Superbond-System: Resin capsule RSB with Threaded rod RG M [1)]

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) [2) 3) 4) 9)]										Minimum spacings while reducing the load	
Type	Material fixing element	Min. member thickness h_{min} [mm]	Effective anchorage depth h_{ef} [mm]	Maximum torque moment T_{max} [Nm]	Permissible tensile load N_{perm} [6)] [kN]	Permissible shear load V_{perm} [6)] [kN]	Required edge distance (with one edge) for: Max. tension load c [mm]	Required edge distance (with one edge) for: Max. shear load c [mm]	Required spacing for Max. Load s_{cr} [mm]	Min. spacing s_{min} [7)] [mm]	Min. edge distance c_{min} [7)] [mm]
RG M 8 [5)]	5.8	110	80	10	5,7	5,1	105	95	240	40	40
	8.8					8,6		170			
	A4-70					6,0		115			
	C-70					7,4		145			
RG M 10 [5)]	5.8	110	75	20	7,3	8,6	115	170	225	45	45
	8.8					13,1		280			
	A4-70					9,2		185			
	C-70					11,4		240			
	5.8	120	90		8,8	8,6	130	155	270		
	8.8					13,1		250			
	A4-70					9,2		165			
	C-70					11,4		215			
	5.8	180	150		13,8	8,6	120	115	450		
	8.8				14,6	13,1	130	185			
	A4-70					9,2		120			
RG M 12 [5)]	5.8	110	75	40	10,1	12,0	115	245	225	55	55
	8.8					19,4		420			
	A4-70					13,7		285			
	C-70					17,1		365			
	5.8	140	110		14,8	12,0	155	195	330		
	8.8					19,4		340			
	A4-70					13,7		230			
	C-70					17,1		295			
	5.8	180	150		20,2	12,0		160	450		
	8.8					19,4		280			
	A4-70					13,7		185			
RG M 16	5.8	140	95	60	15,9	22,3	145	410	285	65	65
	8.8					31,7		605			
	A4-70					25,2		470			
	C-70					31,4		600			
	5.8	170	125		22,4	22,3	190	350	375		
	8.8					36,0		600			
	A4-70					25,2		400			
	C-70					31,4		515			
	5.8	230	190		34,1	22,3	210	265	570		
	8.8					36,0		465			
	A4-70					25,2		305			

LOADS

Superbond-System: Resin capsule RSB with Threaded rod RG M [1)]

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) [2) 3) 4) 9)]										Minimum spacings while reducing the load	
Type	Material fixing element	Min. member thickness h_{min} [mm]	Effective anchorage depth h_{ef} [mm]	Maximum torque moment T_{max} [Nm]	Permissible tensile load N_{perm} [6)] [kN]	Permissible shear load V_{perm} [6)] [kN]	Required edge distance (with one edge) for: Max. tension load c [mm]	Required edge distance (with one edge) for: Max. shear load c [mm]	Required spacing for Max. Load s_{cr} [mm]	Min. spacing s_{min} [7)] [mm]	Min. edge distance c_{min} [7)] [mm]
RG M 20	5.8	220	170	120	38,0	34,9	255	450	510	85	85
	8.8					56,0		780			
	A4-70					39,4		520			
	5.8	260	210		47,1	34,9	280	395	630		
	8.8					56,0		685			
	A4-70					39,4		455			
RG M 24	5.8	270	210	150	52,2	50,9	315	590	630	105	105
	8.8					80,6		1005			
	A4-70					56,8		670			
RG M 30	5.8	350	280	300	80,3	80,6	420	795	840	140	140
	A4-70					90,2		910			

For the design the complete assessment ETA-12/0258 has to be considered. [8)]

[1)] Valid for glass capsule RSB. For using the injection mortar FIS SB see separate table resp. ETA-12/0258.

[2)] The partial safety factors for material resistance as regulated in the ETA-12/0258 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-12/0258.

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

[4)] Drill method hammer drilling. For further allowable drill methods and application conditions see ETA-12/0258.

[5)] Diamond drilling not permitted.

[6)] 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.

[7)] Minimum possible axial spacings resp. edge distance while reducing the permissible load.

[8)] The given loads refer to the European Technical Assessment ETA-12/0258, issue date 19.05.2016. Design of the loads according ETAG 001, Technical Report TR 029 (for static resp. quasi-static loads).

[9)] 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

Superbond-System: Resin capsule RSB with Threaded rod RG M [1)]

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) [2) 3) 4) 9)]										Minimum spacings while reducing the load	
Type	Material fixing element	Min. member thickness h_{min} [mm]	Effective anchorage depth h_{ef} [mm]	Maximum torque moment T_{max} [Nm]	Permissible tensile load N_{perm} [5)] [kN]	Permissible shear load V_{perm} [5)] [kN]	Required edge distance (with one edge) for: Max. tension load c [mm]	Required edge distance (with one edge) for: Max. shear load c [mm]	Required spacing for Max. Load s_{cr} [mm]	Min. spacing s_{min} [6)] [mm]	Min. edge distance c_{min} [6)] [mm]
RG M 8	5.8	110	80	10	9,0	5,1	75	70	240	40	40
	8.8				11,5	8,6	105	115			
	A4-70				9,9	6,0	85	75			
	C-70				11,5	7,4	105	100			
RG M 10	5.8	110	75	20	13,5	8,6	130	115	225	45	45
	8.8					13,1		190			
	A4-70					9,2		125			
	C-70					11,4		160			
	5.8	120	90		13,8	8,6	110	105	270		
	8.8				16,2	13,1	145	170			
	A4-70				15,7	9,2	140	110			
	C-70				16,2	11,4	145	145			
	5.8	180	150		13,8	8,6	45	90	450		
	8.8				22,4	13,1	100	120			
	A4-70				15,7	9,2	55	95			

LOADS

Superbond-System: Resin capsule RSB with Threaded rod RG M [1)]

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) [2) 3) 4) 9)]										Minimum spacings while reducing the load	
Type	Material fixing element	Min. member thickness h_{min} [mm]	Effective anchorage depth h_{ef} [mm]	Maximum torque moment T_{max} [Nm]	Permissible tensile load N_{perm} [5)] [kN]	Permissible shear load V_{perm} [5)] [kN]	Required edge distance (with one edge) for Max. tension load c [mm]	Required edge distance (with one edge) for Max. shear load c [mm]	Required spacing for Max. Load s_{cr} [mm]	Min. spacing s_{min} [6)] [mm]	Min. edge distance c_{min} [6)] [mm]
RG M 12	5.8	110	75	40	15,6	12,0	160	165	225	55	55
	8.8					19,4		285			
	A4-70					13,7		195			
	C-70					17,1		250			
	5.8	140	110		20,5	12,0	165	130	330		
	8.8				23,7	19,4	205	230			
	A4-70				22,5	13,7	190	155			
	C-70				23,7	17,1	205	200			
	5.8	180	150		20,5	12,0	75	110	450		
	8.8				32,3	19,4	220	190			
	A4-70				22,5	13,7	100	125			
RG M 16	5.8	140	95	60	22,3	22,3	205	275	285	65	65
	8.8					36,0		475			
	A4-70					25,2		315			
	C-70					31,4		405			
	5.8	170	125		33,6	22,3	285	235	375		
	8.8					36,0		405			
	A4-70					25,2		270			
	C-70					31,4		350			
	5.8	230	190		37,6	22,3	190	175	570		
	8.8				59,1	36,0	400	310			
	A4-70				42,0	25,2	235	200			
RG M 20	5.8	220	170	120	53,3	34,9	385	300	510	85	85
	8.8					56,0		525			
	A4-70					39,4		345			
	5.8	260	210		58,6	34,9	350	260	630		
	8.8				73,2	56,0	475	460			
	A4-70				65,7	39,4	415	300			
RG M 24	5.8	270	210	150	73,2	50,9	475	390	630	105	105
	8.8					80,6		675			
	A4-70					56,8		445			
RG M 30	5.8	350	280	300	112,7	80,6	635	525	840	140	140
	A4-70					90,2		605			

For the design the complete assessment ETA-12/0258 has to be considered. [7)]

[1)] Valid for glass capsule RSB. For using the injection mortar FIS SB see separate table resp. ETA-12/0258.

[2)] The partial safety factors for material resistance as regulated in the ETA-12/0258 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-12/0258.

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

[4)] Drill method hammer drilling. For further allowable drill methods and application conditions see ETA-12/0258.

[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-12/0258, issue date 19.05.2016. Design of the loads according ETAG 001, Technical Report TR 029 (for static resp. quasi-static loads).

LOADS

Superbond-System: Resin capsule RSB with Internal threaded anchor RG M I [1]

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) [2] [3] [4] [9]										Minimum spacings while reducing the load	
Type	Screw steel property/ surface	Min. member thickness h_{min} [mm]	Effective anchorage depth h_{ef} [mm]	Maximum torque moment T_{max} [Nm]	Permissible tensile load N_{perm} [6] [kN]	Permissible shear load V_{perm} [6] [kN]	Required edge distance (with one edge) for: Max. tension load c [mm]	Required edge distance (with one edge) for: Max. shear load c [mm]	Required spacing for Max. Load s_{cr} [mm]	Min. spacing s_{min} [7] [mm]	Min. edge distance c_{min} [7] [mm]
RG M8 I [5]	5.8	120	90	10	8,1	5,3	135	85	270	55	55
	8.8					8,3		145			
	A4-70					5,9		95			
RG M10 I	5.8	130	90	20	10,8	8,3	135	135	270	65	65
	8.8					13,3		235			
	A4-70					9,3		155			
RG M12 I	5.8	170	125	40	16,8	12,1	190	165	375	75	75
	8.8					19,3		285			
	A4-70					13,5		185			
RG M16 I	5.8	210	160	80	26,3	22,4	240	275	480	95	95
	8.8					30,9		405			
	A4-70					25,1		315			
RG M20 I	5.8	270	200	120	41,9	39,4	300	435	600	125	125
	8.8					51,4		595			
	A4-70					39,4					

For the design the complete assessment ETA-12/0258 has to be considered. [7]

[1] Valid for glass capsule RSB. For using the injection mortar FIS SB see separate table resp. ETA-12/0258.

[2] The partial safety factors for material resistance as regulated in the ETA-12/0258 as well as a partial safety factor for load actions of γ_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-12/0258.

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

[4] Drill method hammer drilling. For further allowable drill methods and application conditions see ETA-12/0258.

[5] Diamond drilling not permitted.

[6] 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.

[7] Minimum possible axial spacings resp. edge distance while reducing the permissible load.

[7] The given loads refer to the European Technical Assessment ETA-12/0258, issue date 19.05.2016. Design of the loads according ETAG 001, Technical Report TR 029 (for static resp. quasi-static loads).

[9] 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

Superbond-System: Resin capsule RSB with Internal threaded anchor RG M I [1)]

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) [2) 3) 4)]										Minimum spacings while reducing the load	
Type	Screw steel property/ surface	Min. member thickness h_{min} [mm]	Effective anchorage depth h_{ef} [mm]	Maximum torque moment T_{max} [Nm]	Permissible tensile load N_{perm} [5)] [kN]	Permissible shear load V_{perm} [5)] [kN]	Required edge distance (with one edge) for Max. tension load c [mm]	Required edge distance (with one edge) for Max. shear load c [mm]	Required spacing for Max. Load s_{cr} [mm]	Min. spacing s_{min} [6)] [mm]	Min. edge distance c_{min} [6)] [mm]
RG M8 I	5.8	120	90	10	9,0	5,3	55	65	270	55	55
	8.8				13,8	8,3	110	95			
	A4-70				9,9	5,9	55	70			
RG M10 I	5.8	130	90	20	13,8	8,3	105	90	270	65	65
	8.8				20,5	13,3	190	155			
	A4-70				15,7	9,3	130	100			
RG M12 I	5.8	170	125	40	20,5	12,1	130	110	375	75	75
	8.8				32,4	19,3	265	190			
	A4-70				22,5	13,5	155	125			
RG M16 I	5.8	210	160	80	37,6	22,4	255	180	480	95	95
	8.8				48,7	30,9	365	265			
	A4-70				42,0	25,1	300	205			
RG M20 I	5.8	270	200	120	58,6	39,4	365	285	600	125	125
	8.8				68,0	51,4	445	395			
	A4-70				65,7	39,4	430	285			

For the design the complete assessment ETA-12/0258 has to be considered. [7)]

[1)] Valid for glass capsule RSB. For using the injection mortar FIS SB see separate table resp. ETA-12/0258.

[2)] The partial safety factors for material resistance as regulated in the ETA-12/0258 as well as a partial safety factor for load actions of γ_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-12/0258.

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

[4)] Drill method hammer drilling. For further allowable drill methods and application conditions see ETA-12/0258.

[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-12/0258, issue date 19.05.2016. Design of the loads according ETAG 001, Technical Report TR 029 (for static resp. quasi-static loads).