R-DCA ZINC PLATED WEDGE ANCHOR

Internally threaded zinc plated wedge anchor

FEATURES AND BENEFITS

Product is covered with European Technical Assessment for multi-point non-structural fixings.

Easy to install by hammer action and manual setting tool.

Product was tested for construction fixing.

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.

Slotted sleeve and internal wedge component together facilitate easy setting and expansion.

SUBSTRATES

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



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APPLICATIONS

- Air conditioning / ventilation
- Electrical Installations
- Pipelines
- Sprinkler installations
- Steel structures





Colombo, Sri Lanka
Altair Tower

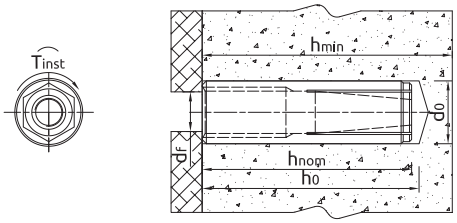
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INSTALLATION GUIDE



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 the anchor into the hole and tap it with a hammer until it is flush with the ground.
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.

INSTALLATION DATA



Size			M6/25	M8/30	M10/40	M12/50	M16/65	M20/80
Thread diameter	d	[mm]	6	8	10	12	16	20
Hole diameter in substrate	d_0	[mm]	8	10	12	15	20	25
Hole diameter in fixture	d_f	[mm]	7	9	12	14	18	22
Max. installation torque	T_{inst}	[Nm]	4,5	11	22	38	98	130
Internal thread length	l_g	[mm]	11	14	19	25	28	38
Min. hole depth in substrate	h_0	[mm]	27	32	42	52	67	82
Min. 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	185	240

MECHANICAL PROPERTIES

Size			M6/25	M8/30	M10/40	M12/50	M16/65	M20/80
R-STUDS Metric Threaded Rods - Steel Class 4.8								
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	450	450	450	450	450	450
Nominal yield strength	f_{yk}	[N/mm²]	360	360	360	360	360	360
Cross sectional area	A_s	[mm²]	20,1	36,6	58,0	84,3	156,7	244,8
Elastic section modulus	W_{el}	[mm³]	21,2	31,2	62,3	109,1	276,6	540,2
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	6,0	15,0	30,0	52,0	133,0	260,0
Design bending resistance	M	[Nm]	4,8	12,0	24,0	41,6	106,4	208,0

BASIC PERFORMANCE DATA

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

Size			M6/25	M8/30	M10/40	M12/50	M16/65	M20/80
Nominal embedment depth	h_{nom}	[mm]	25	30	40	50	65	80
CHARACTERISTIC LOAD								
TENSION AND SHEAR LOAD F_{Rk}								
Uncracked and cracked concrete C12/15	-	[kN]	1,20	2,00	3,50	5,00	10,00	13,00
Uncracked and cracked concrete C20/25 - C50/60	-	[kN]	1,50	3,00	4,50	6,00	13,00	17,00
DESIGN LOAD								
TENSION AND SHEAR LOAD F_{Rd}								
Uncracked and cracked concrete C12/15	-	[kN]	0,67	1,11	1,94	2,78	5,56	7,22

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Size			M6/25	M8/30	M10/40	M12/50	M16/65	M20/80
Uncracked and cracked concrete C20/25 - C50/60	-	[kN]	0,83	1,67	2,50	3,33	7,22	9,44
RECOMMENDED LOAD								
TENSION AND SHEAR LOAD F_{rec}								
Uncracked and cracked concrete C12/15	-	[kN]	0,48	0,79	1,39	1,98	3,97	5,16
Uncracked and cracked concrete C20/25 - C50/60	-	[kN]	0,60	1,19	1,79	2,38	5,16	6,75

DESIGN PERFORMANCE DATA

Static loads

Size			M6/25	M8/30	M10/40	M12/50	M16/65	M20/80
Effective embedment depth	h_{ef}	[mm]	25	30	40	50	65	80
TENSION AND SHEAR LOAD								
CRACKED AND UNCRACKED CONCRETE								
Characteristic resistance - concrete C12/15	F^0_{Rk}	[kN]	1,2	2,0	3,5	5,0	10,0	13,0
Characteristic resistance - concrete C20/25 - C50/60	F^0_{Rk}	[kN]	1,5	3,0	4,5	6,0	13,0	17,0
Installation safety factor	γ_{inst}	[-]	1,2	1,2	1,2	1,2	1,2	1,2
Spacing	s_{cr}	[mm]	200	200	200	200	260	320
Edge distance	c_{cr}	[mm]	150	150	150	150	195	240
Characteristic resistance with lever arm (Steel class 4.8)	$M^0_{Rk,s}$	[Nm]	6,0	15,0	30,0	52,0	133,0	260,0
Characteristic resistance with lever arm (Steel class 5.8)	$M^0_{Rk,s}$	[Nm]	8,0	19,0	37,0	66,0	167,0	325,0
Characteristic resistance with lever arm (Steel class 6.8)	$M^0_{Rk,s}$	[Nm]	9,0	23,0	45,0	79,0	200,0	390,0
Characteristic resistance with lever arm (Steel class 8.8)	$M^0_{Rk,s}$	[Nm]	12,0	30,0	60,0	105,0	267,0	520,0
Partial safety factor	γ_{MS}	[-]	1,25	1,25	1,25	1,25	1,25	1,25

Resistance to tension and shear loads under fire exposure

Size			M6/25	M8/30	M10/40	M12/50	M16/65	M20/80
Effective embedment depth	h_{ef}	[mm]	25	30	40	50	65	80
Edge distance [1]	$c_{cr,fi}$	[mm]	50	60	80	100	130	160
Spacing	$s_{cr,fi}$	[mm]	100	120	160	200	260	320
TENSION AND SHEAR LOAD								
R (for EI) = 30 min								
Characteristic resistance	$N_{Rk,fi}$	[kN]	-	0,40	0,90	1,60	3,10	4,30
R (for EI) = 60 min								
Characteristic resistance	$N_{Rk,fi}$	[kN]	-	0,30	0,80	1,30	2,40	3,70
R (for EI) = 90 min								
Characteristic resistance	$N_{Rk,fi}$	[kN]	-	0,30	0,60	1,10	2,00	3,20
R (for EI) = 120 min								
Characteristic resistance	$N_{Rk,fi}$	[kN]	-	0,20	0,50	0,80	1,60	2,50

[1] In case of fire attack from more than one side, the edge distance shall be ≥ 300 mm

LOGISTICAL DATA

SKU	Base-sales unit	Unit pack	Bulk pack	Pallet	Single Package - Gross Weight	Bulk Package - Gross Weight	Palette - Gross Weight	Barcode
R-DCA-06-25	pcs.	100.0	1000.0	36000.0	0.7	6.7	265.8	5010445771088
R-DCA-08-30	pcs.	100.0	1000.0	60000.0	1.2	11.8	735.9	5010445771200
R-DCA-10-40	pcs.	50.0	500.0	37500.0	1.1	11.5	884.3	5906675151687
R-DCA-12-50	pcs.	50.0	400.0	18000.0	2.3	18.3	848.6	5906675152004
R-DCA-16-65	pcs.	25.0	100.0	6000.0	2.7	10.8	675.1	5010445771507
R-DCA-20-80	pcs.	15.0	90.0	3240.0	3.0	18.1	675.7	5010445002298

RELATED PRODUCTS

SAFETY	Protective gloves for power tools **R-PGL** 			
DRILLING	Rotary Hammer Drill SDS plus; 850W; 26mm; 2.5J **R-PRH-26850** 	Cordless Hammer 18V SDS plus **R-PRH18** 	Masonry drill bits Impactor **RT-IMP** 	Drill bits Aggressor SDS plus **RT-SDSA** 
CLEANING	Blow Pump **R-BLOWPUMP** 			
ANCHORING	Locksmiths' Hammers **RT-HAM** 	Wedge anchor setting tools - II generation **R-DCA-ST-II** 		