

Resin anchor RM II: Resin capsule RM II with Threaded rod RG M

zinc plated steel 5.8 / zinc plated steel 8.8 / stainless steel A4-70 / high corrosion resistant steel C-70

Permissible loads of a single anchor in cracked normal concrete (concrete tension zone) of strength class C20/25 (~B25) ^{1) 2) 3) 4) 8)}										Minimum spacings while reducing the load	
Type	Material fixing element	Min. member thickness	Effective anchorage depth	Maximum torque moment	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load c	Max. shear load c			
		h_{min} [mm]	h_{ef} [mm]	T_{max} [Nm]	$N_{perm}^{5)}$ [kN]	$V_{perm}^{5)}$ [kN]	[mm]	[mm]	[mm]	[mm]	[mm]
RG M 10	5.8	120	90	20	3,9	8,6	120	155	270	45	45
	8.8							175			
	A4-70							165			
	C-70							175			
RG M 12	5.8	140	110	40	5,8	12,0	145	195	330	55	55
	8.8							230			
	A4-70										
	C-70										
RG M 16	5.8	170	125	60	8,7	20,9	190	325	375	65	65
	8.8										
	A4-70										
	C-70										
RG M 20	5.8	220	170	120	14,8	34,9	240	450	510	85	85
	8.8					35,6		460			
	A4-70										
RG M 24	5.8	270	210	150	22,0	50,9	285	590	630	105	105
	8.8					52,8		615			
	A4-70										

For the design the complete assessment ETA-16/0340 has to be considered. ⁷⁾

¹⁾ The partial safety factors for material resistance as regulated in the ETA-16/0340 as well as a partial safety factor for load actions of $\gamma_L = 1,4$ are considered. As an single anchor counts e.g. an anchor with a spacing $s \geq 3 \cdot h_{ef}$ and an edge distance $c \geq 1,5 \cdot h_{ef}$. Accurate data see ETA-16/0340.

²⁾ The given loads are valid for RM II for fixations in dry and humid concrete for temperatures in the substrate up to 72 °C (resp. short term up to 120 °C in accordance with ETA-16/0340).

³⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

⁴⁾ Drill method hammer drilling. For further allowable application conditions see ETA-16/0340.

⁵⁾ For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.

⁶⁾ Minimum possible axial spacings resp. edge distance while reducing the permissible load.

⁷⁾ The given loads refer to the European Technical Assessment ETA-16/0340, issue date 06.10.2017. Design of the loads according ETAG 001, Technical Report TR 029 (for static resp. quasi-static loads).

⁸⁾ A reinforcement in the concrete to prevent splitting is required. The width of the cracks has to be limited under consideration of the splitting forces at $w_k \sim 0,3$ mm.

LOADS

Resin anchor RM II: Resin capsule RM II with Threaded rod RG M

zinc plated steel 5.8 / zinc plated steel 8.8 / stainless steel A4-70 / high corrosion resistant steel C-70

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25) ^{1) 2) 3) 4)}										Minimum spacings while reducing the load	
Type	Material fixing element	Min. member thickness	Effective anchorage depth	Maximum torque moment	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load c	Max. shear load c			
		h_{min} [mm]	h_{ef} [mm]	T_{max} [Nm]	$N_{perm}^{5)}$ [kN]	$V_{perm}^{5)}$ [kN]	[mm]	[mm]	[mm]	[mm]	[mm]
RG M 8	5.8	110	80	10	8,4	5,1	95	70	240	40	40
	8.8					8,6		115			
	A4-70					6,0		75			
	C-70					7,4		100			
RG M 10	5.8	120	90	20	11,8	8,6	120	105	270	45	45
	8.8					13,1		170			
	A4-70					9,2		110			
	C-70					11,4		145			
RG M 12	5.8	140	110	40	17,3	12,0	165	130	330	55	55
	8.8					19,4		230			
	A4-70					13,7		155			
	C-70					17,1		200			
RG M 16	5.8	170	125	60	26,2	22,3	260	235	375	65	65
	8.8					36,0		405			
	A4-70					25,2		270			
	C-70					31,4		350			
RG M 20	5.8	220	170	120	44,4	34,9	385	300	510	85	85
	8.8					56,0		525			
	A4-70					39,4		345			
RG M 24	5.8	270	210	150	61,0	50,9	475	390	630	105	105
	8.8					80,6		675			
	A4-70					56,8		445			

For the design the complete assessment ETA-16/0340 has to be considered. ⁷⁾

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³⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

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LOADS

Resin anchor RM II: Resin capsule RM II with Internal threaded anchor RG M I

zinc plated steel / stainless steel A4

Permissible loads of a single anchor in cracked normal concrete (concrete tension zone) of strength class C20/25 (~B25) ^{1) 2) 3) 4) 7)}										Minimum spacings while reducing the load		
Type	Screw steel property/surface	Min. member thickness	Effective anchorage depth	Maximum torque moment	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance	
							Max. tension load c	Max. shear load c				Max. Load s _{cr}
		h _{min} [mm]	h _{ef} [mm]	T _{max} [Nm]	N _{perm} ⁴⁾ [kN]	V _{perm} ⁴⁾ [kN]						
RG M 8 I	5.8	120	90	10	4,7		135	5,3	85	270	55	55
	8.8							8,3	145			
	A4-70							5,9	95			
RG M 10 I	5.8	130	90	20	6,3		135	8,3	135	270	65	65
	8.8							13,3	235			
	A4-70							9,3	155			
RG M 12 I	5.8	170	125	40	9,8		190	12,1	165	375	75	75
	8.8							19,3	285			
	A4-70							13,5	185			
RG M 16 I	5.8	210	160	80	15,4		240	22,4	275	480	95	95
	8.8							30,9	405			
	A4-70							25,1	315			
RG M 20 I	5.8	270	200	120	24,4		300	35,4	385	600	125	125
	8.8							51,4	600			
	A4-70							39,4	435			

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Resin anchor RM II: Resin capsule RM II with Internal threaded anchor RG M I

zinc plated steel / stainless steel A4

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25) ¹⁾²⁾³⁾										Minimum spacings while reducing the load	
Type	Screw steel property/surface	Min. member thickness	Effective anchorage depth	Maximum torque moment	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load c	Max. shear load c			
		h_{min} [mm]	h_{ef} [mm]	T_{max} [Nm]	$N_{perm}^{4)}$ [kN]	$V_{perm}^{4)}$ [kN]	[mm]	[mm]	[mm]	[mm]	[mm]
RG M 8 I	5.8	120	90	10	9,0	5,3	85	65	270	55	55
	8.8				12,8	8,3	135	95			
	A4-70				9,9	5,9	95	70			
RG M 10 I	5.8	130	90	20	13,8	8,3	140	90	270	65	65
	8.8				17,1	13,3	190	155			
	A4-70				15,7	9,3	170	100			
RG M 12 I	5.8	170	125	40	20,5	12,1	180	110	375	75	75
	8.8				26,6	19,3	265	190			
	A4-70				22,5	13,5	210	125			
RG M 16 I	5.8	210	160	80	37,6	22,4	330	180	480	95	95
	8.8				40,6	30,9	365	265			
	A4-70					25,1		205			
RG M 20 I	5.8	270	200	120	56,7	35,4	445	250	600	125	125
	8.8					51,4		400			
	A4-70					39,4		285			

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