

Injection system FIS P Plus with threaded rod FIS A resp. RG M

Permissible loads of a single anchor¹⁾²⁾ in normal concrete of strength class C20/25.
For the design the complete current assessment ETA-18/0383 has to be considered.

Type	Material / surface ³⁾	Effective anchor-age depth	Minimum member thickness	Maximum installa-tion torque	Non-cracked concrete			
		h_{ef} [mm]	h_{min} [mm]	$T_{inst,max}$ [Nm]	Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads	$N_{perm}^{4)}$ [kN]	$V_{perm}^{4)}$ [kN]	$s_{min}^{4)}$ [mm]
FIS A M 8	5.8	60	100	10	3.9	5.1	40	40
	5.8	80	110	10	5.2	5.1	40	40
	5.8	160	190	10	9.0	5.1	40	40
	R-70	60	100	10	3.9	6	40	40
	R-70	80	110	10	5.2	6	40	40
	R-70	160	190	10	9.9	6	40	40
FIS A M 10	5.8	60	100	20	4.9	8.6	45	45
	5.8	90	120	20	7.3	8.6	45	45
	5.8	200	230	20	13.8	8.6	45	45
	R-70	60	100	20	4.9	9.2	45	45
	R-70	90	120	20	7.3	9.2	45	45
	R-70	200	230	20	15.7	9.2	45	45
FIS A M 12	5.8	70	100	40	6.8	12.0	55	55
	5.8	110	140	40	10.7	12.0	55	55
	5.8	240	270	40	20.5	12.0	55	55
	R-70	70	100	40	6.8	13.7	55	55
	R-70	110	140	40	10.7	13.7	55	55
	R-70	240	270	40	22.5	13.7	55	55
FIS A M 16	5.8	80	120	60	10.4	22.3	65	65
	5.8	125	170	60	16.2	22.3	65	65
	5.8	320	360	60	37.6	22.3	65	65
	R-70	80	120	60	10.4	24.9	65	65
	R-70	125	170	60	16.2	25.2	65	65
	R-70	320	360	60	41.5	25.2	65	65
FIS A M 20	5.8	90	140	120	13.5	32.3	85	85
	5.8	170	220	120	25.4	34.9	85	85
	5.8	400	450	120	58.6	34.9	85	85
	R-70	90	140	120	13.5	32.3	85	85
	R-70	170	220	120	25.4	39.4	85	85
	R-70	400	450	120	59.8	39.4	85	85
FIS A M 24	5.8	96	160	150	17.2	41.4	105	105
	5.8	210	270	150	37.7	50.9	105	105
	5.8	480	540	150	84.3	50.9	105	105
	R-70	96	160	150	17.2	41.4	105	105
	R-70	210	270	150	37.7	56.8	105	105
	R-70	480	540	150	86.2	56.8	105	105

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⁾ The specified loads are valid for anchorages in dry and damp concrete. For temperatures in the anchoring substrate up to 50 °C (resp. short term up to 80 °C). Drill hole cleaning as per specification in the ETA. The factor Ψ_{sus} for sustained load was taken into account with 1.0.

³⁾ 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).

⁴⁾ 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.