

Injection mortar UPM55

Load table

Permissible loads of a single anchor^{1) 2)} in normal concrete of strength class C20/25.

For the design the complete current assessment ETA-11/0418 has to be considered.

Type	Material / surface ³⁾	Effective anchor- agedepth h_{ef} [mm]	Minimum- member thickness h_{min} [mm]	Maximum in- stallation- 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]
UPM-A/ASTA M8	5.8	60	100	10	5	5.1	40	40	9	5.1	40	40
UPM-A/ASTA M8	5.8	160	190	10	9	5.1	40	40	9	5.1	40	40
UPM-A/ASTA M8	R-70	60	100	10	5	6	40	40	9.9	6	40	40
UPM-A/ASTA M8	R-70	160	190	10	9.9	6	40	40	9.9	6	40	40
UPM-A/ASTA M10	5.8	60	100	20	6.3	8.6	45	45	11.2	8.6	45	45
UPM-A/ASTA M10	5.8	200	230	20	13.8	8.6	45	45	13.8	8.6	45	45
UPM-A/ASTA M10	R-70	60	100	20	6.3	9.2	45	45	11.2	9.2	45	45
UPM-A/ASTA M10	R-70	200	230	20	15.7	9.2	45	45	15.7	9.2	45	45
UPM-A/ASTA M12	5.8	70	100	40	8.8	12	55	55	14.1	12	55	55
UPM-A/ASTA M12	5.8	240	270	40	20.5	12	55	55	20.5	12	55	55
UPM-A/ASTA M12	R-70	70	100	40	8.8	13.7	55	55	14.1	13.7	55	55
UPM-A/ASTA M12	R-70	240	270	40	22.5	13.7	55	55	22.5	13.7	55	55
UPM-A/ASTA M16	5.8	80	116	60	10.2	22.3	65	65	14.3	23.2	65	65
UPM-A/ASTA M16	5.8	320	356	60	37.6	22.3	65	65	37.6	22.3	65	65
UPM-A/ASTA M16	R-70	80	116	60	10.2	24.5	65	65	14.3	25.2	65	65
UPM-A/ASTA M16	R-70	320	356	60	42	25.2	65	65	42	25.2	65	65
UPM-A/ASTA M20	5.8	90	138	120	12.2	29.3	85	85	17.1	34.9	85	85
UPM-A/ASTA M20	5.8	400	448	120	58.6	34.9	85	85	58.6	34.9	85	85
UPM-A/ASTA M20	R-70	90	138	120	12.2	29.3	85	85	17.1	39.4	85	85
UPM-A/ASTA M20	R-70	400	448	120	65.7	39.4	85	85	65.7	39.4	85	85
UPM-A/ASTA M24	5.8	96	152	150	13.4	32.2	105	105	18.8	45.2	105	105
UPM-A/ASTA M24	5.8	480	536	150	84.3	50.9	105	105	84.3	50.9	105	105
UPM-A/ASTA M24	R-70	96	152	150	13.4	32.2	105	105	18.8	45.2	105	105
UPM-A/ASTA M24	R-70	480	536	150	94.3	56.8	105	105	94.3	56.8	105	105
UPM-A/ASTA M30	5.8	120	190	300	18.8	45.1	140	140	26.3	63.2	140	140
UPM-A/ASTA M30	5.8	600	670	300	133.8	80.6	140	140	133.8	80.6	140	140
UPM-A/ASTA M30	R-70	120	190	300	18.8	45.1	140	140	26.3	63.2	140	140
UPM-A/ASTA M30	R-70	600	670	300	150.1	90.2	140	140	150.1	90.2	140	140

¹⁾ Design according to ETAG 001, Technical Report TR029 (for static and 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, for example, an anchor with a spacing $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1.5 \times h_{ef}$. For 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 according to the specifications in the ETA.

³⁾ Further steel grades, versions and technical data: see ETA, e.g. for dry internal conditions, galvanised steel (zp/gvz); for damp interiors and for outdoor use, stainless steel (R).

⁴⁾ In the case of combinations of tension and shear loads, bending moments, as well as reduced or minimum spacings and edge distances (anchor groups), the design must be carried out in accordance with the provisions of the complete ETA and the design method ETAG 001. We recommend using our anchor design software DesignFIX.

Injection mortar UPM55

Load table

Permissible loads of a single anchor¹⁾ ²⁾ in normal concrete of strength class C20/25.

For the design the complete current assessment ETA-11/0418 has to be considered.

Type	Screw Material ³⁾	Effective anchor- agedepth h_{ef} [mm]	Minimummember thickness h_{min} [mm]	MaximumInstallation- torque $T_{inst,max}$ [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]	c_{min} ⁴⁾ [mm]
IST M8	5.8	90	120	10	9.1	5.3	55	55
IST M8	R-70	90	120	10	9.93	5.9	55	55
IST M10	5.8	90	125	20	12.9	8.3	65	65
IST M10	R-70	90	125	20	12.9	9.3	65	65
IST M12	5.8	125	165	40	20.2	12	75	75
IST M12	R-70	125	165	40	20.2	13.5	75	75
IST M16	5.8	160	205	80	28.9	22.4	95	95
IST M16	R-70	160	205	80	28.9	25.1	95	95
IST M20	5.8	200	260	120	40.4	35.4	125	125
IST M20	R-70	200	260	120	40.4	35.4	125	125

¹⁾ Design according to ETAG 001, Technical Report TR029 (for static and 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, for example, an anchor with a spacing $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1.5 \times h_{ef}$. For 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 according to the specifications in the ETA.

³⁾ Further steel grades, versions and technical data: see ETA, e.g. for dry internal conditions, galvanised steel (zp/gvz); for damp interiors and for outdoor use, stainless steel (R).

⁴⁾ In the case of combinations of tension and shear loads, bending moments, as well as reduced or minimum spacings and edge distances (anchor groups), the design must be carried out in accordance with the provisions of the complete ETA and the design method ETAG 001. We recommend using our anchor design software DesignFix.