Concrete screws

High-performance metal anchors for cracked and uncracked concrete

Concrete

Popular building material with positive properties

Concrete is used amongst others for building bridges, ceilings and floors, factory buildings, prefabricated elements, cellars, foundations and staircases. Concrete is extremely robust and durable. Additionally, a high raw density ensures a very good sound insulation.

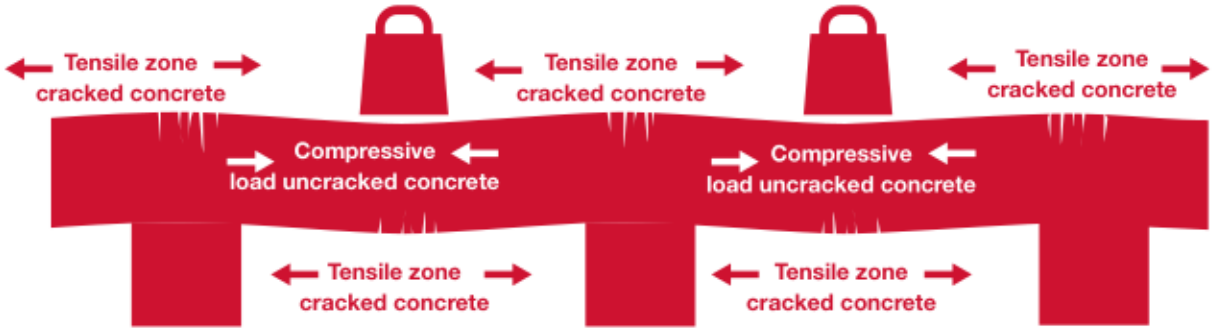
Concrete can be used in a variety of applications. In order to mount components reliably and durably to concrete substrates, the choice of the adequate fastening material is just as decisive as the knowledge about the properties of the substrate.

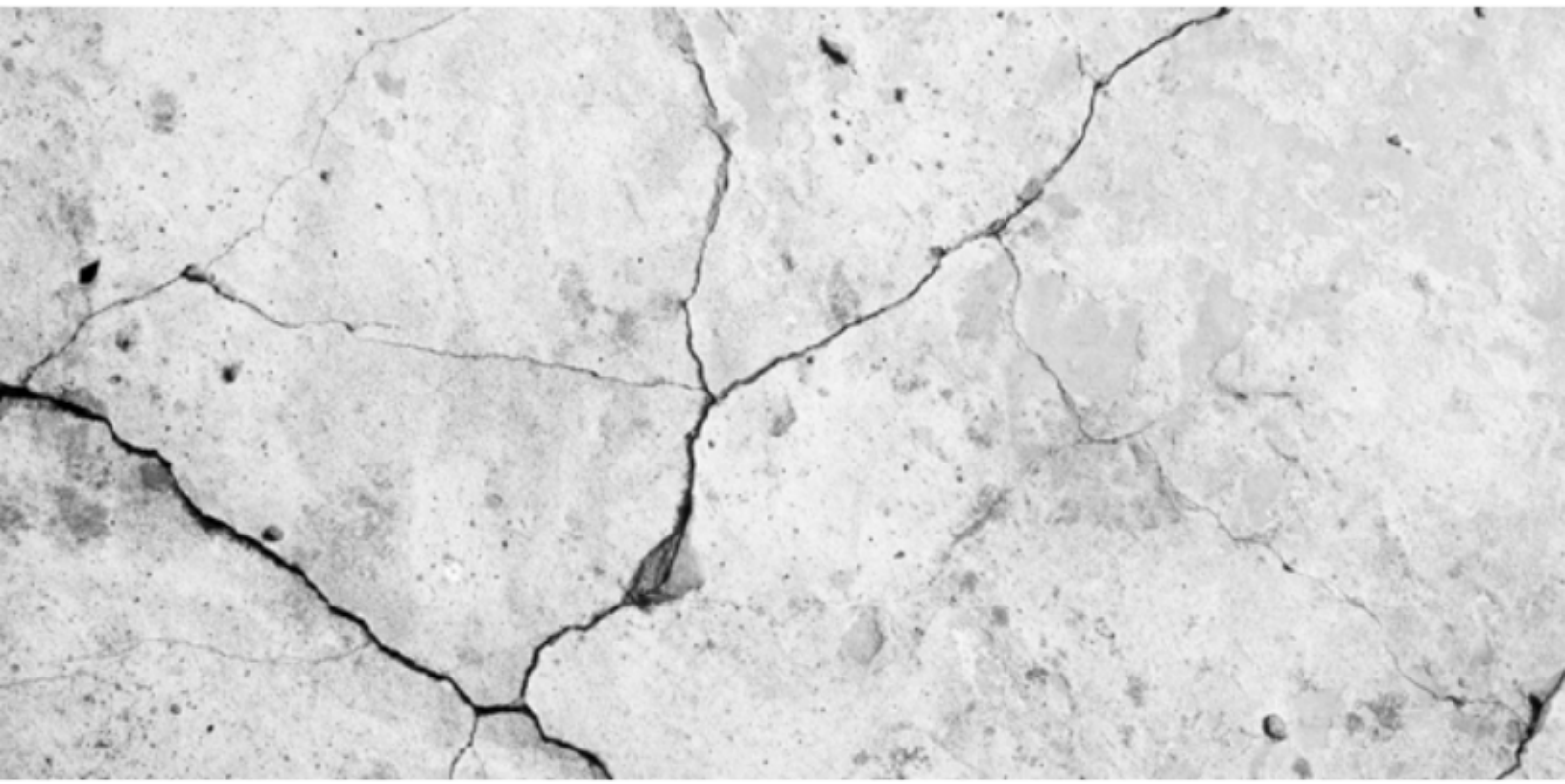
Types of concrete

Cracked and non-cracked concrete

A concrete slab resting on support pillars creates micro cracks from the tensile stresses caused by its own weight and loads. In order to take up these tensile stresses, the slab must be reinforced so that the durability of the construction is not compromised. Embedments in cracked concrete must be made with fasteners approved for use in cracked concrete.

The existing micro cracks limit the load-carrying capacity of the fixing. Therefore, the loading values given in the product information must be considered. If the fastener is suitable for cracked concrete, this is always stated in the product information.





concrete screws

Mechanical metal anchors

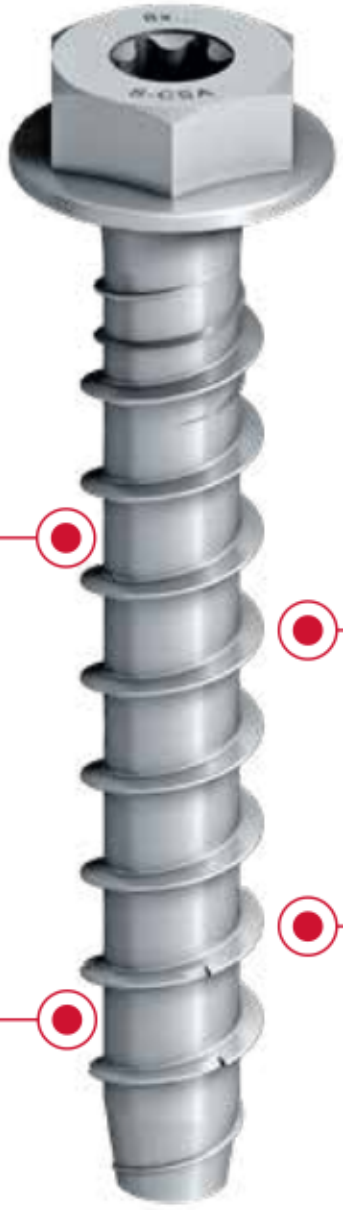
Concrete screws are true all-rounders and have the great advantage that they are removable. Since there are hardly any expansion forces, they are particularly suitable for temporary fastenings near the edge. Due to their multiple gear cutting in the surface, they can also be used for pre-stressed hollow core slabs.

Application range

- For embedment in cracked and non-cracked concrete ≥ C20/25
- Also suitable for natural stone
- Dry internal conditions
- For embedment of medium-heavy to heavy fixings such as pillars, metal structures and wooden structures
- For pre-positioned and push-through installations

Focus on concrete screws

The concrete screw JC2 in detail



Hexagon drive with flange washer

Available in zinc-plated steel

With ETA approval

The optimized point geometry cuts a clean thread into the base material. The thread cuts into the concrete without chipping

Virtually no expansion forces

Further head geometries

Countersunk head with TX drive

New: JC2 Plus

The new generation of concrete screws

What is new:

> Completely updated screw thread
> Larger thread diameter ensures better grip
> New thread geometry at the point enables easy installation
> Two embedment depths per size allow for more flexibility in challenging applications
> Improved ETA with higher load-carrying capacities

All advantages at a glance

> Self-tapping screw anchors, approved for push-through installations
> Simple and quick installation
> Small spacings and edge distances
> Removable
> Minimal expansion forces
> Various head styles for more flexibility and adaptation in use
> JC2 Plus is furthermore reusable

Concrete screws in action

For a wide range of applications

Facade scaffolds

Formworks

Railings

Industrial shelves

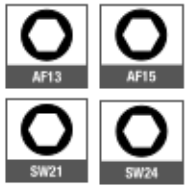
Safety elements

Cable racks

Wall consoles

Steel stairs

Product overview

Type	JC2-KB	JC2-ST	JC2-KB Plus
			
Material	Zinc-plated steel		
Application	Facade scaffolds, temporary fastening, contact surfaces, shelves, cable racks, hand rails,		Facade scaffolds, temporary fastening, contact surfaces, shelves, cable racks, hand rails, formworks
Drive			
Cracked concrete ETAG-001-1	Ø 6 - 14 mm		
Cracked concrete ETAG-001-6	Ø 6 mm		-
Non-cracked concrete	Ø 6 - 14 mm		
Certifications			
Fire protection			
Mode of action	Form fit		
Type of load	static		
admissible tensile load	1.4 - 4.5 kN		3.1 - 14.3 kN
admissible shear load	3.1 - 5.6 kN		10.9 - 37.1 kN

Concrete screw JC2-KB

Application range

> Facade scaffolds
> Temporary fastenings
> Contact surfaces
> Shelves
> Cable racks
> Hand rails
> Battens

Technical specifications

Base materials

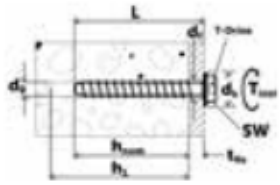
Approved for
> Cracked concrete
> Pre-stressed hollow core slab
> Non-cracked concrete

Also suitable for
> Solid clay brick
> Solid sand-lime brick

Certifications

Properties

> Zinc-plated steel
> Hexagon head with flange
> ETA-approved concrete screw for cracked and non-cracked concrete
> Self-tapping approved screw anchor for push-trough installation
> No expansion therefore small spacings and edge distances possible
> Completely removable
> For dry indoor use



Characteristic values						Admissible loads non-cracked concrete C20/25		Admissible loads cracked concrete C20/25	
Type	d_f [mm]	Drive [mm]	d_0 [mm]	h_{ef} [mm]	T_{inst} [Nm]	N_{Rec} [kN]	V_{Rec} [kN]	N_{Rec} [kN]	V_{Rec} [kN]
ETA-17/0835 – approval according to EAD 330232-00-0601 (option 1) for single fastening in concrete									
JC2-KB 6	9	SW13/TX30	6	42.5	14	4.5	5.6*	2.1	4.5
ETA-18/0221 – approval according to ETAG 001 part 6 for multiple fastening of non-structural systems in concrete									
JC2-KB 6	9	SW13/TX30	6	27.6/31.9	14	NA/1.4	NA/3.1	NA/1.4	NA/3.1
*Failure case = steel failure									

d_f = through hole diameter in the attachment; d_0 = nominal drill diameter; h_{ef} = effective embedment depth; T_{inst} = tightening torque; N_{Rec} = recommended tensile capacity; V_{Rec} = recommended shear load capacity

Order description	L [mm]	t_{fix} [mm]	h_{nom} [mm]	h_1 [mm]	PU [pieces]	Price/100 [EUR]	Article number	EAN
ETA-17/0835 – approval according to EAD 330232-00-0601 (option 1) for single fastening in concrete								
Concrete screw JC2-KB-6x60/5/20 SW13	60	5	55	65	100		9650071310	4061245051222
Concrete screw JC2-KB-6x70/15/30 SW13	70	15	55	65	100		9650071311	4061245074139
Concrete screw JC2-KB-6x80/25/40 SW13	80	25	55	65	50		9650071314	4061245051239
Concrete screw JC2-KB-6x100/45/60 SW13	100	45	55	65	50		9650071318	4061245051246
Concrete screw JC2-KB-6x120/65/80 SW13	120	65	55	65	50		9650071319	4061245075655
Concrete screw JC2-KB-6x140/85/100 SW13	140	85	55	65	50		9650071321	4061245075662
ETA-18/0221 – approval according to ETAG 001 part 6 for multiple fastening of non-structural systems in concrete								
Concrete screw JC2-KB-6x35/1 SW13	35	1	35	40	100		9650071304	4061245074122
Concrete screw JC2-KB-6x45/5 SW13	45	5	40	50	100		9650071306	4061245051208
Concrete screw JC2-KB-6x50/10 SW13	50	10	40	50	100		9650071308	4061245051215
Concrete screw JC2-KB-6x60/5/20 SW13	60	20	40	50	100		9650071310	4061245051222
Concrete screw JC2-KB-6x70/15/30 SW13	70	30	40	50	100		9650071311	4061245074139
Concrete screw JC2-KB-6x80/25/40 SW13	80	40	40	50	100		9650071314	4061245051239
Concrete screw JC2-KB-6x100/45/60 SW13	100	60	40	50	50		9650071318	4061245051246
Concrete screw JC2-KB-6x120/65/80 SW13	120	80	40	50	50		9650071319	4061245075655
Concrete screw JC2-KB-6x140/85/100 SW13	140	100	40	50	50		9650071321	4061245075662

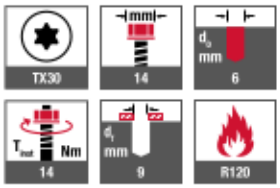
L = length; $t_{fix} = t_{tol}$ + thickness of attachment; t_{tol} = thickness of tolerance compensation or of the non-load-bearing outer layer; h_{nom} = nominal embedment depth; h_1 = drill hole depth to deepest point

Concrete screw JC2-ST

Application range

> Facade scaffolds
> Temporary fastenings
> Contact surfaces
> Shelves
> Cable racks
> Hand rails
> Battens

Technical specifications

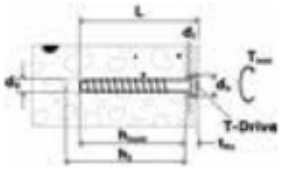


Base materials

Approved for
> Cracked concrete
> Non-cracked concrete
> Pre-stressed hollow core slab

Also suitable for
> Solid clay brick
> Solid sand-lime brick

Certifications



Properties

> Zinc-plated steel
> Countersunk head, hexalobular drive
> ETA-approved concrete screw for cracked and non-cracked concrete
> Self-tapping approved screw anchor for push-trough installation
> No expansion therefore small spacings and edge distances possible
> Completely removable
> For dry indoor use

Characteristic values						Admissible loads non-cracked concrete C20/25		Admissible loads cracked concrete C20/25	
Type	d_f [mm]	Drive [mm]	d_0 [mm]	h_{ef} [mm]	T_{inst} [Nm]	N_{Rec} [kN]	V_{Rec} [kN]	N_{Rec} [kN]	V_{Rec} [kN]
ETA-17/0835 – approval according to EAD 330232-00-0601 (option 1) for single fastening in concrete									
JC2-ST 6	9	Tx30	6	42.5	14	4.5	5.6*	2.1	4.5
ETA-18/0221 – approval according to ETAG 001 part 6 for multiple fastening of non-structural systems in concrete									
JC2-ST 6	9	Tx30	6	31.9	14	1.4	3.1	1.4	3.1
*Failure case = steel failure									

d_f = through hole diameter in the attachment; d_0 = nominal drill diameter; h_{ef} = effective embedment depth; T_{inst} = tightening torque; N_{Rec} = recommended tensile capacity; V_{Rec} = recommended shear load capacity

Order description	L [mm]	t_{fix} [mm]	h_{nom} [mm]	h_1 [mm]	PU [pieces]	Price/100 [EUR]	Article number	EAN
ETA-17/0835 – approval according to EAD 330232-00-0601 (option 1) for single fastening in concrete								
Concrete screw JC2-ST 6x60/5/20	60	5	55	65	100		9650071609	4061245005904
Concrete screw JC2-ST-6x80/25/40	80	25	55	65	100		9650071613	4061245074214
Concrete screw JC2-ST 6x100/45/60	100	45	55	65	50		9650071617	4061245005911
Concrete screw JC2-ST 6x120/65/80	120	65	55	65	50		9650071619	4061245075709
ETA-18/0221 – approval according to ETAG 001 part 6 for multiple fastening of non-structural systems in concrete								
Concrete screw JC2-ST 6x45/5/10	45	5	40	50	100		9650071605	4061245075686
Concrete screw JC2-ST 6x50/10/15	50	10	40	50	100		9650071607	4061245075693
Concrete screw JC2-ST 6x60/5/20	60	5	40	50	100		9650071609	4061245005904
Concrete screw JC2-ST-6x80/25/40	80	40	40	50	100		9650071613	4061245074214
Concrete screw JC2-ST 6x100/45/60	100	60	40	50	50		9650071617	4061245005911

L = length; $t_{fix} = t_{tol}$ + thickness of attachment; t_{tol} = thickness of tolerance compensation or of the non-load-bearing outer layer; h_{nom} = nominal embedment depth; h_1 = drill hole depth to deepest point

Concrete screw JC2-KB plus

Application range

> Facade scaffolds
> Temporary fastenings
> Contact surfaces
> Shelves
> Cable racks
> Hand rails
> Battens
> Formworks

Base materials

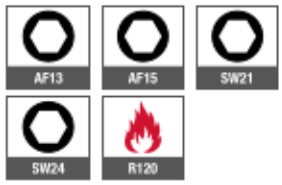
Approved for
> Cracked concrete
> Non-cracked concrete

Also suitable for
> Solid clay brick
> Solid sand-lime brick

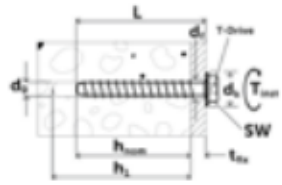
Properties

> Zinc-plated steel
> Hexagon head with flange
> ETA-approved concrete screw for cracked and non-cracked concrete
> Self-tapping approved screw anchor for push-trough installation
> No expansion therefore small spacings and edge distances possible
> For dry indoor use
> Completely removable
> Reusable
> Two embedment depths

Technical specifications



Certifications



Characteristic values						Admissible loads non-cracked concrete C20/25		Admissible loads cracked concrete C20/25	
Type	d_f [mm]	Drive [mm]	d_0 [mm]	h_{ef} [mm]	T_{inst} [Nm]	N_{Rec} [kN]	V_{Rec} [kN]	N_{Rec} [kN]	V_{Rec} [kN]
ETA-21/0020 – approval according to EAD 330232-00-0601 (option 1) for single fastening in concrete									
JC2-KB Plus 8	10.8-12.0	AF13	8	39.2/51.9	45	5.7/8.8	10.9*/12.3*	3.1/5.7	10.9*/12.3*
JC2-KB Plus 10	13.0-14.0	AF15	10	42.5/68.0	85	6.5/13.1	18.2*/20.1*	3.6/9.0	13.6/20.1*
JC2-KB Plus 14	17.0-18.0	AF21/AF24	14	49.3/91.8	100	7.1/20.0	26.8/37.1*	4.0/14.3	18.7/37.1*
*Failure case = steel failure									

d_f = through hole diameter in the attachment; d_0 = nominal drill diameter; h_{ef} = effective embedment depth; T_{inst} = tightening torque; N_{Rec} = recommended tensile capacity; V_{Rec} = recommended shear load capacity

Order description	L [mm]	t_{fix} [mm]	h_{nom} [mm]	h_1 [mm]	PU [pieces]	Price/100 [EUR]	Article number	EAN
ETA-21/0200 – approval according to EAD 330232-00-0601 (option 1) for single fastening in concrete								
Concrete screw JC2-KB Plus-8x55/5 SW13	55	5	50	60	50		9650071700	4061245074696
Concrete screw JC2-KB Plus-8x70/5/20 SW13	70	5/20	50/65	60/75	50		9650071709	4061245074689
Concrete screw JC2-KB Plus-8x80/15/30 SW13	80	15/30	50/65	60/75	50		9650071715	4061245074672
Concrete screw JC2-KB Plus-8x90/25/40 SW13	90	25/40	50/65	60/75	50		9650071721	4061245074665
Concrete screw JC2-KB Plus-8x100/35/50 SW13	100	35/50	50/65	60/75	50		9650071724	4061245074658
Concrete screw JC2-KB Plus-8x120/55/70 SW13	120	55/70	50/65	60/75	25		9650071730	4061245074641
Concrete screw JC2-KB Plus-8x140/75/90 SW13	140	75/90	50/65	60/75	25		9650071736	4061245074702
Concrete screw JC2-KB Plus-10x60/5 SW15	60	5	55	65	25		9650071744	4061245074719
Concrete screw JC2-KB Plus-10x70/15 SW15	70	15	55	65	25		9650071750	4061245074726
Concrete screw JC2-KB Plus-10x80/25 SW15	80	25	55	65	25		9650071756	4061245074795
Concrete screw JC2-KB Plus-10x90/5/35 SW15	90	5/35	55/85	65/95	25		9650071762	4061245074733
Concrete screw JC2-KB Plus-10x100/15/45 SW15	100	15/45	55/85	65/95	25		9650071765	4061245074740
Concrete screw JC2-KB Plus-10x120/35/65 SW15	120	35/65	55/85	65/95	25		9650071771	4061245074757
Concrete screw JC2-KB Plus-10x140/55/85 SW15	140	55/85	55/85	65/95	25		9650071777	4061245074764
Concrete screw JC2-KB Plus-10x160/75/105 SW15	160	75/105	55/85	65/95	25		9650071783	4061245074771
Concrete screw JC2-KB Plus-14x75/10 AF21	75	10	65	75	20		9650071785	4061245074900
Concrete screw JC2-KB Plus-14x100/35 AF21	100	35	65	75	10		9650071811	4061245074917
Concrete screw JC2-KB Plus-14x130/15/65 AF21	130	15/65	65/115	75/125	10		9650071826	4061245074924
Concrete screw JC2-KB Plus-14x150/35/85 AF21	150	35/85	65/115	75/125	10		9650071839	4061245074931
Concrete screw JC2-KB Plus-14x80/15 AF24	80	15	65	75	10		9650071791	4061245076003
Concrete screw JC2-KB Plus-14x110/45 AF24	110	45	65	75	10		9650071817	4061245076010
Concrete screw JC2-KB Plus-14x130/15/65 AF24	130	15/65	65/115	75/125	10		9650071827	4061245076027

L = length; $t_{fix} = t_{tol}$ + thickness of attachment; t_{tol} = thickness of tolerance compensation or of the non-load-bearing outer layer; h_{nom} = nominal embedment depth; h_1 = drill hole depth to deepest point