

Bolt anchor FAZ II

Permissible loads of a single anchor¹⁾ in normal concrete of strength class C20/25.
For the design the complete current assessment ETA-05/0069 has to be considered.

Type	Material/ surface ²⁾	Effective anchorage depth h_{ef} [mm]	Minimum member thickness h_{min} [mm]	Instal- lation 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]
FAZ II 6	gvz	40	90	8	0.7	3.4	35	45	3.6	3.4	35	45
	R	40	90	8	0.7	5.0	35	45	5.0	5.0	35	45
FAZ II 8	gvz	35	80	20	2.6	7.8	35	40	4.9	7.8	40	40
	gvz	45	90	20	3.8	7.8	35	40	6.7	7.8	40	40
	R	35	80	20	2.6	8.5	35	40	4.9	9.6	40	40
	R	45	90	20	3.8	9.6	35	40	6.7	9.6	40	40
FAZ II 10	gvz	40	90	45	4.1	10.8	40	45	5.9	12.2	40	45
	gvz	60	110	45	6.2	12.2	40	45	9.5	12.2	40	45
	R	40	90	45	4.1	12.2	40	45	5.9	15.1	40	45
	R	60	110	45	6.2	15.1	40	45	9.5	15.1	40	45
FAZ II 12	gvz	50	100	60	5.8	17.5	50	55	8.3	17.5	50	55
	gvz	70	120	60	9.5	17.5	50	55	10.5	17.5	50	55
	R	50	100	60	5.8	18.0	50	55	8.3	21.9	50	55
	R	70	120	60	9.5	21.9	50	55	10.5	21.9	50	55
FAZ II 16	gvz	65	140	110	8.6	27.5	65	65	12.3	31.4	65	65
	gvz	85	140	110	12.9	31.4	65	65	18.4	31.4	65	65
	R	65	140	110	8.6	27.5	65	65	12.3	36.8	65	65
	R	85	140	110	12.9	38.6	65	65	18.4	39.9	65	65
FAZ II 20	gvz	100	170	200	16.4	42.6	95	85	23.4	46.5	95	95
	R	100	170	200	16.4	42.6	95	85	23.4	60.7	95	95
FAZ II 24	gvz	125	210	270	22.9	55.0	100	100	32.7	62.9	100	135
	R	125	210	270	22.9	55.0	100	100	32.7	78.6	100	135

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 $s \geq 3 \times h_{gr}$, and an edge distance $c \geq 1.5 \times h_{gr}$. Accurate data see ETA.

²⁾ Further steel grades, versions and technical data see ETA, e.g. for dry internal conditions, galvanised steel (gvz); for damp interiors and for outdoor use, stainless steel (R).

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.