



INSTYTUT TECHNIKI BUDOWLANEJ



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European Technical Assessment

ETA-25/0770
of 06/08/2025



General Part

Technical Assessment Body issuing the European Technical Assessment

Instytut Techniki Budowlanej

Trade name of the construction product

ETA Ankerbolt 6 and ETA Socket Bolt 6

Product family to which the construction product belongs

Concrete screws for use in concrete for redundant non-structural systems

Manufacturer

Hexstone Ltd Trading
as JCP Construction Products
Opal Way, Stone Business Park
Stone, Staffordshire, ST15 0SW
Great Britain

Manufacturing plant

JCP Plant 58

This European Technical Assessment contains

14 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

European Assessment Document (EAD)
330747-00-0601 "Fasteners for use in concrete for redundant non-structural systems"

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Specific Part

1 Technical description of the product

ETA Ankerbolt 6 and ETA Socket Bolt 6 are concrete screws of size 6 mm, made of zinc coated, hardened steel.

The concrete screw is screwed into a predrilled cylindrical drill hole. The special thread of the anchor cuts an internal thread into the concrete member while setting. The anchorage is characterized by mechanical interlock in the special thread.

The description of the products is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

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 provisions made in this European Technical Assessment are based on an assumed working life of the fastener of 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer or Technical Assessment Body, 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 Performance of the product

3.1.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	Annex C2

3.1.2 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance in concrete	Annex C1
Durability	Annex B1

3.2 Methods used for the assessment

The assessment has been made in accordance with EAD 330747-00-0601.

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

According to Decision 97/161/EC of the European Commission the system 2+ of assessment and verification of constancy of performance applies (see Annex V to regulation (EU) No 305/2011).

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

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited in Instytut Techniki Budowlanej.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

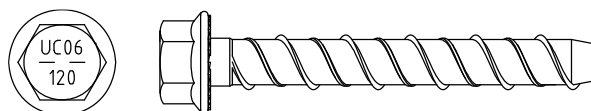
Issued in Warsaw on 06/08/2025 by Instytut Techniki Budowlanej

A handwritten signature in blue ink, appearing to read 'Anna Panek', is positioned above the printed name.

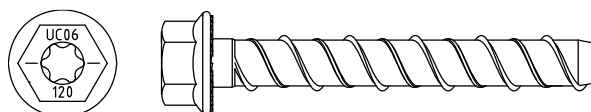
Anna Panek, MSc

Deputy Director of ITB

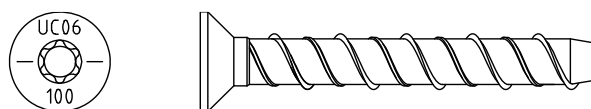
ETA Ankerbolt 6 F
Hexagon flange head



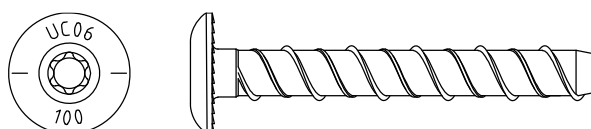
ETA Ankerbolt 6 FX
Hexagon flange head with Torx



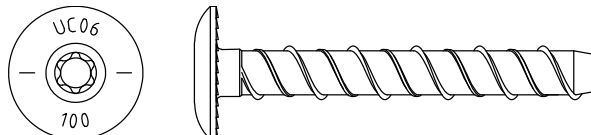
ETA Ankerbolt 6 C
Countersunk head



ETA Ankerbolt 6 PM
Pan head Ø16 mm



ETA Ankerbolt 6 P
Pan head Ø18 mm



ETA Socket Bolt 6 M10
ETA Socket Bolt 6 M8
ETA Socket Bolt 6 M3/8

Socket head

M10 internal thread for ETA Socket Bolt 6 M10

M8 internal thread for ETA Socket Bolt 6 M8

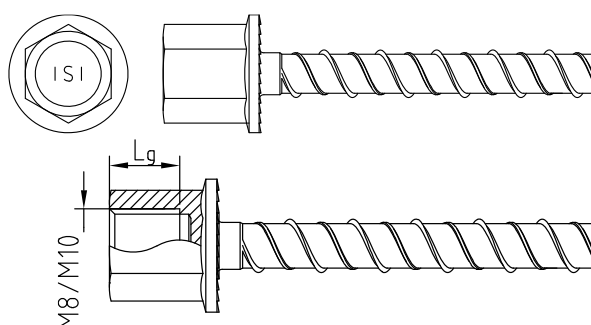
3/8 UNC internal thread for ETA Socket Bolt 6 M3/8

Size: 6

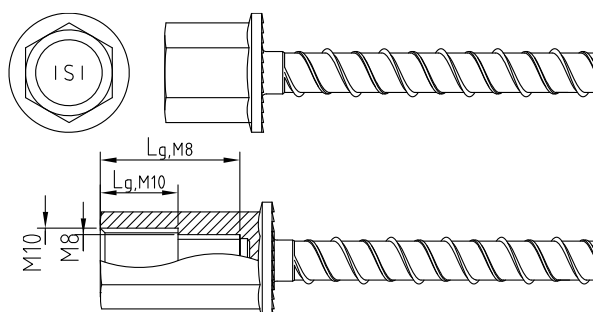
$L_g = 9 \text{ mm}$, $D = \text{M10}$ for M8

$L_g = 7 \text{ mm}$, $D = \text{M8}$ for M8

$L_g = 9 \text{ mm}$, $D = 3/8 \text{ UNC}$ for M3/8



ETA Socket Bolt 6 Dual
Dual Socket head
M10 and M8 dual internal thread
 $L_{g,M8} = 7 \text{ mm}$
 $L_{g,M10} = 9 \text{ mm}$



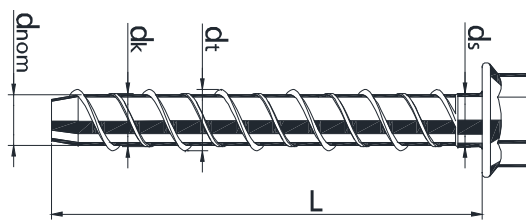
ETA Ankerbolt 6 and ETA Socket Bolt 6

Product description
Screw types

Annex A1
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Table A1: Head screw characteristic

Head screw characteristic				
ETA Ankerbolt 6 F	Wrench size	SW	mm	10,0
	Flange diameter	$\varnothing d_h$	mm	14,0
ETA Ankerbolt 6 FX	Wrench size	SW	mm	10,0
	Flange diameter	$\varnothing d_h$	mm	14,0
	Torx size	-	-	T30
ETA Ankerbolt 6 C	Head Diameter	$\varnothing d_h$	mm	13,0
	Torx size	-	-	T30
ETA Ankerbolt 6 PM	Head Diameter	$\varnothing d_h$	mm	16,0
	Torx size	-	-	T30
ETA Ankerbolt 6 P	Head Diameter	$\varnothing d_h$	mm	18,0
	Torx size	-	-	T30
ETA Socket Bolt 6 M10	Wrench size	SW	mm	13,0
ETA Socket Bolt 6 M8	Wrench size	SW	mm	13,0
ETA Socket Bolt 6 M3/8	Wrench size	SW	mm	13,0
ETA Socket Bolt 6 Dual	Wrench size	SW	mm	13,0

**Table A2:** Dimensions and material


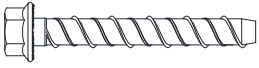

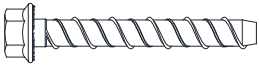




Anchor size			ETA Ankerbolt 6 and ETA Socket Bolt 6	
Head types			F / FX / C / PM / P	M10 / M8 / M3/8 / Dual
Length of anchor	L_{min}	mm	35	
	L_{max}	mm	150	
Nominal hole diameter	d_0	mm	6,00	
Nominal core diameter	d_{nom}	mm	5,35	
Shaft diameter	d_s	mm	5,72	
Higher thread diameter	d_t	mm	7,70	
Lower thread diameter	d_k	mm	6,00	
Thread pitch	h_t	mm	7,50	
Tip chamfer	h_s	mm	4,0	0,0
Material			Hardened carbon steel, $A_5 \leq 8\%$	
Coating			Zinc coating ($\geq 5 \mu m$); electroplated acc. to EN ISO 4042 or mechanically deposited acc. to EN ISO 12683	

ETA Ankerbolt 6 and ETA Socket Bolt 6

Product description
Head screw characteristic, dimensions and material

Annex A2
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Marking:

JCP Plant 58	ETA Ankerbolt 6 and ETA Socket Bolt 6	Designations
 	F, C, PM, P	UC 6 / 06 120 Product identification Screw size Screw length L
 	FX	UC 6 / 06 120 Product identification Screw size Screw length L
 	M10, M8, M3/8, Dual	S Length of anchor, mm L = 35
 		D Length of anchor, mm L = 55

ETA Ankerbolt 6 and ETA Socket Bolt 6
Product description
Marking

Annex A3
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Specification of intended use

Anchorage subject to:

- Static and quasi-static loading.
- Multiple use for redundant non-structural applications according to EN 1992-4:2018.
- Anchorages with requirements related to resistance to fire in concrete (does not apply to precast pre-stressed hollow core concrete slabs) – ETA Ankerbolt 6 and ETA Socket Bolt 6 with $h_{ef} = 41$ mm.

Base material:

- Uncracked and cracked concrete.
- Reinforced or unreinforced normal weight concrete (without fibres) of strength classes C20/25 to C50/60 according to EN 206.
- Precast pre-stressed hollow core concrete slabs (with $w/e \leq 4,2$) of strength classes C40/50 to C50/60 according to EN 206.

Use conditions (environmental conditions):

- Structures subject to dry internal conditions.

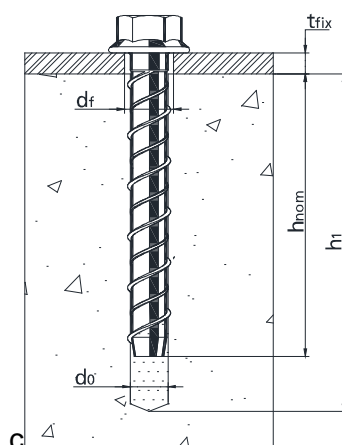
Design:

- 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 transmitted. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.).
- Design of fastenings according to EN 1992-4:2018 and EOTA Technical Report TR 055.

Installation of anchors:

- Hammer drilling only.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Anchor installation in accordance with the manufacturer's specifications and drawings and using the appropriate tools.
- Check of concrete being well compacted, e.g. without significant voids.
- Positioning of the drill holes without damaging the reinforcement.
- Anchor installation such that the effective anchorage depth is complied with.
- After installation further turning of the anchor is not possible.
- The head of the anchor is supported on the fixture and is not damaged.

ETA Ankerbolt 6 and ETA Socket Bolt 6	Annex B1 of European Technical Assessment ETA-25/0770
Intended use Specifications	


Table B1: Installation parameters – concrete

Anchor size			ETA Ankerbolt 6 and ETA Socket Bolt 6	
Nominal drill hole diameter	d_0	mm	6	
Cutting diameter of drill bit	$d_{cut} \leq$	mm	6,40	
Depth of drill hole ¹⁾	$h_1 \geq$	mm	45	65
Nominal embedment depth	h_{nom}	mm	35	55
Effective embedment depth	h_{ef}	mm	25	41
Clearance hole diameter in the fixture	d_f	mm	8	
Maximum installation torque	$T_{imp,max}$	Nm	250	
Minimum thickness of member	h_{min}	mm	80	
Maximum thickness of fixture	t_{fix}	mm	$L - h_{nom}$	
Minimum edge distance	c_{min}	mm	40	55
Minimum spacing	s_{min}	mm	80	110

¹⁾ for horizontally and vertically downwards installation in concrete with no cleaning, depth of drill hole = $h_1 + 3 \cdot d_0$

Table B2: Installation parameters – precast pre-stressed hollow core concrete slabs

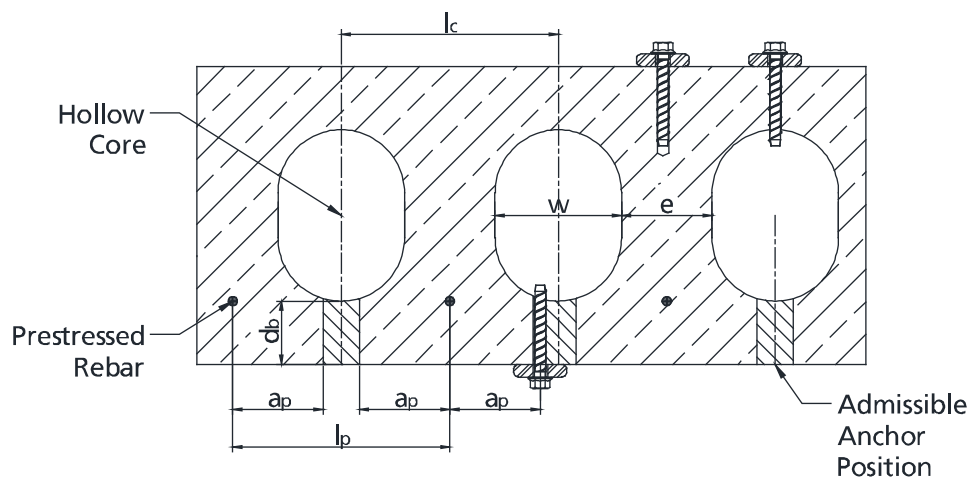
Anchor size			ETA Ankerbolt 6 and ETA Socket Bolt 6	
Nominal drill hole diameter	d_0	mm	6	
Cutting diameter of drill bit	$d_{cut} \leq$	mm	6,40	
Depth of drill hole	$h_1 \geq$	mm	35	
Nominal embedment depth	h_{nom}	mm	35	
Effective embedment depth	h_{ef}	mm	25	
Clearance hole diameter in the fixture	d_f	mm	8	
Maximum installation torque	$T_{imp,max}$	Nm	250	
Minimum thickness of member	h_{min}	mm	35	
Thickness of the fixture, max.	t_{fix}	mm	$L - h_{nom}$	
Minimum edge distance	c_{min}	mm	40	
Minimum spacing	s_{min}	mm	80	
Minimum distance between anchor groups	a_{min}	mm	80	

ETA Ankerbolt 6 and ETA Socket Bolt 6
Intended use

Installation parameters

– concrete and precast pre-stressed hollow core concrete slabs

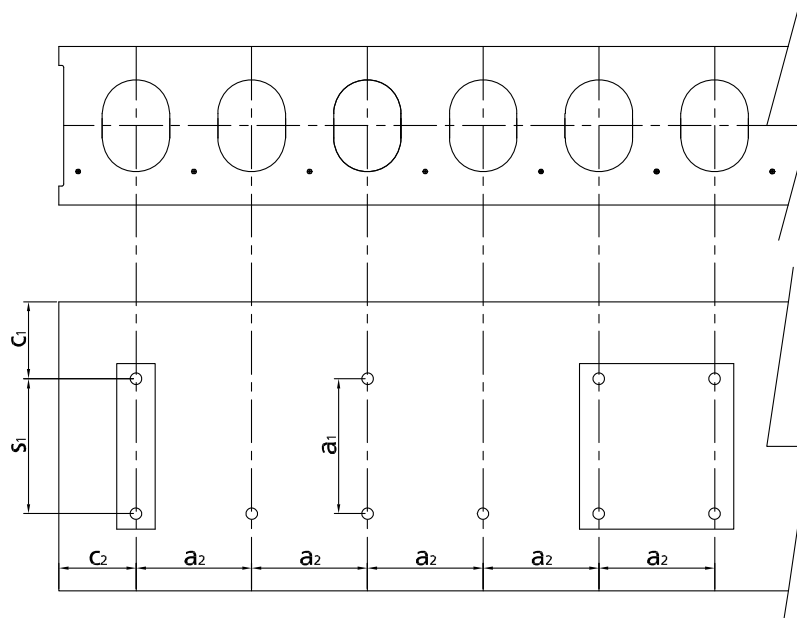
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$$d_b \geq 35 \text{ mm}$$

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

Core width	$w \leq 180 \text{ mm}$
Core distance	$l_c \geq 210 \text{ mm}$
Web thickness	$e = l_c - w$
Prestressing steel distance	$l_p \geq 210 \text{ mm}$
Distance between anchor position and prestressing steel	$a_p \geq 50 \text{ mm}$



c_1, c_2 – edge distance
 s_1, s_2 – anchor spacing
 a_1, a_2 – distance between anchors group

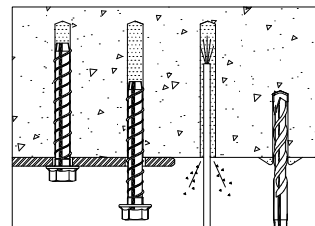
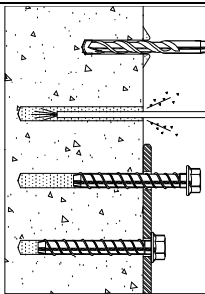
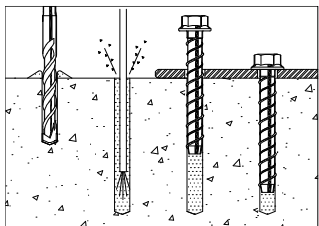
ETA Ankerbolt 6 and ETA Socket Bolt 6

Intended use

Installed condition in precast pre-stressed hollow core concrete slabs

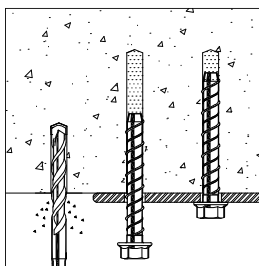
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Vertically downwards, vertically upwards and horizontally installation in concrete with cleaning



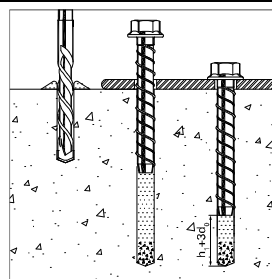
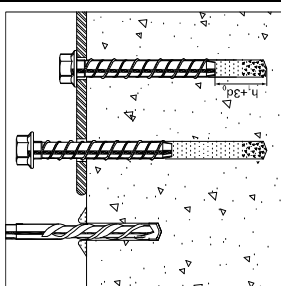
Drilling	Make drilling depth h_1 .
Cleaning	Cleaning 3 times needed in downward and horizontal installation direction with drill hole depth.
Setting	Setting by impact screw driver (impact wrench tool) or torque wrench.
Checking	After installation a further turning of the screw must not be possible. The head of the screw must be in contact with the fixture and undamaged.

Vertically upwards installation in concrete with no cleaning



Drilling	Make drilling depth h_1 .
Cleaning	No cleaning needed.
Setting	Setting by impact screw driver (impact wrench tool) or torque wrench.
Checking	After installation a further turning of the screw must not be possible. The head of the screw must be in contact with the fixture and undamaged.

Horizontally and vertically downwards installation in concrete with no cleaning



Drilling	Make drilling depth: $h_1 + 3 \cdot d_0$.
Cleaning	No cleaning needed.
Setting	Setting by impact screw driver (impact wrench tool) or torque wrench.
Checking	After installation a further turning of the screw must not be possible. The head of the screw must be in contact with the fixture and undamaged.

ETA Ankerbolt 6 and ETA Socket Bolt 6

Intended use
Installation instruction (1)

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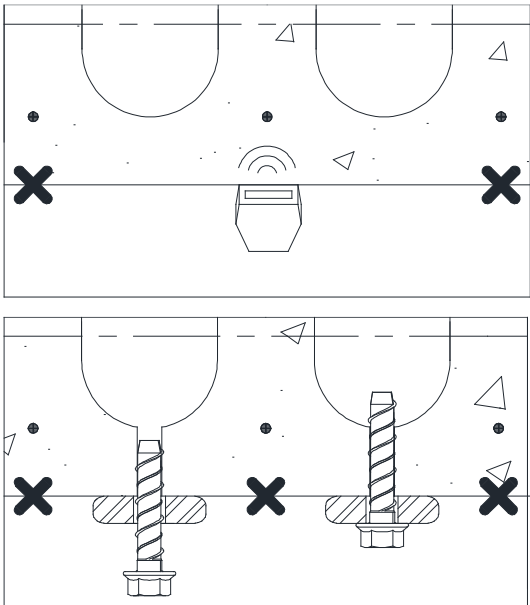
Installation in precast pre-stressed hollow core slabs (bottom side) with no cleaning		
Positioning rebar	Detecting and marking the rebar position by rebar detector.	
Positioning anchor	Check the admissible requirements: $a_p \geq 50 \text{ mm}$. Mark the installation position of anchor axis.	
Drilling	Make drilling depth $\geq h_1$	
Cleaning	No cleaning needed.	
Setting	Setting by impact screw driver.	
Checking	After installation a further turning of the anchor must not be possible. The head of the anchor must be in contact with the fixture and undamaged.	
ETA Ankerbolt 6 and ETA Socket Bolt 6		Annex B4 of European Technical Assessment ETA-25/0770
Intended use Installation instruction (2)		

Table C1: Characteristic resistance in concrete

Anchor			ETA Ankerbolt 6 and ETA Socket Bolt 6	
Size			6	
Effective embedment depth	h_{ef}	[mm]	25	41
Nominal embedment depth	h_{nom}	mm	35	55
All load directions				
Characteristic resistance in cracked and uncracked concrete C20/25 to C50/60	F_{Rk}^0	[kN]	1	4
Installation safety factor	γ_{inst}	[-]	1,2	1,2
Spacing	s_{cr}	[mm]	80	110
Edge distance	c_{cr}	[mm]	40	55
Shear load with lever arm				
Characteristic bending resistance	$M_{Rk,s}^0$	[Nm]	16,2	16,2
Partial safety factor	$\gamma_{M,s}$	[-]	1,5	1,5

Table C2: Characteristic resistance in precast pre-stressed hollow core concrete slabs

Anchor			ETA Ankerbolt 6 and ETA Socket Bolt 6
Size			6
Effective embedment depth	h_{ef}	[mm]	25
Nominal embedment depth	h_{nom}	mm	35
All load directions			
Characteristic resistance in precast pre-stressed hollow core concrete slabs C40/50 to C50/60	F^0_{Rk}	[kN]	4,5
Installation safety factor	γ_{inst}	[-]	1,2
Spacing	s_{cr}	[mm]	80
Edge distance	c_{cr}	[mm]	40
Shear load with lever arm			
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	16,2
Partial safety factor	$\gamma_{M,s}$	[-]	1,5

ETA Ankerbolt 6 and ETA Socket Bolt 6
Performances

Characteristic resistance in concrete and precast pre-stressed hollow core slabs

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Table C3: Characteristic resistance under fire exposure in concrete C20/25 to C50/60

Anchor			ETA Ankerbolt 6 and ETA Socket Bolt 6
Size			6
Effective embedment depth	h_{ef}	[mm]	41
Nominal embedment depth	h_{nom}	mm	55
All load directions			
Characteristic resistance $F_{Rk,fi}^{0,1)}$	R30	[kN]	0,22
	R60	[kN]	0,20
	R90	[kN]	0,16
	R120	[kN]	0,11
Characteristic bending resistance $M_{Rk,fi}^0$	R30	[Nm]	0,18
	R60	[Nm]	0,16
	R90	[Nm]	0,13
	R120	[Nm]	0,09
Spacing	$s_{cr,fi}$	[mm]	$2 \times h_{ef}$
Edge distance	$c_{cr,fi}$	[mm]	$4 \times h_{ef}$

The design method covers anchors with a fire attack from one side only. In case of fire attack from more than one side, the edge distance shall be ≥ 300 mm.

¹⁾ in the absence of other national regulations a partial safety factor $\gamma_{M,fi} = 1,0$ is recommended

ETA Ankerbolt 6 and ETA Socket Bolt 6

Performances

Characteristic resistance under fire exposure in concrete

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