

Internal-threaded anchor RG MI

OVERVIEW



Resin capsule R M



Internal-threaded anchor RG MI, M5 - M20 zinc-plated steel



Internal-threaded anchor RG MI, M8 - M20 stainless steel of the corrosion resistance class III e.g. A4

Approved for:

- Non-cracked concrete $\geq C20/25$



Suitable for:

- Natural stone with dense structure

For fixing of:

- Detachable connections with metric screws in the steel, metal and plant construction.

DESCRIPTION

- The fixing system consists of the Internal-threaded anchor RG MI and the resin capsule R M.
- The resin capsule R M contains quick-curing styrene-free vinyl ester resin.
- Suitable for commercially-available metric screws and threaded rods.
- During setting, the edges of the internal threaded anchor destroy the capsule in the drill hole, mix and activate the resin.
- The resin adheres to the entire surface of the internal threaded anchor, bonding it to the wall of the drilled hole.

Advantages/Benefits

- High-performance resin guarantees high loads in non-cracked concrete.
- The resin anchoring is free of expansion forces and permits low spacings and edge distances.
- Flush finish, no projecting bolt after dismantling the fixture.

INSTALLATION

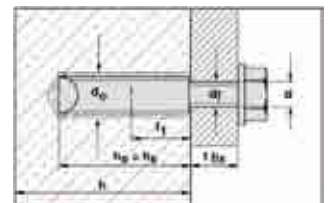
Type of installation

- Pre-positioned installation
- Brushes see page 55.



TECHNICAL DATA

Type	Art.-No.	approval	Internal-threaded anchor RG MI, zinc-plated steel		Internal-threaded anchor RG MI, stainless steel of the corrosion resistance class III e.g. A4		fits capsules	fits brushes	Qty. per box
			drill \varnothing	drill depth = mounting depth	min. bolt penetration	max. bolt penetration			
		ETA	d_0 [mm]	$h_0 = h_s$ [mm]	e_2 [mm]	e_1 [mm]			pcs.
RG 8 x 75 M 5 I	048221		10	75	8	14	50270 RM 8	78178 BS 10	10
RG 10 x 75 M 6 I	048222		12	75	10	16	50271 RM 10	78179 BS 12	10
RG 12 x 90 M 8 I	050552	■	14	90	12	18	50272 RM 12	78180 BS 14	10
RG 16 x 90 M 10 I	050553	■	18	90	15	23	50278 RM 14	78181 BS 16/18	10
RG 18 x 125 M 12 I	050562	■	20	125	18	26	79838 RM 16 E	52277 BS 20	10
RG 22 x 160 M 16 I	050563	■	24	160	24	35	79838 RM 16 E	78182 BS 24	5
RG 28 x 200 M 20 I	050564	■	32	200	30	45	50274 RM 20	78184 BS 35	5
RG 12 x 90 M 8 I A4	050565	■	14	90	12	18	50272 RM 12	78180 BS 14	10
RG 16 x 90 M 10 I A4	050566	■	18	90	15	23	50278 RM 14	78181 BS 16/18	10
RG 18 x 125 M 12 I A4	050567	■	20	125	18	26	79838 RM 16 E	52277 BS 20	10
RG 22 x 160 M 16 I A4	050568	■	24	160	24	35	79838 RM 16 E	78182 BS 24	5
RG 28 x 200 M 20 I A4	050569	■	32	200	30	45	50274 RM 20	78184 BS 35	5



Internal-threaded anchor RG MI

CURING TIME

Curing time Resin capsule RM

Temperature at anchoring base	Curing time
- 5°C - ± 0°C	240 min.
± 0°C - + 10°C	45 min.
+ 10°C - + 20°C	20 min.
≥ + 20°C	10 min.

Please note: The curing times apply for dry anchoring bases. In damp anchoring bases they should be doubled.
Remove water from drill hole.

LOADS

Mean ultimate loads, design resistant and recommended loads for single anchors of fischer Resin anchor used with Internal threaded anchors RG MI with large spacing and edge distance.

Anchor size / Internal thread		Non-cracked concrete														
		RG M8 I				RG M10 I				GN M12 I						
Kind of steel		gvz		A4	C	gvz		A4	C	gvz		A4	C			
Steel grade		5.8	8.8	10.9	A4-70	1.4529	5.8	8.8	10.9	A4-70	1.4529	5.8	8.8	10.9	A4-70	1.4529
Effective anchorage depth	h_{ef} [mm]	90				90				125						
Drill hole depth	$h_D \geq$ [mm]	90				90				125						
Drill hole diameter	d_D [mm]	14				18				20						
Mean ultimate loads N_U and V_U [kN]																
Tensile 0°	N_U [kN]	19.0*	29.0*	36.6*	26.0*	30.0*	46.0*	57.6	41.0*	44.0*	67.0*	84.1*	59.0*			
Shear 90°	V_U [kN]	9.5*	14.6*	15.3*	12.8*	15.1*	23.2*	24.3*	20.3*	21.9*	33.7*	35.4*	29.5*			
Design resistant loads N_{Rd} and V_{Rd} [kN]																
Tensile 0°	N_{Rd} [kN]	12.8	19.3	20.0	13.9	17.3	20.3	23.3	21.9	22.2	29.7	33.3	31.6	33.3		
Shear 90°	V_{Rd} [kN]	7.6	11.7	10.2	8.2	10.2	12.1	18.6	16.2	13.0	16.2	17.5	27.0	23.6	18.9	23.6
Recommended loads N_{rec} and V_{rec} [kN]																
Tensile 0°	N_{rec} [kN]	9.2	13.8	14.3	9.9	12.4	14.5	16.7	15.7	15.9	21.2	23.8	22.5	23.8		
Shear 90°	V_{rec} [kN]	5.4	8.3	7.3	5.9	7.3	8.6	13.3	11.6	9.3	11.6	12.5	19.3	16.9	13.5	16.9
Recommended bending moment M_{rec} [Nm]																
	M_{rec} [Nm]	11.1	17.1	17.9	12.0	15.0	22.2	34.2	35.6	23.9	29.9	38.9	59.8	62.3	41.9	52.3
Component dimensions, minimum spacings and edge distances																
Characteristic spacing	$s_{cr, Np}$ [mm]	290				390				420						
Characteristic edge distance	$c_{cr, Np}$ [mm]	145				195				210						
Minimum spacing ¹⁾	s_{min} [mm]	45				45				60						
Minimum edge distance ¹⁾	c_{min} [mm]	45				45				60						
Minimum structural component thickness	h_{min} [mm]	120				120				170						
Minimum screw penetration depth	$max l_s$ [mm]	12				15				18						
Maximum screw penetration depth	$min l_s$ [mm]	18				23				26						
Clearance-hole in fixture to be attached	$d_f \leq$ [mm]	9				12				14						
Required torque	T_{inst} [Nm]	10				20				40						
Corresponding mortar capsule	FEB RM [-]	FEB RM 12				FEB RM14				FEB RM 16 E						

* Steel failure

¹⁾ For minimum spacing and minimum edge distance the above described loads have to be reduced (See "fischer Technical Handbook" or design software "CC-COMPUFIX")!

Values given above are valid under the following assumptions:

- Premium cleaning process according to European technical approval ETA.
- Dry concrete, temperature range from - 40 °C up to + 50 °C long term temperature and + 80 °C short term temperature.

All values apply for concrete C20/25 without edge or spacing influences.

Design resistant loads: material safety factor γ_M is included. Material safety factor γ_M depends on the type of anchor.

Recommended loads: material safety factor γ_M and safety factor for load $\gamma_L = 1.4$ are included.

Continued next page.

LOADS

Mean ultimate loads, design resistant and recommended loads for single anchors of fischer Resin anchor used with Internal threaded anchors RG MI with large spacing and edge distance.

Anchor size / Internal thread		Non-cracked concrete								
		RG M16 I				RG M20 I				
Kind of steel		gvz		A4	C	gvz		A4		
Steel grade		5.8	8.8	10.9	A4-70	1.4529	5.8	8.8	10.9	A4-70
Effektive anchorage depth	h_{ef} [mm]	160				200				
Drill hole depth	$h_D \geq$ [mm]	160				200				
Drill hole diameter	d_D [mm]	24				32				
Mean ultimate loads N_U and V_U [kN]										
Tensile 0°	N_U [kN]	82.0*	109.0*	109.3*	110.0*		127.0*	182.0*	182.2*	171.0*
Shear 90°	V_U [kN]	40.7*	62.7*		54.8*		63.6*	91.1*		85.7*
Design resistant loads N_{Rd} and V_{Rd} [kN]										
Tensile 0°	N_{Rd} [kN]	50.0				76.7				
Shear 90°	V_{Rd} [kN]	32.6	50.2	41.8	35.1	43.8	50.9	60.7	54.9	
Recommended loads N_{rec} and V_{rec} [kN]										
Tensile 0°	N_{rec} [kN]	35.7				54.8				
Shear 90°	V_{rec} [kN]	23.3	35.8	29.9	25.1	31.3	36.3	43.4	39.2	
Recommended bending moment M_{rec} [Nm]										
	M_{rec} [Nm]	98.6	151.7	158.0	106.4	132.8	192.6	296.3	308.7	207.8
Component dimensions, minimum spacings and edge distances										
Characteristic spacing	$s_{cr, Nd}$ [mm]	500				610				
Characteristic edge distance	$c_{cr, Nd}$ [mm]	250				305				
Minimum spacing ¹⁾	s_{min} [mm]	80				100				
Minimum edge distance ¹⁾	c_{min} [mm]	80				100				
Minimum structural component thickness	h_{min} [mm]	220				270				
Minimum screw penetration depth	$\max l_s$ [mm]	24				30				
Maximum screw penetration depth	$\min l_s$ [mm]	35				45				
Clearance-hole in fixture to be attached	$d_f \leq$ [mm]	18				22				
Required torque	T_{inst} [Nm]	60				120				
Corresponding mortar capsule	FEB RM [-]	FEB RM 16 E				FEB RM 20				

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Design resistant loads: material safety factor γ_M is included. Material safety factor γ_M depends on the type of anchor.

Recommended loads: material safety factor γ_M and safety factor for load $\gamma_L = 1.4$ are included.