

fischer Strong Undercut Anchor FSU

Permissible loads of a single anchor¹⁾ in normal concrete of strength class C20/25.

For the design the complete current assessment ETA-22/0674 of 25.03.2026 has to be considered.

Type	Material / surface ²⁾	Effective anchorage depth h_{ef} [mm]	Minimum member thickness h_{min} [mm]	Installation torque T_{inst} [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]
FSU M10 x 100	gvz	100	170	40	19.0	15.3	80	80	22.1	15.3	80	80
	R	100	170	40	19.0	18.8	80	80	22.1	18.8	80	80
FSU M12 x 125	gvz	125	215	80	26.5	21.8	90	90	32.1	21.8	90	90
	R	125	215	80	26.5	28.5	90	90	32.1	28.5	90	90
FSU M16 x 190	gvz	190	270	120	49.6	39.5	100	100	59.8	39.5	100	100
	R	190	270	120	49.6	50.2	100	100	59.8	50.2	100	100
FSU-P M10 x 100	gvz	100	170	40	19.0	37.8	80	80	22.1	37.8	80	80
	R	100	170	40	19.0	42.8	80	80	22.1	42.8	80	80
FSU-P M12 x 125	gvz	125	215	80	26.5	49.4	90	90	32.1	49.4	90	90
	R	125	215	80	26.5	58.8	90	90	32.1	58.8	90	90
FSU-P M16 x 190	gvz	190	270	120	49.6	102.2	100	100	59.8	102.2	100	100
	R	190	270	120	49.6	122.7	100	100	59.8	122.7	100	100

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 $\gamma_F = 1,4$ 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 for M10 and $t_{fix} = 19$ mm for M12; with $t_{fix} > 14$ mm for M10 and $t_{fix} > 19$ mm for M12 the V_{perm} values increase for FSU-P. Assumption $t_{fix} = 30$ mm for M16; with $t_{fix} > 40$ mm for M16 the V_{perm} values increase for FSU-P. We recommend using our anchor design software C-FIX.