fischer

ULTRACUT FBS II.

High-performance concrete screw for absolute installation ease.

Concrete screw ULTRACUT FBS II. The assortment for a wide range of applications.

FBS II ZN-plated

FBS II 6 ZN-plated

FBS II CP

FBS II A4

SC-ST

FSW

ULTRACUT FBS II
8, 10, 12 and 14 zinc-plated steel

The high-performance concrete screw for absolute installation ease in the interior area.

Unique saw-tooth geometry **cuts quickly into the concrete** – also in multiple use and reinforced concrete.

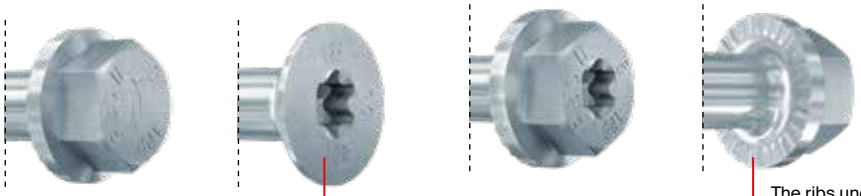
The ULTRACUT FBS II is available in different head designs. **Countersunk (SK) and hexagonal head (US)** with and without internal torx drive.

Through the special thread geometry, the screw flanks cut deeply into the concrete and allow **higher loads. This saves costs** because less anchor points and smaller base plates are required.

UTLRACUT FBS II 10x100 US

The short ULTRACUT FBS II, with a reduced embedment depth, allows for **a short drill hole depth, fast installation and less reinforcement hits** which makes it an efficient choice for many applications.

ULTRACUT FBS II 10x60 US



The countersunk head is suitable for visually appealing installations.

The ribs under the head prevent accidental loosening of the anchor making the system **more secure.**

Advantages and functions

Your advantages at a glance

- With up to 3 embedment depths, the ULTRACUT FBS II allows for the same screw to be used for different component thicknesses.
- Expansion-free anchoring (undercut) allows for lowest edge- and axial spacings.
- The assessment (ETA Option 1) covers the use of single-point anchors in cracked and non-cracked concrete.
- The performance categories seismic C1 and C2 ensure that the strictest of safety standards and earthquake specifications can be fulfilled.
- The approved adjustment for the concrete screws allows the screw to be unscrewed twice for a total length of 20 mm, to place maximum 10 mm packing below the base plate head or to align the attached part, and then to tighten the screw again.
- The checking gauge allows for reuse in temporary fixings (e.g. inclined supports) covered by the approval.
- Drill holes do not need to be cleaned during vertical installation (ceiling and floor). For floor fixings the hole must be drilled 3x drill hole diameter deeper.

Functioning

- The ULTRACUT FBS II is recommended for the push-through installation.
- The screw is installed correctly when the screw head sits flush on the fixture and cannot be screwed in deeper (visual setting control).
- Drill holes do not need to be cleaned during vertical installation (ceiling and floor). For floor fixings the hole must be drilled 3x drill hole diameter deeper.
- We recommend using a tangential impact wrench with a suitable impact wrench socket (e.g. fischer FSS 18V) or an internal torx drive.
- The assessment document also covers the use of hollow drills with automatic drill hole cleaning and the use of diamond drilling holes.
- The ULTRCUT FBS II US 8-14 as concrete-concrete connector is also suitable for the strengthening of existing concrete structures through a top concrete layer.

Approvals

ETA-15/0352,
for cracked concrete

ETA-20/0321,
for cracked concrete.
Connector for strengthening of existing concrete structures through top concrete layer

Fire resistance classification R120

Recommendations

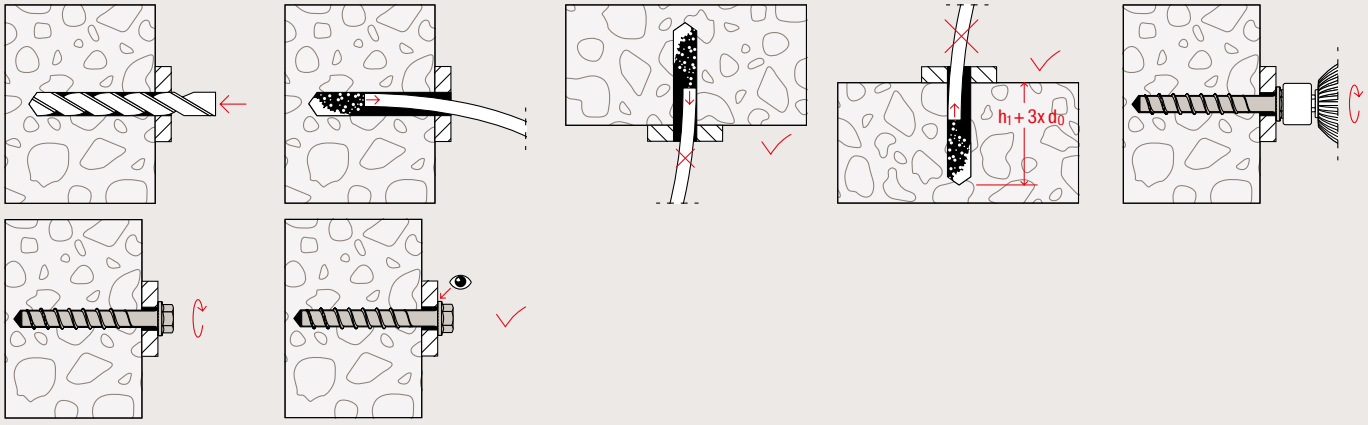
Suitable for building materials, such as

Cracked concrete

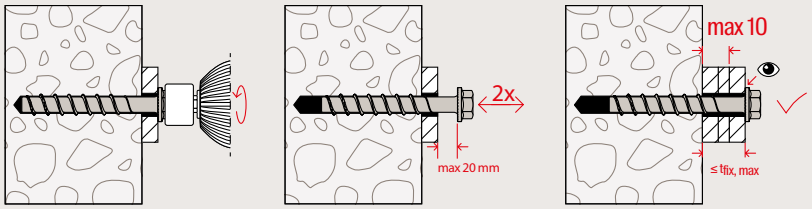
Uncracked concrete

Solid brick (masonry)

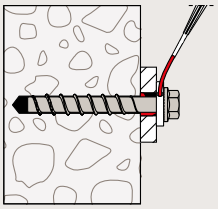
Installation



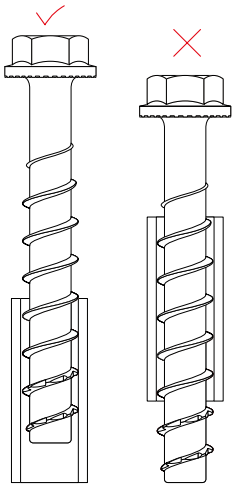
Fixture adjustment



Annular gap filling,



e.g. for seismic



Reusability with checking gauge FUP for temporary fixings (e.g. construction site installations)
According to the approval **Z-21.8 - 2049**
As soon as the screw end protrudes through the sleeve, the thread is too worn and according to the approval Z-21.8 - 2049 is no longer approved for use (e.g. inclined supports in formwork construction).

Applications

ULTRACUT FBS II 8,10,12 and 14

Metal construction

Railings

Shelving systems

Brackets / base plates

Formwork construction / site facilities

Inclined supports

Construction site installations in tunnels

Timber work

Step/rise anchorage

Beam anchorage

Sanitary, heating and electrical industry

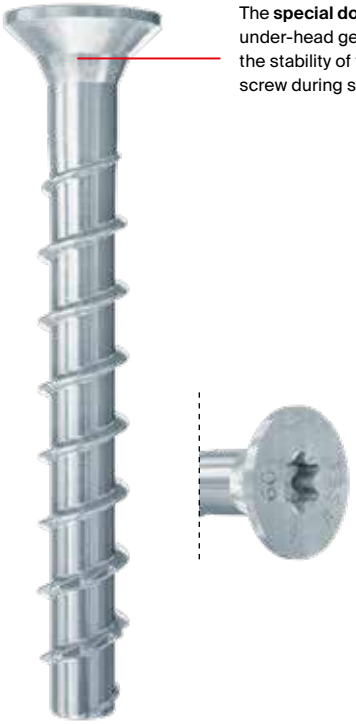
Suspended mounting channels

Diamond drilling equipment

Air conditioners

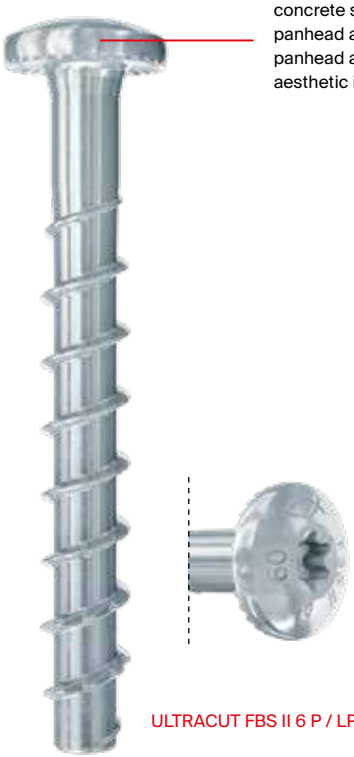
ULTRACUT FBS II
6 zinc-plated steel

Different head designs offer a maximum of flexibility and a perfect adaptation to the application.



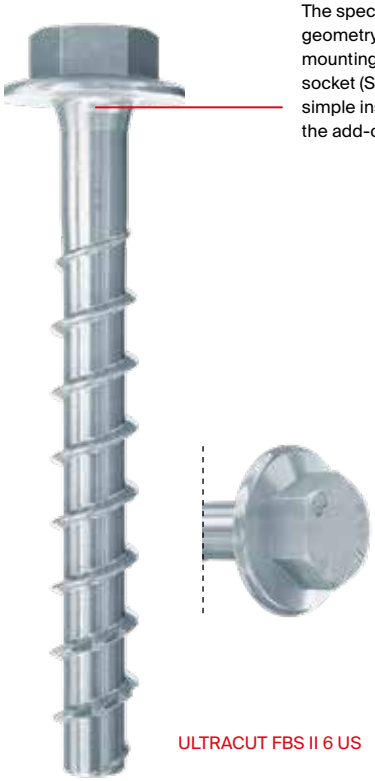
The **special double angle** on the under-head geometry increases the stability of the concrete screw during screwing in.

ULTRACUT FBS II 6 SK



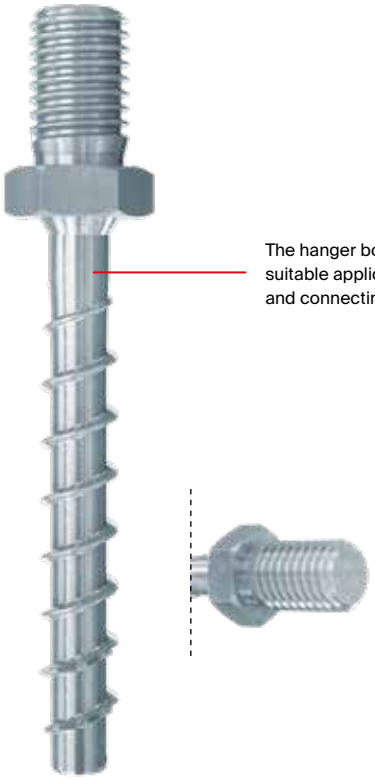
The design of the concrete screw with panhead and large panhead allows for aesthetic installation.

ULTRACUT FBS II 6 P / LP



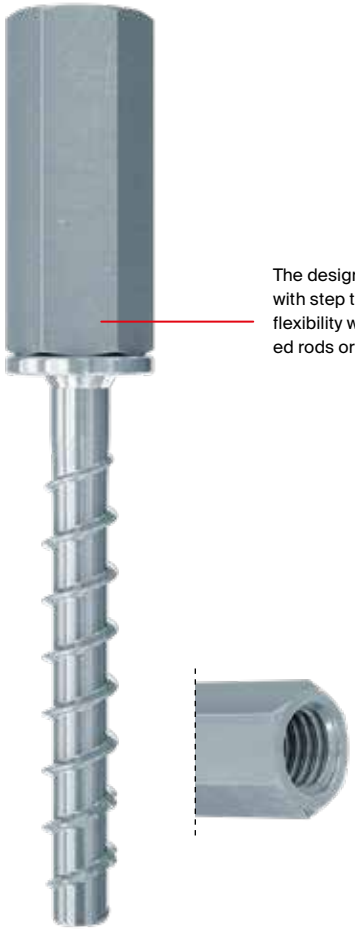
The special head geometry for use in mounting rails with a socket (SW10) enables simple installation of the add-on part.

ULTRACUT FBS II 6 US



The hanger bolt enables the easy and suitable application of pipe clamps and connecting elements.

ULTRACUT FBS II 6 M8 or M10

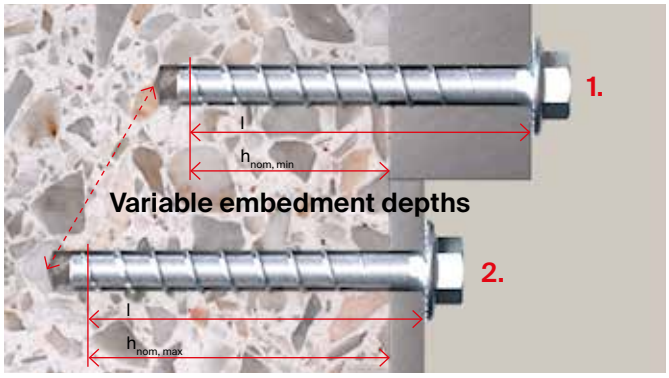


The design of the concrete screw with step thread offers maximum flexibility when mounting threaded rods or connecting elements.

ULTRACUT FBS II 6 M8/M10 I

Variable embedment depths

Enables a flexible adaptation to the loads.



1. **Fast installation due to minimum embedment depth e.g. FBS II 6x60/5 US**
- Minimum embedment depth is 40 mm
- Permissible tensile load at $h_{nom, min}$ 40 mm is 1,2 kN
- Permissible shear load at $h_{nom, min}$ 40 mm is 4,3 kN

2. **Maximum load due to maximum embedment depth e.g. FBS II 6x60/5 US**
- Minimum embedment depth is 55 mm
- Permissible tensile load at $h_{nom, max}$ 55 mm is 2,4 kN
- Permissible shear load at $h_{nom, max}$ 55 mm is 6,3 kN

Advantages and functions

Your advantages at a glance

- The special ratio between flank and shaft diameter allows for a deep and fast cutting into the concrete.
- The ETA assessment option 1 includes the use in cracked and non-cracked concrete for highest safety requirements.
- The ULTRACUT FBS II 6 is approved for multiple use of non-load bearing systems and thereby ideal for the installation of pipe routes, cable trays and prestressed hollow concrete ceilings.
- The first diameter 6 mm concrete screw with an ETA assessment for the C1 seismic performance category for additional safety standards.
- The approved adjustment for the concrete screws allows the screw to be unscrewed twice for a total length of 20 mm, to place maximum 10 mm packing below the screw head or to align the attached part, and then to tighten the screw again.
- Drill holes do not need to be cleaned during vertical installation (ceiling and floor). For floor fixing the hole must be drilled 3x drill hole diameter deeper.

Functioning

- The ULTRACUT FBS II 6 is recommended for the push-through and pre-positioned installation.
- The screw is installed correctly when the screw head sits flush on the fixture and cannot be screwed in deeper (visual setting control).
- We recommend using a tangential impact wrench with a suitable impact wrench socket (e.g. fischer FSS 18V) or an internal torx drive.

Approvals

ETA-15/0352,
for cracked concrete

ETA-18/0242,
for non-structural applications in concrete

Fire resistance classification R120

SEISMIC C1

Recommendations

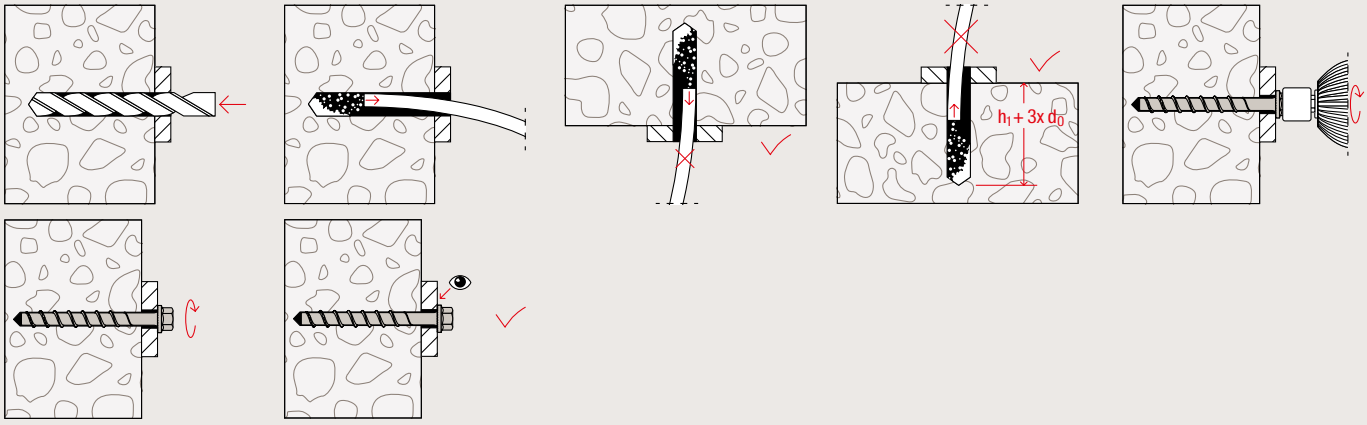
Suitable for building materials, such as

Cracked concrete

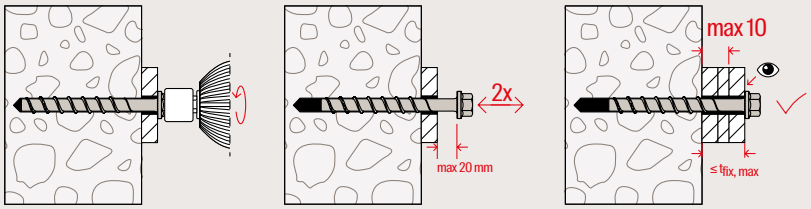
Uncracked concrete

Solid brick (masonry)

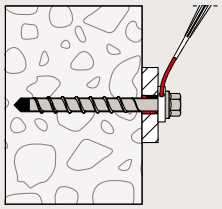
Installation and applications



Fixture adjustment



Annular gap filling,



e.g. for seismic

ULTRACUT FBS II 6

Sanitary, heating and electrical industry

Mounting channels

e. g. ULTRACUT FBS II 6 P

Suspended mounting channels

e. g. ULTRACUT FBS II M8/19

Perforated tapes

e. g. ULTRACUT FBS II LP

Prestressed hollow concrete ceilings

e. g. ULTRACUT FBS II M8/M10 I

ULTRACUT FBS II 8, 10, 12 and 14 CP

The high-performance concrete screw for absolute installation ease with a special coating.

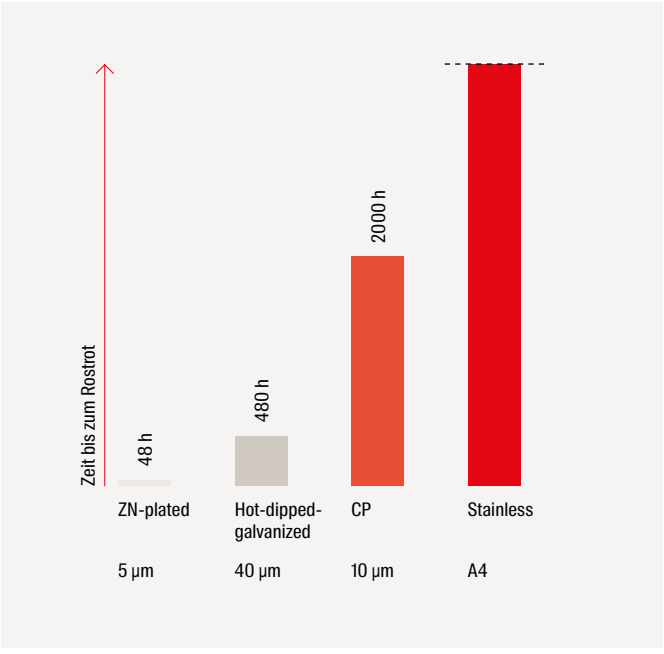
Unique saw-tooth geometry **cuts quickly into the concrete** – also in multiple use and reinforced concrete.

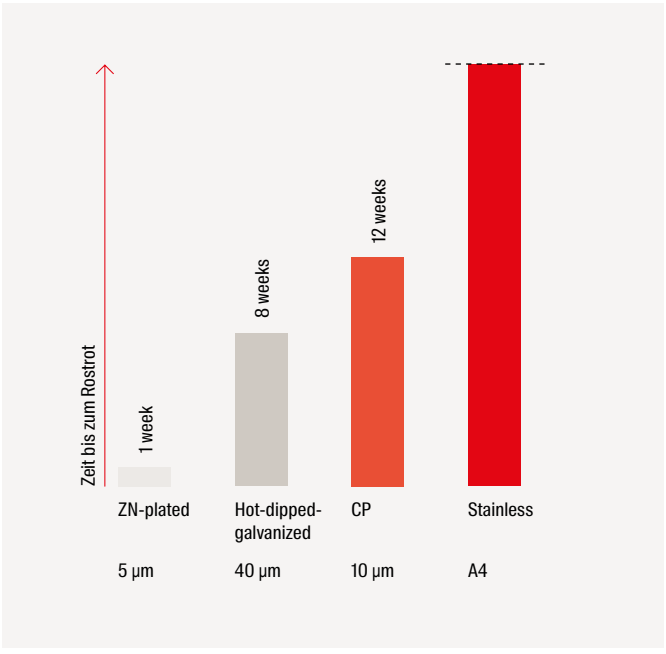
The ULTRACUT FBS II CP is available in different head designs. **Counter-sunk (SK) and hexagonal head (US).**

Through the special thread geometry, the screw flanks cut deeply into the concrete and allow **higher loads. This saves costs** because less anchor points and smaller base plates are required.

UTLRACUT FBS II CP

Tested and approved: High protection of the coating against red rust.





Salt spray chamber mist test

The ULTRACUT FBS II was developed in different coatings subjected to the salt spray chamber mist test according to DIN EN ISO 9227. The result is that the ULTRACUT FBS II CP coating withstands at least 2,000 h without red rust.

Climate change test (among other things based on Nord-test Method NT and Swedish Technical Approval)

The climate change test simulates a realistic environment with changing humidity and heat. Here too, the coating of the ULTRACUT FBS II CP performs significantly better than the usual coatings galvanised zinc-plated (ZN-plated) and hot deep galvanised (HDG).

Advantages and functions

Your advantages at a glance

- The innovative surface coating enables an additional corrosion protection (e.g. through external test reports for the salt spray chamber mist test over 2000 h).
- With up to 3 embedment depths, the ULTRACUT FBS II allows for the same screw to be used for different component thicknesses.
- The ETA approval covers the application in cracked concrete and the seismic performance categories C1 and C2.

Functioning

- The ULTRACUT FBS II CP is recommended for the push-through installation.
- The screw is installed correctly when the screw head sits flush on the fixture and cannot be screwed in deeper (visual setting control).
- We recommend using a tangential impact wrench with a suitable impact wrench socket (e.g. fischer FSS 18V) or an internal torx drive.
- The assessment document also covers the use of diamond drilled holes.

Approvals

ETA-15/0352,
for cracked concrete

Fire resistance classification
R120

SEISMIC C2

Recommendations

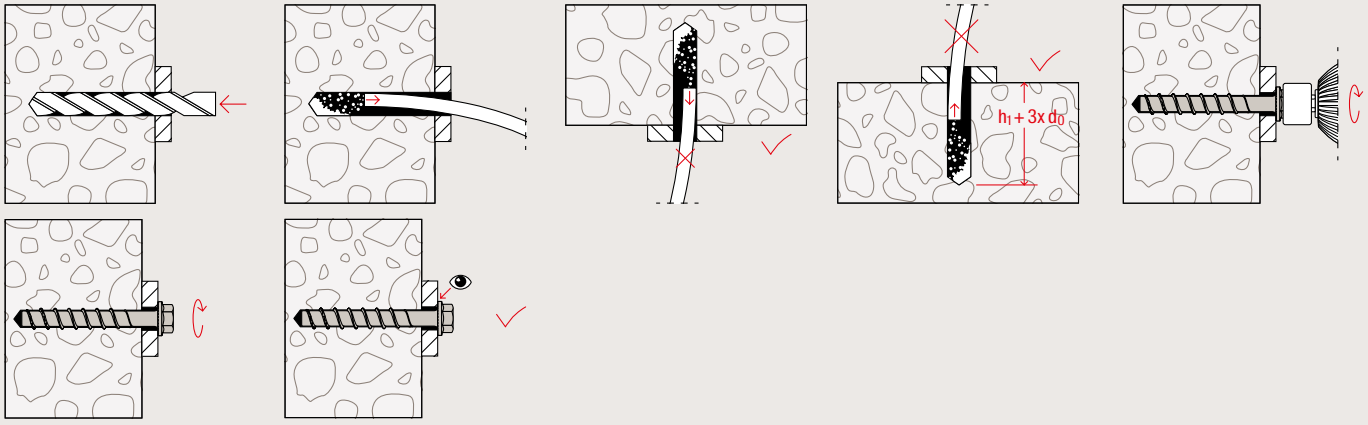
Suitable for building materials, such as

Cracked concrete

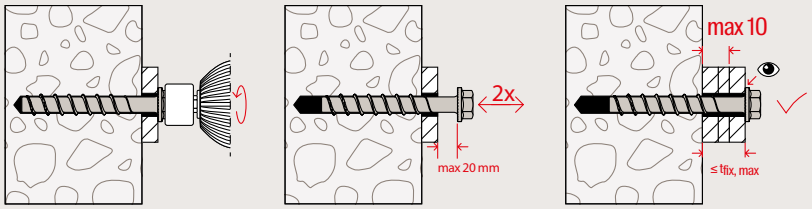
Uncracked concrete

Solid brick (masonry)

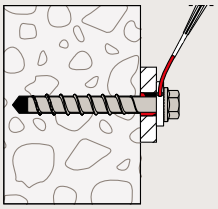
Installation and applications



Fixture adjustment



Annular gap filling,



e.g. for seismic

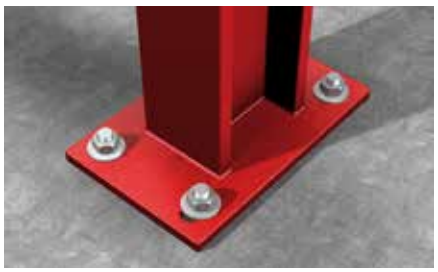
ULTRACUT FBS II CP

Steel construction

Façade substructures

Connection angle

Ladder shafts



Steel girders

ULTRACUT FBS II
8, 10 and 12 stainless steel A4

**The high-performance concrete screw
for absolute installation ease in the exterior area.**

Unique saw-tooth geometry **cuts quickly into the concrete – also in reinforced concrete.**

The ULTRACUT FBS II A4 is available in different head designs. **Countersunk (SK) and hexagonal head (US).**

ULTRACUT FBS II 10x100 US A4

The specially hardened red tip provides **faster and more secure installation**.

The short ULTRACUT FBS II A4, with a reduced embedment depth, allows for a **short drill hole depth, fast installation and less reinforcement hits.**

ULTRACUT FBS II 10x60 US A4

Countersunk design allows a flush installation.

The ribs under the head prevent accidental loosening of the anchor making the system more secure.

Advantages and functions

Your advantages at a glance

- With up to 3 embedment depths, the ULTRACUT FBS II allows for the same screw to be used for different component thicknesses.
- Expansion-free anchoring (undercut) allows for lowest edge- and axial spacings.
- The assessment (ETA Option 1) covers the use of single-point anchors in cracked and non-cracked concrete.
- The performance categories seismic C1 and C2 ensure that the strictest of safety standards and earthquake specifications can be fulfilled.
- The approved adjustment for the concrete screws allows the screw to be unscrewed twice for a total length of 20 mm, to place maximum 10 mm packing below the base plate head or to align the attached part, and then to tighten the screw again.
- Drill holes do not need to be cleaned during vertical installation (ceiling and floor). For floor fixings the hole must be drilled 3x drill hole diameter deeper.

Functioning

- The ULTRACUT FBS II A4 is recommended for the push-through installation.
- The screw is installed correctly when the screw head sits flush on the fixture and cannot be screwed in deeper (visual setting control).
- We recommend using a tangential impact wrench with a suitable impact wrench socket (e.g. fischer FSS 18V) or an internal torx drive.
- The assessment document also covers the use of hollow drill with automatic drill hole cleaning and the use of diamond drilling holes.

Approvals

ETA-17/0740, for cracked concrete

Fire resistance classification R120

SEISMIC C2

Recommendations

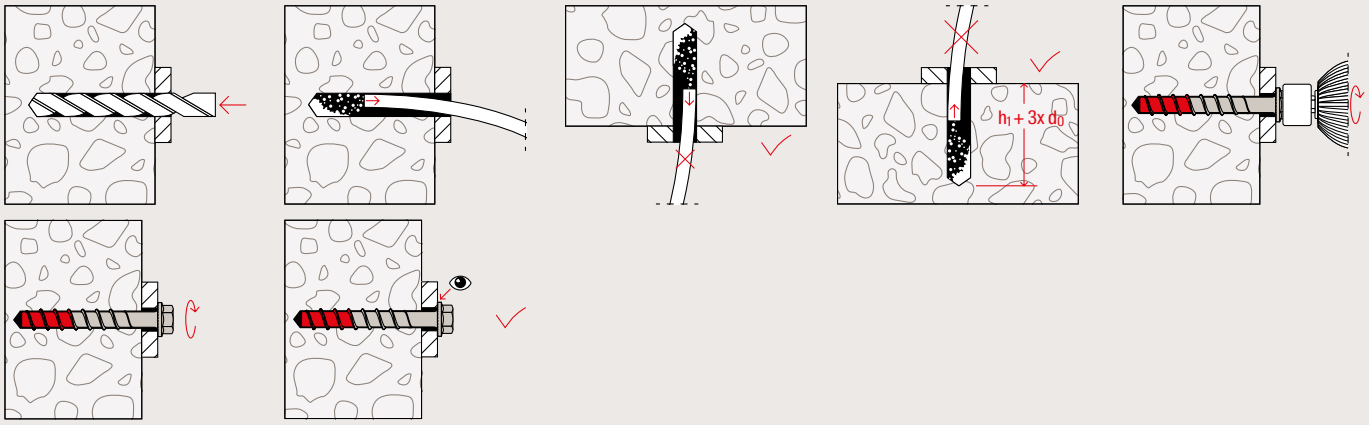
Suitable for building materials, such as

Cracked concrete

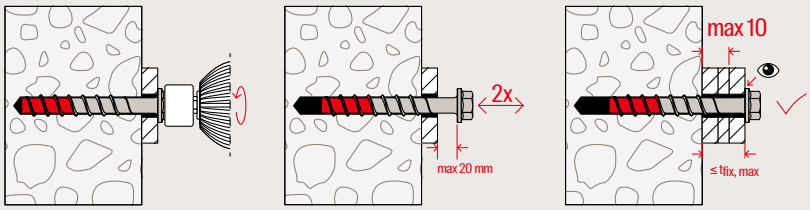
Uncracked concrete

Solid brick (masonry)

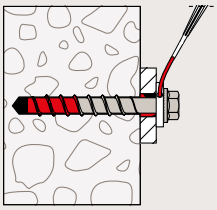
Installation and applications



Fixture adjustment



Annular gap filling,



e.g. for seismic

ULTRACUT FBS II 8, 10 and 12 A4 stainless steel

Metal construction and outdoor applications

Railings

Brackets / base plates

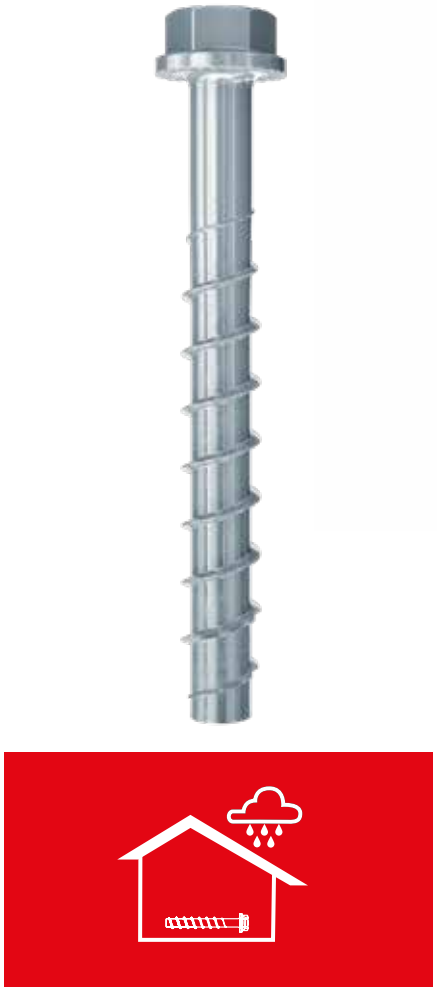
Canopies

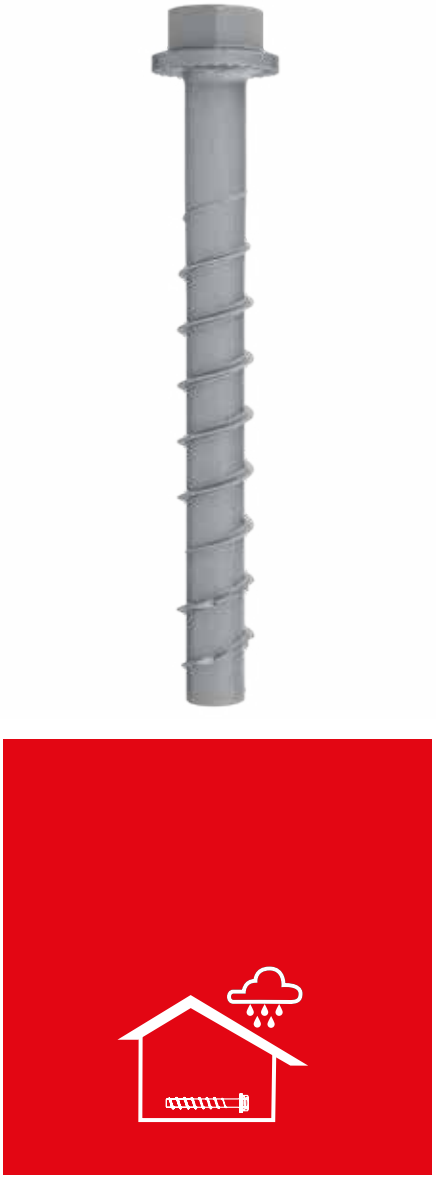
Stadium seating anchoring

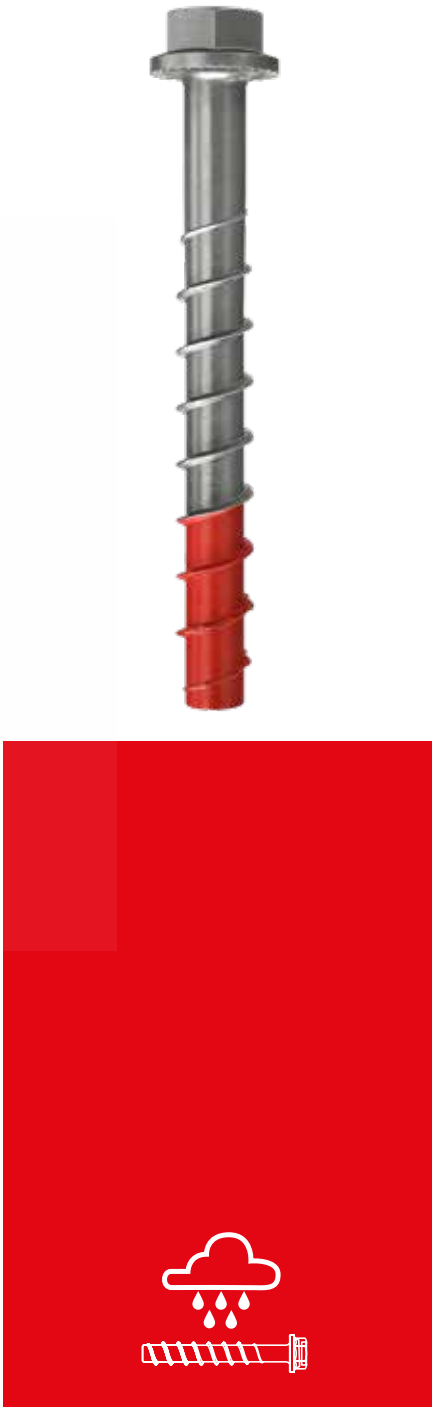
Balcony railings

Column footing

Coatings and its base materials







Economic solution: FBS II ZN-plated
Lasting and safe corrosion protection in the dry indoor area. ETA-15/0352 (guarantees a lifetime of 50 years in indoor areas).

The long-lasting one: FBS II CP
Long-lasting coating in comparison with the FBS II ZN-plated (among other things with an external test report for the salt spray chamber mist test of 2.000h).

The extremely durable: FBS II A4
Extremely long-lasting and weather-resistant material. The durable solution for the exterior area (ETA 17/0740 guarantees 50 years in the exterior area).

ULTRACUT FBS II zinc-plated steel as concrete-concrete connector

ULTRACUT FBS II
ZN-plated

Setting tool SC-ST

Your advantages at a glance

- ETA-approval for the fixing of FBS II as a top concrete or concrete-concrete connector for the strengthening of bridges or old buildings.
- With up to 3 embedment depths, the ULTRACUT FBS II allows for the same screw to be used for different component thicknesses.
- Due to the optional setting tool SC-ST the correct distance to the existing concrete can be easily reached and a ETA-conform, error-free installation of the FBS II is guaranteed.

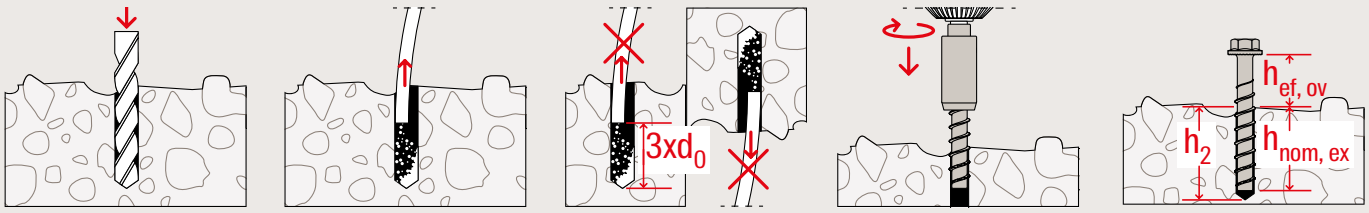
Functioning

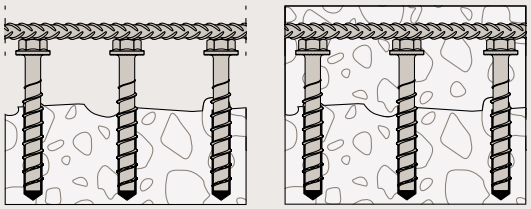
- The ULTRACUT FBS II is suitable for use as a concrete-concrete connector.
- The assessment document also covers the use of diamond drilled holes.
- For installation, a tangential impact wrench (e.g. the fischer FSS 18V) with a suitable impact wrench socket or an internal torx drive is recommended.

Concrete-concrete connections

Bridge reinforcement

Parking garage reinforcement





ULTRACUT FBS II 10 zinc-plated steel with adjusting washer FSW

ULTRACUT FBS II 10
ZN-plated

Adjusting washer FSW

Your advantages at a glance

- Together with the adjusting disc and the fischer ULTRACUT FBS II 10 concrete screw wooden beams and wooden sleepers can be adjusted easily and quickly.
- The adjustment process is simplified, so that the support of a second person is not required.
- The adjusting disc is attached to the wooden beam using commonly available screws (recommendation: fischer Power-Fast FPF-PT 5x40, Art. no. 652880).

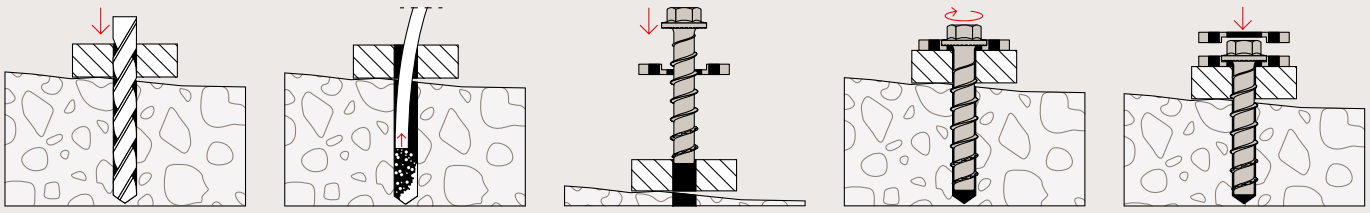
Functioning

- After the installation of the concrete screw with two adjusting discs FSW the FBS II can easily be loosened, to place maximum 10 mm packing below the wooden beam, and fixed again.
- For installation a tangential impact wrench (e.g. the fischer FSS 18V) with a suitable impact wrench socket or an internal torx drive is recommended.

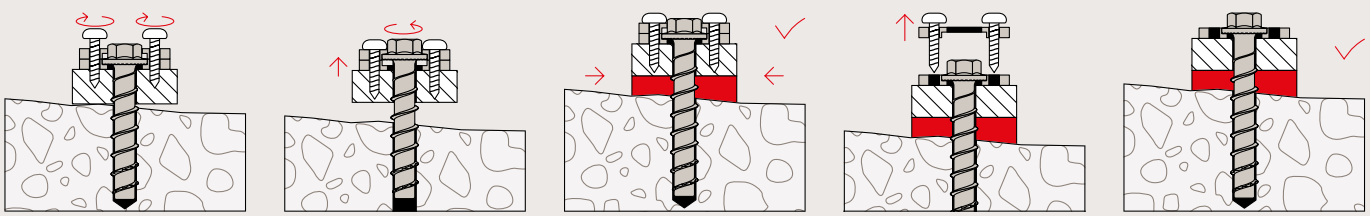
Timber construction

Wooden sleepers adjustment

Wooden beams adjustment



Optional dismantling of the FSW



The specialists for concrete screws

Robust die-cast aluminium casing for optimal heat conduction and durability.

FSS 18V 600

Powerful rechargeable battery 4.0 Ah with lithium-ion power and integrated capacity display for checking the charging status.

Belt hook for a **comfortable transport of the cordless impact wrench**.

Brushless motor for **smooth and fast assembly process.**

Compatible battery with all other CAS (Cordless Alliance System) devices.

FSS 18V 400 BL

The 12 settings allow the torque of the cordless impact wrench **to be individually adapted to the application.**

Working light for **optimum illumination of the working area.**

Compatible battery with all other CAS (Cordless Alliance System) devices.

Cordless Alliance System

Advantages and functions

Advantages at a glance

- The fischer cordless impact wrenches FSS 18V are compatible with all Cordless Alliance System (CAS) chargers and rechargeable batteries worldwide.
- The 12 levels of regulation allow the torque of the cordless impact wrench FSS 18V 400 BL to be individually adapted to the application.
- The brushless motor of the tangential impact wrench FSS 18V 400 BL has an overheat protection that increases safety while reducing downtime and wear.
- The fischer cordless impact wrenches FSS 18V guarantee low vibration despite an extremely high torque.
- The additionally accessories supplied as sockets and checking gauges, enable ease of installation and checking for reusability of the concrete screws FBS II zinc-plated steel.
- The universal fischer service concept offers a seamless repair process worldwide.

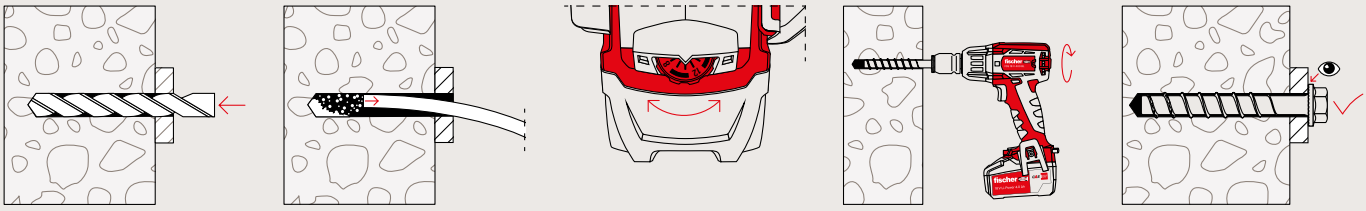
Functioning

- The fischer cordless impact wrenches FSS 18V are suitable for the installation of fischer ULTRACUT concrete screws of all diameters.
- Depending on the head shape of the concrete screw, either an appropriate socket or a special Torx bit is recommended for the installation.
- The concrete screw is first screwed in and then tightened by the percussion mechanism.
- If the screw head is in contact with the attachment, correct assembly of the concrete screw is guaranteed (optical setting check).

Concrete screw installation with the fischer cordless impact wrench FSS 18V

The ULTRACUT FBS II is suitable for push-through installation. For vertical mounting (in ceilings and floor) no drill hole cleaning is necessary, only for drill holes in the floor 3x deeper than the drill hole diameter must be drilled.
In the European Technical Assessment the use of hollow drills (with automatic borehole cleaning) and diamond drilled boreholes are regulated.

For mounting, the fischer cordless impact wrench FSS 18V with corresponding socket or special bit with internal star drive – TX is recommended.
With the screw head resting against the anchor plate surface, so that the screw can no longer be screwed in any further, the correct assembly of the screw is guaranteed (optical setting control).



Assortment and technical data

Assortment

Range: Cordless impact wrench FSS 18V 400 BL and FSS 18V 600

FSS Set

FSS 18V 400 BL

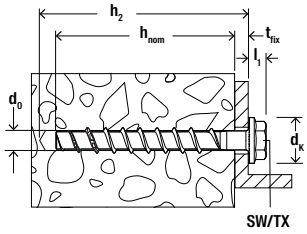
FSS 18V 600

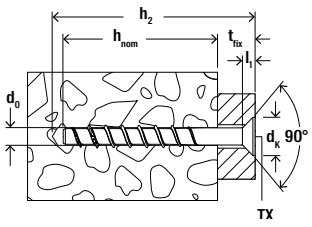
FSS-B battery 4.0 Ah

FSS-BC battery charger, air-cooled

Article description		Art.-No	Belt hook	Socket [SW]		Checking gauge FUP for concrete screw diameter		Battery 4.0 [Ah]		Battery charger	Packaging
			FSS BH	10/13/15	15/17/21	8/10	12/14	1x	2x	TypeEU	Equipment case, stackable
FSS 18V 400 BL	Set 1	552922	●	●	–	●	–	–	–	–	●
	Set 2	552924	●	●	–	●	–	●	–	–	●
	Set 3	552926	●	●	–	●	–	–	●	●	●
FSS 18V 600	Set 1	552923	●	–	●	–	●	–	–	–	●
	Set 2	552925	●	–	●	–	●	●	–	–	●
	Set 3	552927	●	–	●	–	●	–	●	●	●

Assortment

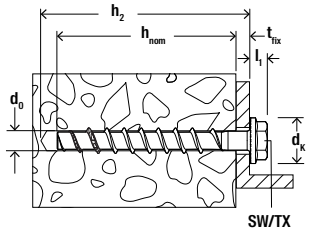


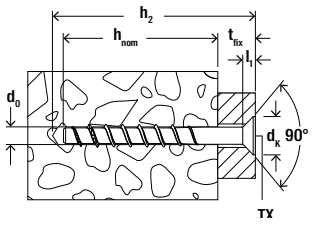


Concrete screw ULTRACUT FBS II

ULTRACUT FBS II - US - hexagon head ULTRACUT FBS II - SK - countersunk head

Item	Art.-No. zinc-plated steel	Ap-proval zinc-plated steel ETA	Nominal drill-Ø d_0 [mm]	Minimum drill depth at push-through mode h_2 [mm]	Screws outer diameter x length [mm]	Screwing depth $h_{nom,1}$ [mm]	$t_{fix\,1}$ [mm]	$h_{nom,2}$ [mm]	$t_{fix\,2}$ [mm]	$h_{nom,3}$ [mm]	$t_{fix\,3}$ [mm]	Width across flat / internal torx drive [SW/TX]	Sales unit [pcs]
FBS II 8x55 5/- US TX	**536851**	●	8	65	10x55	50	5	-	-	-	-	13/40	50
FBS II 8x70 20/5 US TX	**536852**	●	8	80	10x70	50	20	-	-	65	5	13/40	50
FBS II 8x80 30/15 US TX	**536853**	●	8	90	10x80	50	30	-	-	65	15	13/40	50
FBS II 8x90 40/25 US TX	**536854**	●	8	100	10x90	50	40	-	-	65	25	13/40	50
FBS II 8x100 50/35 US TX	**536855**	●	8	110	10x100	50	50	-	-	65	35	13/40	50
FBS II 8x110 60/45 US TX	**536856**	●	8	120	10x110	50	60	-	-	65	45	13/40	50
FBS II 8x130 80/65 US TX	**536857**	●	8	140	10x130	50	80	-	-	65	65	13/40	50
FBS II 8X150 100/85 US TX	**558219**	●	8	160	10x150	50	100	-	-	65	85	13/40	50
FBS II 8x170 120/105 US TX	**558220**	●	8	180	10x170	50	120	-	-	65	105	13/40	50
FBS II 8x190 140/125 US TX	**558221**	●	8	200	10x190	50	140	-	-	65	125	13/40	20
FBS II 10x60 5/-/- US	**536858**	●	10	70	12x60	55	5	-	-	-	-	15	50
FBS II 10x70 15/5/- US	**536859**	●	10	80	12x70	55	15	65	5	-	-	15	50
FBS II 10x80 25/15/- US	**536860**	●	10	90	12x80	55	25	65	15	-	-	15	50
FBS II 10x90 35/25/5 US	**536861**	●	10	100	12x90	55	35	65	25	85	5	15	50
FBS II 10x100 45/35/15 US	**536862**	●	10	110	12x100	55	45	65	35	85	15	15	50
FBS II 10x120 65/55/35 US	**536863**	●	10	130	12x120	55	65	65	55	85	35	15	50
FBS II 10x140 85/75/55 US	**536864**	●	10	150	12x140	55	85	65	75	85	55	15	50
FBS II 10x160 105/95/75 US	**536865**	●	10	170	12x160	55	105	65	95	85	75	15	50
FBS II 10x200 145/135/115 US	**536866**	●	10	210	12x200	55	145	65	135	85	115	15	20
FBS II 10x230 175/165/145 US	**536867**	●	10	240	12x230	55	175	65	165	85	145	15	20
FBS II 10x260 205/195/175 US	**536868**	●	10	270	12x260	55	205	65	195	85	175	15	20
FBS II 10x280 225/215/195 US	**558222**	●	10	290	12x280	55	225	65	215	85	195	15	20
FBS II 12x70 10/-/- US	**536869**	●	12	80	14x70	60	10	-	-	-	-	17	20
FBS II 12x85 25/10/- US	**536870**	●	12	95	14x85	60	25	75	10	-	-	17	20
FBS II 12x110 50/35/10 US	**536871**	●	12	120	14x110	60	50	75	35	100	10	17	20
FBS II 12x130 70/55/30 US	**536872**	●	12	140	14x130	60	70	75	55	100	30	17	20
FBS II 12x150 90/75/50 US	**536873**	●	12	160	14x150	60	90	75	75	100	50	17	20
FBS II 12x170 110/95/70 US	**558223**	●	12	180	14x170	60	110	75	95	100	70	17	20
FBS II 12x190 130/115/90 US	**558224**	●	12	200	14x190	60	130	75	115	100	90	17	20
FBS II 12x210 150/135/110 US	**558225**	●	12	220	14x210	60	150	75	135	100	110	17	20
FBS II 14x75 10/-/- US	**536874**	●	14	90	16x75	65	10	-	-	-	-	21	20
FBS II 14x95 30/10/- US	**536875**	●	14	110	16x95	65	30	85	10	-	-	21	20

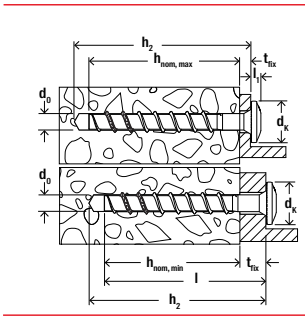


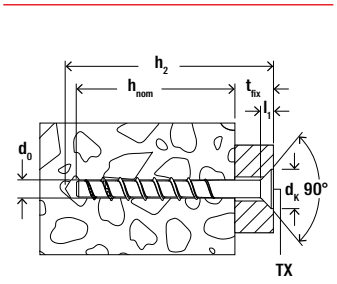


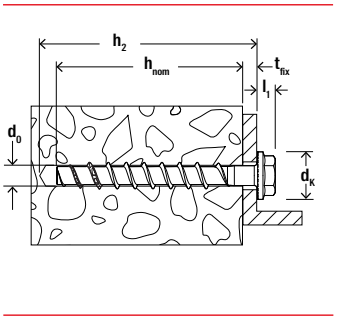
Concrete screw ULTRACUT FBS II

ULTRACUT FBS II - US - hexagon head ULTRACUT FBS II - SK - countersunk head

Item	Art.-No. zinc-plated steel	Approval zinc-plated steel	Nominal drill-Ø d_0 ETA [mm]	Minimum drill depth at push-through mode h_2 [mm]	Screws outer diameter x length [mm]	Screwing depth $h_{nom,1}$ [mm]	t_{fix1} [mm]	$h_{nom,2}$ [mm]	t_{fix2} [mm]	$h_{nom,3}$ [mm]	t_{fix3} [mm]	Width across flat / internal torx drive [SW/TX]	Sales unit [pcs]
FBS II 14x100 35/15/- US	**536876**	●	14	115	16x100	65	35	85	15	-	-	21	20
FBS II 14x125 60/40/10 US	**536877**	●	14	140	16x125	65	60	85	40	115	10	21	10
FBS II 14x150 85/65/35 US	**536878**	●	14	165	16x150	65	85	85	65	115	35	21	10
FBS II 14x180 115/85/65 US	**558226**	●	14	195	16x180	65	115	85	95	115	65	21	10
FBS II 14x210 145/125/95 US	**558227**	●	14	225	16x210	65	145	85	125	115	95	21	10
FBS II 14x240 175/155/125 US	**558228**	●	14	255	16x240	65	175	85	155	115	125	21	10
FBS II 8x60 10/- SK	**536880**	●	8	70	10x60	50	10	-	-	-	-	40	50
FBS II 8x80 30/15 SK	**536881**	●	8	90	10x80	50	30	-	-	65	15	40	50
FBS II 8x90 40/25 SK	**536882**	●	8	100	10x90	50	40	-	-	65	25	40	50
FBS II 8x100 50/35 SK	**558229**	●	8	110	10x100	50	50	-	-	65	35	40	50
FBS II 8x110 60/45 SK	**558230**	●	8	120	10x110	50	60	-	-	65	45	40	50
FBS II 8x120 70/55 SK	**558231**	●	8	130	10x120	50	70	-	-	65	55	40	50
FBS II 8x140 90/75 SK	**558232**	●	8	150	10x140	50	90	-	-	65	75	40	50
FBS II 8x160 110/95 SK	**558233**	●	8	170	10x160	50	110	-	-	65	95	40	50
FBS II 8x180 130/115 SK	**558234**	●	8	190	10x180	50	130	-	-	65	115	40	20
FBS II 8x200 150/135 SK	**558235**	●	8	210	10x200	50	150	-	-	65	135	40	20
FBS II 10x65 10/-/- SK	**536884**	●	10	75	12x65	55	10	-	-	-	-	50	50
FBS II 10x80 25/15/- SK	**536885**	●	10	90	12x80	55	25	65	15	-	-	50	50
FBS II 10x95 40/30/10 SK	**536886**	●	10	105	12x95	55	40	65	30	85	10	50	50
FBS II 10x100 45/35/15 SK	**536887**	●	10	110	12x100	55	45	65	35	85	15	50	50
FBS II 10x120 65/55/35 SK	**536888**	●	10	130	12x120	55	65	65	55	85	35	50	50
FBS II 10x140 85/75/55 SK	**558236**	●	10	150	12x140	55	85	65	75	85	55	50	50
FBS II 10x160 105/95/75 SK	**558237**	●	10	170	12x160	55	105	65	95	85	75	50	50
FBS II 10x180 125/115/95 SK	**558238**	●	10	190	12x180	55	125	65	115	85	95	50	20







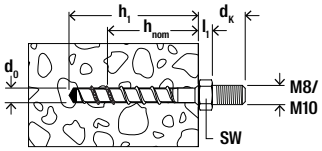
Concrete screw ULTRACUT FBS II

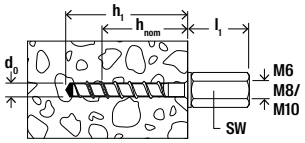
ULTRACUT FBS II 6 P/LP
panhead

ULTRACUT FBS II 6 SK
countersunk head

ULTRACUT FBS II 6 US
hexagon head

Item	Art.-No.	Approval	Nominal drill-Ø	Minimum drill depth at push-through mode	Screws outer diameter x length	Variable screwing depth / Fix screwing depth			Width across flat / internal torx drive	Sales unit
						screwing depth		usable length		
						Multiple fixing ETA-18/0242	Single fixing ETA-15/0352			
			d_0	h_2		$h_{nom,max}$ - $h_{nom,min}$	$h_{nom,min}$ - $h_{nom,max}$	$t_{fix,max}$ - $t_{fix,min}$		
	zinc-plated steel	ETA	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[SW/TX]	[pcs]
FBS II 6x30/5 P	**546377**	●	6	40	7,5 x 30	25	-	Screw length - h_{nom}	T30	100
FBS II 6x40/5 P	**546378**	●	6	50	7,5 x 40	25-35	-	Screw length - h_{nom}	T30	100
FBS II 6x40/5 LP	**546379**	●	6	50	7,5 x 40	25-35	-	Screw length - h_{nom}	T30	100
FBS II 6x60/5 P	**546380**	●	6	70	7,5 x 60	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x80/25 P	**546381**	●	6	90	7,5 x 80	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x30/5 SK	**546382**	●	6	40	7,5 x 30	25	-	Screw length - h_{nom}	T30	100
FBS II 6x40/5 SK	**546383**	●	6	50	7,5 x 40	25-35	-	Screw length - h_{nom}	T30	100
FBS II 6x60/5 SK	**546384**	●	6	70	7,5 x 60	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x80/25 SK	**546385**	●	6	90	7,5 x 80	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x100/45 SK	**546386**	●	6	110	7,5 x 100	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x120/65 SK	**546387**	●	6	130	7,5 x 120	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x140/85 SK	**546388**	●	6	150	7,5 x 140	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x160/105 SK	**546389**	●	6	170	7,5 x 160	25-55	40-55	Screw length - h_{nom}	T30	100
FBS II 6x40/5 US	**546390**	●	6	50	7,5 x 40	25-35	-	Screw length - h_{nom}	SW 10	100
FBS II 6x60/5 US	**546391**	●	6	70	7,5 x 60	25-55	40-55	Screw length - h_{nom}	SW 10	100
FBS II 6x80/25 US	**546392**	●	6	90	7,5 x 80	25-55	40-55	Screw length - h_{nom}	SW 10	100
FBS II 6x100/45 US	**546393**	●	6	110	7,5 x 100	25-55	40-55	Screw length - h_{nom}	SW 10	100
FBS II 6x120/65 US	**546394**	●	6	130	7,5 x 120	25-55	40-55	Screw length - h_{nom}	SW 10	100





Concrete screw ULTRACUT FBS II 6

ULTRACUT FBS II 6 M8/19
hanger bolt

ULTRACUT FBS II 6 M6/M8/M10 I
connection sleeve

	Art.-No. zinc plated steel	Approval ETA	Nominal drill-Ø d_0 [mm]	Minimum drill depth at pre-positioned mode h_1 [mm]	Screws outer diameter x length [mm]	Screwing depth Multiple fixing ETA-18/0242 h_{nom} [mm]	Screwing depth Single fixing ETA-15/0352 h_{nom} [mm]	Width across flat [SW]	Sales unit [pcs]
Item									
FBS II 6x25 M8/19	546395	●	6	35	7,5x25	25	–	SW 10	100
FBS II 6x35 M8/19	546396	●	6	45	7,5x35	35	–	SW 10	100
FBS II 6x55 M8/19	546397	●	6	65	7,5x55	55	55	SW 10	100
FBS II 6x35 M10/21	546398	●	6	45	7,5x35	35	–	SW 13	100
FBS II 6x55 M10/21	546399	●	6	65	7,5x55	55	55	SW 13	100
FBS II 6x35 M6 I	554065	●	6	45	7,5x35	35	–	SW 13	100
FBS II 6x55 M6 I	554066	●	6	65	7,5x55	55	55	SW 13	100
FBS II 6x35 M8/M10 I	546400	●	6	45	7,5x35	35	–	SW 13	100
FBS II 6x55 M8/M10 I	546401	●	6	65	7,5x55	55	55	SW 13	100

Optional installation of the fischer concrete screw with an cordless screwdriver.

Possible installation using a standard cordless screwdriver if the ideal FSS 18V impact wrench ideal the application is not available.

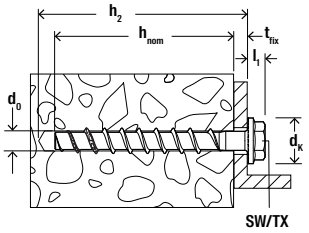
⚠ **ATTENTION** Hand twisting is possible or great strain on the wrist will occur!

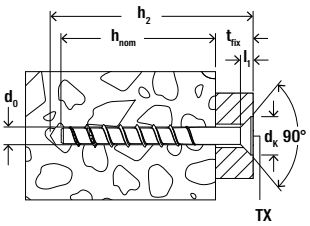
Advantages:

- No need to purchase additional equipment for a few installations if a cordless screwdriver is already available.
- Lower noise level compared to the impact wrench.

Assembly with cordless screwdriver

Diameter x screw depth [h_{nom}]	Concrete Grade C 20/25 Installation with new drill centre square of drill bit (BEM: 6,25mm)	Concrete Grade C 20/25 Installation with used drill centre square of drill bit (BEM: 6,25mm)	Concrete Grade C 50/60 Installation with new drill centre square of drill bit (BEM: 6,25mm)	Concrete Grade C 50/60 Installation with used drill centre square of drill bit (BEM: 6,25mm)
FBS II 6x25	suitable	suitable	suitable	suitable
FBS II 6x30	suitable	suitable	suitable	suitable
FBS II 6x35	suitable	suitable	suitable	–
FBS II 6x40	suitable	suitable	suitable	–



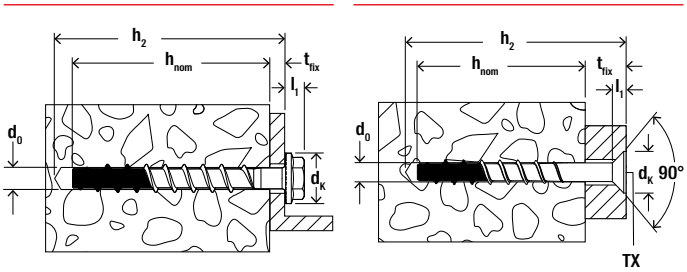


Concrete screws ULTRACUT FBS II 8, 10, 12 and 14 CP

ULTRACUT FBS II CP - US - hexagon head

ULTRACUT FBS II CP - SK - countersunk head

	Art.-No.	Approval	Nominal drill-Ø	Minimum drill depth at push-through mode	Screws outer diameter x length	Screwing depth						Width across flat / internal torx drive	Sales unit
	Corrosion protection		d_o	h_2		$h_{nom,1}$	t_{fix1}	$h_{nom,2}$	t_{fix2}	$h_{nom,3}$	t_{fix3}		
	CP	ETA	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[SW/TX]	[pcs]
Item													
FBS II CP 8x55 5/- US TX	557781	●	8 mm	65	10x55	50	5	–	–	–	–	13/40	50
FBS II CP 8x70 20/5 US TX	557782	●	8 mm	80	10x70	50	20	–	–	65	5	13/40	50
FBS II CP 8x80 30/15 US TX	557783	●	8 mm	90	10x80	50	30	–	–	65	15	13/40	50
FBS II CP 8x90 40/25 US TX	557784	●	8 mm	100	10x90	50	40	–	–	65	25	13/40	50
FBS II CP 8x100 50/35 US TX	557785	●	8 mm	110	10x100	50	50	–	–	65	35	13/40	50
FBS II CP 10x60 5/-/- US	557786	●	10 mm	70	12x60	55	5	–	–	–	–	15	50
FBS II CP 10x70 15/5/- US	557787	●	10 mm	80	12x70	55	15	65	5	–	–	15	50
FBS II CP 10x80 25/15/- US	557788	●	10 mm	90	12x80	55	25	65	15	–	–	15	50
FBS II CP 10x90 35/25/5 US	557789	●	10 mm	100	12x90	55	35	65	25	85	5	15	50
FBS II CP 10x100 45/35/15 US	557790	●	10 mm	110	12x100	55	45	65	35	85	15	15	50
FBS II CP 10x120 65/55/35 US	557791	●	10 mm	130	12x120	55	65	65	55	85	35	15	50
FBS II CP 10x140 85/75/55 US	557792	●	10 mm	150	12x140	55	85	65	75	85	55	15	50
FBS II CP 10x160 105/95/75 US	557793	●	10 mm	170	12x160	55	105	65	95	85	75	15	50
FBS II CP 12x85 25/10/- US	557794	●	12 mm	95	14x85	60	25	75	10	–	–	17	20
FBS II CP 12x110 50/35/10 US	557795	●	12 mm	120	14x110	60	50	75	35	100	10	17	20
FBS II CP 14x75 10/-/- US	557796	●	14 mm	90	16x75	65	10	–	–	–	–	21	20
FBS II CP 14x95 30/10/- US	557797	●	14 mm	110	16x95	65	30	85	10	–	–	21	20
FBS II CP 14x100 35/15/- US	557798	●	14 mm	115	16x100	65	35	85	15	–	–	21	20
FBS II CP 14x125 60/40/10 US	557799	●	14 mm	140	16x125	65	60	85	40	115	10	21	10
FBS II CP 8x60 10/- SK	557800	●	8 mm	70	10x60	50	10	–	–	–	–	40	50
FBS II CP 8x80 30/15 SK	557801	●	8 mm	90	10x80	50	30	–	–	65	15	40	50
FBS II CP 8x90 40/25 SK	557802	●	8 mm	100	10x90	50	40	–	–	65	25	40	50
FBS II CP 10x65 10/-/- SK	557803	●	10 mm	75	12x65	55	10	–	–	–	–	50	50
FBS II CP 10x80 25/15/- SK	557804	●	10 mm	90	12x80	55	25	65	15	–	–	50	50
FBS II CP 10x100 45/35/15 SK	557805	●	10 mm	110	12x100	55	45	65	35	85	15	50	50



Concrete screw ULTRACUT FBS II A4

ULTRACUT FBS II A4 - US - hexagonal head

ULTRACUT FBS II A4 - SK - countersunk head

Item	Art.-No stainless steel A4	Approval ETA	Nominal drill-Ø d_o [mm]	Minimum drill depth at push-through mode h_2 [mm]	Screws outer diameter x length [mm]	Screwing depth $h_{nom,1}$ [mm]	 t_{fix1} [mm]	 $h_{nom,2}$ [mm]	 t_{fix2} [mm]	 $h_{nom,3}$ [mm]	 t_{fix3} [mm]	Width across flat / internal torx drive [SW/TX]	Sales unit [pcs]
FBS II 8x60 10/– US A4	543565	●	8	70	10x60	50	10	–	–	–	–	13	50
FBS II 8x70 20/5 US A4	543566	●	8	80	10x70	50	20	–	–	65	5	13	50
FBS II 8x80 30/15 US A4	543567	●	8	90	10x80	50	30	–	–	65	15	13	50
FBS II 8x90 40/25 US A4	543568	●	8	100	10x90	50	40	–	–	65	25	13	50
FBS II 8x100 50/35 US A4	558239	●	8	110	8x100	50	50	–	–	65	35	13	50
FBS II 8x120 70/55 US A4	558240	●	8	130	8x120	50	70	–	–	65	55	13	50
FBS II 8x140 90/75 US A4	558241	●	8	150	8x140	50	90	–	–	65	75	13	50
FBS II 8x160 110/95 US A4	558242	●	8	170	8x160	50	110	–	–	65	95	13	50
FBS II 10x60 5/–/– US A4	543569	●	10	70	12x60	55	5	–	–	–	–	15	50
FBS II 10x70 15/5/– US A4	543570	●	10	80	12x70	55	15	65	5	–	–	15	50
FBS II 10x80 25/15/– US A4	543571	●	10	90	12x80	55	25	65	15	–	–	15	50
FBS II 10x90 35/25/5 US A4	543572	●	10	100	12x90	55	35	65	25	85	5	15	50
FBS II 10x100 45/35/15 US A4	543573	●	10	110	12x100	55	45	65	35	85	15	15	50
FBS II 10x120 65/55/35 US A4	543574	●	10	130	12x120	55	65	65	55	85	35	15	50
FBS II 10x140 85/75/55 US A4	558243	●	10	150	10x140	55	85	65	75	85	55	15	50
FBS II 10x160 105/95/75 US A4	558244	●	10	170	10x160	55	105	65	95	85	75	15	50
FBS II 12x70 10/–/– US A4	543575	●	12	80	14x70	60	10	–	–	–	–	17	20
FBS II 12x85 25/10/– US A4	543576	●	12	95	14x85	60	25	75	10	–	–	17	20
FBS II 12x110 50/35/10 US A4	543577	●	12	120	14x110	60	50	75	35	100	10	17	20
FBS II 12x130 70/55/30 US A4	543578	●	12	140	14x130	60	70	75	55	100	30	17	20
FBS II 12x160 100/85/60 US A4	558245	●	12	170	12x160	60	100	75	85	100	60	17	20
FBS II 8x60 10/– SK A4	543579	●	8	70	10x60	50	10	–	–	–	–	T40	50
FBS II 8x80 30/15 SK A4	543580	●	8	90	10x80	50	30	–	–	65	15	T40	50
FBS II 8x90 40/25 SK A4	543581	●	8	100	10x90	50	40	–	–	65	25	T40	50
FBS II 8x100 50/35 SK A4	558246	●	8	110	8x100	50	50	–	–	65	35	T40	50
FBS II 10x65 10/–/– SK A4	543582	●	10	75	12x65	55	10	–	–	–	–	T50	50
FBS II 10x80 25/15/– SK A4	543583	●	10	90	12x80	55	25	65	15	–	–	T50	50
FBS II 10x95 40/30/10 SK A4	543584	●	10	105	12x95	55	40	65	30	85	10	T50	50
FBS II 10x100 45/35/15 SK A4	543585	●	10	110	12x100	55	45	65	35	85	15	T50	50
FBS II 10x120 65/55/35 SK A4	543586	●	10	130	12x120	55	65	65	55	85	35	T50	50

Additional assortment

Complement for ULTRACUT FBS II


Checking gauge FUP


Nut SW


Nut TX


FMB T40 Maxx Bit


Profi-Bit FPB T50 5/16“


Filling washer FFD


Washer FSW 10


Setting tool SC-ST

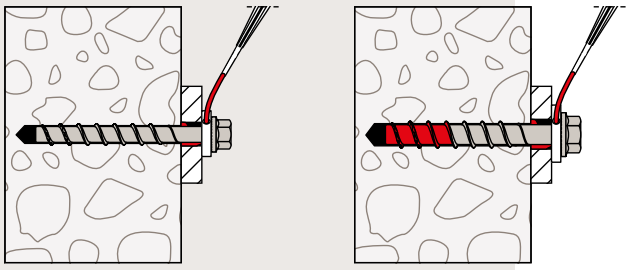

Washer U

Item	Art.-No.	Internal-Ø [mm]	External-Ø [mm]	Drive	Suitable for ULTRACUT FBS II [SW/TX]	Sales unit [Stück]
Checking gauge FUP 8	**537200**	9,9	–	–	FBS II 8	1
Checking gauge FUP 10	**537201**	12	–	–	FBS II 10	1
Checking gauge FUP 12	**537202**	13	–	–	FBS II 12	1
Checking gauge FUP 14	**537203**	15	–	–	FBS II 14	1
Nut SW 10	**538577**	–	–	1/2"/SW 10	FBS II 6	1
Nut SW 13	**538578**	–	–	1/2"/SW 13	FBS II 6/FBS II 8	1
Nut SW 15	**538579**	–	–	1/2"/SW 15	FBS II 10	1
Nut SW 17	**538580**	–	–	1/2"/SW 17	FBS II 12	1
Nut SW 21	**538581**	–	–	1/2"/SW 21	FBS II 14	1
Nut TX[1]	**538575**	–	–	1/2"–1/4"	FBS II 8/FBS II 8 SK + FBS II 6	1
Nut TX50[2]	**553928**	–	–	1/2"–5/16"	FBS II 10/FBS II 10 SK	1
FMB T30 Maxx Bit W5	**533158**	–	–	TX 30	FBS II 6	5
FMB T40 Maxx Bit W 5	**533159**	–	–	TX 40	FBS II 8/FBS II 8 SK	5
FPB Profi-Bit T 50 5/16"	**538574**	–	–	TX 50	FBS II 10 SK	1
FFD 22x9x6	**547515**	9	22	–	FBS II 6	4
FFD 26x12x6	**538458**	12	26	–	FBS II 8	4
FFD 26x12x6 A4	**541986**	12	26	–	FBS II 8 A4	4
FFD 30x14x6	**538459**	14	30	–	FBS II 10/FBS II 12	4
FFD 30x14x6 A4	**541987**	14	30	–	FBS II 10 A4/FBS II 12 A4	4
FFD 38x19x7	**538460**	19,2	38	–	FBS II 14	4
Adjusting washer FSW 10[3]	**557276**	–	–	–	FBS II 10	40
Setting tool SC-ST 8	**557872**	–	–	–	FBS II 8	1
Setting tool SC-ST 10	**557874**	–	–	–	FBS II 10	1
Washer für FBS II 10	**520471**	13,5	44	–	FBS II 10	50

1) Suitable for FMB T40 Maxx Bit and FMB T30 Maxx Bit
2) Suitable for FPB Profi-Bit T50 5/16"
3) Mountable with Power-Fast FPF-PT 5x40 (652880)

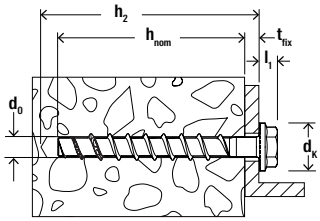
Filling disc for ULTRACUT FBS II / FBS II CP / FBS II A4

By using the backfilling disc, a backlash, e.g. in the case of shear forces, can be ruled out. For this purpose, the filling disc is placed on the concrete screw before installation (recess to the component).
In the next step, the FBS II is screwed in until the filling disc rests against the anchor plate. Now the filling with one of the injection mortars FIS HB, FIS V, FIS SB or FIS EM Plus can be carried out through the lateral bore using the filling aid. The filling quantity depends on the thickness of the anchor plate and the size of the annular gap.
Typical fields of application are brackets, earthquake-approved anchorings

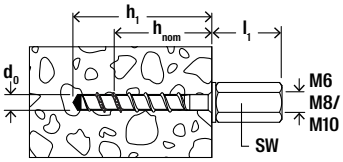


Loads

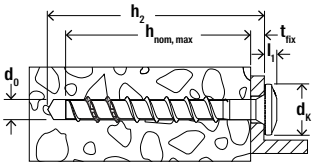
Typ US



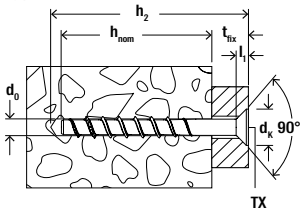
Typ I



Typ P

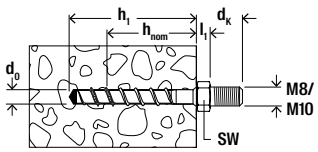


Typ SK

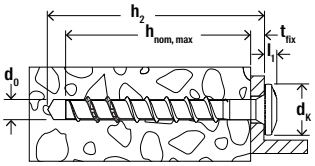


	l_1 [mm]	d_K [mm]
ULTRACUT FBS II 8 SK	6,0	20,0
ULTRACUT FBS II 10 SK	7,0	23,0
ULTRACUT FBS II 6 SK	6,0	13,5
ULTRACUT FBS II 6 P	3,9	14,4
ULTRACUT FBS II 6 LP	3,6	17,5
ULTRACUT FBS II 6 US	6,4	17,0
ULTRACUT FBS II M8/M10	3,6/5	15/16
ULTRACUT FBS II 6 I M8/M10; M6	37,0/32	-

Typ M8/M10



Typ LP



Concrete screw ULTRACUT FBS II 6-14 zinc-plated steel. / A4

Installation parameters concrete

Concrete screw ULTRACUT FBS II 6–14 zinc-plated steel / A4	Drill hole diameter	Nominal screw-in depth			Drill hole depth (push-through installation)	Clearance hole diameter	Maximum torque for installation with impact screw driver in concrete [1]		Width across flat	Drive
	d_0	h_{nom1}	h_{nom2}	h_{nom3}	$h_2 \geq$	d_f	$T_{imp,max}$ zinc-plated steel	$T_{imp,max\ A4}$	SW	TX
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Nm]	[Nm]		
FBS II 6	**6**	25–55	25–55	25–55	l + 10	≥ 8	450 [1]	–	10 [2]	T30
FBS II 8	**8**	50	–	65	l + 10	10,6–12	600	450	13	T40 (SK und US)
FBS II 10	**10**	55	65	85	l + 10	12,8–14	650	450	15	T50 (SK)
FBS II 12	**12**	60	75	100	l + 10	14,8–16	650	650	17	–
FBS II 14	**14**	65	85	115	l + 15	16,9–18	650	–	21	–

1) Screw-in depth <35 mm 80 Nm.
2) SW 13 at FBS II ... M10 and FBS II ... M8/M10 I.
3) The values apply to concrete strength of approx. 40N/mm², for other concrete strength classes the values may differ. The conversion of nominal output into effective tightening torque varies from machine to mac hine - always therefore use torque control.

Installation parameters masonry

Concrete screw ULTRACUT FBS II 8-10

Base material	Compressive strength class [N/mm²]	Size		FBS II 8	FBS II 10
		h_{nom}	[mm]	65	85
Solid clay brick (EN771–1)	**≥ 12**	T_{inst}	[Nm]	10	10
Solid sand-lime brick (EN771-2)	**≥ 12**	T_{inst}	[Nm]	15	15
Aerated concrete (EN771-4)	**≥ 6**	T_{inst}	[Nm]	5	10

Concrete srew ULTRACUT FBS II zinc-plated steel

Permissible loads of a single anchor in cracked normal concrete (concrete tension zone) of strength class C20/25 (~B25)[1) 2) 3) 10)]

Diameter x Screw-in depth [h_{nom}]	Material fixing element	Minimum member thickness	Screw-in depth	Maximum installation torque	Installation torque	Permissible tensile load	Permissible shear load	ERequired edge distance (with one edge) for		Required spacing for	Minimum spacings while reducing the load	
								max. tension load	max. shear load	max. load	min. spacing	min.edge distance
		h_{min} [mm]	h_{ef} [mm]	T_{inst} [kN]	$T_{imp,max}$ [6)] [kN]	N_{perm} [7)] [kN]	V_{perm} [7)] [kN]	c [mm]	s [mm]	s_{cr} [mm]	s_{min} [8)] [mm]	c_{min} [8)] [mm]
FBS II 6x40[5)]	zinc-plated steel	80	40	10	450	1,2	4,3	35	110	100	35	35
FBS II 6x45[5)]	zinc-plated steel	90	45	10	450	1,7	4,3	35	105	110	35	35
FBS II 6x50[5)]	zinc-plated steel	90	50	10	450	1,9	4,3	35	100	120	35	35
FBS II 6x55[5)]	zinc-plated steel	100	55	10	450	2,4	6,3	35	145	135	35	35
FBS II 8x50	zinc-plated steel	100	50	–	600	2,9	4,3	35	90	120	35	35
FBS II 8x65	zinc-plated steel	120	65	–	600	5,7	9,0	70	180	160	35	35
FBS II 10x55	zinc-plated steel	100	55	–	650	4,3	4,8	55	100	130	40	40
FBS II 10x65	zinc-plated steel	120	65	–	650	5,7	12,5	70	250	155	40	40
FBS II 10x85	zinc-plated steel	140	85	–	650	9,6	16,6	105	305	205	40	40
FBS II 12x60	zinc-plated steel	110	60	–	650	5,5	11,0	70	230	145	50	50
FBS II 12x75	zinc-plated steel	130	75	–	650	8,0	15,2	90	290	180	50	50
FBS II 12x100	zinc-plated steel	150	100	–	650	12,5	20,3	125	355	245	50	50
FBS II 14x65	zinc-plated steel	120	65	–	650	6,1	12,1	75	235	150	60	60
FBS II 14x85	zinc-plated steel	140	85	–	650	9,4	18,8	100	340	205	60	60
FBS II 14x115	zinc-plated steel	180	115	–	650	15,4	29,4	140	465	280	60	60

For the design the complete assessment ETA-15/0352 has to be considered.[9)]

1) The partial safety factors for material resistance as regulated in the ETA-15/0352 as well as a partial safety factor for load actions of $\gamma_L = 1,4$ are considered. As an single anchor counts e.g. an anchor with a spacing $s \geq 3 \cdot h_{ef}$ and an edge distance $c \geq 1,5 \cdot h_{ef}$. Accurate data see ETA-15/0352.
2) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
3) Drill method hammer drilling resp. hollow drilling. For further allowable drill methods see ETA-15/0352.
4) The anchorage depths smaller than 40 mm are only allowed for single anchors as part of a multiple fixing of non-structural systems.
5) Diamond drilling not permitted.
6) Maximum allowable torque for installation with any tangential impact screw driver.
7) For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.
8) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
9) The given loads refer to the European Technical Assessment ETA-15/0352, issue date 30/10/2018. Design of the loads according ETAG 001, Annex C, Method A (for static resp. quasi-static loads).
10) A reinforcement in the concrete to prevent splitting is required. The width of the cracks has to be limited under consideration of the splitting forces at wk ~ 0,3 mm.

Concrete screw ULTRACUT FBS II, zinc-plated steel

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25) [1) 2) 3)]

Diameter x Screw-in depth [h_{nom}]	Material fixing element	Minimum member thickness	Screw-in depth	Maximum installation torque	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Minimum spacings while reducing the load	
								max. tension load	max. shear load	max. load	min. spacing	min.edge distance
		h_{min} [mm]	h_{ef} [mm]	T_{inst} [kN]	$T_{imp,max}$ [6)] [kN]	N_{perm} [7)] [kN]	V_{perm} [7)] [kN]	c [mm]	s [mm]	s_{cr} [mm]	s_{min} [8)] [mm]	c_{min} [8)] [mm]
FBS II 6x40 [5)]	zinc-plated steel	80	40	10	450	3,8	4,3	35	110	100	35	35
FBS II 6x45 [5)]	zinc-plated steel	90	45	10	450	4,8	4,3	35	105	110	35	35
FBS II 6x50 [5)]	zinc-plated steel	90	50	10	450	5,7	4,6	35	100	120	35	35
FBS II 6x55 [5)]	zinc-plated steel	100	55	10	450	6,4	6,3	35	145	135	35	35
FBS II 8x50	zinc-plated steel	100	50	–	600	6,1	6,1	35	90	120	35	35
FBS II 8x65	zinc-plated steel	120	65	–	600	9,0	9,0	70	180	160	35	35
FBS II 10x55	zinc-plated steel	100	55	–	650	6,8	6,8	55	100	130	40	40
FBS II 10x65	zinc-plated steel	120	65	–	650	8,8	14,0	70	250	155	40	40
FBS II 10x85	zinc-plated steel	140	85	–	650	13,5	16,	105	305	205	40	40
FBS II 12x60	zinc-plated steel	110	60	–	650	7,7	15,2	70	230	145	50	50
FBS II 12x75	zinc-plated steel	130	75	–	650	11,2	15,2	90	290	180	50	50
FBS II 12x100	zinc-plated steel	150	100	–	650	17,5	20,3	125	355	245	50	50
FBS II 14x65	zinc-plated steel	120	65	–	650	8,5	17,0	75	235	150	60	60
FBS II 14x85	zinc-plated steel	140	85	–	650	13,2	22,1	100	340	205	60	60
FBS II 14x115	zinc-plated steel	180	115	–	650	21,6	29,4	140	465	280	60	60

For the design the complete assessment ETA-15/0352 has to be considered.[9)]

1) The partial safety factors for material resistance as regulated in the ETA-15/0352 as well as a partial safety factor for load actions of $\gamma_L = 1,4$ are considered. As an single anchor counts e.g. an anchor with a spacing $s \geq 3 \cdot h_{ef}$ and an edge distance $c \geq 1,5 \cdot h_{ef}$. Accurate data see ETA-15/0352.
2) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
3) Drill method hammer drilling resp. hollow drilling. For further allowable drill methods see ETA-15/0352.
4) The anchorage depths smaller than 40 mm are only allowed for single anchors as part of a multiple fixing of non-structural systems.
5) Diamond drilling not permitted.
6) Maximum allowable torque for installation with any tangential impact screw driver.
7) For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.
8) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
9) The given loads refer to the European Technical Assessment ETA-15/0352, issue date 30/10/2018. Design of the loads according ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

Concrete screw with hexagon head and washer ULTRACUT FBS II A4 US stainless steel

Permissible loads of a single anchor in cracked normal concrete (concrete tension zone) of strength classC20/25 (~B25)[1) 2) 3) 10)]

Diameter x Screw-in depth [h_{nom}]	Material fixing element	Minimum member thickness	Screw-in depth	Maximum installation torque	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Minimum spacings while reducing the load	
								max. tension load	max. shear load	min. spacing	min.edge distance
		h_{min}	h_{nom}	$T_{imp,max}$ [4)]	N_{perm} [5)]	V_{perm} [5)]	c	s	s_{cr}	s_{min} [6)]	c_{min} [6)]
		[mm]	[mm]	[kN]	[kN]	[kN]	[mm]	[mm]	[mm]	[mm]	[mm]
FBS II 8x50	A4	100	50	450	1,9	4,3	35	90	120	35	35
FBS II 8x65	A4	120	65	450	4,3	6,4	45	125	160	35	35
FBS II 10x55	A4	100	55	450	2,1	4,8	40	100	130	40	40
FBS II 10x65	A4	120	65	450	2,9	6,2	40	115	155	40	40
FBS II 10x85	A4	140	85	450	7,6	19,2	75	360	205	40	40
FBS II 12x60	A4	110	60	650	2,1	5,5	50	105	145	50	50
FBS II 12x75	A4	130	75	650	5,2	15,9	50	305	180	50	50
FBS II 12x100	A4	150	100	650	12,5	25,0	125	445	245	50	50

For the design the complete assessment ETA-17/0740 has to be considered.[7)]

1) The partial safety factors for material resistance as regulated in the ETA-17/0740 as well as a partial safety factor for load actions of γF = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3·h_{ef} and an edge distance c ≥ 1,5·h_{ef}. Accurate data see ETA-17/0740.
2) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
3) Drill method Hammer drilling resp. hollow drilling. For further allowable drill methods see ETA-17/0740.
4) Maximum allowable torque for installation with any tangential impact screw driver.
5) For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.
6) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
7) The given loads refer to the European Technical Assessment ETA-17/0740, issue date 23/10/2018. Design of the loads according TR055/ETAG 001, Annex C, Method A (for static resp. quasi-static loads).
8) A reinforcement in the concrete to prevent splitting is required. The width of the cracks has to be limited under consideration of the splitting forces at wk ~ 0,3 mm.

Concrete screw with hexagon head and washer ULTRACUT FBS II A4 US stainless steel

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25)[1) 2) 3) 10)]

Diameter x Screw-in depth [h_{nom}]	Material fixing element	Minimum member thickness	Screw-in depth	Maximum installation torque	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Minimum spacings while reducing the load	
								max. tension load	max. shear load	min. spacing	min.edge distance
		h_{min}	h_{nom}	$T_{imp,max}$ [4)]	N_{perm} [5)]	V_{perm} [5)]	c	s	s_{cr}	s_{min} [6)]	c_{min} [6)]
		[mm]	[mm]	[kN]	[kN]	[kN]	[mm]	[mm]	[mm]	[mm]	[mm]
FBS II 8x50	A4	100	50	450	3,3	6,1	35	90	120	35	35
FBS II 8x65	A4	120	65	450	6,7	9,0	55	120	160	35	35
FBS II 10x 55	A4	100	55	450	4,0	6,8	40	100	130	40	40
FBS II 10x65	A4	120	65	450	6,7	8,8	55	115	155	40	40
FBS II 10x85	A4	140	85	450	13,5	20,9	105	270	205	40	40
FBS II 12x60	A4	110	60	650	4,8	7,7	50	105	145	50	50
FBS II 12x75	A4	130	75	650	5,7	22,4	50	300	180	50	50
FBS II 12x100	A4	150	100	650	17,5	26,2	125	320	245	50	50

For the design the complete assessment ETA-17/0740 has to be considered.[7)]

1) The partial safety factors for material resistance as regulated in the ETA-17/0740 as well as a partial safety factor for load actions of γF = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3·h_{ef} and an edge distance c ≥ 1,5·h_{ef}. Accurate data see ETA-17/0740.
2) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
3) Drill method Hammer drilling resp. hollow drilling. For further allowable drill methods see ETA-17/0740.
4) Maximum allowable torque for installation with any tangential impact screw driver.
5) For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.
6) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
7) The given loads refer to the European Technical Assessment ETA-17/0740, issue date 23/10/2018. Design of the loads according TR055/ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

Concrete screw with countersunk head ULTRACUT FBS II A4 SK stainless steel

Permissible loads of a single anchor in cracked normal concrete (concrete tension zone) of strength class C20/25 (~B25) [1) 2) 3) 10)]

Diameter x Screw-in depth [h_{nom}]	Material fixing element	Minimum member thickness	Screw-in depth	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Minimum spacings while reducing the load	
							max. tension load	max. shear load	max. load	min. spacing	min.edge distance
		h_{min} [mm]	h_{nom} [mm]	$T_{imp,max}$ [4)] [kN]	N_{perm} [5)] [kN]	V_{perm} [5)] [kN]	c [mm]	c [mm]	s_{cr} [mm]	s_{min} [6)] [mm]	c_{min} [6)] [mm]
FBS II 8x50	A4	100	50	450	1,9	4,3	35	90	120	35	35
FBS II 8x65	A4	120	65	450	4,3	6,4	45	125	160	35	35
FBS II 10x55	A4	100	55	450	2,1	4,8	40	100	130	40	40
FBS II 10x65	A4	120	65	450	2,9	6,2	40	115	155	40	40
FBS II 10x85	A4	140	85	450	7,6	19,2	75	360	205	40	40

For the design the complete assessment ETA-17/0740 has to be considered. [7)]

1) The partial safety factors for material resistance as regulated in the ETA-17/0740 as well as a partial safety factor for load actions of γ_F = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3·h_{ef} and an edge distance c ≥ 1,5·h_{ef}. Accurate data see ETA-17/0740.
2) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
3) Drill method hammer drilling. For further allowable drill methods see ETA-17/0740.
4) Maximum allowable torque for installation with any tangential impact screw driver.
5) For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.
6) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
7) The given loads refer to the European Technical Assessment ETA-17/0740, issue date 23/10/2018. Design of the loads according TR055/ETAG 001, Annex C, Method A (for static resp. quasi-static loads).
8) A reinforcement in the concrete to prevent splitting is required. The width of the cracks has to be limited under consideration of the splitting forces at w_k ~ 0,3 mm.

Concrete screw with countersunk head ULTRACUT FBS II A4 SK stainless steel

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25)[1) 2) 3) 10)]

Diameter x Screw-in depth [h_{nom}]	Material fixing element	Minimum member thickness	Screw-in depth	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Minimum spacings while reducing the load	
							max. tension load	max. shear load	max. load	min. spacing	min.edge distance
		h_{min} [mm]	h_{nom} [mm]	$T_{imp,max}$ [4)] [kN]	N_{perm} [5)] [kN]	V_{perm} [5)] [kN]	c [mm]	c [mm]	s_{cr} [mm]	s_{min} [6)] [mm]	c_{min} [6)] [mm]
FBS II 8x50	A4	100	50	450	3,3	6,1	35	90	120	35	35
FBS II 8x65	A4	120	65	450	6,7	9,0	55	120	160	35	35
FBS II 10x55	A4	100	55	450	4,0	6,8	40	100	130	40	40
FBS II 10x65	A4	120	65	450	6,7	8,8	55	115	155	40	40
FBS II 10x85	A4	140	85	450	13,5	20,9	105	270	205	40	40

For the design the complete assessment ETA-17/0740 has to be considered.[7)]

1) The partial safety factors for material resistance as regulated in the ETA-17/0740 as well as a partial safety factor for load actions of γ_F = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3·h_{ef} and an edge distance c ≥ 1,5·h_{ef}. Accurate data see ETA-17/0740.
2) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
3) Drill method hammer drilling. For further allowable drill methods see ETA-17/0740.
4) Maximum allowable torque for installation with any tangential impact screw driver.
5) For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.
6) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
7) The given loads refer to the European Technical Assessment ETA-17/0740, issue date 23/10/2018. Design of the loads according TR055/ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

Concrete screw with countersunk head ULTRACUT FBS II 8–14

Highest recommended loads[1) 3)] for a single anchor, resp. a fixing point [4) 5) 6)] in solid brick masonry.

Base material	Compressive strength [N/mm²]	Type		ULTRACUT	
		Size		FBS II 8	FBS II 10
		Anchoring depth h_{nom}	[mm]	65	85
Solid clay brick [9)] (EN771–1) ≥ 240x113x115 mm	≥ 12	F_{empf} [2)3)]	[kN]	1,1	1,4
Solid clay brick [9)] (EN771–1) ≥ 240x113x115 mm	≥ 20	F_{empf} [2)3)7)]	[kN]	1,6	1,6
Solid sand-lime brick [9)] (EN771–2) ≥ 240x71x115 mm	≥ 12	F_{empf} [2)3)7)]	[kN]	1,2	1,2
Solid sand-lime brick [9)] (EN771–2) ≥ 240x71x115 mm	≥ 20	F_{empf} [2)3)7)]	[kN]	1,2	1,2
Aerated concrete (EN771–4) ≥ 499x249x120 mm	≥ 6	F_{empf} [2)3)]	[kN]	0,7	0,9
Minimum spacing within anchor groups of 2 or 4 anchors	–	s_{min}	[mm]	80	80
Minimum spacing between single anchors, resp. anchor groups	–	s_{min}	[mm]	80	80
Minimum distance to the horizontal joint	–	$c_{min,v}$ [8)]	[mm]	20	20
Minimum distance to the vertical joint	–	$c_{min,h}$ [8)]	[mm]	40	40
Minimum distance to the free edge	–	c_{min}, free edge[8)]	[mm]	200	200
Tightening torque [10)]	Solid clay brick [9)]	Tighten	[Nm]	10	10
Tightening torque [10)]	Solid sandlime brick [9)]	Tighten	[Nm]	15	15
Tightening torque [10)]	Aerated concrete	Tighten	[Nm]	5	5

1) An appropriate safety factor is considered.
2) The given loads apply to the given brick measures for masonry with superimposed load. Bigger brick sizes are minimum equal in case of the loads.
3) The loads only apply to multiple fixings of non-load-bearing systems and are valid for tensile load, shear load and oblique load under any angle.
4) On-site screw testing is recommended to validate technical data. If the joints are not visible 100% anchor testing is recommended due to the screws are only working in the bricks and not in the mortar joints.
5) A fixing point can be a single anchor, 2 anchors or 4 anchors with a minimum spacing s_{min}. Anchor groups of 4 anchors are arranged in rectangular disposition.
6) The fixing points have to be arranged in this way that there will be always maximum one fixing point arranged in one brick.
7) Brick pull-out is decisive.
8) The values $c_{min,v}$ and $c_{min,h}$ are only valid if the mortar joints are filled proper. Otherwise the joints has to be considered as free edges and $c_{min,}$free is decisive. Minimum mortar strenght is M2.5
9) The values are valid for unperforated solid bricks.
10) The screw is screwed in with a cordless screwdriver, an impact screwdriver or by hand. The screwing process must be finished immediately when the screw head is in contact with the assembled object. The specified tightening torque must then be applied with a torque wrench.

Concrete screw ULTRACUT FBS II 6 zinc-plated steel

Highest permissible loads for a single anchor[1)] for multiple use for non-structural applications in cracked concrete C20/25 to C50/60.

Type	Material fixing element	Screw-in depth	Min. member thickness	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load	Max. shear load	max. load		
		h_{nom}	h_{min}	$T_{imp,max}$	N_{perm} [3)]	V_{perm} [3)]	c	c	s_{cr}	s_{min} [2)]	c_{min} [2)]
		[mm]	[mm]	[kN]	[kN]	[kN]	[mm]	[mm]	[mm]	[mm]	[mm]
FBS II 6	zinc-plated steel	25	80	≤ 5	0,7	1,8	35	50	60	35	35
FBS II 6	zinc-plated steel	30	80	≤ 5	1,2	2,3	35	55	70	35	35
FBS II 6	zinc-plated steel	35	80	≤ 5	1,7	4,3	35	100	100	35	35
FBS II 6	zinc-plated steel	40	80	≤ 10	2,4	4,3	35	105	110	35	35
FBS II 6	zinc-plated steel	45	90	≤ 10	2,9	4,3	40	110	115	35	35
FBS II 6	zinc-plated steel	50	90	≤ 10	3,6	4,3	50	115	120	35	35
FBS II 6	zinc-plated steel	55	100	≤ 10	4,0	6,3	50	145	135	35	35

For the design the complete assessment ETA-18/0242, issued 30.10.2018 has to be considered.
1) The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_L = 1,4 are considered.
2) Minimum possible axial spacings resp. edge distance. For further measures see assessment.
3) Valid for tensile load, shear load and oblique load under any angle.
4) Concrete strength class C30/37 up to C50/60.

Concrete screw ULTRACUT FBS II 6 zinc-plated

Highest permissible loads for a single anchor[1] for multiple use for non-structural applications in non-cracked concrete C20/25 to C50/60.

Type	Material fixing element	Screw-in depth	Min. member thickness	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load	Max. shear load	max. load		
		h_{nom}	h_{min}	$T_{imp,max}$	N_{perm} [3]	V_{perm} [3]	c	c	s_{cr}	s_{min} [2]	c_{min} [2]
		[mm]	[mm]	[kN]	[kN]	[kN]	[mm]	[mm]	[mm]	[mm]	[mm]
FBS II 6	zinc-plated steel	25	80	≤ 5	1,4	2,3	35	60	60	35	35
FBS II 6	zinc-plated steel	30	80	≤ 5	2,4	2,3	35	70	70	35	35
FBS II 6	zinc-plated steel	35	80	≤ 5	3,1	4,3	40	100	100	35	35
FBS II 6	zinc-plated steel	40	80	≤ 10	3,8	4,3	55	110	110	35	35
FBS II 6	zinc-plated steel	45	90	≤ 10	4,8	4,3	65	115	115	35	35
FBS II 6	zinc-plated steel	50	90	≤ 10	5,7	4,3	75	120	120	35	35
FBS II 6	zinc-plated steel	55	100	≤ 10	6,4	6,3	80	135	135	35	35

For the design the complete assessment ETA-18/0242, issued 30.10.2018 has to be considered.

1) The partial safety factors for material resistance as regulated in the approval as well as a partial safety factor for load actions of γ_L = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3 x h_{ef} and an edge distance c ≥ 1,5 x h_{ef}. Accurate data see assessment.
2) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
3) For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

Concrete screw ULTRACUT FBS II 6 zinc-plated

Highest permissible loads[1] for a single anchor for multiple use for non-structural applications in pre-stressed hollow core slabs[4]

	Nominal embedment depth	Permissible load in the respective bottom flange thickness F_{rec} [3]					Installation torque	Min. spacing	Min. edge distance
	h_{nom}	≥ 25	≥ 30	≥ 35	≥ 40	≥ 50	$T_{inst, max}$	s1, s2[2]	c1, c2[2]
	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[Nm]	[mm]	[mm]
Typ									
FBS II 6	25	0,23	1,64	1,64	1,64	1,64	5	100	100
FBS II 6	30	0,47	1,64	1,88	2,35	2,58	5	100	100
FBS II 6	35	0,47	1,64	2,11	2,58	3,29	10	100	100
FBS II 6	40	0,47	1,64	2,35	2,82	3,76	10	100	100
FBS II 6	45	0,47	1,64	2,58	3,29	4,46	10	100	100
FBS II 6	50	0,47	1,64	2,82	3,52	5,16	10	100	100
FBS II 6	55	0,47	1,64	3,05	3,76	5,63	10	100	100

For the design the complete assessment ETA-18/0242, issued 30.10.2018 has to be considered.

1) The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_L = 1,4 are considered.
2) Minimum possible axial spacings resp. edge distance. For further measures see assessment.
3) Valid for tensile load, shear load and oblique load under any angle.
4) Concrete strength class C30/37 up to C50/60.

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