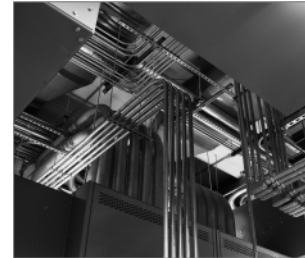
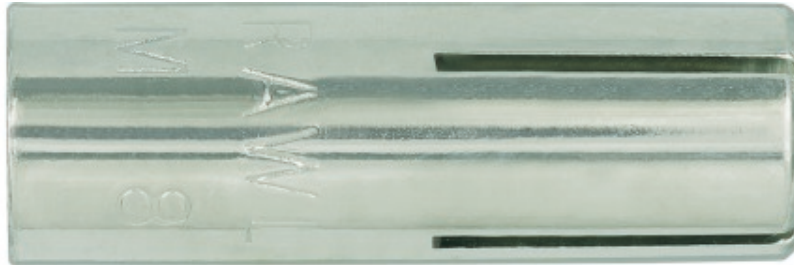


R-DCA Wedge Anchor

Internally threaded wedge anchor for simple hammer-set installation



Approvals and Reports

- ETA-13/0584



Product information

Features and benefits

- High performance in cracked and non-cracked concrete confirmed by ETA
- Product recommended for applications requiring fire resistance
- Internally threaded to be used with threaded stud or bolt
- Easy to install by hammer action and manual setting tool
- Slotted sleeve and internal wedge component together facilitate easy setting and expansion

Applications

- Pipelines systems
- Ventilation systems
- Sprinkler systems
- Cable conduits and wires
- Gratings

Base materials

Approved for use in:

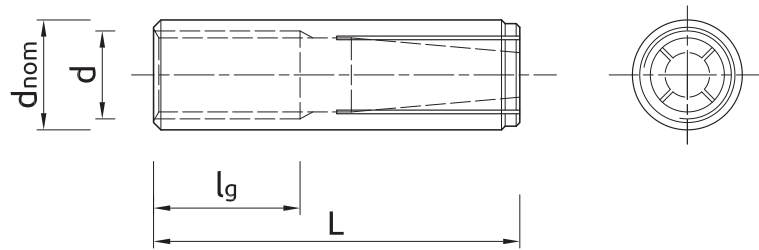
- Cracked concrete C20/25-C50/60
- Non-cracked concrete C20/25-C50/60
- Unreinforced concrete
- Reinforced concrete

Installation guide



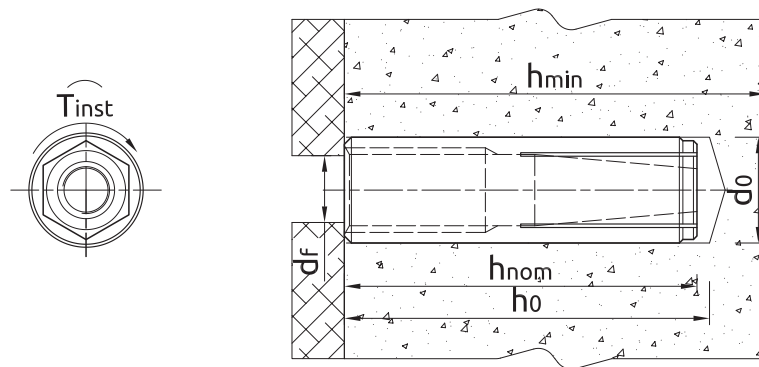
1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blowpump or equivalent method)
3. Insert wedge anchor, slotted end first
4. Use the setting tool to drive the internal wedge into the anchor
5. Insert bolt or stud through fixture and tighten to the recommended torque

Product information



Size	Product Code	Anchor				Fixture
		Diameter	External diameter	Length	Internal thread length	Hole diameter
		d	d_{nom}	L	l_g	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-DCA-06-25	6	8	25	11	7
	R-DCA-06-25-100B	6	8	25	11	7
M8	R-DCA-08-30	8	10	30	14	9
	R-DCA-08-30-100B	8	10	30	14	9
M10	R-DCA-10-40	10	12	40	19	12
	R-DCA-10-40-50B	10	12	40	19	12
M12	R-DCA-12-50	12	15	50	25	14
	R-DCA-12-50-30B	12	15	50	25	14
M16	R-DCA-16-65	16	20	65	28	18
	R-DCA-16-65-15B	16	20	65	28	18
M20	R-DCA-20-80	20	25	80	38	22

Installation data



Size		M6	M8	M10	M12	M16	M20
Thread diameter	d [mm]	6	8	10	12	16	20
Hole diameter in substrate	d_o [mm]	8	10	12	15	20	25
Max. installation torque	T_{inst} [Nm]	4.5	11	22	38	98	130
Min. hole depth in substrate	h_o [mm]	27	32	42	52	67	82
Installation depth	h_{nom} [mm]	25	30	40	50	65	80
Min. substrate thickness	h_{min} [mm]	80	80	80	100	130	160
Min. spacing	s_{min} [mm]	200	200	200	200	260	320
Min. edge distance	c_{min} [mm]	150	150	150	150	195	240

Mechanical properties

Size		M6	M8	M10	M12	M16	M20
Nominal ultimate tensile strength - tension	f_{uk} [N/mm ²]	450	450	450	450	450	450
Nominal yield strength - tension	f_{yk} [N/mm ²]	360	360	360	360	360	360
Cross sectional area - tension	A_s [mm ²]	20.1	36.6	58	84.3	157	245
Elastic section modulus	W_{el} [mm ³]	21.21	50.3	98.2	169.7	402.1	785.4

Basic performance data

Performance data for single anchor without influence of edge distance and spacing - ETAG 001

Size		M6	M8	M10	M12	M16	M20
Effective embedment depth h_{ef}	[mm]	25.00	30.00	40.00	50.00	65.00	80.00
MEAN ULTIMATE LOAD							
TENSION AND SHEAR LOAD $F_{R,u,m}$	[kN]	-	-	-	-	-	-
CHARACTERISTIC LOAD							
TENSION AND SHEAR LOAD F_{Rk}	[kN]	1.52	3.01	4.57	6.43	13.31	17.38
DESIGN LOAD							
TENSION AND SHEAR LOAD F_{Rd}	[kN]	0.84	1.67	2.54	3.57	7.39	9.65
RECOMMENDED LOAD							
TENSION AND SHEAR LOAD F_{rec}	[kN]	0.60	1.19	1.81	2.55	5.28	6.89

Design performance data

Size		M6	M8	M10	M12	M16	M20
Effective embedment depth	h_{ef} [mm]	25.00	30.00	40.00	50.00	65.00	80.00
TENSION AND SHEAR LOAD							
Characteristic resistance	F_{Rk} [kN]	1.52	3.01	4.57	6.43	13.31	17.38
Installation safety factor	γ_2	-	1.20	1.20	1.20	1.20	1.20
Spacing	s_{cr}	-	200.00	200.00	200.00	260.00	320.00
Edge distance	c_{cr}	-	150.00	150.00	150.00	195.00	240.00
SHEAR LOAD							
STEEL FAILURE; [ENGLISH]: STAL KLASY 4.8							
Characteristic resistance with lever arm	$M_{Rk,s}$ [Nm]	6.00	15.00	30.00	52.00	133.00	260.00
Partial safety factor	γ_{Ms}	-	1.25	1.25	1.25	1.25	1.25
STEEL FAILURE; STEEL CLASS 5.8							
Characteristic resistance with lever arm	$M_{Rk,s}$ [Nm]	8.00	19.00	37.00	66.00	167.00	325.00
Partial safety factor	γ_{Ms}	-	1.25	1.25	1.25	1.25	1.25
STEEL FAILURE; [ENGLISH]: STAL KLASY 6.8							
Characteristic resistance with lever arm	$M_{Rk,s}$ [Nm]	9.00	23.00	45.00	79.00	200.00	390.00
Partial safety factor	γ_{Ms}	-	1.25	1.25	1.25	1.25	1.25
STEEL FAILURE; STEEL CLASS 8.8							
Characteristic resistance with lever arm	$M_{Rk,s}$ [Nm]	12.00	30.00	60.00	105.00	267.00	520.00
Partial safety factor	γ_{Ms}	-	1.25	1.25	1.25	1.25	1.25

Characteristic Resistance under fire exposure in concrete C20/25 to C50/60

Size		M8	M10	M12	M16	M20
TENSION AND SHEAR LOAD						
Spacing	s_{cr} [mm]	120.00	160.00	200.00	260.00	320.00
Edge distance	c_{cr} [mm]	60.00	80.00	100.00	130.00	160.00
R (for EI) = 30 min						
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk} [kN]	0.40	0.90	1.60	3.10	4.30
R (for EI) = 60 min						
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk} [kN]	0.30	0.80	1.30	2.40	3.70
R (for EI) = 90 min						
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk} [kN]	0.30	0.60	1.10	2.00	3.20
R (for EI) = 120 min						
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk} [kN]	0.20	0.50	0.80	1.60	2.50

Product commercial data

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Codes
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M6	R-DCA-06-25 ¹⁾	6	25	100	1000	36000	0.67	6.7	271.2	5010445771088
	R-DCA-06-25-100B ¹⁾	6	25	100	1700	54400	0.70	11.9	410.8	5906675441221
M8	R-DCA-08-30 ¹⁾	8	30	100	1000	60000	1.19	11.9	744.0	5010445771200
	R-DCA-08-30-100B ¹⁾	8	30	100	1700	54400	1.20	20.4	682.8	5906675439112
M10	R-DCA-10-40 ¹⁾	10	40	50	500	37500	1.15	11.5	892.5	5906675151687
	R-DCA-10-40-50B ¹⁾	10	40	50	900	28800	1.15	20.7	692.4	5906675439136
M12	R-DCA-12-50 ¹⁾	12	50	50	400	18000	2.3	18.3	854.4	5906675152004
	R-DCA-12-50-30B ¹⁾	12	50	30	360	11520	1.50	18.0	606.0	5906675438108
M16	R-DCA-16-65 ¹⁾	16	65	25	100	6000	2.7	10.8	680.4	5010445771507
	R-DCA-16-65-15B ¹⁾	16	65	15	180	5760	1.53	18.4	617.5	5906675438115
M20	R-DCA-20-80 ¹⁾	20	80	15	90	3240	3.0	18.1	680.9	5010445002298

1) ETA-13/0584