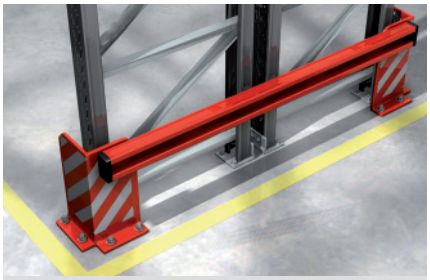
The bonded anchor for cracked concrete with threaded rod RG M without drill hole cleaning

Crash barriers



Collision protection

VERSIONS

- Zinc-plated steel
- Stainless steel
- Highly corrosion-resistant steel
- Hot-dip galvanised steel

ASSESSMENT/APPROVAL

BUILDING MATERIALS

Approved for:

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

Also suitable for:

- Natural stone with dense structure

ADVANTAGES

- RM II is the first bonded anchor with threaded rod RG M for cracked and non-cracked concrete that does not require drill hole cleaning. This allows for a rapid working progress and an economic installation.
- Moreover, there is a reduced exposition to drill dust on the building site. This increases the safety for the user.
- The pre-portioned resin capsule is easy to install and especially suitable for individual applications and overhead installations.

APPLICATIONS

- Steel constructions
- Guard rails
- Staircases
- Column bases
- Machines
- Masts

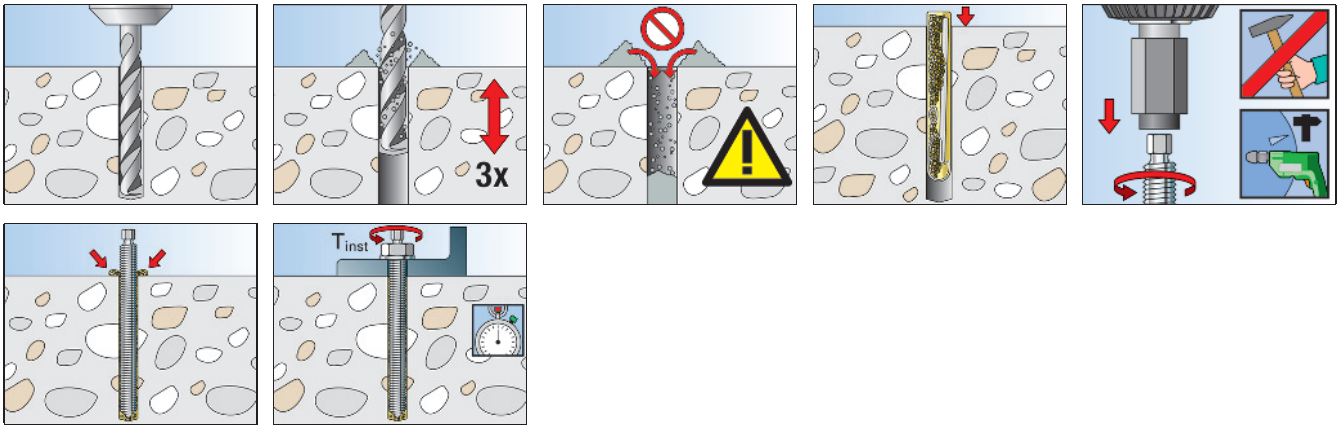
Ideal for:

- Overhead installations
- Water-filled drill holes

FUNCTIONING

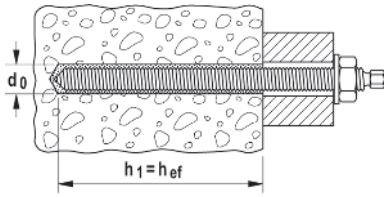
- The resin anchor RM II is suitable for pre-positioned installation when combined with the threaded rod RG M.
- The 2-component resin capsule RM II contains styrene-free vinyl ester resin and hardener.
- The threaded rod RG M is set using a hammer drill and the accompanying setting tool in rotating and hitting motions.
- During setting, the oblique edge of the RG M 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.

INSTALLATION



TECHNICAL DATA

RM II



		Approval ETA	Drill hole diameter d_0 [mm]	Min. drill hole depth h_1 [mm]	Effect. anchorage depth h_{ef} [mm]	Suitable for anchor rod	Sales unit [pcs]
Item	**Art.-No.**						
RM II 8	**539796**	■	10	80	80	RG M 8	10
RM II 10	**539797**	■	12	90	90	RG M10	10
RM II 12	**539798**	■	14	110	110	RG M 12	10
RM II 14	**539799**	–	16	120	120	RG M 14	10
RM II 16	**539800**	■	18	125	125	RG M 16	10
RM II 20/22	**539802** 1)	■	25	170 / 190	170 / 190	RG M 20 / RG M 22	10
RM II 24	**539803**	■	28	210	210	RG M 24	5

1) RM II 20/22 in combination with RG M 22 and effect. anchorage depth of 190 mm is not part of the assessment.

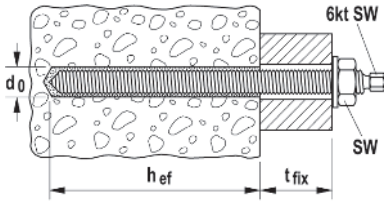
CURING TIME

Temperature at anchoring base	Curing time
-15 °C - -10 °C	30 hrs.
- 9 °C - - 5 °C	16 hrs.
- 4 °C - ± 0 °C	10 hrs.
+ 1 °C - + 5 °C	45 min.
+ 6 °C - +10 °C	30 min.
+11 °C - +20 °C	20 min.
+21 °C - +30 °C	5 min.
+31 °C - +40 °C	3 min.

Resin anchor RM II with RG M

TECHNICAL DATA

Threaded rod **RG M**

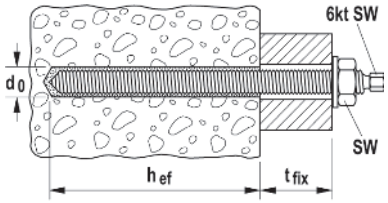


	zinc plated, steel grade 5.8 Art.-No.	zinc plated, steel grade 8.8 Art.-No.	stainless steel Art.-No.	Approval ETA	Drill hole diameter d_0 [mm]	Effect. anchorage depth h_{ef} [mm]	Max. fixture thickness t_{fix} [mm]	Hexagon drive 6kt SW [mm]	Hexagon nut ⬡ SW [mm]	Fits capsules	Sales unit [pcs]
Item	**gvz**	**gvz**	**A4**								
RG M 8 x 110	**050256**	–	**050263**	■	10	80	14	5	13	539796 RM II 8	10
RG M 8 x 150	**095698**	**519443**	**050293**	■	10	80	54	5	13	539796 RM II 8	10
RG M 10 x 130	**050257**	–	**050264**	■	12	90	20	7	17	539797 RM II 10	10
RG M 10 x 165	**050280**	–	**050294**	■	12	90	55	7	17	539797 RM II 10	10
RG M 10 x 190	**050281**	–	**050296**	■	12	90	80	7	17	539797 RM II 10	10
RG M 10 x 220	–	**519444**	–	■	12	90	110	7	17	539797 RM II 10	10
RG M 10 x 250	**095703**	–	**095701**	■	12	90	140	7	17	539797 RM II 10	10
RG M 10 x 350	–	–	**095709**	■	12	90	240	7	17	539797 RM II 10	10
RG M 10 x 350	**095718**	–	–	■	12	90	240	–	17	539797 RM II 10	10
RG M 12 x 160	**050258**	–	**050265**	■	14	110	26	8	19	539798 RM II 12	10
RG M 12 x 200	–	–	**050576** 2)	■	14	150	26	8	19	539798 RM II 12	10
RG M 12 x 220	**050283**	–	**050297**	■	14	110	86	8	19	539798 RM II 12	10
RG M 12 x 250	**050284**	–	**095702**	■	14	110	116	8	19	539798 RM II 12	10
RG M 12 x 300	**050285**	–	**095705**	■	14	110	166	8	19	539798 RM II 12	10
RG M 12 x 380	**095720** 3)	–	**095710** 1)	■	14	110	246	8	19	539798 RM II 12	10
RG M 14 x 170	**050286**	–	–	–	16	120	38	10	22	539799 RM II 14	10
RG M 16 x 165	**050287**	–	**095704**	■	18	125	8	12	24	539800 RM II 16	10
RG M 16 x 190	**050259**	–	**050266**	■	18	125	33	12	24	539800 RM II 16	10
RG M 16 x 250	**050288**	–	**050298**	■	18	125	93	12	24	539800 RM II 16	10
RG M 16 x 270	–	**519446**	–	■	18	125	113	12	24	539800 RM II 16	10
RG M 16 x 300	**050289**	–	**050299**	■	18	125	143	12	24	539800 RM II 16	10
RG M 16 x 380	**095722** 3)	–	**095712** 1)	■	18	125	223	–	24	539800 RM II 16	10
RG M 16 x 500	**095723** 3)	–	**095713** 1)	■	18	125	343	–	24	539800 RM II 16	10
RG M 20 x 260	**050260**	–	**050267**	■	25	170	54	12	30	539802 RM II 20/22	10
RG M 20 x 290	–	**519447**	–	■	25	170	84	12	30	539802 RM II 20/22	10
RG M 20 x 350	**095707**	–	**095706**	■	25	170	124	12	30	539802 RM II 20/22	10
RG M 20 x 500	**095725** 1)	–	–	■	25	170	294	–	30	539802 RM II 20/22	10
RG M 22 x 280	**512252** 1)	–	–	–	30	190	65	–	32	539802 RM II 20/22	5
RG M 24 x 295	–	**519448** 1)	–	■	28	210	56	–	36	539803 RM II 24	10
RG M 24 x 300	**050261** 1)	–	**050268** 1)	■	28	210	61	–	36	539803 RM II 24	10
RG M 24 x 400	**095727** 1)	–	**095715** 1)	■	28	210	161	–	36	539803 RM II 24	10
RG M 24 x 600	**095728**	–	–	■	28	210	361	–	36	539803 RM II 24	5

1) Straight cut, additional setting tool required.
2) Delivery time on request.
3) Straigth cut, setting tool is enclosed.

TECHNICAL DATA

Threaded rod **RG M**



	highly corrosion resistant steel	hot-dip galvanised steel	Approval	Drill hole diameter	Effect. anchorage depth	Max. fixture thickness	Hexagon drive	Hexagon nut	Fits capsules	Sales unit
	Art.-No.	Art.-No.	ETA	d_0 [mm]	h_{ef} [mm]	t_{fix} [mm]	6kt SW [mm]	○ SW [mm]		[pcs]
Item	C	fvz								
RG M 10 x 130	096217 1)	–	■	12	90	20	7	17	539797 RM II 10	10
RG M 12 x 160	096218 1)	512247	■	14	110	25	8	19	539798 RM II 12	10
RG M 16 x 165	–	537062	–	18	125	8	12	24	539800 RM II 16	10
RG M 16 x 190	096219 1)	512250	■	18	125	35	12	24	539800 RM II 16	10

1) Delivery time on request.

ACCESSORIES

Machine setting tool **RA-SDS**

Adapter **SDS max 1/2" VK**

Adapter **SDS max 3/4" VK**

Adapter **SDS plus 1/2" VK**

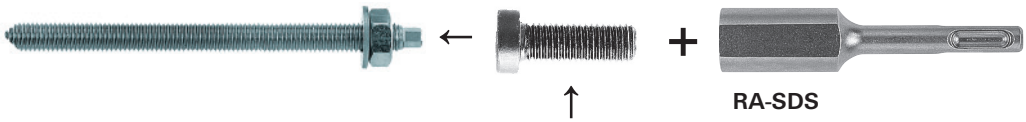
Adapter **SK SW 8 1/2" VK**

Item	Art.-No.	Match	Sales unit [pcs]
RA-SDS	**062420**	Adapter suitable fits set screw	1
SK SW 8 1/2	**001536**	Adapter suitable fits threaded rods M8 - M22	1
SDS plus 1/2	**001537**	Adapter suitable fits threaded rods M8 - M16	1
SDS max 1/2	**001538**	Adapter suitable fits threaded rods M16 - M20	1
SDS max 3/4	**001539**	Adapter suitable fits threaded rods M20 - M30	1

SETTING TOOLS

Setting tool with SDS adapter

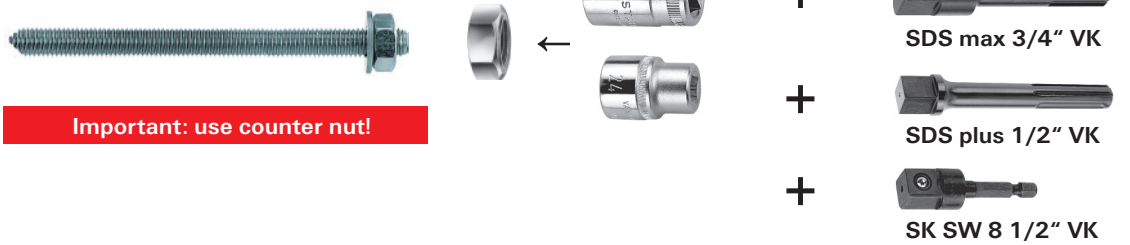
For simple installation of bonded anchors for example Resin anchor R, Highbond anchor FHB II, Superbond resin capsule RSB.



included with each package

Adapter for installing anchor rods

Threaded rods without external hex-drive (special lengths).



Important: use counter nut!

LOADS

Resin anchor RM II with threaded rod RG M[5] (steel property class 5.8)
Highest permissible load for a single anchor[1] in normal weight concrete C20/25[4,6]
For the design the complete assessment[7] ETA-16/0340 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	**effective anchorage depth** h_{ef} [mm]	**min. member thickness** h_{min} [mm]	**maximum torque moment** $T_{inst,max}$ [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]	**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	-	-	-	-	8,4	5,1	40	40
RG M 10	90	120	20	3,9	8,6	45	45	11,8	8,6	45	45
RG M 12	110	140	40	5,8	12,0	55	55	17,3	12,0	55	55
RG M 16	125	161	60	8,7	20,9	65	65	26,2	22,3	65	65
RG M 20	170	220	120	14,8	34,9	85	85	44,4	34,9	85	85
RG M 24	210	266	150	22,0	50,9	105	105	61,0	50,9	105	105

[1] The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of γ_F = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3 x h_{ef} and an edge distance c ≥ 1,5 x h_{ef}. Accurate data see assessment.
[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 assessment.
[4] For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
[5] The given loads are valid for the glass capsule 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).
[6] Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
[7] The given loads refer to the assessment ETA-16/0340, issue date 14/02/2017. Design of the loads according ‚ETAG 001, Technical Report TR 029' (for static resp. quasi-static loads).

LOADS

Resin anchor RM II with threaded rod RG M[5] (steel property class 5.8)
Highest permissible load for a single anchor[1] in normal weight concrete C20/25[4,6]
For the design the complete assessment[7] ETA-16/0340 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	**effective anchorage depth** h_{ef} [mm]	**min. member thickness** h_{min} [mm]	**maximum torque moment** $T_{inst,max}$ [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]	**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	-	-	-	-	8,4	8,6	40	40
RG M 10	90	120	20	3,9	9,4	45	45	11,8	13,1	45	45
RG M 12	110	140	40	5,8	13,8	55	55	17,3	19,4	55	55
RG M 16	125	161	60	8,7	20,9	65	65	26,2	36,0	65	65
RG M 20	170	220	120	14,8	35,6	85	85	44,4	56,0	85	85
RG M 24	210	266	150	22,0	52,8	105	105	61,0	80,6	105	105

[1] The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of γ_F = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3 x h_{ef} and an edge distance c ≥ 1,5 x h_{ef}. Accurate data see assessment.
[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 assessment.
[4] For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
[5] The given loads are valid for the glass capsule 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).
[6] Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
[7] The given loads refer to the assessment ETA-16/0340, issue date 14/02/2017. Design of the loads according ‚ETAG 001, Technical Report TR 029' (for static resp. quasi-static loads).

LOADS

Resin anchor RM II with threaded rod RG M[5] (steel property class A4-70)
Highest permissible load for a single anchor[1] in normal weight concrete C20/25[4] [6]
For the design the complete assessment[7] ETA-16/0340 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	effective anchorage depth h_{ef} [mm]	min. member thickness h_{min} [mm]	maximum torque moment $T_{inst,max}$ [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]	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	-	-	-	-	8,4	6,0	40	40
RG M 10	90	120	20	3,9	9,2	45	45	11,8	9,2	45	45
RG M 12	110	140	40	5,8	13,7	55	55	17,3	13,7	55	55
RG M 16	125	161	60	8,7	20,9	65	65	26,2	25,2	65	65
RG M 20	170	220	120	14,8	35,6	85	85	44,4	39,4	85	85
RG M 24	210	266	150	22,0	52,8	105	105	61,0	56,8	105	105

[1] The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of γ_F = 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 assessment.
[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 assessment.
[4] For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
[5] The given loads are valid for the glass capsule 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).
[6] Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
[7] The given loads refer to the assessment ETA-16/0340, issue date 14/02/2017. Design of the loads according ‚ETAG 001, Technical Report TR 029' (for static resp. quasi-static loads).

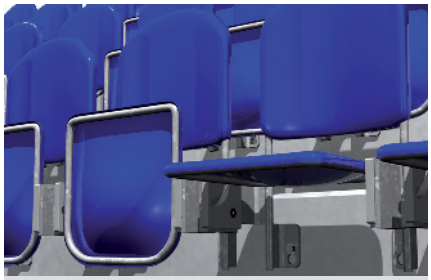
LOADS

Resin anchor RM II with threaded rod RG M[5] (steel property class C-70)
Highest permissible load for a single anchor[1] in normal weight concrete C20/25[4] [6]
For the design the complete assessment[7] ETA-16/0340 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	effective anchorage depth h_{ef} [mm]	min. member thickness h_{min} [mm]	maximum torque moment $T_{inst,max}$ [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]	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	-	-	-	-	8,4	7,4	40	40
RG M 10	90	120	20	3,9	9,4	45	45	11,8	11,4	45	45
RG M 12	110	140	40	5,8	13,8	55	55	17,3	17,1	55	55
RG M 16	125	161	60	8,7	20,9	65	65	26,2	31,4	65	65

[1] The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of γ_F = 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 assessment.
[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 assessment.
[4] For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
[5] The given loads are valid for the glass capsule 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).
[6] Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
[7] The given loads refer to the assessment ETA-16/0340, issue date 14/02/2017. Design of the loads according ‚ETAG 001, Technical Report TR 029' (for static resp. quasi-static loads).

The bonded anchor for cracked concrete with internal threaded anchor RG MI without drill hole cleaning



Stadium seating

Fall protection devices

VERSIONS

- Zinc-plated steel
- Stainless steel

BUILDING MATERIALS

Approved for:

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

Also suitable for:

- Natural stone with dense structure

ASSESSMENT/APPROVAL

ETA-16/0340
ETAG 001-5
Option 1 for cracked concrete

ADVANTAGES

- RM II in combination with RG MI is the first bonded anchor with internal threaded anchor for cracked and non-cracked concrete that does not require drill hole cleaning. This allows for a rapid working progress and an economic installation.
- The internal threaded anchor RG MI allows for the surface flush removal and reuse of the fixing point. It therefore offers great flexibility.
- The metric internal thread allows for the use of standard metric screws or threaded rods for the ideal adaptation to suit the intended use.

APPLICATIONS

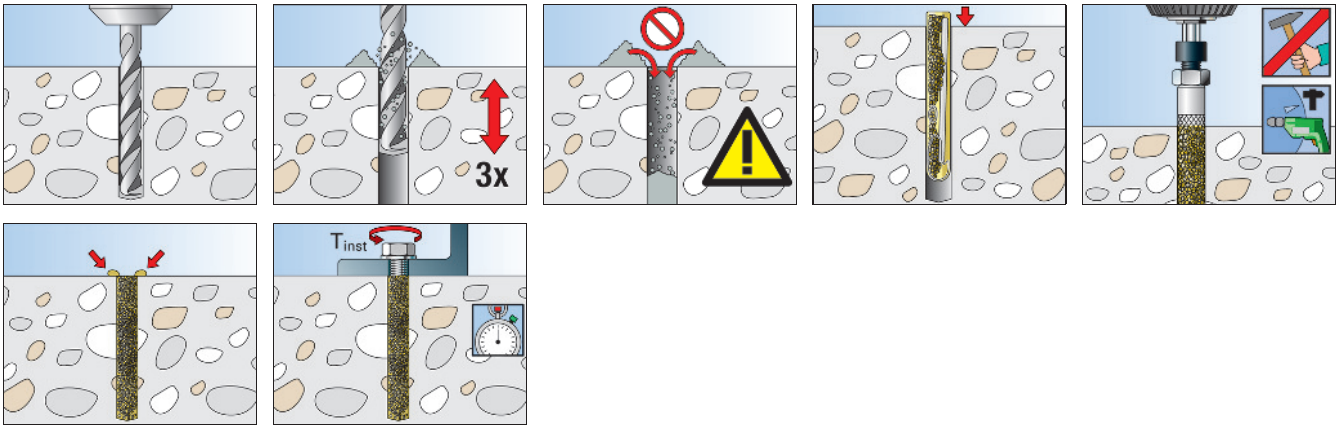
- Removable fixings
- Temporary fixings, e.g. for machines
- Scaffold anchoring

FUNCTIONING

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

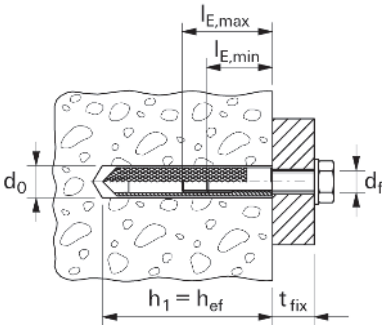
Resin anchor RM II with RG MI

INSTALLATION



TECHNICAL DATA

RM II



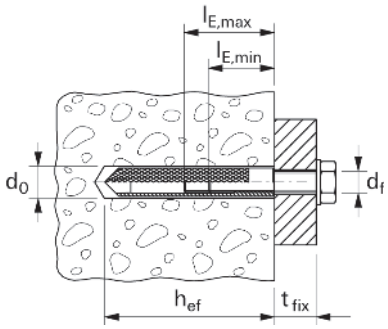
		Approval	Drill diameter	Min. drill hole depth	Effect. anchorage depth	Suitable for internal-threaded anchor	Sales unit
		ETA	d_0 [mm]	h_1 [mm]	h_{ef} [mm]		[pcs]
Item	**Art.-No.**						
RM II 10	**539797**	■	14	90	90	RG M8 I	10
RM II 12	**539798**	■	18	90	90	RG M10 I	10
RM II 16	**539800**	■	20	125	125	RG M12 I	10
RM II 16 E	**539801**	■	24	160	160	RG M16 I	10
RM II 24	**539803**	■	32	200	200	RG M20 I	5

CURING TIME

Temperature at anchoring base	Curing time
-15 °C - -10 °C	30 hrs.
- 9 °C - - 5 °C	16 hrs.
- 4 °C - ± 0 °C	10 hrs.
+ 1 °C - + 5 °C	45 min.
+ 6 °C - +10 °C	30 min.
+11 °C - +20 °C	20 min.
+21 °C - +30 °C	5 min.
+31 °C - +40 °C	3 min.

TECHNICAL DATA

Internal threaded anchor **RG MI**



	zinc-plated steel	stainless steel	Approval	Drill hole diameter	Effect. anchorage depth	Min. bolt penetration	Max. bolt penetration	Fits capsules	Sales unit
	Art.-No.	Art.-No.	ETA	d_0 [mm]	h_{ef} [mm]	$l_{E,min}$ [mm]	$l_{E,max}$ [mm]		[pcs]
Item	**gvz**	**A4**							
RG 12 x 90 M8 I	**050552**	**050565**	■	14	90	8	18	539797 RM II 10	10
RG 16 x 90 M10 I	**050553**	**050566**	■	18	90	10	23	539798 RM II 12	10
RG 18 x 125 M12 I	**050562**	**050567**	■	20	125	12	26	539800 RM II 16	10
RG 22 x 160 M16 I	**050563**	**050568**	■	24	160	16	35	539801 RM II 16 E	5
RG 28 x 200 M20 I	**050564**	**050569**	■	32	200	20	45	539803 RM II 24	5

LOADS

Resin anchor RM II with internal threaded anchor RG MI[5] (property class fixing screw 5.8)
Highest permissible load for a single anchor[1] in normal weight concrete C20/25[4] [6]
For the design the complete assessment[7] ETA-16/0340 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	**effective anchorage depth** h_{ef} [mm]	**min. member thickness** h_{min} [mm]	**maximum torque moment** $T_{inst,max}$ [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]	**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 M8 I	90	120	10	4,7	5,3	55	55	9,0	5,3	55	55
RG M10 I	90	125	20	6,3	8,3	65	65	13,8	8,3	65	65
RG M12 I	125	165	40	9,8	12,1	75	75	20,5	12,1	75	75
RG M16 I	160	205	80	15,4	22,4	95	95	37,6	22,4	95	95
RG M20 I	200	260	120	24,4	35,4	125	125	56,7	35,4	125	125

[1] The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of $\gamma_F = 1,4$ 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 assessment.

[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 assessment.

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

[5] The given loads are valid for the glass capsule 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).

[6] Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.

[7] The given loads refer to the assessment ETA-16/0340, issue date 14/02/2017. Design of the loads according ‚ETAG 001, Technical Report TR 029' (for static resp. quasi-static loads).

LOADS

Resin anchor RM II with internal threaded anchor RG MI[5] (property class fixing screw 8.8)
Highest permissible load for a single anchor[1] in normal weight concrete C20/25[4] [6]
For the design the complete assessment[7] ETA-16/0340 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	effective anchorage depth h_{ef} [mm]	min. member thickness h_{min} [mm]	maximum torque moment $T_{inst,max}$ [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]	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 M8 I	90	120	10	4,7	8,3	55	55	12,8	8,3	55	55
RG M10 I	90	125	20	6,3	13,3	65	65	17,1	13,3	65	65
RG M12 I	125	165	40	9,8	19,3	75	75	26,6	19,3	75	75
RG M16 I	160	205	80	15,4	30,9	95	95	40,6	30,9	95	95
RG M20 I	200	260	120	24,4	51,4	125	125	56,7	51,4	125	125

[1] The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of $\gamma_F = 1,4$ 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 assessment.
[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 assessment.
[4] For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
[5] The given loads are valid for the glass capsule 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).
[6] Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
[7] The given loads refer to the assessment ETA-16/0340, issue date 14/02/2017. Design of the loads according ‚ETAG 001, Technical Report TR 029' (for static resp. quasi-static loads).

LOADS

Resin anchor RM II with internal threaded anchor RG MI[5] (property class fixing screw A4-70)
Highest permissible load for a single anchor[1] in normal weight concrete C20/25[4] [6]
For the design the complete assessment[7] ETA-16/0340 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	effective anchorage depth h_{ef} [mm]	min. member thickness h_{min} [mm]	maximum torque moment $T_{inst,max}$ [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]	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 M8 I	90	120	10	4,7	5,9	55	55	9,9	5,9	55	55
RG M10 I	90	125	20	6,3	9,3	65	65	15,7	9,3	65	65
RG M12 I	125	165	40	9,8	13,5	75	75	22,5	13,5	75	75
RG M16 I	160	205	80	15,4	25,1	95	95	40,6	25,1	95	95
RG M20 I	200	260	120	24,4	39,4	125	125	56,7	39,4	125	125

[1] The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of $\gamma_F = 1,4$ 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 assessment.
[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 assessment.
[4] For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
[5] The given loads are valid for the glass capsule 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).
[6] Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
[7] The given loads refer to the assessment ETA-16/0340, issue date 14/02/2017. Design of the loads according ‚ETAG 001, Technical Report TR 029' (for static resp. quasi-static loads).