

Injection system FIS EM Plus with internal threaded anchor RG M I

Permissible loads of a single anchor¹⁾²⁾ in normal concrete of strength class C20/25.
 For the design the complete current assessment ETA-17/0979 of 22.04.2024 has to be considered.

Type	Screw material ³⁾	Effective anchorage depth h_{ef} [mm]	Minimum member thickness h_{min} [mm]	Maximum installation-torque $T_{inst,max}$ [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			
					$N_{perm}^{4)}$ [kN]	$V_{perm}^{4)}$ [kN]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]	$N_{perm}^{4)}$ [kN]	$V_{perm}^{4)}$ [kN]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
RG M8 I	5.8	90	120	10	8.7	6.2	55	55	8.7	6.2	55	55
	8.8	90	120	10	11.3	8.3	55	55	13.9	8.3	55	55
	R-70	90	120	10	9.8	5.9	55	55	9.8	5.9	55	55
RG M10 I	5.8	90	130	20	12.9	9.9	65	65	13.8	9.9	65	65
	8.8	90	130	20	12.9	13.3	65	65	20.0	13.3	65	65
	R-70	90	130	20	12.9	9.3	65	65	15.5	9.3	65	65
RG M12 I	5.8	125	170	40	20.0	14.4	75	75	20.0	14.4	75	75
	8.8	125	170	40	20.2	19.3	75	75	32.1	19.3	75	75
	R-70	125	170	40	20.2	13.5	75	75	22.5	13.5	75	75
RG M16 I	5.8	160	210	80	33.2	26.9	95	95	37.3	26.9	95	95
	8.8	160	210	80	33.2	35.9	95	95	47.4	35.9	95	95
	R-70	160	210	80	33.2	25.1	95	95	41.9	25.1	95	95
RG M20 I	5.8	200	260	120	46.4	42.0	125	125	58.3	42.0	125	125
	8.8	200	260	120	46.4	56.0	125	125	66.3	56.0	125	125
	R-70	200	260	120	46.4	39.2	125	125	65.4	39.2	125	125

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 $\gamma_c = 1.4$ 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 72 °C). Higher loads are possible at lower temperatures. Drilling method and borehole cleaning according to ETA specifications. The factor ψ_{sust} 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.