

VERSIONS

- Stainless steel

BUILDING MATERIALS

Approved for:

- Concrete C20/25 to C50/60, cracked
- Concrete C20/25 to C50/60, non-cracked

Also suitable for:

- Natural stone with dense structure

APPROVALS



CONCRETE SCREW FBS 8 -12 A4

The powerful concrete screw for outdoor use

ADVANTAGES

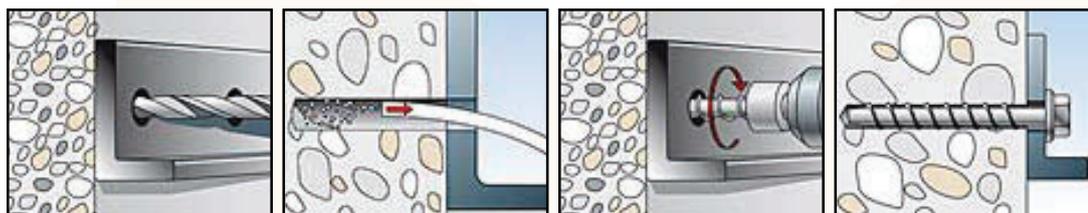
- The FBS A4 ensures very high loads, thus resulting in fewer anchoring points.
- The enhanced stainless steel version A4 now also allows anchoring applications in outdoor and damp areas.
- The version type CSK (countersunk head) offers expanded use for applications with challenging designs.
- The ETA approval Option 1 governs the use of single-point fixings in cracked and non-cracked concrete.

APPLICATIONS

- Guard rails
- Consoles/base plates
- Steel constructions
- Metal profiles
- Guardrails
- Ladders
- Gates

FUNCTIONING

- The FBS is suitable for push-through installation.
- For installation, a torque wrench with a suitable socket is recommended.
- Use FBS A4 for external applications and those in a damp environment.

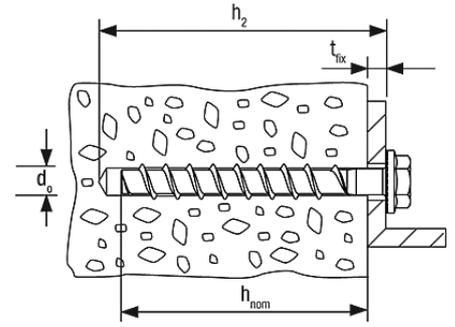


CONCRETE SCREW FBS 8 -12 A4

TECHNICAL DATA



Concrete screw FBS 8-12 A4



STAINLESS STEEL A4

Type	Art.-No.	ETA-approval	Drill hole diameter d_0 [mm]	Min. drill hole depth for through fixings h_2 [mm]	Screw length l_s [mm]	Screw-in depth h_{nom} [mm]	Max. fixture thickness t_{fix} [mm]
FBS 8 x 70/5 US A4	523899	■	8	80	70	65	5
FBS 8 x 80/15 US A4	523900	■	8	90	80	65	15
FBS 8 x 90/25 US A4	523901	■	8	100	90	65	25
FBS 10 x 90/5 US A4	523902	■	10	100	90	85	5
FBS 10 x 100/15 US A4	523903	■	10	110	100	85	15
FBS 10 x 120/35 US A4	523904	■	10	130	120	85	35
FBS 12 x 110/10 US A4	523905	■	12	120	110	100	10
FBS 12 x 130/30 US A4	523906	■	12	140	130	100	30
FBS 8 x 80/15 CSK A4	534063	■	8	90	80	65	15
FBS 8 x 90/25 CSK A4	534064	■	8	100	90	65	25
FBS 10 x 90/5 CSK A4	534065	■	10	100	90	85	5
FBS 10 x 110/25 CSK A4	534067	■	10	120	110	85	25

LOADS

Concrete screw FBS A4

Highest permissible loads for a single anchor¹⁾ in concrete C20/25⁴⁾

For the design the complete approval ETA - 11/0095 has to be considered.

Type					Cracked concrete				Non-cracked concrete			
	Embedment depth	Min. member thickness	Torque moment	Permissible tensile load	Permissible shear load	Min. spacing	Min. edge distance	Permissible tensile load	Permissible shear load	Min. spacing	Min. edge distance	
	h_{nom} [mm]	h_{min} [mm]	$T_{inst, max}$ [Nm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]	
FBS 8 A4	65	120	≤ 20	4,3	6,2	50	50	5,7	8,8	50	50	
FBS 10 A4	85	130	≤ 40	7,6	19,0	70	70	13,5	19,0	70	70	
FBS 12 A4	100	150	≤ 60	12,3	23,3	80	80	17,2	23,3	80	80	

¹⁾ The partial safety factors for material resistance as regulated in the approval 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 approval.

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 approval.

⁴⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.