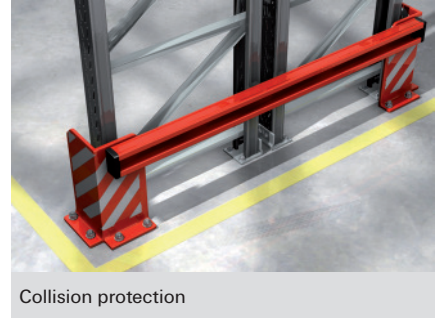


## The bonded anchor for cracked concrete with threaded rod RG M without drill hole cleaning

3  
Chemical fixings



Crash barriers



Collision protection

### VERSIONS

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



### 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.

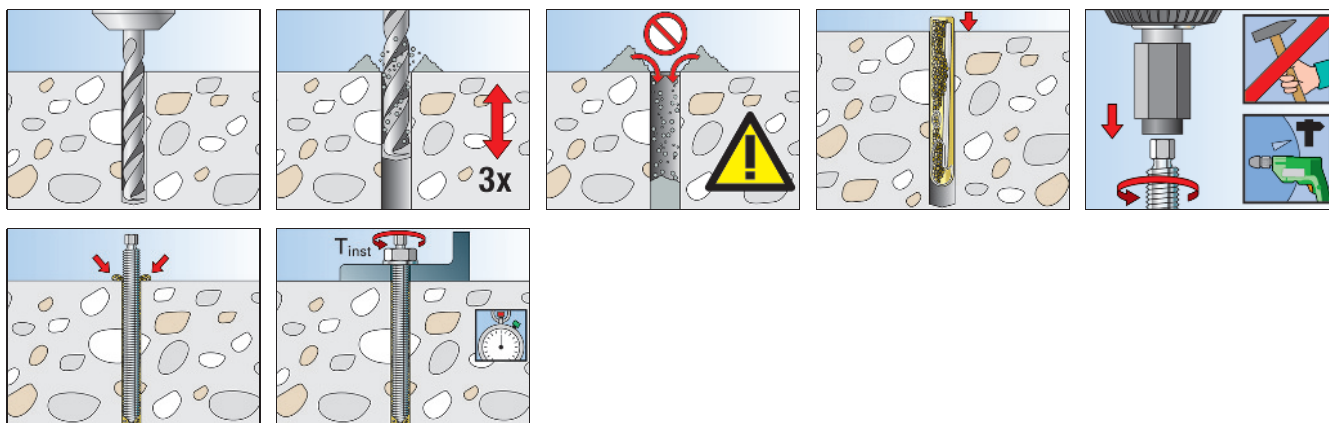
### APPLICATIONS

- 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.

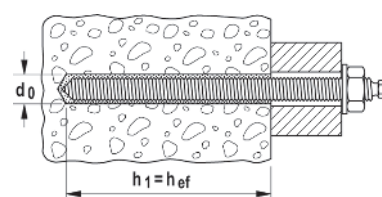
## INSTALLATION



## TECHNICAL DATA



RM II



Item	Art.-No.	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]
RM II 8	539796	■	10	80	80	RG M 8	10
RM II 10	539797	■	12	90	90	RG M 10	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.

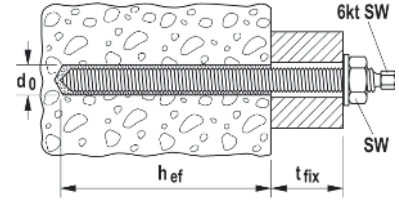
## CURING TIME

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.

## TECHNICAL DATA



Threaded rod **RG M**



3  
Chemical fixings

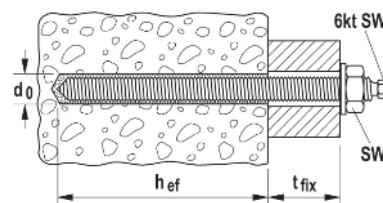
	zinc plated, steel grade 5.8	zinc plated, steel grade 8.8	stainless steel	Approval	Drill hole diameter	Effect. anchorage depth	Max. fixture thickness	Hexagon drive	Hexagon nut	Fits capsules	Sales unit
	Art.-No.	Art.-No.	Art.-No.	ETA	d <sub>0</sub> [mm]	h <sub>ef</sub> [mm]	t <sub>fix</sub> [mm]	6kt SW [mm]	○ SW [mm]		[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) Straight cut, setting tool is enclosed.

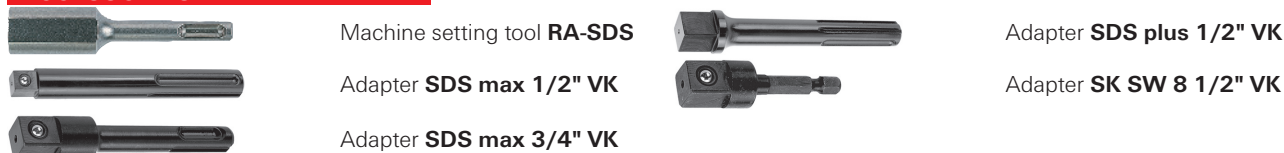
## TECHNICAL DATA



	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

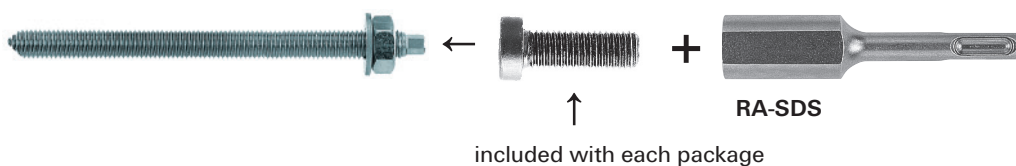


Item	Art.-No.	Match	Sales unit [pcs]
RA-SDS	062420	Adapter suitable fits set screw	1
SK SW 8 1/2	001536	Adapter suitable fits threaded rods M8 - M22	1
SDS plus 1/2	001537	Adapter suitable fits threaded rods M8 - M16	1
SDS max 1/2	001538	Adapter suitable fits threaded rods M16 - M20	1
SDS max 3/4	001539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

## SETTING TOOLS

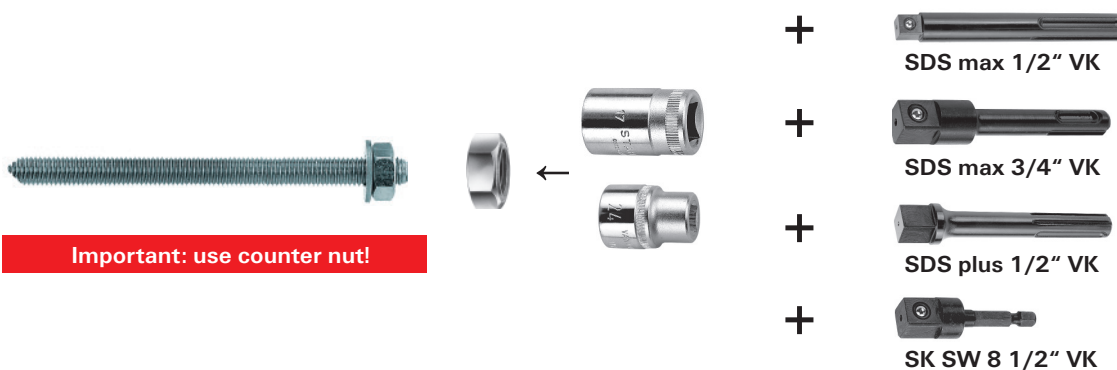
### Setting tool with SDS adapter

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



### 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<sup>5)</sup> (steel property class 5.8)

Highest permissible load for a single anchor<sup>1)</sup> in normal weight concrete C20/25<sup>4) 6)</sup>

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

Type				Cracked concrete				Non-cracked concrete			
	effective anchorage depth	min. member thickness	maximum torque moment	permissible tensile load	permissible shear load	min. spacing	min. edge distance	permissible tensile load	permissible shear load	min. spacing	min. edge distance
	$h_{ef}$ [mm]	$h_{min}$ [mm]	$T_{inst,max}$ [Nm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]
<b>RG M 8</b>	80	110	10	-	-	-	-	8,4	5,1	40	40
<b>RG M 10</b>	90	120	20	3,9	8,6	45	45	11,8	8,6	45	45
<b>RG M 12</b>	110	140	40	5,8	12,0	55	55	17,3	12,0	55	55
<b>RG M 16</b>	125	161	60	8,7	20,9	65	65	26,2	22,3	65	65
<b>RG M 20</b>	170	220	120	14,8	34,9	85	85	44,4	34,9	85	85
<b>RG M 24</b>	210	266	150	22,0	50,9	105	105	61,0	50,9	105	105

<sup>1)</sup> 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.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> 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).

<sup>6)</sup> Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.

<sup>7)</sup> 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<sup>5)</sup> (steel property class 5.8)

Highest permissible load for a single anchor<sup>1)</sup> in normal weight concrete C20/25<sup>4) 6)</sup>

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

Type				Cracked concrete				Non-cracked concrete			
	effective anchorage depth	min. member thickness	maximum torque moment	permissible tensile load	permissible shear load	min. spacing	min. edge distance	permissible tensile load	permissible shear load	min. spacing	min. edge distance
	$h_{ef}$ [mm]	$h_{min}$ [mm]	$T_{inst,max}$ [Nm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]
<b>RG M 8</b>	80	110	10	-	-	-	-	8,4	8,6	40	40
<b>RG M 10</b>	90	120	20	3,9	9,4	45	45	11,8	13,1	45	45
<b>RG M 12</b>	110	140	40	5,8	13,8	55	55	17,3	19,4	55	55
<b>RG M 16</b>	125	161	60	8,7	20,9	65	65	26,2	36,0	65	65
<b>RG M 20</b>	170	220	120	14,8	35,6	85	85	44,4	56,0	85	85
<b>RG M 24</b>	210	266	150	22,0	52,8	105	105	61,0	80,6	105	105

<sup>1)</sup> 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.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> 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).

<sup>6)</sup> Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.

<sup>7)</sup> 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<sup>5)</sup> (steel property class A4-70)**  
**Highest permissible load for a single anchor<sup>1)</sup>** in normal weight concrete C20/25<sup>4) 6)</sup>  
 For the design the complete assessment<sup>7)</sup> ETA-16/0340 has to be considered.

Type	effective anchorage depth $h_{ef}$ [mm]	min. member thickness $h_{min}$ [mm]	maximum torque moment $T_{inst,max}$ [Nm]	Cracked concrete				Non-cracked concrete			
				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]
<b>RG M 8</b>	80	110	10	-	-	-	-	8,4	6,0	40	40
<b>RG M 10</b>	90	120	20	3,9	9,2	45	45	11,8	9,2	45	45
<b>RG M 12</b>	110	140	40	5,8	13,7	55	55	17,3	13,7	55	55
<b>RG M 16</b>	125	161	60	8,7	20,9	65	65	26,2	25,2	65	65
<b>RG M 20</b>	170	220	120	14,8	35,6	85	85	44,4	39,4	85	85
<b>RG M 24</b>	210	266	150	22,0	52,8	105	105	61,0	56,8	105	105

- <sup>1)</sup> 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.
- <sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.
- <sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.
- <sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
- <sup>5)</sup> 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).
- <sup>6)</sup> Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
- <sup>7)</sup> 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

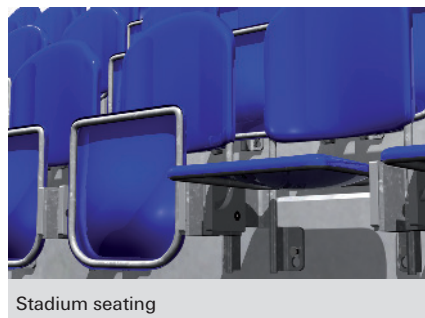
**Resin anchor RM II with threaded rod RG M<sup>5)</sup> (steel property class C-70)**  
**Highest permissible load for a single anchor<sup>1)</sup>** in normal weight concrete C20/25<sup>4) 6)</sup>  
 For the design the complete assessment<sup>7)</sup> ETA-16/0340 has to be considered.

Type	effective anchorage depth $h_{ef}$ [mm]	min. member thickness $h_{min}$ [mm]	maximum torque moment $T_{inst,max}$ [Nm]	Cracked concrete				Non-cracked concrete			
				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]
<b>RG M 8</b>	80	110	10	-	-	-	-	8,4	7,4	40	40
<b>RG M 10</b>	90	120	20	3,9	9,4	45	45	11,8	11,4	45	45
<b>RG M 12</b>	110	140	40	5,8	13,8	55	55	17,3	17,1	55	55
<b>RG M 16</b>	125	161	60	8,7	20,9	65	65	26,2	31,4	65	65

- <sup>1)</sup> 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.
- <sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.
- <sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.
- <sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.
- <sup>5)</sup> 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).
- <sup>6)</sup> Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.
- <sup>7)</sup> 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



### 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.

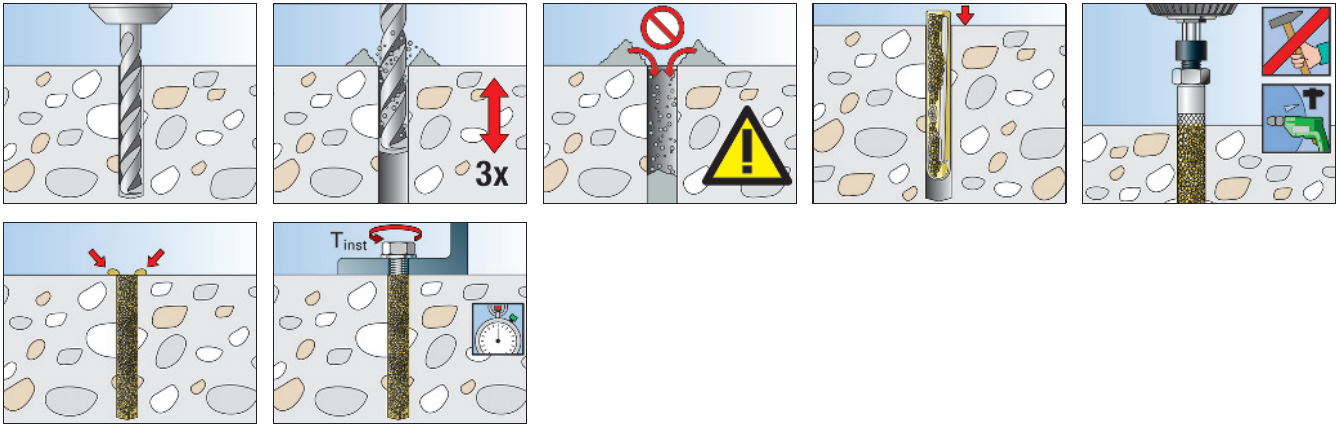
### APPLICATIONS

- 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.

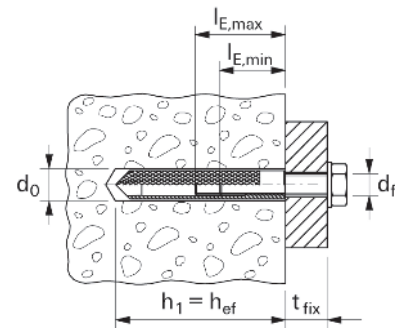
## INSTALLATION



## TECHNICAL DATA



RM II



Item	Art.-No.	Approval ETA	Drill diameter $d_0$ [mm]	Min. drill hole depth $h_1$ [mm]	Effect. anchorage depth $h_{ef}$ [mm]	Suitable for internal- threaded anchor	Sales unit [pcs]
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

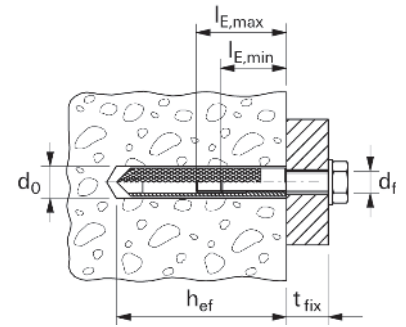
Temperature at anchoring base	Curing time
-15 °C - -10 °C	30 hrs.
- 9 °C - - 5 °C	16 hrs.
- 4 °C - ± 0 °C	10 hrs.
+ 1 °C - + 5 °C	45 min.
+ 6 °C - +10 °C	30 min.
+11 °C - +20 °C	20 min.
+21 °C - +30 °C	5 min.
+31 °C - +40 °C	3 min.



## 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							
<b>RG 12 x 90 M8 I</b>	<b>050552</b>	<b>050565</b>	■	14	90	8	18	539797 RM II 10	10
<b>RG 16 x 90 M10 I</b>	<b>050553</b>	<b>050566</b>	■	18	90	10	23	539798 RM II 12	10
<b>RG 18 x 125 M12 I</b>	<b>050562</b>	<b>050567</b>	■	20	125	12	26	539800 RM II 16	10
<b>RG 22 x 160 M16 I</b>	<b>050563</b>	<b>050568</b>	■	24	160	16	35	539801 RM II 16 E	5
<b>RG 28 x 200 M20 I</b>	<b>050564</b>	<b>050569</b>	■	32	200	20	45	539803 RM II 24	5

## LOADS

Resin anchor RM II with internal threaded anchor RG MI<sup>5)</sup> (property class fixing screw 5.8)

Highest permissible load for a single anchor<sup>1)</sup> in normal weight concrete C20/25<sup>4) 6)</sup>

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

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

<sup>1)</sup> 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.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> 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).

<sup>6)</sup> Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.

<sup>7)</sup> 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<sup>5)</sup> (property class fixing screw 8.8)

Highest permissible load for a single anchor<sup>1)</sup> in normal weight concrete C20/25<sup>4) 6)</sup>

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

Type				Cracked concrete				Non-cracked concrete			
	effective anchorage depth	min. member thickness	maximum torque moment	permissible tensile load	permissible shear load	min. spacing	min. edge distance	permissible tensile load	permissible shear load	min. spacing	min. edge distance
	$h_{ef}$ [mm]	$h_{min}$ [mm]	$T_{inst,max}$ [Nm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]
<b>RG M8 I</b>	90	120	10	4,7	8,3	55	55	12,8	8,3	55	55
<b>RG M10 I</b>	90	125	20	6,3	13,3	65	65	17,1	13,3	65	65
<b>RG M12 I</b>	125	165	40	9,8	19,3	75	75	26,6	19,3	75	75
<b>RG M16 I</b>	160	205	80	15,4	30,9	95	95	40,6	30,9	95	95
<b>RG M20 I</b>	200	260	120	24,4	51,4	125	125	56,7	51,4	125	125

<sup>1)</sup> 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.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> 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).

<sup>6)</sup> Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.

<sup>7)</sup> 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<sup>5)</sup> (property class fixing screw A4-70)

Highest permissible load for a single anchor<sup>1)</sup> in normal weight concrete C20/25<sup>4) 6)</sup>

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

Type				Cracked concrete				Non-cracked concrete			
	effective anchorage depth	min. member thickness	maximum torque moment	permissible tensile load	permissible shear load	min. spacing	min. edge distance	permissible tensile load	permissible shear load	min. spacing	min. edge distance
	$h_{ef}$ [mm]	$h_{min}$ [mm]	$T_{inst,max}$ [Nm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{2)}$ [mm]	$c_{min}^{2)}$ [mm]
<b>RG M8 I</b>	90	120	10	4,7	5,9	55	55	9,9	5,9	55	55
<b>RG M10 I</b>	90	125	20	6,3	9,3	65	65	15,7	9,3	65	65
<b>RG M12 I</b>	125	165	40	9,8	13,5	75	75	22,5	13,5	75	75
<b>RG M16 I</b>	160	205	80	15,4	25,1	95	95	40,6	25,1	95	95
<b>RG M20 I</b>	200	260	120	24,4	39,4	125	125	56,7	39,4	125	125

<sup>1)</sup> 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.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> 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).

<sup>6)</sup> Drill method hammer drilling. For further allowable drill methods and application conditions see assessment.

<sup>7)</sup> 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).