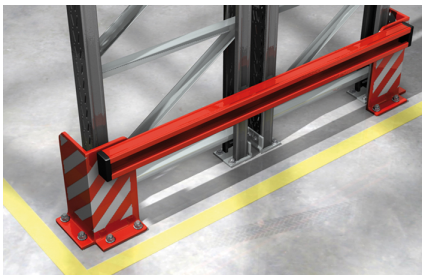
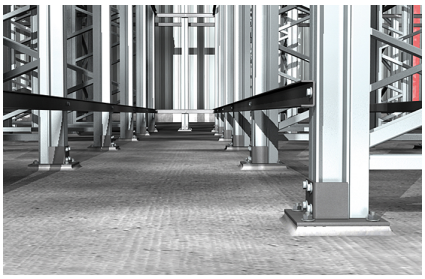
The proven bonded anchor for non-cracked concrete





VERSIONS

- zinc-plated steel
- stainless steel
- highly corrosion-resistant steel
- hot-dip galvanised steel

APPROVALS

BUILDING MATERIALS

Approved for:

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

Also suitable for:

- Concrete C12/15, non-cracked
- Natural stone with dense structure

ADVANTAGES

- The pre-portioned resin capsule is especially economical for individual applications and overhead installations.
- The choice between standard and intensive cleaning allows for individual adaptation either to achieve rapid progress or to obtain the maximum load level.
- The wide range of approved steel types allows for use in all corrosion resistance classes and offers the best possible application safety.
- The extensive range of RGM from M8-M30 opens up a wide range of applications and therefore offers great flexibility.
- The larger anchorage depths of the RGME variants allow for an even greater load level. Thus fewer fixing points are required.

APPLICATIONS

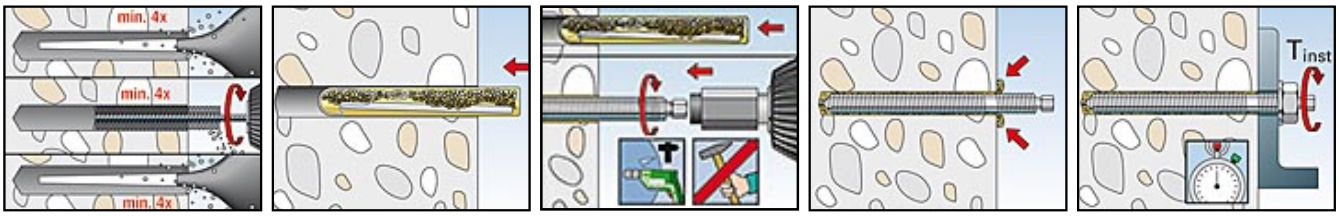
- Steelwork constructions
- Timber constructions
- Guard rails
- Staircases
- Column bases
- Machines
- Masts

Ideal for:

- Overhead installations
- Water-filled drill holes

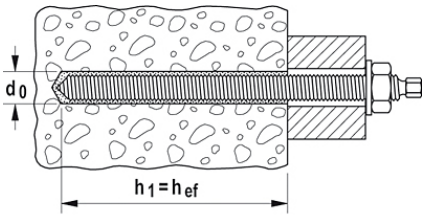
FUNCTIONING

- The resin anchor R is suitable for pre-positioned installation when combined with the threaded rod RGM.
- The 2-component resin capsule RM contains quick-setting styrene-free vinyl ester resin and hardener.
- The threaded rod RGM is set using a hammer drill and the accompanying setting tool in rotating and hitting motions.
- During setting, the oblique edge of the RGM destroys the capsule, and mixes and activates the mortar.
- The mortar bonds the entire surface of the threaded rod with the drill hole wall and seals the drill hole.



TECHNICAL DATA

Threaded rod RG M



galvanized

Article name	Art.-No.	Approval	Drill hole diameter d_0 [mm]	Max. fixture thickness t_{fix} [mm]	Fits capsules
RG M 8 x 110	050256	■	10	14	50270 RM 8
RG M 8 x 150	095698	■	10	54	50270 RM 8
RG M 8 x 250	095699	■	10	154	50270 RM 8
RG M 10 x 130	050257	■	12	20	50271 RM 10
RG M 10 x 165	050280	■	12	55	50271 RM 10
RG M 10 x 190	050281	■	12	80	50271 RM 10
RG M 10 x 250	095703	■	12	140	50271 RM 10
RG M 10 x 350	095718	■	12	240	50271 RM 10
RG M 12 x 160	050258	■	14	26	50272 RM 12
RG M 12 x 200 E	050572	■	14	26	48501 RM 12 E
RG M 12 x 220	050283	■	14	86	50272 RM 12
RG M 12 x 230 E	050574	■	14	56	48501 RM 12 E
RG M 12 x 250	050284	■	14	116	50272 RM 12
RG M 12 x 290 E	050575	■	14	120	48501 RM 12 E
RG M 12 x 300	050285	■	14	166	50272 RM 12
RG M 12 x 380	095720	■	14	246	50272 RM 12
RG M 14 x 170	050286		16	38	50278 RM 14
RG M 16 x 165	050287	■	18	8	50273 RM 16
RG M 16 x 190	050259	■	18	33	50273 RM 16
RG M 16 x 235 E	090716	■	18	13	79838 RM 16 E
RG M 16 x 250	050288	■	18	93	50273 RM 16
RG M 16 x 300	050289	■	18	143	50273 RM 16
RG M 16 x 380	095722	■	18	223	50273 RM 16
RG M 16 x 500	095723	■	18	343	50273 RM 16
RG M 20 x 260	050260	■	25	54	50274 RM 20
RG M 20 x 330 E	090718	■	25	60	79840 RM 20 E
RG M 20 x 350	095707	■	25	124	50274 RM 20
RG M 20 x 500	095725	■	25	294	50274 RM 20
RG M 24 x 300	050261	■	28	61	50275 RM 24
RG M 24 x 380 E	090719	■	28	60	79842 RM 24 E
RG M 24 x 400	095727	■	28	161	50275 RM 24
RG M 24 x 600	095728	■	28	361	50275 RM 24
RG M 27 x 340	090720	■	32	60	79843 RM 27
RG M 30 x 380	050262	■	35	65	50276 RM 30
RG M 30 x 500	095730	■	35	185	50276 RM 30

A4

Article name	Art.-No.	Approval	Drill hole diameter d_0 [mm]	Max. fixture thickness t_{fix} [mm]	Fits capsules
RG M 8 x 110 A4	050263	■	10	14	50270 RM 8
RG M 8 x 150 A4	050293	■	10	54	50270 RM 8
RG M 8 x 250 A4	095700	■	10	160	50270 RM 8
RG M 8 x 350 A4	095708	■	10	260	50270 RM 8
RG M 10 x 130 A4	050264	■	12	20	50271 RM 10
RG M 10 x 165 A4	050294	■	12	55	50271 RM 10
RG M 10 x 190 A4	050296	■	12	80	50271 RM 10
RG M 10 x 250 A4	095701	■	12	140	50271 RM 10
RG M 10 x 350 A4	095709	■	12	240	50271 RM 10
RG M 12 x 160 A4	050265	■	14	26	50272 RM 12
RG M 12 x 200 E A4	050576	■	14	26	48501 RM 12 E

Article name	Art.-No.	Approval	Drill hole diameter d_0 [mm]	Max. fixture thickness t_{fix} [mm]	Fits capsules
RG M 12 x 220 A4	**050297**	■	14	86	50272 RM 12
RG M 12 x 230 E A4	**050577**	■	14	60	48501 RM 12 E
RG M 12 x 250 A4	**095702**	■	14	116	50272 RM 12
RG M 12 x 290 E A4	**050578**	■	14	120	48501 RM 12 E
RG M 12 x 300 A4	**095705**	■	14	166	50272 RM 12
RG M 12 x 380 A4	**095710**	■	14	246	50272 RM 12
RG M 12 x 600 A4	**095711**	■	14	475	50272 RM 12
RG M 16 x 165 A4	**095704**	■	18	8	50273 RM 16
RG M 16 x 190 A4	**050266**	■	18	33	50273 RM 16
RG M 16 x 250 A4	**050298**	■	18	93	50273 RM 16
RG M 16 x 275 E A4	**090722**	■	18	60	79838 RM 16 E
RG M 16 x 300 A4	**050299**	■	18	143	50273 RM 16
RG M 16 x 380 A4	**095712**	■	18	223	50273 RM 16
RG M 16 x 500 A4	**095713**	■	18	343	50273 RM 16
RG M 20 x 260 A4	**050267**	■	25	54	50274 RM 20
RG M 20 x 330 E A4	**090723**	■	25	60	79840 RM 20 E
RG M 20 x 350 A4	**095706**	■	25	124	50274 RM 20
RG M 24 x 300 A4	**050268**	■	28	61	50275 RM 24
RG M 24 x 380 E A4	**090724**	■	28	60	79842 RM 24 E
RG M 24 x 400 A4	**095715**	■	28	161	50275 RM 24
RG M 27 x 340 A4	**090725**	■	32	60	79843 RM 27
RG M 30 x 380 A4	**090726**	■	35	65	50276 RM 30

highly corrosion-resistant

Article name	Art.-No.	Approval	Drill hole diameter d_0 [mm]	Max. fixture thickness t_{fix} [mm]	Fits capsules
RG M 8 x 110 C	**096316**	■	10	13	50270 RM 8
RG M 10 x 130 C	**096217**	■	12	20	50271 RM 10
RG M 12 x 160 C	**096218**	■	14	25	50272 RM 12
RG M 16 x 190 C	**096219**	■	18	35	50273 RM 16

hot dipped galvanized

Article name	Art.-No.	Approval	Drill hole diameter d_0 [mm]	Max. fixture thickness t_{fix} [mm]	Fits capsules
	512247	■	14	25	50272 RM 12
	512250	■	18	35	50273 RM 16

LOADS

Resin anchor R with threaded rod RG M (grade 5.8)
Highest permissible loads for a single anchor[1) 6)] in concrete C20/25[4)]
For the design the complete approval ETA - 08/0010 has to be considered.

				Non-cracked concrete			
Type	**Effective anchorage depth h_{ef} [mm]**	**Minimum member thickness h_{min} [mm]**	**Installation torque T_{inst} [Nm]**	**Permissible tensile load N_{perm}[3)] [kN]**	**Permissible shear load V_{perm}[3)] [kN]**	**Min. spacing s_{min}[2)] [mm]**	**Min. edge distance c_{min}[2)] [mm]**
RG M 8	80	110	10,0	8,8	4,2	40	40
RG M 10	90	120	20,0	12,3	7,6	45	45
RG M 12	110	150	40,0	19,8	11,0	55	55
RG M 12E	150	200	40,0	21,1	11,0	75	75
RG M 16	125	160	60,0	28,4	20,5	65	65
RG M 16E	190	250	60,0	39,3	20,5	95	95
RG M 20	170	220	120,0	45,8	32,0	85	85
RG M 20E	240	300	120,0	60,9	32,0	120	120
RG M 24	210	280	150,0	64,1	46,1	105	105
RG M 24E	290	380	150,0	87,7	46,1	145	145
RG M 27	250	330	200,0	85,8	60,1	125	125
RG M 30	280	370	300,0	100,5	73,3	140	140

[1)] The partial safety factors for material resistance as regulated in the approval 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 $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1,5 \times h_{ef}$. Accurate data see approval.
[2)] Minimum possible axial spacings resp. edge distance while reducing the permissible load.
[3)] For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.
[4)] For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
[6)] The given loads are valid for fixations in dry and humid concrete for temperatures in the substrate up to +50°C (resp. short term up to 80°C) and best possible drillhole cleaning according approval.

LOADS

Resin anchor R with threaded rod RG M A4 (grade A4-70)
Highest permissible loads for a single anchor[1) 6)] in concrete C20/25[4)]
For the design the complete approval ETA - 08/0010 has to be considered.

				Non-cracked concrete			
Type	**Effective anchorage depth h_{ef} [mm]**	**Minimum member thickness h_{min} [mm]**	**Installation torque T_{inst} [Nm]**	**Permissible tensile load N_{perm}[3)] [kN]**	**Permissible shear load V_{perm}[3)] [kN]**	**Min. spacing s_{min}[2)] [mm]**	**Min. edge distance c_{min}[2)] [mm]**
RG M 8 A4	80	110	10,0	8,8	5,9	40	40
RG M 10 A4	90	120	20,0	12,3	9,3	45	45
RG M 12 A4	110	150	40,0	19,8	13,5	55	55
RG M 12E A4	150	200	40,0	22,5	13,5	75	75
RG M 16 A4	125	160	60,0	28,4	25,1	65	65
RG M 16E A4	190	250	60,0	42,0	25,1	95	95
RG M 20 A4	170	220	120,0	45,8	39,2	85	85
RG M 20E A4	240	300	120,0	64,6	39,2	120	120
RG M 24 A4	210	280	150,0	64,1	56,5	105	105
RG M 24E A4	290	380	150,0	88,5	56,5	145	145
RG M 27 A4	250	330	200,0	85,8	73,6	125	125
RG M 30 A4	280	370	300,0	100,5	89,8	140	140

1) The partial safety factors for material resistance as regulated in the approval 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 $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1,5 \times h_{ef}$. Accurate data see approval.
2) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
3) For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.
4) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
6) The given loads are valid for fixations in dry and humid concrete for temperatures in the substrate up to +50°C (resp. short term up to 80°C) and best possible drillhole cleaning according approval.

LOADS

Resin anchor R with threaded rod RG M C (material 1.4529)
Highest permissible loads for a single anchor[1) 6)] in concrete C20/25[4)]
For the design the complete approval ETA - 08/0010 has to be considered.

				Non-cracked concrete			
Type	**Effective anchorage depth h_{ef} [mm]**	**Minimum member thickness h_{min} [mm]**	**Installation torque T_{inst} [Nm]**	**Permissible tensile load N_{perm}[3)] [kN]**	**Permissible shear load V_{perm}[3)] [kN]**	**Min. spacing s_{min}[2)] [mm]**	**Min. edge distance c_{min}[2)] [mm]**
RG M 8 C	80	110	10,0	8,8	7,3	40	40
RG M 10 C	90	120	20,0	12,3	11,6	45	45
RG M 12 C	110	150	40,0	19,8	16,9	55	55
RG M 12E C	150	200	40,0	26,9	16,9	75	75
RG M 16 C	125	160	60,0	28,4	31,3	65	65
RG M 16E C	190	250	60,0	43,2	31,3	95	95
RG M 20 C	170	220	120,0	45,8	49,0	85	85
RG M 20E C	240	300	120,0	64,6	49,0	120	120
RG M 24 C	210	280	150,0	64,1	70,5	105	105
RG M 24E C	290	380	150,0	88,5	70,5	145	145
RG M 27 C	250	330	200,0	85,8	91,9	125	125
RG M 30 C	280	370	300,0	100,5	112,1	140	140

1) The partial safety factors for material resistance as regulated in the approval 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 $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1,5 \times h_{ef}$. Accurate data see approval.
2) Minimum possible axial spacings resp. edge distance while reducing the permissible load.
3) For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.
4) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
6) The given loads are valid for fixations in dry and humid concrete for temperatures in the substrate up to +50°C (resp. short term up to 80°C) and best possible drillhole cleaning according approval.