	$M^0_{Rk,s}$	[Nm]	7,6	19	37	65
Partial factor	$\gamma_{Ms}^{1)}$	[-]	1,25			
Characteristic resistance <b>(Property class 8.8)</b>	$M^0_{Rk,s}$	[Nm]	12	30	60	105
Partial factor	$\gamma_{Ms}^{1)}$	[-]	1,25			

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

**Chemofast Drop-in Anchor EA/ EA-B**

**Performance**

Characteristic resistance for  $h_{ef} = 25$  mm in **solid concrete**

**Annex C2**



**Table C3: Characteristic resistance for  $h_{ef} = 25$  mm in precast pre-stressed hollow core slabs**

Anchor size			M6x25	M8x25	M10x25	M12x25
Installation factor	$\gamma_{inst}$	[-]	1,0			
Load in any direction						
Flange thickness	$d_b$	[mm]	$\geq 35$ (30) <sup>1)</sup>			
Characteristic resistance in precast pre-stressed hollow core slabs C30/37 to C50/60	$F^0_{Rk}$	[kN]	3,5	4,0	4,5	4,5
Partial factor	$\gamma_{M^2)}$	[-]	1,5			
Spacing	$s_{cr}$	[mm]	200			
Edge distance	$c_{cr}$	[mm]	150			
Shear load with lever arm						
Characteristic resistance (Property class 4.6)	$M^0_{Rk,s}$	[Nm]	6,1	15	30	52
Partial factor	$\gamma_{Ms^2)}$	[-]	1,67			
Characteristic resistance (Property class 4.8)	$M^0_{Rk,s}$	[Nm]	6,1	15	30	52
Partial factor	$\gamma_{Ms^2)}$	[-]	1,25			
Characteristic resistance (Property class 5.6)	$M^0_{Rk,s}$	[Nm]	7,6	19	37	65
Partial factor	$\gamma_{Ms^2)}$	[-]	1,67			
Characteristic resistance (Property class 5.8)	$M^0_{Rk,s}$	[Nm]	7,6	19	37	65
Partial factor	$\gamma_{Ms^2)}$	[-]	1,25			
Characteristic resistance (Property class 8.8)	$M^0_{Rk,s}$	[Nm]	12	30	60	105
Partial factor	$\gamma_{Ms^2)}$	[-]	1,25			

<sup>1)</sup> the anchor may be set in a flange thickness of 30 mm with identical characteristic loads, if the borehole cuts no hollow core

<sup>2)</sup> in absence of other national regulations

**Chemofast Drop-in Anchor EA/ EA-B**

**Performance**

Characteristic resistance for  $h_{ef} = 25$  mm in precast pre-stressed hollow core slabs

**Annex C3**

**Table C4:** Characteristic values under **fire exposure** in **solid concrete slabs**  
C20/25 to C50/60 for  $h_{ef} \geq 30$  mm

Anchor size				M6x30	M8x30	M8x40	M10x30	M10x40	M12x50	M16x65	
Fire resistance class		Load in any direction									
Property class 4.6	R 30	Characteristic resistance	$F^{0}_{Rk,fi}$	[kN]	0,4	0,6	0,6	0,9	0,9	1,5	3,1
	R 60			[kN]	0,35	0,6	0,6	0,8	0,8	1,3	2,4
	R 90			[kN]	0,3	0,6	0,6	0,6	0,6	1,1	2,0
	R 120			[kN]	0,25	0,5	0,5	0,5	0,5	0,8	1,6
Property class 4.8	R 30	Characteristic resistance	$F^{0}_{Rk,fi}$	[kN]	0,4	0,9	1,1	0,9	1,5	1,5	4,0
	R 60			[kN]	0,35	0,9	0,9	0,9	1,5	1,5	4,0
	R 90			[kN]	0,3	0,6	0,6	0,9	1,1	1,5	3,0
	R 120			[kN]	0,3	0,5	0,5	0,7	0,9	1,2	2,4
Property class $\geq 5.6$	R 30	Characteristic resistance	$F^{0}_{Rk,fi}$	[kN]	0,8	0,9	1,5	0,9	1,5	1,5	4,0
	R 60			[kN]	0,8	0,9	1,5	0,9	1,5	1,5	4,0
	R 90			[kN]	0,4	0,9	0,9	0,9	1,5	1,5	3,7
	R 120			[kN]	0,3	0,5	0,5	0,7	1,0	1,2	2,4
A4 / HCR	R 30	Characteristic resistance	$F^{0}_{Rk,fi}$	[kN]	0,8	0,9	1,5	<sup>-1)</sup>	1,5	1,5	4,0
	R 60			[kN]	0,8	0,9	1,5	<sup>-1)</sup>	1,5	1,5	4,0
	R 90			[kN]	0,4	0,9	0,9	<sup>-1)</sup>	1,5	1,5	3,7
	R 120			[kN]	0,3	0,5	0,5	<sup>-1)</sup>	1,0	1,2	2,4
		Partial factor	$\gamma_{M,fi}$	[-]	1,0						
Steel zinc plated											
		Spacing	$s_{Cr,fi}$	[mm]	130	180	210	170	170	200	400
R 30 – R 120		Edge distance	$c_{Cr,fi}$	[mm]	65	90	105	85	85	100	200
		If the fire attack is from more than one side, the edge distance shall be $\geq 300$ mm.									
Stainless steel A4, HCR											
		Spacing	$s_{Cr,fi}$	[mm]	130	180	210	<sup>-1)</sup>	170	200	400
R 30 – R 120		Edge distance	$c_{Cr,fi}$	[mm]	65	90	105	<sup>-1)</sup>	85	100	200
		If the fire attack is from more than one side, the edge distance shall be $\geq 300$ mm.									

<sup>1)</sup> Anchor version is not part of the ETA

## Chemofast Drop-in Anchor EA/ EA-B

### Performance

Characteristic values under **fire exposure** for  $h_{ef} \geq 30$  mm

**Annex C4**

**Table C5:** Characteristic values under **fire exposure** in **solid concrete slabs**  
C20/25 to C50/60 for  $h_{ef} = 25 \text{ mm}$

Anchor size				M6x25	M8x25	M10x25	M12x25
Fire resistance class		Load in any direction					
Property class $\geq 4.6$	R 30	Characteristic resistance $F_{Rk,fi}^0$	[kN]	0,4	0,6	0,6	0,6
	R 60		[kN]	0,35	0,6	0,6	0,6
	R 90		[kN]	0,3	0,6	0,6	0,6
	R 120		[kN]	0,25	0,5	0,5	0,5
Partial factor		$\gamma_{M,fi}$	[-]	1,0			
Spacing		$s_{cr,fi}$	[mm]	100	100	100	100
R 30 – R 120		Edge distance	$c_{cr,fi}$ [mm]	50	50	50	50
If the fire attack is from more than one side, the edge distance shall be $\geq 300 \text{ mm}$ .							

**Chemofast Drop-in Anchor EA/ EA-B**

**Performance**

Characteristic values under **fire exposure** for  $h_{ef} = 25 \text{ mm}$

**Annex C5**