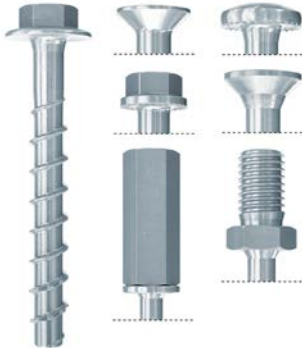


Concrete screw UltraCut FBS II 6

The high-performance concrete screw for absolute installation ease

4



Suspended air-conditioners



Light, suspended pipelines

Applications

- Pipeline routes
- Suspension for individual pipes
- Suspended mounting rails
- Prestressed concrete hollow core ceilings
- Cable trays
- Ventilation ducts
- Perforated tapes
- Air conditioning units

Advantages

- The first concrete screw with diameter 6 with variable embedment depth offers a flexible adaption of the embedment depth to the loads.
- The ETA assessment includes the use in cracked and non-cracked concrete for highest safety requirements.
- The first 6 mm diameter concrete screw with an ETA for the C1 seismic performance category for additional safety

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

Certificates



ETA-15/0352, for cracked concrete
ETA-18/0242, for non-structural applications in concrete



Fire resistance classification R120



Building materials

Approved for:

- Concrete C20/25 to C50/60, cracked and non-cracked
- Prestressed hollow concrete ceilings C30/37 to C50/60 for the multiple use of non-load bearing systems

Also suitable for:

- Concrete C12/15
- Solid building materials
- Masonry with dense structure

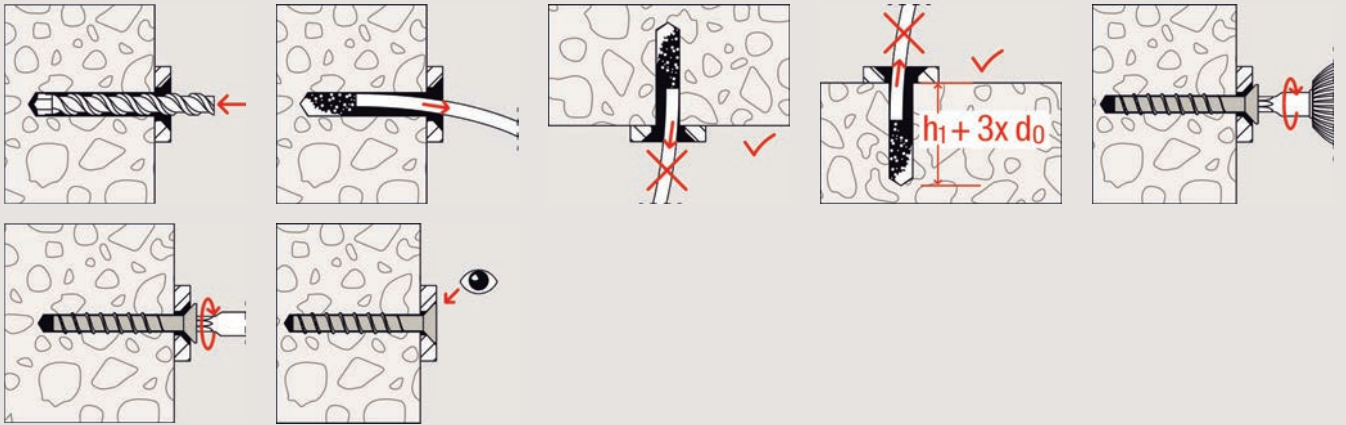
Versions

- Zinc-plated steel

Functioning

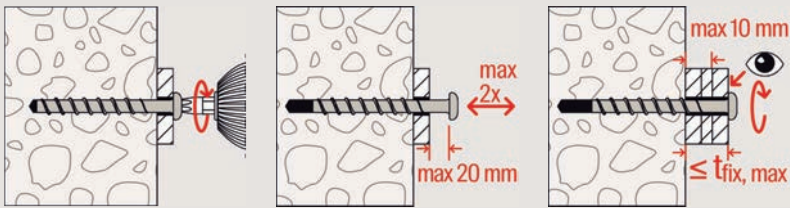
- The UltraCut FBS II is recommended for the push-through / pre-positioned installation.
- Drill holes do not need to be cleaned during vertical installation (ceiling and floor). For floor fixings the hole must be drilled 3x drill hole diameter deeper.
- The approved adjustment for the concrete screws allows the screw to be unscrewed twice for a total length of 20 mm, to place maximum 10 mm packing below the base plates or to align the attached part, and then to tighten the screw again.
- We recommend using a fischer impact wrench FSS 18V with a suitable impact screwdriver socket or an internal torx drive.
- The screw is installed correctly when the screw head sits flush on the fixture (visual setting control).

Installation UltraCut FBS II 6

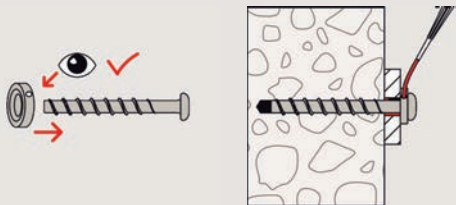


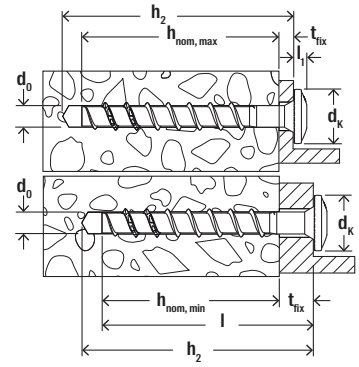
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Fixture adjustment



Additional for seismic applications





4

Technical data

Concrete screw UltraCut FBS II 6

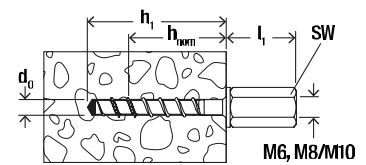
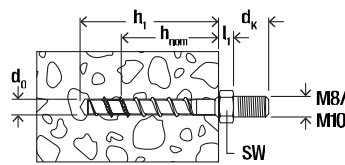


Item	Item No.	Approval ETA	Drill hole diameter d_0 [mm]	Min. drill hole depth for through fixings h_2 [mm]	Screw length l_s [mm]	Head-Ø d_k [mm]	Screw-in depth Multiple fixing ETA-18/0242 $h_{nom,min} - h_{nom,max}$ [mm]	Screw-in depth Single point fixing ETA-15/0352 $h_{nom,min} - h_{nom,max}$ [mm]	Usable length $t_{fix,min} - t_{fix,max}$ [mm]	Drive	Sales unit [pcs]
FBS II 6 x 30/5 P	546377	,	6	40	30	14.4	25	—	Screw length - h_{nom}	T30	100
FBS II 6 x 40/5 P	546378	,	6	50	40	14.4	25 - 35	—	Screw length - h_{nom}	T30	100
FBS II 6 x 40/5 LP	546379	,	6	50	40	17.5	25 - 35	—	Screw length - h_{nom}	T30	100
FBS II 6 x 60/5 P	546380	,	6	70	60	14.4	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 80/25 P	546381	,	6	90	80	14.4	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 30/5 SK	546382	,	6	40	30	13.5	25	—	Screw length - h_{nom}	T30	100
FBS II 6 x 40/5 SK	546383	,	6	50	40	13.5	25 - 35	—	Screw length - h_{nom}	T30	100
FBS II 6 x 60/5 SK	546384	,	6	70	60	13.5	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 80/25 SK	546385	,	6	90	80	13.5	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 100/45 SK	546386	,	6	110	100	13.5	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 120/65 SK	546387	,	6	130	120	13.5	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 140/85 SK	546388	,	6	150	140	13.5	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 160/105 SK	546389	,	6	170	160	13.5	25 - 55	40 - 55	Screw length - h_{nom}	T30	100
FBS II 6 x 40/5 US	546390	,	6	50	40	17	25 - 35	—	Screw length - h_{nom}	SW 10	100
FBS II 6 x 60/5 US	546391	,	6	70	60	17	25 - 55	40 - 55	Screw length - h_{nom}	SW 10	100
FBS II 6 x 80/25 US	546392	,	6	90	80	17	25 - 55	40 - 55	Screw length - h_{nom}	SW 10	100
FBS II 6 x 100/45 US	546393	,	6	110	100	17	25 - 55	40 - 55	Screw length - h_{nom}	SW 10	100
FBS II 6 x 120/65 US	546394	,	6	130	120	17	25 - 55	40 - 55	Screw length - h_{nom}	SW 10	100

Accessories UltraCut FBS II



Item	Item No.	Internal diameter D [mm]	External-Ø d [mm]	Match	Sales unit [pcs]
Filling disc FFD 22 x 9 x 6	547515	9,0	22	FBS II 6	4
Filling disc FFD 26 x 12 x 6	538458	12,0	26	FBS II 8	4
Filling disc FFD 26 x 12 x 6 R	541986	12,0	26	FBS II 8 R / FBS II 10 R	4
Filling disc FFD 30 x 14 x 6	538459	14,0	30	FBS II 10 / FBS II 12	4
Filling disc FFD 30 x 14 x 6 R	541987	14,0	30	FBS II 10 R / FBS II 12 R	4
Filling disc FFD 38 x 19 x 7	538460	19	38	FBS II 14	4
Adjusting washer FSW 10	557276	17,5	44	FBS II 10 US	40
Washer for FBS 10	520471	13,5	44	FBS II 10 US	50



Technical data

Concrete screw UltraCut FBS II 6 M8/M10

UltraCut FBS II M8/M10
outside threadUltraCut FBS II M6, M8/M10 I
internal thread

Item	Item No.	Approval ETA	Drill hole diameter	Min. drill hole depth for pre-positioned installation	Screw diameter	Screw length	Screw-in depth Multiple fixing ETA-18/0242	Screw-in depth Single point fixing ETA-15/0352	Drive	Sales unit [pcs]
			d_0 [mm]	h_1 [mm]	d_s [mm]	l_s [mm]	$h_{nom,min} - h_{nom,max}$ [mm]	$h_{nom,min} - h_{nom,max}$ [mm]		
FBS II 6 x 25 M8/19	546395	,	6	30	7,5	25	25	—	SW 10	100
FBS II 6 x 35 M8/19	546396	,	6	40	7,5	35	35	—	SW 10	100
FBS II 6 x 55 M8/19	546397	,	6	60	7,5	55	55	55	SW 10	100
FBS II 6 x 35 M10/21	546398	,	6	40	7,5	35	35	—	SW 13	100
FBS II 6 x 55 M10/21	546399	,	6	60	7,5	55	55	55	SW 13	100
FBS II 6 x 35 M6 I	554065	,	6	40	7,5	35	35	—	SW 13	100
FBS II 6 x 55 M6 I	554066	,	6	60	7,5	55	55	55	SW 13	100
FBS II 6 x 35 M8/M10 I	546400	,	6	40	7,5	35	35	—	SW 13	100
FBS II 6 x 55 M8/M10 I	546401	,	6	60	7,5	55	55	55	SW 13	100

Technical data

Accessories UltraCut FBS II



SW socket



TX 1/2" - 1/4" socket



FMB TX

Item	Item No.	Internal diameter D [mm]	Drive	Match	Sales unit [pcs]
SW 10 socket	538577	—	1/2" / SW10	FBS II 6	1
SW 13 socket	538578	—	1/2" / SW13	FBS II 6 M8-M10 / FBS II 8	1
1/2" - 1/4" socket	553928	—	1/2" / 1/4"	FBS II 6 / FBS II 8 / FBS II 8 SK	1
FMB TX30 MaxxBit W 5	533158	—	TX30	FBS II 6	1
FMB TX40 MaxxBit W 5	533159	—	TX40	FBS II 6 / FBS II 8 / FBS II 8 SK	1

Loads

Concrete screw UltraCut FBS II 6

Permissible loads of a single anchor¹⁾ in normal concrete of strength class C20/25.
For the design the complete current assessment ETA-15/0352 has to be considered.

Type	Material/ surface	Screw-in depth h_{nom} [mm]	Minimum member thickness h_{min} [mm]	Maximum installation torque $T_{imp,max}^{2)}$ [Nm]	Cracked concrete				Non-cracked concrete			
					Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads				Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads			
					$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{3)}$ [mm]	$c_{min}^{3)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{3)}$ [mm]	$c_{min}^{3)}$ [mm]
FBS II 6	gvz	40	80	450	1.2	4.3	35	35	3.8	4.3	35	35
	gvz	45	90	450	1.7	4.3	35	35	4.8	4.3	35	35
	gvz	50	90	450	1.9	4.3	35	35	5.7	4.3	35	35
	gvz	55	100	450	2.4	6.3	35	35	6.4	6.3	35	35

¹⁾ Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered. As a single anchor counts e.g. an anchor with a spacing $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1.5 \times h_{ef}$. Accurate data see ETA.

²⁾ Maximum allowable torque for installation with any tangential impact screw driver. Further technical data see ETA.

³⁾ In the case of combinations of tension and shear loads, bending moments with reduced or minimum spacing and edge distances (anchor groups), the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018. We recommend using our anchor design software C-FIX.

Loads

Concrete screw UltraCut FBS II 6

Permissible loads for a single anchor¹⁾ for multiple use of redundant non-structural applications* in normal concrete C20/25.
For the design the complete current assessment ETA - 18/0242 has to be considered.

Type	Material/ surface	Screw-in depth h_{nom} [mm]	Minimum member thickness h_{min} [mm]	Maximum installation torque $T_{inst,max}^{2)}$ [Nm]	Cracked concrete				Non-cracked concrete			
					Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads				Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads			
					$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{3)}$ [mm]	$c_{min}^{3)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{3)}$ [mm]	$c_{min}^{3)}$ [mm]
FBS II 6	gvz	25	80	≤ 5	0.7	1.8	35	35	1.4	2.3	35	35
	gvz	30	80	≤ 5	1.2	2.3	35	35	2.4	2.3	35	35
	gvz	35	80	≤ 5	1.7	4.3	35	35	3.1	4.3	35	35
	gvz	40	80	≤ 10	2.4	4.3	35	35	3.8	4.3	35	35
	gvz	45	90	≤ 10	2.9	4.3	35	35	4.8	4.3	35	35
	gvz	50	90	≤ 10	3.6	4.3	35	35	5.7	4.3	35	35
	gvz	55	100	≤ 10	4.0	6.3	35	35	6.4	6.3	35	35

* In addition to the load table above, the following must be considered for multiple fastening of non-structural redundant systems:

A multiple fixing (redundant system) according to EN 1992-4 and CEN/TR 17079 is defined by

- at least 3 fixing points (per attached element) with at least one anchor at each fixing point and a permissible load per fixing point of 1.4 kN
- or by at least 4 fixing points with at least one anchor each fixing point and a permissible load per fixing point of 2.1 kN

- Additionally, it has to be proven that the stiffness of the attached element shall be large enough to ensure that in case of excessive slip or failure of a fastener the load on this fastener or fixing point can be transferred to neighbouring fixing points without significantly violating the requirements on the attached element in the serviceability and ultimate limit state.

For further details see EN 1992-4 section 7.3 and CEN/TR 17079.

¹⁾ Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered.

²⁾ Further technical information for installation see ETA.

³⁾ In the case of combinations of tension and shear loads, bending moments with reduced or minimal edge and axial spacings (anchor groups), the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018.

Loads

Concrete screw UltraCut FBS II 6

Permissible loads for a single anchor¹⁾ for multiple use of redundant non-structural applications* in pre-stressed hollow-core concrete slabs of concrete strength C30/37.
For the design the complete current assessment ETA - 18/0242 has to be considered.

Type	FBS II 6 gvz								
Screw-in depth	h_{nom}	25	30	35	40	45	50	55	
Permissible load $F_{perm}^{3)}$ in the respective bottom flange thickness									
$d_b \geq 25$ mm	[kN]	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
$d_b \geq 30$ mm	[kN]	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
$d_b \geq 35$ mm	[kN]	1.7	1.9	2.1	2.4	2.6	2.9	3.1	3.1
$d_b \geq 40$ mm	[kN]	1.7	2.3	2.6	2.9	3.3	3.6	3.8	3.8
$d_b \geq 50$ mm	[kN]	1.7	2.3	3.3	3.8	4.3	4.3	5.7	5.7
Installation torque	$T_{inst,max}$ [Nm]	5.0	5.0	10	10	10	10	10	10
Minimum spacing	$s_{1,s2}^{2)}$ [mm]	100	100	100	100	100	100	100	100
Minimum edge distance	$c_{1,c2}^{2)}$ [mm]	100	100	100	100	100	100	100	100

* In addition to the load table above, the following must be considered for multiple fastening of non-structural redundant systems:

A multiple fixing (redundant system) according to EN 1992-4 and CEN/TR 17079 is defined by

- at least 3 fixing points (per attached element) with at least one anchor at each fixing point and a permissible load per fixing point of 1.4 kN
- or by at least 4 fixing points with at least one anchor each fixing point and a permissible load per fixing point of 2.1 kN

- Additionally, it has to be proven that the stiffness of the attached element shall be large enough to ensure that in case of excessive slip or failure of a fastener the load on this fastener or fixing point can be transferred to neighbouring fixing points without significantly violating the requirements on the attached element in the serviceability and ultimate limit state.

For further details see EN 1992-4 section 7.3 and CEN/TR 17079.

¹⁾ Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered.

²⁾ Further technical information for installation see ETA.

³⁾ Valid for tensile load, shear load and oblique load under any angle. In the case of combinations of tensile, shear loads and bending moments, the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018.