

Injection mortar UPM55

Epoxy injection mortar for challenging applications. Approved for concrete, seismic, fire protection and reinforcement connections. Suitable for underwater use.

Long Description

The epoxy injection mortar for challenging applications. Suitable for concrete. For absorbing high loads. Approved for concrete, seismic, fire protection and reinforcement connections. Suitable for underwater use. Additional system components anchor rods (UPM-A/ASTA) or internally threaded anchors (UPM-I/IST). Is used for push-in or push-through installation. Characterised by a broad approval package, long curing times and a wide range of applications. Used, for example, for fastening reinforcing steel, underwater applications and bridge railings.

Characteristics

- Certification/Approval: ETA Option 1 cracked concrete, post-installed rebar connection, seismic, fire testing, hammer drilling, diamond drilling, hollow drilling, water-filled drill hole
- Suitable for: Underwater
- Load range concrete: Tensile load 5.1-150.1kN, shear load 5.1-90.2kN
- System component: Anchor rod ASTA/UPM-A, internally threaded anchor IST, reinforcing steel, commercially available threaded rods with test certificate 3.1
- Temperature in the anchoring base: +5°C to 40°C
- Accessories: Metal dispenser gun UPM MR or professional dispenser gun UPM DM P, Blow-out pump UPM AB, Cleaning brush UP BS

Applications

- Reinforcing steel
- Underwater application
- Bridge railings
- Steel construction
- Steel girders
- Column bases
- Silos
- Pumps

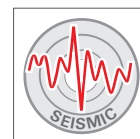
Advantages

- Broad approval package: ETA Option 1 approval, subsequent reinforcement connection, seismic and fire protection testing
- Long curing times: With extended curing time, ideally suited for deep drill holes and large diameters
- Wide range of applications: Epoxy resin makes special applications such as underwater anchoring possible and increases flexibility
- High loads: The high-quality epoxy resin mortar is one of the strongest mortar formulations
- Fixing close to the edge: The expansion pressure-free fixing enables small edge and centre distances and prevents installation damage in the edge area

Materials

Approved for:

- Concrete C20/25 to C50/60, cracked and non-cracked



Straight to the product



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Application examples



Assembly



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Product variants

Product	Art.No.	Content
UPM 55-390	513712	1 x cartridge 390ml, 2 x static mixer

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.

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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	Screw Material ³⁾	Effective anchor- agedepth	Minimummember thickness	MaximumInstallation- torque	Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads			
		h_{ef} [mm]	h_{min} [mm]	$T_{inst,max}$ [Nm]	$N_{perm}^{4)}$ [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.

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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.