BREMICK®

HIGH PERFORMANCE ETA
CERTIFIED MASONRY ANCHORS

SCREW ANCHORS | **SAFETY ANCHORS** | **THROUGH BOLTS**

ETA CE

C1 C2
SEISMIC FIXING

FIRE RESISTANCE F120

Engineered Quality

Complies with AS5216
National Construction Code Compliant

Frequently Asked Questions

What is AS 5216:2021?

AS 5216:2021 is a new Australian Standard for the design of post-installed and cast-in anchors in concrete that applies to safety-critical applications.

What is a safety critical application?

Applications where there is a risk to the welfare of people or considerable economic loss in the event of failure.

What is covered by AS 5216:2021 / SA TS 101:2015?

Post-installed fasteners used to transmit loads to concrete for safety-critical applications in concrete only.

What's the role of the National Construction Code (NCC)?

The NCC is a national law that sets out the requirements for the design and construction of a building in Australia (across the various states and territories).

Is AS5216:2021 referenced in the National Construction Code (NCC)?

Yes, AS5216:2021 is now referenced in the NCC 2022, thus compliance is a mandatory requirement.

Where can Option 7 ETA Anchors be used?

Non-cracked concrete for structural and non-structural applications.

Where can Option 1 ETA Anchors be used?

Cracked and non-cracked concrete for structural and non-structural applications.

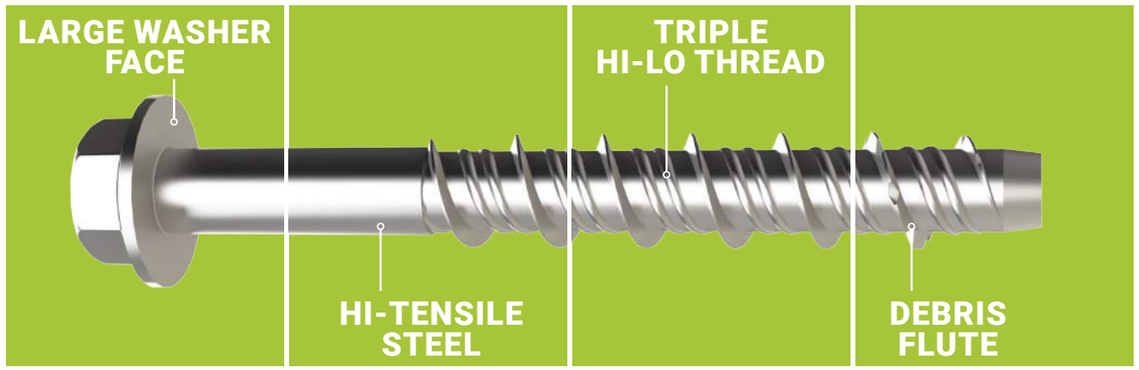
Where can C1 and C2 ETA Anchors be used?

Applications with a risk of seismic action/ hazard zones.

Screw Anchors

HEAVY DUTY ETA-CE CERTIFIED SCREW ANCHOR
with Triple Hi-Lo thread

- **OPTION 1** - European Technical Assessment for cracked & non-cracked concrete
- **C1 & C2 Seismic Assessment***
- Complies with AS5216
- National Construction Code Compliant
- Non-expansion anchorage system enables low edge and axial clearances
- Easy to adjust and fully removable
- Different approved embedment depths allow the screws to be used in a wide range of applications, ensuring excellent flexibility



ETA 23/0630

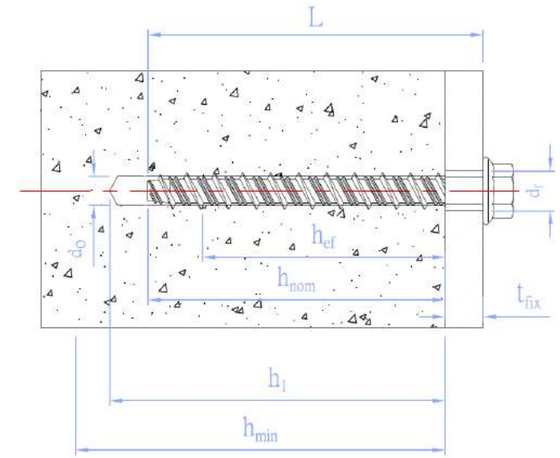
FIRE RESISTANCE F120

C1 C2 SEISMIC FIXING

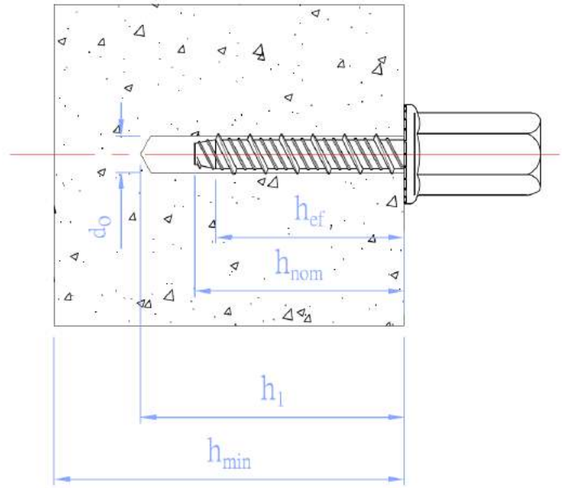
*Only applies to specific sizes

Installed condition

h_{ef}:	Effective anchorage depth
h_1:	Depth of drilled hole
h_{nom}:	Overall anchor embedment depth in the concrete
h_{min}:	Minimum thickness of concrete member
t_{fix}:	Thickness of fixture
d_0:	Nominal diameter of drill bit
d_f:	Diameter of clearance hole in fixture
t_{fix}:	Fixture thickness



Drawing A1. Installed condition for anchors SSW, SSR, SSP, SSK, SSH, SSX, SST, SSN, SSC.



Drawing A2. Installed condition for anchors SSD, SSI, SSF, SSO, SSU, SSG, SSQ, SSV, SSG2.

Bremick Concrete Screw Anchor	
Product description Installed condition	**Annex A6**

The above is an extract from ETA 23/0630. For the complete documentation refer to the Bremick website - www.bremick.com.au

Specification of intended use

Anchorages subjected to:

- Static or quasi static loads: all sizes and embedment depths.
- Fire exposure up to 120 minutes
- Performances C1 and C2 (seismic) for Carbon Steel screws as shown below:

Size	7.5 (6)		10.5 (8)		12.5 (10)			14.2 (12)		16.5 (14)	
h_{nom}	40	55	50	60	60	70	85	75	105	75	110
C1	✓	✓		✓			✓		✓		✓
C2				✓			✓		✓		✓

Base materials:

- Reinforced and unreinforced normal weight concrete without fibers according to EN 206:2013 + A1:2016.
- Strength classes C20/25 to C50/60 according to EN 206:2013 + A1:2016.
- Cracked and uncracked concrete.

Use conditions (environmental conditions):

- The anchor Carbon Steel shall be used in dry internal conditions.
- The anchor Bimetal shall be used in dry internal conditions, external atmospheric exposure (including industrial and marine environment) or permanent internal damp conditions if there are no particular aggressive conditions. Such 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). Atmospheres under Corrosion Resistance Class CRC III according to EN 1993-1-4:2006+A1:2015 annex A.
- The anchor may be used for anchorages with requirements related to resistance to fire.

Design:

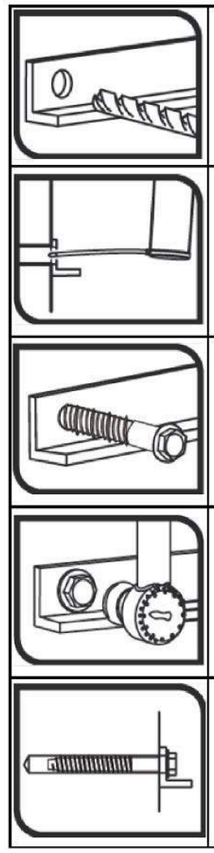
- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete.
- Verifiable calculation rules and drawings are prepared taking into account of the loads to be attached. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.)
- Anchorages under static or quasi-static loads are designed for design Method A in accordance with EN 1992-4:2018
- Anchorages under seismic actions are designed in accordance with EN 1992-4:2018. Anchorages shall be positioned outside of critical regions (e.g. plastic hinges) of the concrete structure. Fastening in stand-off installation or with grout layer are not allowed.
- Anchorages under fire exposure are designed in accordance with EN 1992-4:2018. It must be ensured that local spalling of the concrete cover does not occur.
- Shear assessment only covers the shear force induced by the fixed piece, i.e. the piece located between the anchor head and the concrete block (piece contained in t_{fix}, see Drawing A1).

Bremick Concrete Screw Anchor	**Annex B1**
Intended use Specifications	

Installation:

- Hammer drilling only.
- Anchor installation carried out by appropriately qualified personal and under the supervision of the person responsible for technical matters of the site.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of aborted hole or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not the direction of the load application.
- After installation further turning of the anchor is not possible.
- The head of the anchor is supported on the fixture, as it is shown in Drawing A1, and it must not be damaged.

Installation process



1. DRILL
Drill a hole into the base material of correct diameter and depth by using a carbide drill bit in rotary plus hammer mode.

2. BLOW and CLEAN
Remove dust and debris from hole and loose particles left from drilling by using hand pump, compressed air or vacuum.

3. INSTALL
Hold screw anchor perpendicular direction into the base material through fixtures.

4. APPLY TORQUE
Select a power impact wrench or a torque wrench(e.g: Bosch GDS 18E, power input: 500 W; torque: 50-250 Nm).
Power impact wrench does not exceed over torque Tinst.

5. CHECK
The head must be undamaged and in contact with the fixture. When screw head attach fixture or concrete surface firmly, furthre turning of the head is unnecessary.

Bremick Concrete Screw Anchor	**Annex B2**
Intended use Specifications and installation procedure	

The above is an extract from ETA 23/0630. For the complete documentation refer to the Bremick website - www.bremick.com.au

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Table B1: Installation parameters for Carbon Steel

Installation parameters			Performance								
			7.5 (6)			10.5 (8)		12.5 (10)			
h_{nom}	Overall anchor embedment depth in the concrete:	[mm]	40	55		50	60	60	70	85	
d_0	Nominal diameter of drill bit:	[mm]	6			8		10			
d_f	Diameter of clearance hole in fixture:	[mm]	9			12		14			
d_s	Outer diameter of the thread	[mm]	7.5			10.5		12.5			
h_{min}	Minimum thickness of concrete member:	[mm]	100	80	100	100	100	100	105	130	
h_1	Depth of drilled hole:	[mm]	50	65		60	70	70	85	100	
h_{ef}	Effective anchorage depth:	[mm]	29	42		37	45	44	52	65	
T_{ins}	Installation torque	[Nm]	15			25		50			
t_{fix}	Thickness of fixture	[mm]	L-40	L-55		L-50	L-60	L-60	L-70	L-85	
s_{min}	Minimum allowable spacing:	[mm]	35	50	45	35	50	50	60	70	
c_{min}	Minimum allowable edge distance:	[mm]	35	35	45	35	50	40	60	60	

Installation parameters			Performance			
			14.2 (12)		16.5 (14)	
h_{nom}	Overall anchor embedment depth in the concrete:	[mm]	75	105	75	110
d_0	Nominal diameter of drill bit:	[mm]	12		14	
d_f	Diameter of clearance hole in fixture:	[mm]	16		18	
d_s	Outer diameter of the thread	[mm]	14.2		16.5	
h_{min}	Minimum thickness of concrete member:	[mm]	120	170	120	175
h_1	Depth of drilled hole:	[mm]	90	120	90	130
h_{ef}	Effective anchorage depth:	[mm]	57	82	56	86
T_{ins}	Installation torque	[Nm]	60		80	
t_{fix}	Thickness of fixture	[mm]	L-75	L-105	L-75	L-110
s_{min}	Minimum allowable spacing:	[mm]	70	70	75	100
c_{min}	Minimum allowable edge distance:	[mm]	45	45	45	100

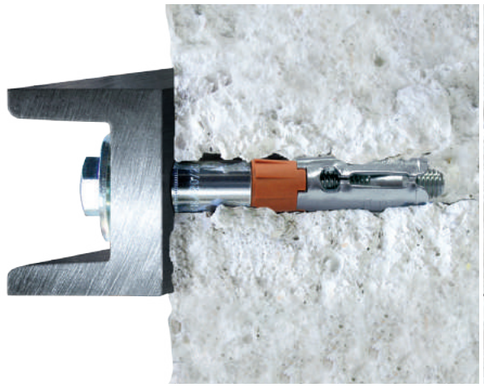
The above is an extract from ETA 23/0630. For the complete documentation refer to the Bremick website - www.bremick.com.au

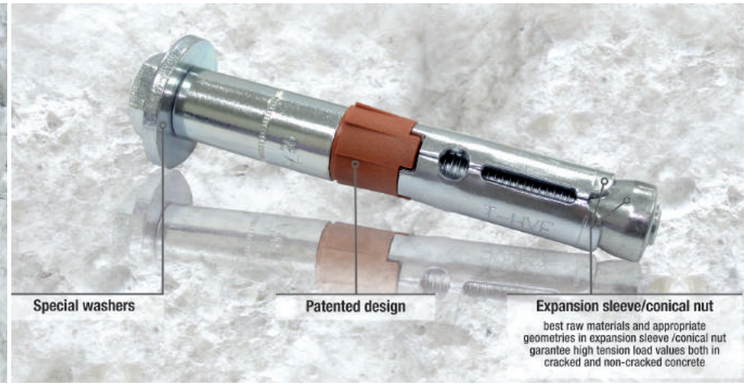
Safety Anchors

Tecfi Fixing Systems

HEAVY DUTY ETA-CE CERTIFIED ANCHOR
for fixing in low to high SEISMIC risk areas

- **OPTION 1** - European Technical Assessment for cracked & non-cracked concrete
- **C1 & C2 Seismic Assessment**
- Complies with AS5216
- National Construction Code Compliant
- 8.8 Grade Hex Head and special hardness washer
- Anti rotational nylon cylinder
- Zinc Plated for moderate corrosion protection
- Available in Hex Bolt and Countersunk Head





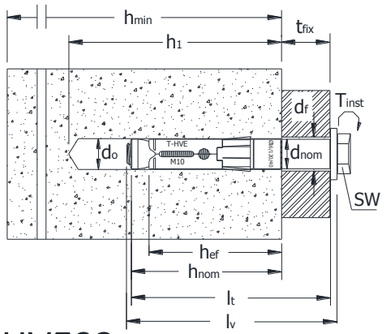
ETA CE FIRE RESISTANCE F120 C1 C2 SEISMIC FIXING

ETA 10/0060

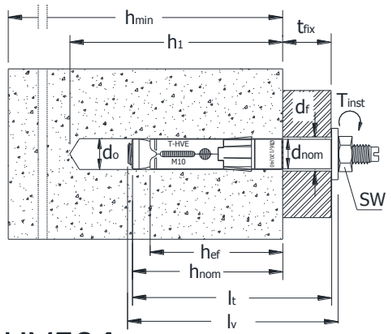
Installed conditions

Installation for static, quasi-static and seismic performance category C1 and C2

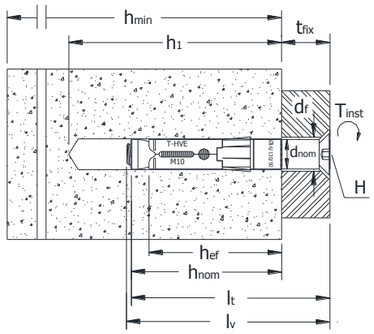
HVE01



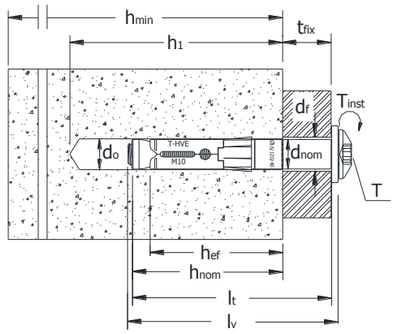
HVE02



HVE03



HVE04



Designation

d_{nom}	Outside diameter of the anchor
T_{inst}	Required torque moment
t_{fix}	Thickness of the fixtures
d_0	Diameter of the drill hole
d_f	Diameter of the clearance hole in the fixture
h_{min}	Minimum thickness of the concrete member
h_{nom}	Overall anchor embedment depth
h_{ef}	Anchorage depth
l_t	Anchor length
l_v	Bolt lenght
T	Hexalobular socket number
SW	Wrench size/Socket size
H	Hexagonal socket

Tecfi HVE Rock	Annex A 1
Product description Installed condition	

Specifications of intended use

Anchorages subject to:

- Static and quasi-static loads: all sizes
- Seismic action for Performance Category C1: all sizes
- Seismic action for Performance Category C2: all sizes
- Resistance to fire exposure: all sizes

Base materials:

- Reinforced or unreinforced normal weight concrete according to EN 206-1:2000.
- Strength classes C20/25 to C50/60 according to EN 206-1:2000.
- Non-cracked or cracked concrete

Use conditions (Environmental conditions):

- Anchorages 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 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.).
- Design of fastenings in accordance to FprEN 1992-4:2016 and EOTA Technical Report TR 055

Installation:

- Hole drilling by rotary plus hammer mode
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not the direction of the load application.

Tecfi HVE Rock	Annex B 1
Intended use Specifications	

The above is an extract from ETA 10/0060. For the complete documentation refer to the Bremick website - www.bremick.com.au

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Table B1: Installation parameters

Parameter		HVE M6	HVE M8	HVE M10	HVE M12	HVE M16
Nominal drill hole diameter	d_o = [mm]	10	12	16	18	24
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	10,45	12,50	16,50	18,50	24,55
Effective anchorage depth	h_{ef} = [mm]	55	60	70	90	105
Depth of drill hole	h_1 = [mm]	80	90	100	120	140
Diameter of clearance in the fixture	d_f = [mm]	12	14	18	20	26
Overall anchor embedment depth in the	h_{nom} = [mm]	65	70	80	100	120
Required torque moment	T_{inst} = [Nm]	15	30	50	100	160
Outside diameter of anchor	d_{nom} = [mm]	10	12	16	18	24
Minimum thickness of concrete member	h_{min} = [mm]	110	120	140	180	210
Minimum edge distance	c_{min} = [mm]	70	100	90	175	180
	s ≥ [mm]	110	160	175	255	290
Minimum spacing	s_{min} = [mm]	55	110	80	135	130
	c ≥ [mm]	110	145	120	220	240

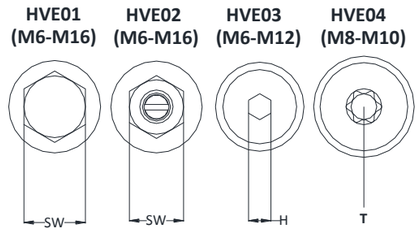
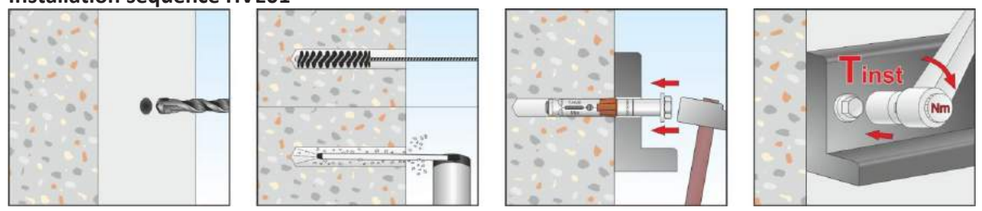


Table B2: Wrenches, sockets and maximum thickness of fixture

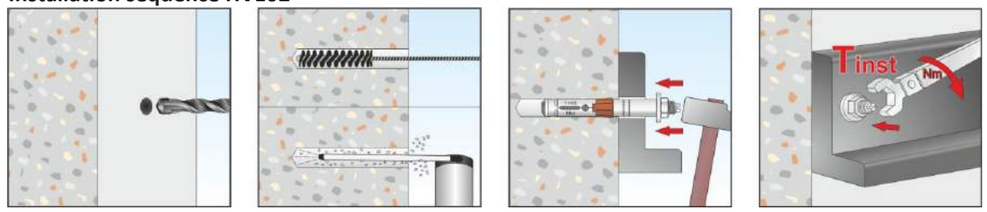
Item		M6	M8	M10	M12	M16
HVE 01 – Wrench size	SW = [mm]	10	13	17	19	24
Thickness of fixture	$t_{fix,max}$ = [mm]	55	70	80	100	100
	$t_{fix,min}$ = [mm]	5	10	20	20	20
HVE 02 – Wrench size	SW = [mm]	10	13	17	19	24
Thickness of fixture	$t_{fix,max}$ = [mm]	55	70	80	100	100
	$t_{fix,min}$ = [mm]	5	10	20	20	20
HVE 03 – Hexagonal socket size	H = [mm]	4	5	6	8	-
Thickness of fixture	$t_{fix,max}$ = [mm]	60	55	50	100	-
	$t_{fix,min}$ = [mm]	20	15	30	20	-
HVE 04 – Hexalobular socket number	T = [-]	-	40	40	-	-
Thickness of fixture	$t_{fix,max}$ = [mm]	-	50	40	-	-
	$t_{fix,min}$ = [mm]	-	10	20	-	-

Tecfi HVE Rock	Annex B 2
Intended use Installation parameters	

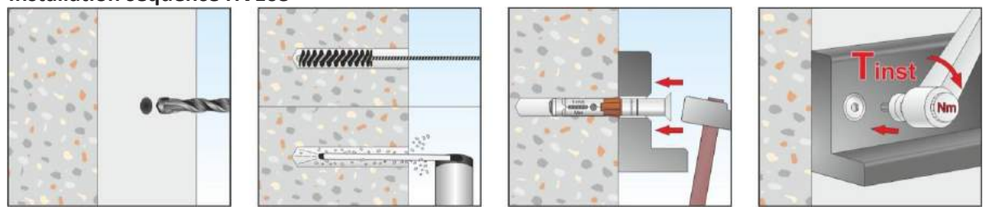
Installation sequence HVE01



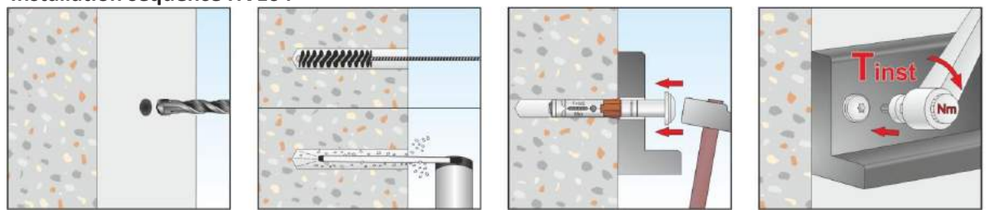
Installation sequence HVE02



Installation sequence HVE03



Installation sequence HVE04



Step 1	Drill a hole into the concrete in rotary plus hammer mode
Step 2	Remove the dust into the hole using a 4 times a brush and 4 times a blowing pump
Step 3	Place the fixture and hammer the anchor in the drill hole
Step 4	Apply the required torque moment

Tecfi HVE Rock	Annex B 4
Intended use Installation instructions	

Table C1: Performances for design, tension

Type of anchor / Size			HVE M6	HVE M8	HVE M10	HVE M12	HVE M16
Steel Failure							
Characteristic Resistance	$N_{Rk,s}$ $N_{Rk,s,eq,C1}$ $N_{Rk,s,eq,C2}$	[kN]	16	29	46	67	125
Partial safety factor	γ_{Ms} [1)]	[-]	1,5				
Pull-out failure							
Effective embedment depth	h_{ef}	[mm]	55	60	70	90	105
Characteristic Resistance in uncracked concrete C20/25	$N_{Rk,p}$	[kN]	16	16	20	35	45
Characteristic Resistance in cracked concrete C20/25			5	6	16	25	35
Characteristic Resistance for seismic performance category C1	$N_{Rk,p,eq}$	[kN]	5	4,2	14,4	25	35
Characteristic Resistance for seismic performance category C2	$N_{Rk,p,eq}$	[kN]	3,9	4,2	11,7	18,5	31
Increasing factors for $N_{Rk,p}$ for cracked and uncracked concrete	Ψ_c	C30/37	1,22				
		C40/50	1,41				
		C50/60	1,58				
Installation safety factor	γ_{inst}	[-]	1,0				
Concrete cone failure and splitting failure							
Effective embedment depth	h_{ef}	[mm]	55	60	70	90	105
Factor for k_1	$k_{ucr,N}$	[-]	11,0				
Factor for k_1	$k_{cr,N}$	[-]	7,7				
Spacing	$s_{cr,N}$	[mm]	165	180	210	270	315
Edge distance	$c_{cr,N}$	[mm]	85	90	105	135	160
Spacing (splitting)	$s_{cr,sp}$	[mm]	220	320	240	370	390
Edge distance (splitting)	$c_{cr,sp}$	[mm]	110	160	120	185	195
Installation safety factor	γ_{inst}	[-]	1,0				

[1)] In absence of other national regulations.

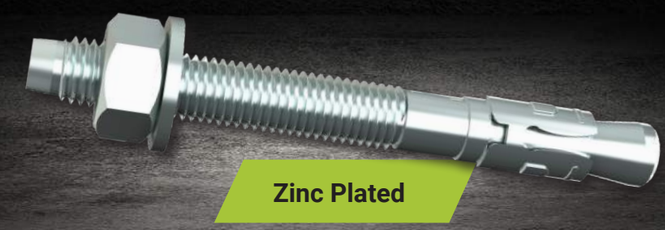
Tecfi HVE Rock	Annex C 1
Performances Characteristic resistance to tension loads	

The above is an extract from ETA 10/0060. For the complete documentation refer to the Bremick website - www.bremick.com.au

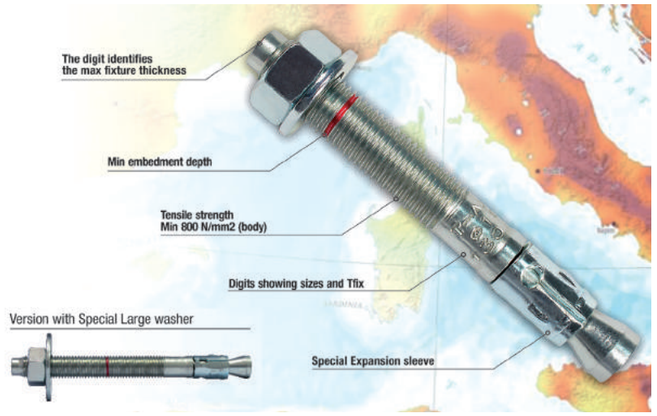
Through Bolt Anchors

Tecfi Fixing Systems

THROUGH BOLT ANCHOR ETA-CE CERTIFIED ANCHOR
for fixing in low to high SEISMIC risk areas



- **OPTION 1** - European Technical Assessment for cracked & non-cracked concrete
- **C1 & C2 Seismic Assessment**
- Complies with AS5216
- National Construction Code Compliant
- Assembled with hex nut and special washer
- Zinc Plated for moderate corrosion protection



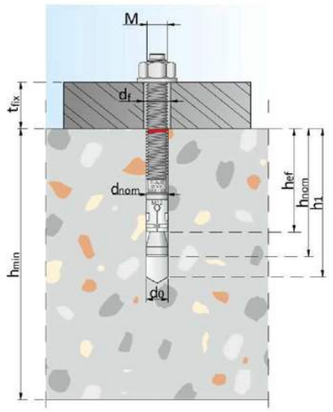
ETA 11/0319

FIRE RESISTANCE F120

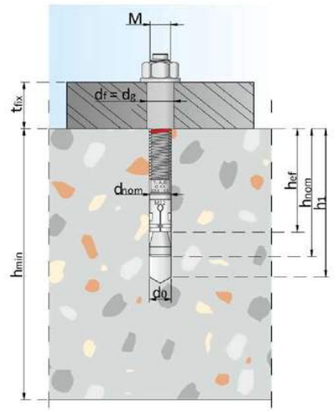
C1 C2 SEISMIC FIXING

Installed condition

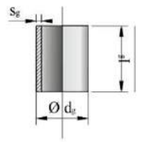
Installation for static and quasi-static loads



Installation for seismic performance categories C1 and C2



Seismic Protector®: spacer to fill the annular gap between the anchor and the fixture (item code SPS)



Installation details

d_{nom}	Outside diameter of the anchor
d_{cut}	Maximum cutting diameter of the drill bit
t_{fix}	Thickness of the fixtures
d_0	Diameter of the drill hole
d_f	Diameter of the clearance hole in the fixture
M	Diameter of the metric thread
h_{min}	Minimum thickness of the concrete member
h_{nom}	Overall anchor embedment depth
h_{ef}	Anchorage depth
d_g	Diameter of the spacer
l_g	Length of the spacer
s_g	Thickness of the spacer

Tecfi wedge anchor AJE	**Annex A 1**
Product description Installed condition	

Specifications of intended use

Anchorages subject to:
- Static and quasi-static loads: M8, M10, M12, M16, M20
- Seismic action for Performance Category C1 and C2: sizes M10, M12, M16, M20 with Seismic Protector® only
- Fire exposure: up to 120 minutes: M8, M10, M12, M16, M20

Base materials:
- Reinforced or unreinforced normal weight concrete according to EN 206-1:2000-12.
- Strength classes C20/25 to C50/60 according to EN 206-1:2000-12. (e.g.)
- Non-cracked concrete: M8, M10, M12, M16, M20
- Cracked concrete: M8, M10, M12, M16, M20.

Use conditions (Environmental conditions):
- Anchorages 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 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 and under fire exposure are designed in accordance with:
  - ETAG 001, Annex C, design method A, Edition August 2010;
  - CEN TS CEN/TS 1992-4-1:2009;
- Anchorages under seismic actions are designed in accordance with:
  - EOTA Technical Report TR 045, Edition February 2013
  - Anchorages shall be positioned outside of critical regions (e.g. plastic hinges) of the concrete structure.
  - Fastenings in stand-off installation or with a grout layer are not allowed
- In case of requirements for resistance to fire exposure it must be ensured that local spalling of the concrete cover does not occur.

Installation:
- Hole drilling by rotary plus hammer mode: M8, M10, M12, M16, M20
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not the direction of the load application.

Tecfi wedge anchor AJE	**Annex B 1**
Intended Use Specifications	

The above is an extract from ETA 11/0319. For the complete documentation refer to the Bremick website - www.bremick.com.au

The above is an extract from ETA 11/0319. For the complete documentation refer to the Bremick website - www.bremick.com.au

Table B1:Installation details

Anchor size			M 8	M 10	M 12	M 16	M 20
Nominal drill hole diameter	d_0	[mm]	8	10	12	16	20
Maximum cutting diameter of drill bit	d_{cut}	[mm]	8,45	10,45	12,5	16,5	20,55
Maximum torque moment	T_{inst}	[Nm]	20	45	60	110	200
Minimum allowable spacing (even in case of fire exposure)	s_{min}	[mm]	80	65	75	130	170
Minimum allowable edge distance	c_{min}	[mm]	80	80	90	130	200
Wrench size	SW	[mm]	13	17	19	24	30
Overall anchor embedment depth	h_{nom}	[mm]	55	70	85	100	115
Minimum thickness of concrete member	h_{min}	[mm]	100	110	140	170	200
Depth of the drilled hole to deepest point	h_1	[mm]	65	85	105	120	135
Diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	18	22
Thickness of fixture	t_{fix}	[mm]	≤ 160	≤ 160	≤ 270	≤ 320	≤ 320
Nominal outside diameter of the spacer for seismic performance categories C1 and C2	d_g	[mm]	NPD	12	14	18	22
Nominal length of the spacer for seismic performance categories C1 and C2	l_g	[mm]	NPD	The total length of the spacer must be equal to the thickness of the fixture, with a tolerance of: - for t_{fix} ≤ 120 [mm]: + 0 - 3 [mm]; - for t_{fix} > 120 [mm]: + 0 - 5 [mm]. More spacers can be used to reach the total length			
Minimum edge distance (fire exposure on one side)	c_{min}	[mm]	$2\ h_{ef}$				
Minimum edge distance (fire exposure if fire attacks from more than one side)	c_{min}	[mm]	If fire attacks from more than one side, the minimum edge distance shall be ≥ 300 mm or ≥ $2\ h_{ef}$				

Table B2: Details of letter code on the head

Letter code on the head of cone bolt *	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	R	S
Maximum thickness of fixture	5	10	15	20	25	30	35	40	45	50	55	60	65	70	80	90	100

*For $100 < t_{fix} \leq 200$ there is the number 1 before the letter code;
$200 < t_{fix} \leq 300$ there is the number 2 before the letter code;
$300 < t_{fix} \leq 400$ there is the number 3 before the letter code;

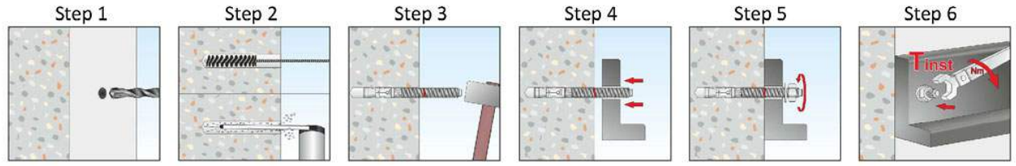
Tecfi wedge anchor AJE

Intended use
Installation parameters

Annex B 2

The above is an extract from ETA 11/0319. For the complete documentation refer to the Bremick website - www.bremick.com.au

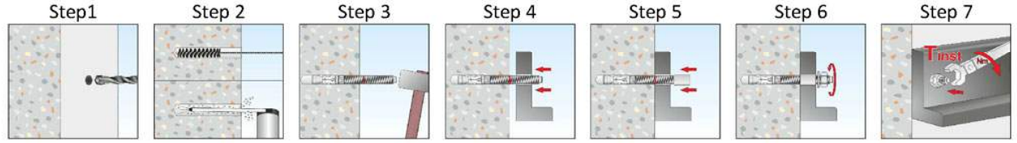
Installation instructions for static and quasi-static loads



Step 1	Drill a hole into the concrete in rotary plus hammer mode
Step 2	Remove the dust into the hole using a brush and a blowing pump
Step 3 [1)]	Hammer the anchor into the hole
Step 4 [1)]	Place the fixture
Step 5 & 6	Apply the required torque moment T_{inst}

[1)] Through fixing is allowed (place the fixture before placing the anchor)

Installation instructions for seismic performance categories C1 and C2



Step 1	Drill a hole into the concrete in rotary plus hammer mode
Step 2	Remove the dust into the hole using a brush and a blowing pump
Step 3 [2)]	Hammer the anchor in the hole
Step 4 [2)]	Place the fixture
Step 5 [3)]	Insert the spacer to fill the annular gap between the anchor and the fixture
Step 6 & 7	Apply the required torque moment T_{inst}

[2)] Through fixing is allowed (place the fixture before placing the anchor)
[3)] Size and number of the spacers depends on the anchor size and the thickness of fixture

Tecfi wedge anchor AJE

Intended use
Installation instruction

Annex B 4

The above is an extract from ETA 11/0319. For the complete documentation refer to the Bremick website - www.bremick.com.au

Table C1: Performances for design method A

Anchor size				M 8	M 10	M 12	M 16	M 20
Steel failure								
Characteristic resistance		$N_{Rk,s}$ $N_{Rk,S,seisC1}$ $N_{Rk,S,seisC2}$	[kN]	16	25	40	70	115
		$V_{Rk,s}$	[kN]	12	20	35	60	95
		$V_{Rk,S,seis,C1}$	[kN]	NPD	10	17	24	45
		$V_{Rk,S,seis,C2}$	[kN]	NPD	10	17	24	45
		$M^0_{Rk,s}$	[Nm]	30	60	105	266	519
Partial safety factor		$\gamma_{Ms,N}$	[-]	1,5				
Pull-out failure								
Characteristic resistance in **uncracked** concrete C20/25		$N_{Rk,p,ucr}$	[kN]	7,5	16	20	Not relevant	
Characteristic resistance in **cracked** concrete C20/25		$N_{Rk,p,cr}$	[kN]	6	9	16	25	30
Characteristic resistance under seismic performance category **C1**		$N_{Rk,p,seis,C1}$	[kN]	NPD	3,2	12,8	25	30
Characteristic resistance under seismic performance category **C2**		$N_{Rk,p,seis,C2}$	[kN]	NPD	2,1	3,2	15,1	16,1
Increasing factor for concrete	C30/37	ψ_c	[-]	1,22				
	C40/50			1,41				
	C50/60			1,55				
Installation safety factor		γ_2	[-]	1,20			1,00	
Concrete cone failure								
Effective anchorage depth		h_{ef}	[mm]	45	55	70	75	90
Factor [2]		k_{cr}		7,2				
		k_{ucr}		10,1				
Spacing		$s_{cr,N}$	[mm]	3 h_{ef}				
Edge distance		$c_{cr,N}$	[mm]	1,5 h_{ef}				
Splitting failure								
Spacing		$s_{cr,sp}$	[mm]	200	280	300	430	400
Edge distance		$c_{cr,sp}$	[mm]	100	140	150	215	200
Concrete pry-out failure								
k factor		$k^{1)} = k_3^{2)}$	[-]	1,0		2,0		
Concrete edge failure								
Effective length of anchor		$l_f = h_{ef}$	[mm]	45	55	70	75	90
Outside diameter of anchor		d_{nom}	[mm]	8	10	12	16	20

[1] for design according to ETAG 001 Annex C [2] for design according to CEN/TS 1992-4:2009

Tecfi wedge anchor AJE

Annex C 1

Performances
for static and quasi-static action and for seismic performance categories C1 and C2

The above is an extract from ETA 11/0319. For the complete documentation refer to the Bremick website - www.bremick.com.au

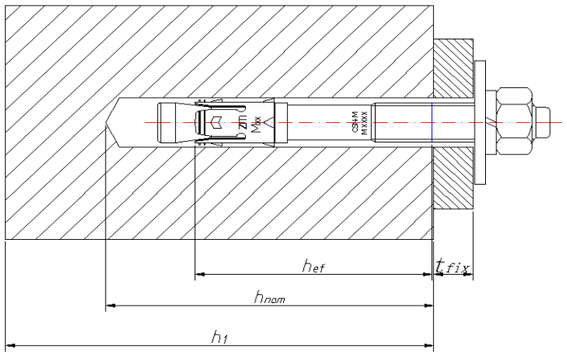
Through Bolt Anchors

ETA OPTION 1 CERTIFIED THROUGH BOLT ANCHOR
with assembled hex nut and washer

- **OPTION 1** - European Technical Assessment for cracked & non-cracked concrete
- Complies with AS5216
- National Construction Code Compliant

ETA 22/0295

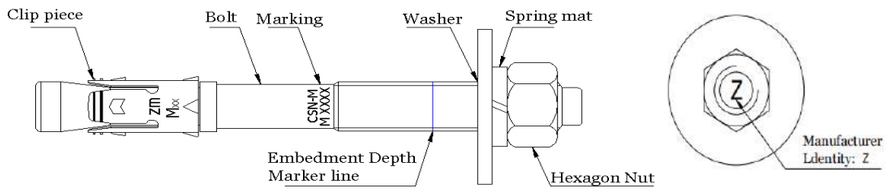
Installed condition



Product description

Figure A1:

Bremick torque controlled expansion anchor



Marking:

e.g.

Bremick

Anchor type (i.e. ZM CSN-M)

Anchor size: M...(i.e.M8/M10/M12/M16)

Anchor length: L (i.e.60-100/70-150/80-200/100-250)

Max. fixture thickness t_{fix}

Bremick torque controlled expansion anchor	**Annex A1**
Product description Installed condition and product description	

The above is an extract from ETA 22/0295. For the complete documentation refer to the Bremick website - www.bremick.com.au

Specifications of intended use

Anchorages subject to:

- Static and quasi-static loading

Base materials:

- Reinforced or unreinforced normal weight concrete according to EN 206:2013+ A1:2016.
- Strength classes C20/25 to C50/60 according to EN 206:2013+A1:2016.
- Cracked and uncracked concrete.

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 anchored. The position of the anchor is indicated on the design drawings (e.g. position of the anchor reloative to reinforcement or to supports etc.).
- Anchorages under static or quasi-static loading are designed in accordance with EN 1992-4
- Anchorages shall be positioned outside of critical regions (e.g. plastic hinges) of the concrete structure. Fastenings in stand-off installation or with a grout layer under seismic action are not covered in this European technical assessment (ETA).
- In case of requirements to resistance to fire local spalling of the concrete cover must be avoided.

Installation:

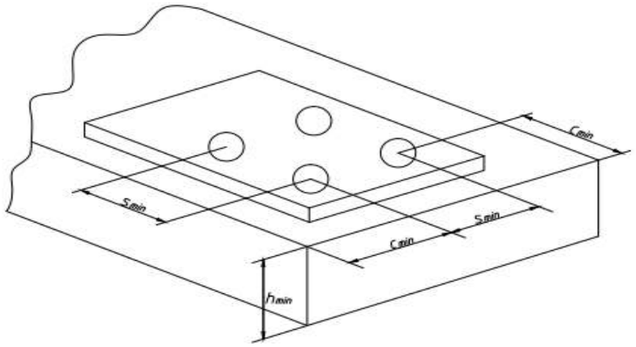
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- The anchor may only be set once.
- Drilling technique: Hammer drilling
- Cleaning the hole of drilling dust.
- In case of aborted hole, drilling of new hole at a minimum distance of twice the depth of the aborted hole, or smaller distance provided the aborted drill hole is filled with high strength mortar and no shear or oblique tension loads in the direction of aborted hole.

Bremick torque controlled expansion anchor	**Annex B1**
Intended use Specifications	

The above is an extract from ETA 22/0295. For the complete documentation refer to the Bremick website - www.bremick.com.au

Table B1: Installation parameters

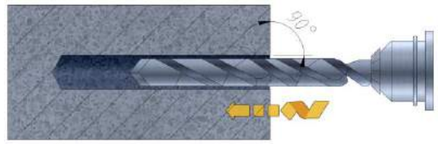
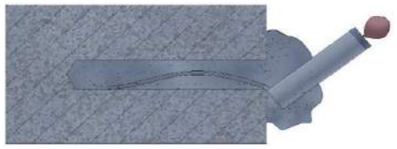
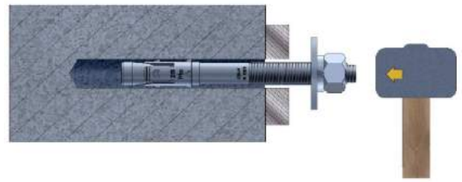
Bremick			M8	M10	M12	M16
Nominal diameter of drill bit	d_0	[mm]	8	10	12	16
Max. diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	18
Effective anchorage depth	h_{ef}	[mm]	53	66	75	94
Min. depth of drill hole	h_1	[mm]	75	90	105	125
Min. thickness of concrete member	h_{min}	[mm]	110	140	150	190
Installation torque	T_{inst}	[Nm]	20	40	60	100
Uncracked and cracked concrete						
Minimum spacing and minimum edge distance	s_{min}	[mm]	50	60	70	100
	c_{min}	[mm]	50	60	70	100



Bremick torque controlled expansion anchor	Annex B2
Intended use Installation parameters	

The above is an extract from ETA 22/0295. For the complete documentation refer to the Bremick website - www.bremick.com.au

Installation instruction

	1、Hammer drilling
	2、Blow borehole until no dust comes out
	3、Set anchor in the borehole using a hammer
	4、Tighten the anchor to he required installation torque (see table B1)
	5、Check installation

Bremick torque controlled expansion anchor	Annex B3
Intended use Installation instructions	

The above is an extract from ETA 22/0295. For the complete documentation refer to the Bremick website - www.bremick.com.au

Table C1: Characteristic values of resistance under tension load in case of static and quasi-static loading

Size			M8	M10	M12	M16
Effective anchorage depth	h_{ef}	[mm]	53	66	75	94
Steel failure						
Partial safety factor	$\gamma_{Ms,N}$	[-]	2,4			
Characteristic resistance	$N_{Rk,s}$	[kN]	20,4	32,6	48,7	89,7
Pullout failure						
Characteristic resistance in concrete C20/25						
Installation safety factor	γ_{inst}	[-]	1,2			
Uncracked concrete	$N_{Rk,p,uncr}$	[kN]	13	26	32	40
Cracked concrete	$N_{Rk,p,cr}$	[kN]	-	17	20	27
Increasing factor concrete strength ψ_c	C30/37	[-]	1,22			
	C40/50	[-]	1,41			
	C50/60	[-]	1,58			
Concrete cone and splitting failure						
Installation safety factor	γ_{inst}	[-]	1,2			
Factor	$k_1=k_{ucr,N}$	[-]	11,0			
	$k_1=k_{cr,N}$	[-]	7,7			
Spacing	$s_{cr,N}$	[mm]	$3 \cdot h_{ef}$			
Edge distance	$c_{cr,N}$	[mm]	$1,5 \cdot h_{ef}$			
Spacing (splitting)	$s_{cr,sp}$	[mm]	160	200	250	290
Edge distance (splitting)	$c_{cr,sp}$	[mm]	80	100	120	145

Bremick torque controlled expansion anchor	**Annex C1**
Performances Characteristic resistance to tension load (static and quasi-static loading)	

The above is an extract from ETA 22/0295. For the complete documentation refer to the Bremick website - www.bremick.com.au

Through Bolt Anchors

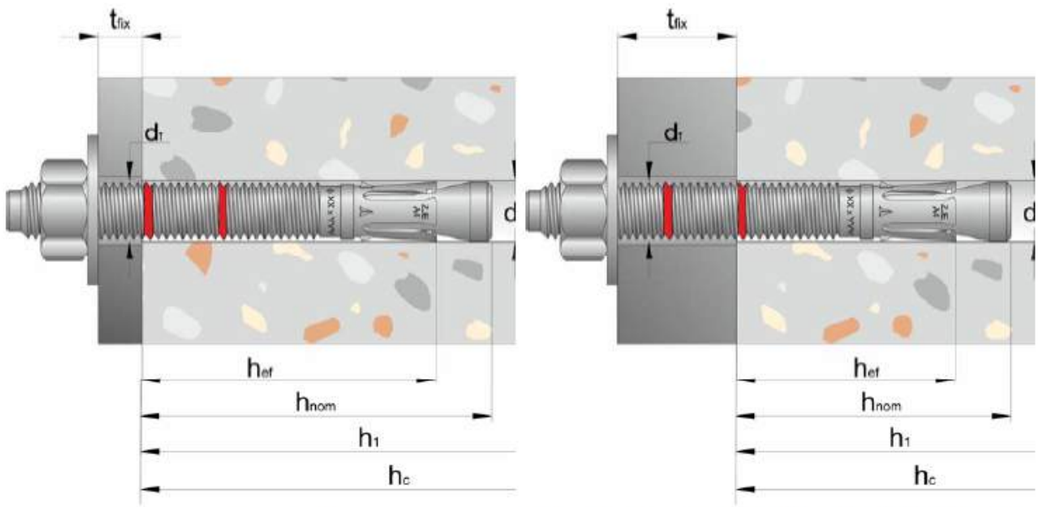
ETA OPTION 7 CERTIFIED THROUGH BOLT ANCHOR
with assembled hex nut and washer

- **OPTION 7** - European Technical Assessment for non-cracked concrete
- Complies with AS5216
- National Construction Code Compliant

Tecfi Fixing Systems

ETA 13/1012

Installed condition



Standard embedment depth (all sizes)

Reduced embedment depth (sizes M8, M10, M12, M16 and M20)

d_o: Nominal diameter of drill bit
d_f: Fixture clearance hole diameter
h_{ef}: Effective anchorage depth
h_1: Depth of drilled hole
h_{nom}: Overall anchor embedment depth in the concrete
h_{min}: Minimum thickness of concrete member
t_{fix}: Fixture thickness
T_{ins}: Installation torque

Table A1: Materials

Item	Designation	Material for ZJE01/ZJE31	Material for ZJE51/ZJE61	Material for ZJE71/ZJE81
1	Anchor Body	Carbon steel galvanised ≥ 5 µm ISO 4042 A2, cold forged	Stainless steel, grade A2	Stainless steel, grade A4
2	Washer	DIN 125, DIN 9021 or DIN 440 galvanised ≥ 5 µm ISO 4042 A2	DIN 125, DIN 9021 or DIN 440, stainless steel grade A2	DIN 125, DIN 9021 or DIN 440, stainless steel grade A4
3	Nut	DIN 934 class 6 galvanised ≥ 5 µm ISO 4042 A2, class 6	DIN 934, stainless steel grade A2	DIN 934, stainless steel grade A4
4	Expansion clip	Carbon steel galvanised ≥ 5 µm ISO 4042 A2	Stainless steel, grade A2	Stainless steel, grade A4

ZJE01/ZJE31, ZJE51/ZJE61, ZJE71/ZJE81 anchor	Annex A2
Product description Installed condition and materials	

The above is an extract from ETA 13/1012. For the complete documentation refer to the Bremick website - www.bremick.com.au

Intended use

Anchorages subjected to:

- Static or quasi static loads: all sizes and embedment depths

Base materials:

- Reinforced and unreinforced concrete according to EN 206-1
- Strength classes C20/25 to C50/60 according to EN 206-1
- Uncracked concrete

Use conditions (environmental conditions):

- The anchor shall be used in dry internal conditions: all anchor types
- Structural subjected to external atmospheric exposure (including industrial and marine environment) and to permanent internal conditions with no particular aggressive conditions exists: screw types made of stainless steel with marking A4. Such 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.
- Verifiable calculation rules and drawings are prepared taking into account of the loads to be attached. 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 loads are designed for design Method A in accordance with:
  - EN 1992-4:2018
- Size M8 in reduced embedment depth is restricted to anchoring of structural components which are statically indeterminate.

Installation:

- Hammer drilling only.
- Anchor installation carried out by appropriately qualified personal and under the supervision of the person responsible for technical matters of the site.

In case of aborted hole: new drilling at a minimum distance away of twice the depth of aborted hole or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not the direction of the load application.

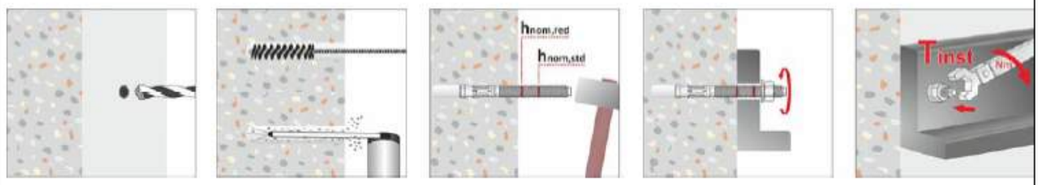
ZJE01/ZJE31, ZJE51/ZJE61, ZJE71/ZJE81 anchor	Annex B1
Intended use Specifications	

The above is an extract from ETA 13/1012. For the complete documentation refer to the Bremick website - www.bremick.com.au

Table C1: Installation parameters for ZJE01/ZJE31 anchor

ZJE01/ZJE31: Zinc plated anchor Installation parameters			Performances						
			M6	M8	M10	M12	M14	M16	M20
d_0	Nominal diameter of drill bit:	[mm]	6	8	10	12	14	16	20
d_f	Fixture clearance hole diameter:	[mm]	7	9	12	14	16	18	22
T_{inst}	Nominal installation torque:	[Nm]	7	20	35	60	90	120	240
Standard embedment depth $h_{nom,std}$									
L_{min}	Minimum length of the bolt:	[mm]	60	75	85	100	115	125	160
h_{min}	Minimum thickness of concrete member:	[mm]	100	100	110	130	150	168	206
h_1	Depth of drilled hole ≥	[mm]	55	65	75	85	100	110	135
h_{nom}	Overall anchor embed depth in concrete:	[mm]	49.5	59.5	66.5	77	91	103.5	125
$h_{ef,std}$	Effective anchorage depth:	[mm]	40	48	55	65	75	84	103
t_{fix}	Thickness of fixture for DIN 125 washer ≤	[mm]	L-58	L-70	L-80	L-92	L-108	L-122	L-147
t_{fix}	Thickness of fixture for DIN 9021 or DIN 440 washer ≤	[mm]	L-58	L-71	L-80	L-94	L-108	L-124	L-149
s_{min}	Minimum allowable spacing:	[mm]	35	40	50	70	80	90	135
c_{min}	Minimum allowable distance:	[mm]	35	40	50	70	80	90	135
Reduced embedment depth $h_{nom,red}$									
L_{min}	Minimum length of the bolt:	[mm]	--	60	70	80	--	110	130
h_{min}	Minimum thickness of concrete member:	[mm]	--	100	100	100	--	130	150
h_1	Depth of drilled hole:	[mm]	--	50	60	70	--	90	107
h_{nom}	Overall anchor embed depth in concrete:	[mm]	--	46.5	53.5	62	--	84.5	97
$h_{ef,red}$	Effective anchorage depth:	[mm]	--	35	42	50	--	65	75
t_{fix}	Thickness of fixture for DIN 125 washer ≤	[mm]	--	L-57	L-67	L-77	--	L-103	L-121
t_{fix}	Thickness of fixture for DIN 9021 or DIN 440 washer ≤	[mm]	--	L-58	L-67	L-79	--	L-105	L-123
s_{min}	Minimum allowable spacing:	[mm]	--	40	50	70	--	90	135
c_{min}	Minimum allowable distance:	[mm]	--	40	50	70	--	90	135

Installation process



ZJE01/ZJE31 anchor	Annex C1
Performances Installation parameters and installation procedure	

The above is an extract from ETA 13/1012. For the complete documentation refer to the Bremick website - www.bremick.com.au

Table C2: Characteristic resistance values to tension loads of design method A according to EN 1992-4 for ZJE01/ZJE31 anchor

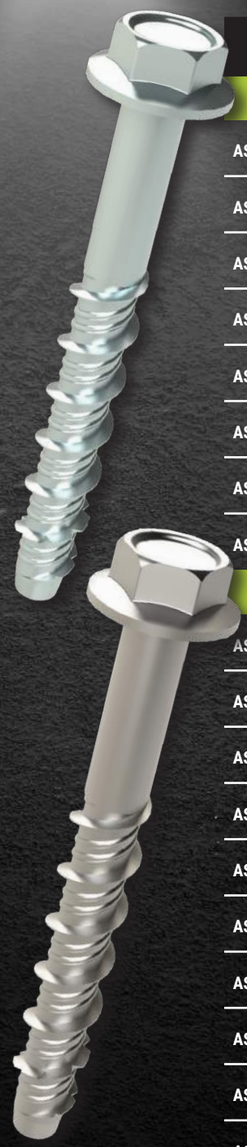
ZJE01/ZJE31: Zinc plated anchor			Performances						
			M6	M8	M10	M12	M14	M16	M20
STEEL FAILURE									
$N_{Rk,s}$	Characteristic resistance:	[kN]	7.4	13.0	23.7	33.3	49.1	60.1	99.5
$\gamma_{M,s}$	Partial safety factor:	[-]	1.40	1.40	1.40	1.40	1.40	1.40	1.40
PULL OUT FAILURE									
Standard embedment depth									
$N_{Rk,p}$	Characteristic resistance in C20/25 uncracked concrete:	[kN]	--[1]	--[1]	19.0	--[1]	--[1]	--[1]	--[1]
γ_{ins}	Installation safety factor:	[-]	1.0						
Ψ_c	Increasing factors for $N^0_{Rk,p}$:	C30/37	1.22						
		C40/50	1.41						
		C50/60	1.58						
Reduced embedment depth									
$N_{Rk,p}$	Characteristic resistance in C20/25 uncracked concrete:	[kN]	--	10	--[1]	--[1]	--	--[1]	--[1]
γ_{ins}	Installation safety factor:	[-]	--	1.0			--	1.0	
Ψ_c	Increasing factors for $N^0_{Rk,p}$:	C30/37	--	1.22			--	1.22	
		C40/50	--	1.41			--	1.41	
		C50/60	--	1.58			--	1.58	
CONCRETE CONE FAILURE AND SPLITTING FAILURE									
Standard embedment depth									
$h_{ef,std}$	Effective anchorage depth:	[mm]	40	48	55	65	75	84	103
$k_{ucr,N}$	Factor for uncracked concrete:	[-]	11,0						
γ_{ins}	Installation safety factor:	[-]	1.0						
$s_{cr,N}$	Concrete cone failure:	[mm]	$3 \times h_{ef}$						
$c_{cr,N}$		[mm]	$1.5 \times h_{ef}$						
$s_{cr,sp}$	Splitting failure:	[mm]	160	192	220	260	300	280	360
$c_{cr,sp}$		[mm]	80	96	110	130	150	140	180
Reduced embedment depth									
$h_{ef,std}$	Effective anchorage depth:	[mm]	--	35	42	50	--	65	75
$k_{ucr,N}$	Factor for uncracked concrete:	[-]	--	11.0			--	11.0	
γ_{ins}	Installation safety factor:	[-]	--	1.0			--	1.0	
$s_{cr,N}$	Concrete cone failure	[mm]	--	$3 \times h_{ef}$			--	$3 \times h_{ef}$	
$c_{cr,N}$		[mm]	--	$1.5 \times h_{ef}$			--	$1.5 \times h_{ef}$	
$s_{cr,sp}$	Splitting failure:	[mm]	--	140	168	200	--	260	300
$c_{cr,sp}$		[mm]	--	70	84	100	--	130	150

[1] Pull out failure is not decisive

ZJE01/ZJE31 anchor	Annex C2
Performances Characteristic values for tension loads	

The above is an extract from ETA 13/1012. For the complete documentation refer to the Bremick website - www.bremick.com.au

Screw Anchor **Range**



Code	Description	Finish	Pack Qty	Option 1	Cracked Concrete	Fire Rated	C1 Seismic	C2 Seismic
Screw Anchor - Hex Head- Zinc Plated								
ASBMZ06060ETA	MAS SCREW ANCHR ZINC 6mm x 60 ETA C1	Zinc Plated	100	●	●	●	●	
ASBMZ08065ETA	MAS SCREW ANCHR ZINC 8mm x 65 ETA C2	Zinc Plated	100	●	●	●	●	●
ASBMZ10065ETA	MAS SCREW ANCHR ZINC 10mm x 65 ETA OPTION 1	Zinc Plated	50	●	●	●		
ASBMZ10075ETA	MAS SCREW ANCHR ZINC 10mm x 75 ETA OPTION 1	Zinc Plated	50	●	●	●		
ASBMZ10100ETA	MAS SCREW ANCHR ZINC 10mm x 100 ETA C2	Zinc Plated	50	●	●	●	●	●
ASBMZ12090ETA	MAS SCREW ANCHR ZINC 12mm x 90 ETA OPTION 1	Zinc Plated	50	●	●	●		
ASBMZ12110ETA	MAS SCREW ANCHR ZINC 12mm x 110 ETA C2	Zinc Plated	50	●	●	●	●	●
ASBMZ12150ETA	MAS SCREW ANCHR ZINC 12mm x 150 ETA C2	Zinc Plated	20	●	●	●	●	●
Screw Anchor - Hex Head- Ceramic Coated								
ASBMR06060ETA	MAS SCR ANC CERAMIC COAT 6mm x 60 ETA C1	Ceramic Coated	100	●	●	●	●	
ASBMR06080ETA	MAS SCR ANC CERAMIC COAT 6mm x 80 ETA C1	Ceramic Coated	100	●	●	●	●	
ASBMR08065ETA	MAS SCR ANC CERAMIC COAT 8mm x 65 ETA C2	Ceramic Coated	100	●	●	●	●	●
ASBMR08075ETA	MAS SCR ANC CERAMIC COAT 8mm x 75 ETA C2	Ceramic Coated	100	●	●	●	●	●
ASBMR08110ETA	MAS SCR ANC CERAMIC COAT 8mm x 110 ETA C2	Ceramic Coated	100	●	●	●	●	●
ASBMR10065ETA	MAS SCR ANC CERAMIC COAT 10mm x 65 ETA OPTION 1	Ceramic Coated	50	●	●	●		
ASBMR10075ETA	MAS SCR ANC CERAMIC COAT 10mm x 75 ETA OPTION 1	Ceramic Coated	50	●	●	●		
ASBMR10100ETA	MAS SCR ANC CERAMIC COAT 10mm x 100 ETA C2	Ceramic Coated	50	●	●	●	●	●
ASBMR10140ETA	MAS SCR ANC CERAMIC COAT 10mm x 140 ETA C2	Ceramic Coated	20	●	●	●	●	●
ASBMR12090ETA	MAS SCR ANC CERAMIC COAT 12mm x 90 ETA OPTION 1	Ceramic Coated	50	●	●	●		
ASBMR12110ETA	MAS SCR ANC CERAMIC COAT 12mm x 110 ETA C2	Ceramic Coated	50	●	●	●	●	●
ASBMR12150ETA	MAS SCR ANC CERAMIC COAT 12mm x 150 ETA C2	Ceramic Coated	20	●	●	●	●	●

Safety Anchor **Range**

Code	Description	Finish	Pack Qty	Option 1	Cracked Concrete	Fire Rated	C1 Seismic	C2 Seismic
Tecfi Safety Anchor - Hex Head - Zinc Plated								
AHVE0110080	SAFETY ANCHOR HEX 8.8 ZINC 10 (M6) x 80mm ETA C2	Zinc Plated	50	●	●	●	●	●
AHVE0110100	SAFETY ANCHOR HEX 8.8 ZINC 10 (M6) x 100mm ETA C2	Zinc Plated	50	●	●	●	●	●
AHVE0112100	SAFETY ANCHOR HEX 8.8 ZINC 12 (M8) x 100mm ETA C2	Zinc Plated	25	●	●	●	●	●
AHVE0112120	SAFETY ANCHOR HEX 8.8 ZINC 12 (M8) x 120mm ETA C2	Zinc Plated	25	●	●	●	●	●
AHVE0116100	SAFETY ANCHOR HEX 8.8 ZINC 16 (M10) x 100mm ETA C2	Zinc Plated	20	●	●	●	●	●
AHVE0118120	SAFETY ANCHOR HEX 8.8 ZINC 18 (M12) x 120mm ETA C2	Zinc Plated	10	●	●	●	●	●
AHVE0118150	SAFETY ANCHOR HEX 8.8 ZINC 18 (M12) x 150mm ETA C2	Zinc Plated	10	●	●	●	●	●
AHVE0118200	SAFETY ANCHOR HEX 8.8 ZINC 18 (M12) x 200mm ETA C2	Zinc Plated	10	●	●	●	●	●
AHVE0124140	SAFETY ANCHOR HEX 8.8 ZINC 24 (M16) x 140mm ETA C2	Zinc Plated	5	●	●	●	●	●
AHVE0124170	SAFETY ANCHOR HEX 8.8 ZINC 24 (M16) x 170mm ETA C2	Zinc Plated	5	●	●	●	●	●
AHVE0124220	SAFETY ANCHOR HEX 8.8 ZINC 24 (M16) x 220mm ETA C2	Zinc Plated	5	●	●	●	●	●
Tecfi Safety Anchor - Countersunk Head - Zinc Plated								
AHVE0312105	SAFETY ANCHOR CSK 8.8 ZINC 12 (M8) x 105mm ETA C2	Zinc Plated	25	●	●	●	●	●
AHVE0316110	SAFETY ANCHOR CSK 8.8 ZINC 16 (M10) x 110mm ETA C2	Zinc Plated	20	●	●	●	●	●
AHVE0318120	SAFETY ANCHOR CSK 8.8 ZINC 18 (M12) x 120mm ETA C2	Zinc Plated	10	●	●	●	●	●

Code	Description	Finish	Pack Qty	Option 1	Cracked Concrete
Through Bolt - Hex Head - Zinc Plated					
ATBMZ10120ETA	THROUGH BOLT ZINC M10x120 ETA OPTION 1	Zinc Plated	25	●	●
ATBMZ12080ETA	THROUGH BOLT ZINC M12x80 ETA OPTION 1	Zinc Plated	20	●	●
ATBMZ12120ETA	THROUGH BOLT ZINC M12x120 ETA OPTION 1	Zinc Plated	20	●	●
ATBMZ16105ETA	THROUGH BOLT ZINC M16x105 ETA OPTION 1	Zinc Plated	20	●	●
ATBMZ16125ETA	THROUGH BOLT ZINC M16x125 ETA OPTION 1	Zinc Plated	20	●	●
Through Bolt - Hex Head - Galvanised					
ATBMG10090ETA	THROUGH BOLT GAL M10x90 ETA OPTION 1	Galvanised	20	●	●
ATBMG12080ETA	THROUGH BOLT GAL M12x80 ETA OPTION 1	Galvanised	20	●	●
ATBMG12100ETA	THROUGH BOLT GAL M12x100 ETA OPTION 1	Galvanised	20	●	●
ATBMG12120ETA	THROUGH BOLT GAL M12x120 ETA OPTION 1	Galvanised	20	●	●
ATBMG12140ETA	THROUGH BOLT GAL M12x140 ETA OPTION 1	Galvanised	20	●	●
ATBMG16105ETA	THROUGH BOLT GAL M16x105 ETA OPTION 1	Galvanised	20	●	●
ATBMG16125ETA	THROUGH BOLT GAL M16x125 ETA OPTION 1	Galvanised	20	●	●
ATBMG16140ETA	THROUGH BOLT GAL M16x140 ETA OPTION 1	Galvanised	20	●	●
ATBMG16180ETA	THROUGH BOLT GAL M16x180 ETA OPTION 1	Galvanised	20	●	●

Through Bolt **Range**

Code	Description	Finish	Pack Qty	Option 1	Cracked Concrete	Fire Rated	C1 Seismic	C2 Seismic
Tecfi Through Bolt - Hex Head - Zinc Plated								
ATBMZ10105ETA	THROUGH BOLT ZINC M10x105 ETA C2	Zinc Plated	100	●	●	●	●	●
ATBMZ10125ETA	THROUGH BOLT ZINC M10x125 ETA C2	Zinc Plated	100	●	●	●	●	●
ATBMZ12115ETA	THROUGH BOLT ZINC M12x115 ETA C2	Zinc Plated	50	●	●	●	●	●
ATBMZ12145ETA	THROUGH BOLT ZINC M12x145 ETA C2	Zinc Plated	50	●	●	●	●	●
ATBMZ16130ETA	THROUGH BOLT ZINC M16x130 ETA C2	Zinc Plated	50	●	●	●	●	●
ATBMZ16165ETA	THROUGH BOLT ZINC M16x165 ETA C2	Zinc Plated	50	●	●	●	●	●
ATBMZ20170ETA	THROUGH BOLT ZINC M20x170 ETA C2	Zinc Plated	50	●	●	●	●	●

Code	Description	Finish	Pack Qty	Option 7
Tecfi Through Bolt - Hex Head - Stainless Steel 316				
AZJE7108075	SS316 THROUGH BOLT M8x75 ETA OPTION 7	Stainless Steel 316	100	●
AZJE7108090	SS316 THROUGH BOLT M8x90 ETA OPTION 7	Stainless Steel 316	100	●
AZJE7110090	SS316 THROUGH BOLT M10x90 ETA OPTION 7	Stainless Steel 316	50	●
AZJE7112090	SS316 THROUGH BOLT M12x90 ETA OPTION 7	Stainless Steel 316	50	●
AZJE7112110	SS316 THROUGH BOLT M12x110 ETA OPTION 7	Stainless Steel 316	25	●
AZJE7112140	SS316 THROUGH BOLT M12x140 ETA OPTION 7	Stainless Steel 316	25	●
AZJE7116090	SS316 THROUGH BOLT M16x90 ETA OPTION 7	Stainless Steel 316	25	●
AZJE7116125	SS316 THROUGH BOLT M16x125 ETA OPTION 7	Stainless Steel 316	25	●

HIGH PERFORMANCE MASONRY ANCHORS

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