Loads

Permissible loads of a single anchor[1] in normal concrete of strength class C20/25.
For the design the complete current assessment ETA-22/0674 of 26.07.2023 has to be considered.

Type	Material/ surface[2]	Effective anchorage depth h_{ef} [mm]	Minimum member thickness h_{min} [mm]	Installation torque $T_{inst,max}$ [Nm]	Cracked concrete Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads				Non-cracked concrete 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]
FSU M10 x 100	gvz	100	170	40	14.3	15.3	80	80	21.0	15.3	80	80
FSU M12 x 125	gvz	125	220	80	19.0	21.8	90	90	31.4	21.8	90	90
FSU-P M10 x 100	gvz	100	170	40	14.3	37.7	80	80	21.0	37.7	80	80
FSU-P M12 x 125	gvz	125	220	80	19.0	49.3	90	90	31.4	49.3	90	90

[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 γ_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] For material details 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. Assumption t_{fix} = 12 mm; with t_{fix} > 12 mm the V_{perm} values increase for FSU-P. We recommend using our anchor design software C-FIX.