R-DCL ZINC PLATED LIPPED WEDGE ANCHOR

Internally threaded zinc plated lipped 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.

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.

Increased corrosion resistance due to the sealing process.

SUBSTRATES

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

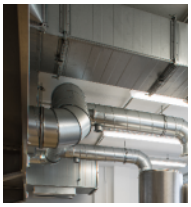


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APPLICATIONS

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












United Arab Emirates, Abu Dhabi
Yas Island Marina Circuit F1

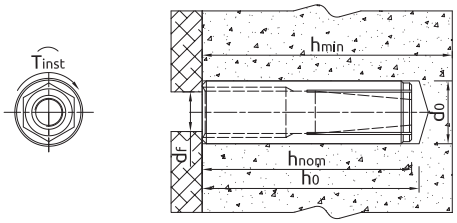
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INSTALLATION GUIDE



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



1) Bottom flange thickness min. 30 mm

Size			M6/25	M8/25	M8/30	M10/25	M10/40	M12/25	M12/50	M16/65
Thread diameter	d	[mm]	6	8	8	10	10	12	12	16
Hole diameter in substrate	d_0	[mm]	8	10	10	12	12	15	15	20
Hole diameter in fixture	d_f	[mm]	7	9	9	12	12	14	14	18
Max. installation torque	T_{inst}	[Nm]	4,5	11	11	22	22	38	38	98
Internal thread length	l_q	[mm]	11	14	14	14	19	14	25	28
STANDARD EMBEDMENT DEPTH IN CONCRETE										
Min. hole depth in substrate	h_0	[mm]	27	27	32	27	42	27	52	67
Min. installation depth	h_{nom}	[mm]	25	25	30	25	40	25	50	65
Min. substrate thickness	h_{min}	[mm]	80	80	80	80	80	80	100	130
Min. spacing	s_{min}	[mm]	200	200	200	200	200	200	200	260
Min. edge distance	c_{min}	[mm]	150	150	150	150	150	150	150	195
MINIMUM EMBEDMENT DEPTH IN HOLLOW CORE SLAB 1)										
Min. hole depth in substrate	h_0	[mm]	27	27	32	27	42	27	52	-
Min. installation depth	h_{nom}	[mm]	25	25	30	25	40	25	50	-
Min. substrate thickness	h_{min}	[mm]	100	100	100	100	100	100	100	-
Min. spacing	s_{min}	[mm]	200	200	200	200	200	200	200	-
Min. edge distance	c_{min}	[mm]	300	300	300	300	300	300	300	-

MECHANICAL PROPERTIES

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

BASIC PERFORMANCE DATA

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

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Size			M6/25	M8/25	M8/30	M10/25	M10/40	M12/25	M12/50	M16/65
Nominal embedment depth	h_{nom}	[mm]	25	25	30	25	40	25	50	65
CHARACTERISTIC LOAD										
TENSION AND SHEAR LOAD F_{Rk}										
Uncracked and cracked concrete C12/15	-	[kN]	1,20	0,75	2,00	1,20	3,50	1,50	5,00	10,00
Uncracked and cracked concrete C20/25 - C50/60	-	[kN]	1,50	1,00	3,00	1,50	4,50	2,00	6,00	13,00
Concrete hollow core slab C40/50 - C50/60 [1]	-	[kN]	3,50	4,50	4,00	5,50	14,00	7,00	16,00	-
DESIGN LOAD										
TENSION AND SHEAR LOAD F_{Rd}										
Uncracked and cracked concrete C12/15	-	[kN]	0,67	0,42	1,11	0,67	1,94	0,83	2,78	5,56
Uncracked and cracked concrete C20/25 - C50/60	-	[kN]	0,83	0,56	1,67	0,83	2,50	1,11	3,33	7,22
Concrete hollow core slab C40/50 - C50/60 [1]	-	[kN]	1,67	2,14	1,90	2,62	6,67	3,33	7,62	-
RECOMMENDED LOAD										
TENSION AND SHEAR LOAD F_{rec}										
Uncracked and cracked concrete C12/15	-	[kN]	0,48	0,30	0,79	0,48	1,39	0,60	1,98	3,97
Uncracked and cracked concrete C20/25 - C50/60	-	[kN]	0,60	0,40	1,19	0,60	1,79	0,79	2,38	5,16
Concrete hollow core slab C40/50 - C50/60 [1]	-	[kN]	1,19	1,53	1,36	1,87	4,76	2,38	5,44	-

[1] Bottom flange thickness min. 30 mm

DESIGN PERFORMANCE DATA

Static loads

Size			M6/25	M8/25	M8/30	M10/25	M10/40	M12/25	M12/50	M16/65
Effective embedment depth	h_{ef}	[mm]	25	25	30	25	40	25	50	65
TENSION AND SHEAR LOAD										
CRACKED AND UNCRACKED CONCRETE										
Characteristic resistance - concrete C12/15	F^0_{Rk}	[kN]	1,2	0,8	2,0	1,2	3,5	1,5	5,0	10,0
Characteristic resistance - concrete C20/25 - C50/60	F^0_{Rk}	[kN]	1,5	1,0	3,0	1,5	4,5	2,0	6,0	13,0
Installation safety factor	γ_{inst}	[-]	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Spacing	s_{cr}	[mm]	200	200	200	200	200	200	200	260
Edge distance	c_{cr}	[mm]	150	150	150	150	150	150	150	195
CONCRETE HOLLOW CORE SLAB [1]										
Concrete hollow core slab C40/50 - C50/60 [1]	F^0_{Rk}	[kN]	3,5	4,5	4,0	5,5	14,0	7,0	16	-
Installation safety factor	γ_{inst}	[-]	1,4	1,4	1,4	1,4	1,4	1,4	1,4	-
Spacing	s_{cr}	[mm]	200	200	200	200	200	200	200	-
Edge distance	c_{cr}	[mm]	300	300	300	300	300	300	300	-
Characteristic resistance with lever arm (Steel class 4.8)	$M^0_{Rk,s}$	[Nm]	6,0	15,0	15,0	30,0	30,0	52,0	52,0	133,0
Characteristic resistance with lever arm (Steel class 5.8)	$M^0_{Rk,s}$	[Nm]	8,0	19,0	19,0	37,0	37,0	66,0	66,0	167,0
Characteristic resistance with lever arm (Steel class 6.8)	$M^0_{Rk,s}$	[Nm]	9,0	23,0	23,0	45,0	45,0	79,0	79,0	200,0
Characteristic resistance with lever arm (Steel class 8.8)	$M^0_{Rk,s}$	[Nm]	12,0	30,0	30,0	60,0	60,0	105,0	105,0	267,0
Partial safety factor	γ_{MS}	[-]	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25

[1] Bottom flange thickness min. 30 mm

Resistance to tension and shear loads under fire exposure

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

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

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LOGISTICAL DATA

SKU	Base-sales unit	Unit pack	Bulk pack	Pallet	Single Package - Gross Weight	Bulk Package - Gross Weight	Palette - Gross Weight	Barcode
R-DCL-06	pcs.	100.0	1000.0	56000.0	0.7	7.0	419.1	5010445779084
R-DCL-08	pcs.	100.0	1200.0	57600.0	1.2	14.9	724.3	5010445779206
R-DCL-08-25	pcs.	100.0	1200.0	57600.0	1.0	12.0	576.0	5906675397320
R-DCL-10	pcs.	50.0	600.0	36000.0	1.2	14.3	885.0	5010445779329
R-DCL-10-25	pcs.	50.0	500.0	37500.0	0.7	7.1	534.0	5906675397337
R-DCL-12	pcs.	50.0	200.0	12000.0	2.3	9.5	594.0	5010445779411
R-DCL-12-25	pcs.	50.0	400.0	19200.0	1.1	9.3	444.0	5906675431505
R-DCL-16	pcs.	25.0	150.0	6000.0	2.8	17.2	713.4	5010445779503

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

