R-RBL-H Rawlbolt® - Hook Bolt

World's most popular all-purpose expanding shield anchor - hook bolt version







Product information

Features and benefits

- Hook designed & manufactured for maximum performance
- Three-pieces expanding sleeve of maximum expansion provides optimal load and safety of use in any substrate
- Hook Rawlbolts are not suitable for all arrest systems nor shock loading

Applications

- Supporting guy ropes, stays and cables
- Supporting ladder restraints

Base materials

Approved for use in:

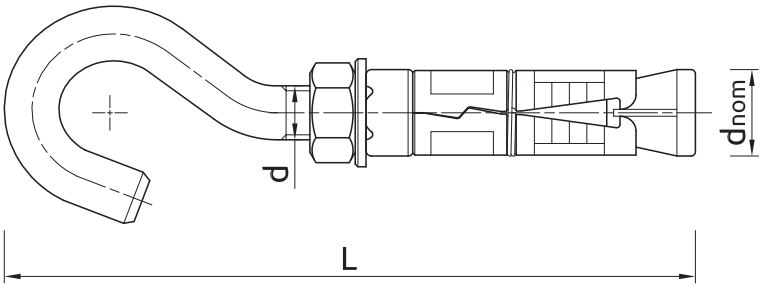
- Cracked concrete C20/25-C50/60
- Non-cracked concrete C20/25-C50/60
- Unreinforced concrete
- Reinforced concrete
- Solid clay brick ≥ 20MPa
- Hollow Lightweight Concrete Block LAC 5 ≥ 5MPa
- Hollow Sand-lime Brick ≥ 15MPa
- Concrete hollow floor block (eg. Teriva)
- Hollow-core Slab C20/25
- Hollow-core Slab C30/37-C50/60

Installation guide



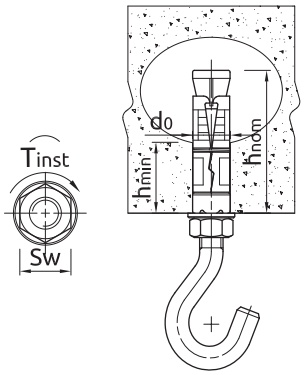
1. Drill a hole of required diameter and depth. Note: When fixing into brickwork, mortar joints should be avoided
2. Clear the hole of drilling dust and debris (using blowpump or equivalent method)
3. Insert the anchor (tap home until flush with surface) and position hook accordingly
4. Tighten to recommended torque, using the hex nut (not the hook)

Product information



Size	Product Code	Anchor		
		Diameter	External diameter	Length
		d	d_{nom}	L
		[mm]	[mm]	[mm]
M6	R-RBL-06HW	6	12	83
M8	R-RBL-08HW	8	14	98
M10	R-RBL-10HW	10	16	120
M12	R-RBL-12HW	12	20	145

Installation data



Size			M6	M8	M10	M12
Thread diameter	d	[mm]	6	8	10	12
Hole diameter in substrate	d_0	[mm]	12	14	16	20
Wrench size	Sw	[mm]	10	13	17	19
SOLID SUBSTRATES						
Installation torque	T_{inst}	[Nm]	6.5	15	27	50
Min. hole depth in substrate	h_0	[mm]	50	55	65	85
Min. installation depth	h_{nom}	[mm]	45	50	60	80
Min. substrate thickness	h_{min}	[mm]	100	100	100	100
Min. spacing	s_{min}	[mm]	50	50	50	60
Min. edge distance	c_{min}	[mm]	53	60	75	90
CERAMIC AND HOLLOW SUBSTRATES						
Installation torque	T_{inst}	[Nm]	3	5	8	10
Min. hole depth in substrate	h_0	[mm]	-	-	-	-
Min. installation depth	h_{nom}	[mm]	45	50	60	80
Min. substrate thickness	h_{min}	[mm]	23	23	35	40
Min. spacing	s_{min}	[mm]	100	100	100	100
Min. edge distance	c_{min}	[mm]	100	100	100	100

Mechanical properties

Size			M6	M8	M10	M12
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	300	300	300	300
Nominal yield strength - tension	f_{yk}	[N/mm²]	180	180	180	180
Cross sectional area - tension	A_s	[mm²]	20.1	36.6	58	84.3
Elastic section modulus	W_{el}	[mm³]	21.21	50.27	98.17	169.65
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12.72	30.16	58.9	101.79
Design bending resistance	M	[Nm]	10.18	24.13	47.12	81.43

Basic performance data

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

Size			M6	M8	M10	M12
MEAN ULTIMATE LOAD						
TENSION AND SHEAR LOAD $F_{Ru,m}$						
Cracked concrete C20/25		[kN]	2.68	5.08	7.12	11.40
Non-cracked concrete C20/25		[kN]	2.68	5.08	7.88	11.40
Hollow core slab min. C20/25						
Wall thickness	Material class					
23	C30/37	[kN]	2.68	5.08	-	-
	C35/45	[kN]	2.68	5.08	-	-
	C45/55	[kN]	2.68	5.08	-	-
	C50/60	[kN]	2.68	5.08	-	-
35	C30/37	[kN]	2.68	5.08	7.88	-
	C35/45	[kN]	2.68	5.08	7.88	-
	C45/55	[kN]	2.68	5.08	7.88	-
	C50/60	[kN]	2.68	5.08	7.88	-
40	C30/37	[kN]	2.68	5.08	7.88	11.40
	C35/45	[kN]	2.68	5.08	7.88	11.40
	C45/55	[kN]	2.68	5.08	7.88	11.40
	C50/60	[kN]	2.68	5.08	7.88	11.40
50	C20/25	[kN]	2.68	5.08	7.88	10.96
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	2.07	2.65	-	-
Lightweight concrete LAC class 5		[kN]	2.68	5.08	7.88	8.78
Solid clay brick class 20		[kN]	2.68	5.08	7.88	9.64
Silicate hollow block class 15		[kN]	2.68	-	-	-

Basic performance data

Size			M6	M8	M10	M12
CHARACTERISTIC LOAD						
TENSION AND SHEAR LOAD F_{Rk}						
Cracked concrete C20/25		[kN]	2.41	4.81	6.00	10.37
Non-cracked concrete C20/25		[kN]	2.41	4.81	7.61	10.37
Hollow core slab min. C20/25						
Wall thickness	Material class					
23	C30/37	[kN]	2.41	4.81	-	-
	C35/45	[kN]	2.41	4.81	-	-
	C45/55	[kN]	2.41	4.81	-	-
	C50/60	[kN]	2.41	4.81	-	-
35	C30/37	[kN]	2.41	4.81	7.61	-
	C35/45	[kN]	2.41	4.81	7.61	-
	C45/55	[kN]	2.41	4.81	7.61	-
	C50/60	[kN]	2.41	4.81	7.61	-
40	C30/37	[kN]	2.41	4.81	7.61	10.37
	C35/45	[kN]	2.41	4.81	7.61	10.37
	C45/55	[kN]	2.41	4.81	7.61	10.37
	C50/60	[kN]	2.41	4.81	7.61	10.37
50	C20/25	[kN]	2.41	4.81	7.61	8.93
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	1.21	2.02	-	-
Lightweight concrete LAC class 5		[kN]	2.41	4.81	5.99	5.99
Solid clay brick class 20		[kN]	2.41	4.81	6.37	6.37
Silicate hollow block class 15		[kN]	1.90	-	-	-
DESIGN LOAD						
TENSION AND SHEAR LOAD F_{Rd}						
Cracked concrete C20/25		[kN]	1.93	2.78	3.33	6.67
Non-cracked concrete C20/25		[kN]	1.93	3.85	6.09	8.30
Hollow core slab min. C20/25						
Wall thickness	Material class					
23	C30/37	[kN]	1.73	2.16	-	-
	C35/45	[kN]	1.91	2.39	-	-
	C45/55	[kN]	1.93	2.65	-	-
	C50/60	[kN]	1.93	2.88	-	-
35	C30/37	[kN]	1.93	3.85	6.09	-
	C35/45	[kN]	1.93	3.85	6.09	-
	C45/55	[kN]	1.93	3.85	6.09	-
	C50/60	[kN]	1.93	3.85	6.09	-
40	C30/37	[kN]	1.93	3.85	6.09	8.30
	C35/45	[kN]	1.93	3.85	6.09	8.30
	C45/55	[kN]	1.93	3.85	6.09	8.30
	C50/60	[kN]	1.93	3.85	6.09	8.30
50	C20/25	[kN]	1.93	3.54	3.54	3.54
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	0.48	0.80	-	-
Lightweight concrete LAC class 5		[kN]	1.93	1.96	1.96	1.96
Solid clay brick class 20		[kN]	1.93	2.20	2.20	2.20
Silicate hollow block class 15		[kN]	0.75	-	-	-

Basic performance data

Size			M6	M8	M10	M12
RECOMMENDED LOAD						
TENSION AND SHEAR LOAD F_{rec}						
Cracked concrete C20/25		[kN]	1.38	1.99	2.38	4.76
Non-cracked concrete C20/25		[kN]	1.38	2.75	4.35	5.93
Hollow core slab min. C20/25						
Wall thickness	Material class					
23	C30/37	[kN]	1.24	1.54	-	-
	C35/45	[kN]	1.37	1.71	-	-
	C45/55	[kN]	1.38	1.89	-	-
	C50/60	[kN]	1.38	2.05	-	-
35	C30/37	[kN]	1.38	2.75	4.35	-
	C35/45	[kN]	1.38	2.75	4.35	-
	C45/55	[kN]	1.38	2.75	4.35	-
	C50/60	[kN]	1.38	2.75	4.35	-
40	C30/37	[kN]	1.38	2.75	4.35	5.93
	C35/45	[kN]	1.38	2.75	4.35	5.93
	C45/55	[kN]	1.38	2.75	4.35	5.93
	C50/60	[kN]	1.38	2.75	4.35	5.93
50	C20/25	[kN]	1.38	2.53	2.53	2.53
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	0.34	0.57	-	-
Lightweight concrete LAC class 5		[kN]	1.38	1.40	1.40	1.40
Solid clay brick class 20		[kN]	1.38	1.57	1.57	1.57
Silicate hollow block class 15		[kN]	0.54	-	-	-

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-RBL-06HW	6	83	25	400	16000	1.08	17.3	721.2	5906675283135
M8	R-RBL-08HW	8	98	25	25	4000	1.79	1.79	316.8	5906675283159
M10	R-RBL-10HW	10	120	25	25	4000	3.1	3.1	530.8	5906675283173
M12	R-RBL-12HW	12	145	25	25	4000	5.8	5.8	962.8	5906675283197