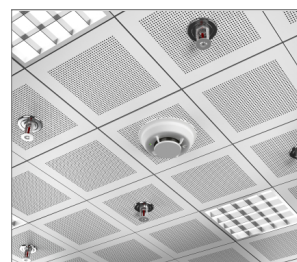


# R-RBL-E Rawlbolt® - Eye Bolt

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



## Product information

### Features and benefits

- The only original Rawlbolt with single-piece cold-formed eyebolt for maximum durability
- Three-pieces expanding sleeve of maximum expansion provides optimal load and safety of use in any substrate
- Eye Rawlbolts are not suitable for all arrest systems nor shock loading
- Closed, forged hook for maximum safety

### Applications

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

### Base materials

#### Approved for use in:

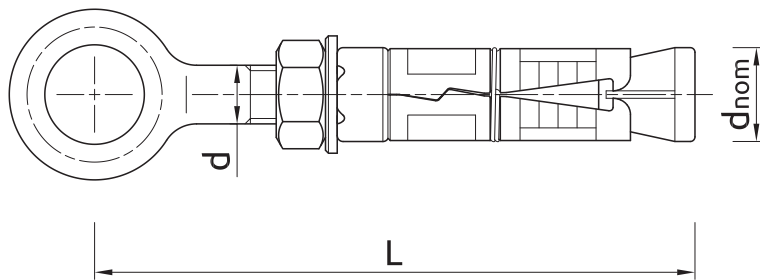
- Cracked concrete C20/25-C50/60
- Non-cracked concrete C20/25-C50/60
- Unreinforced concrete
- Reinforced concrete
- Solid clay brick  $\geq 20\text{MPa}$
- Hollow Lightweight Concrete Block LAC 5  $\geq 5\text{MPa}$
- Hollow Sand-lime Brick  $\geq 15\text{MPa}$
- Concrete hollow floor block (eg. Teriva)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

## Installation guide



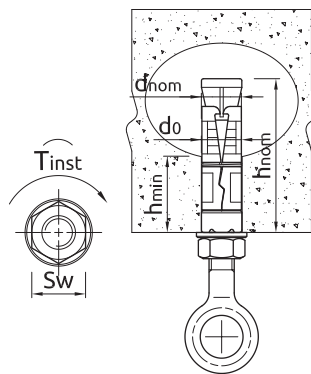
1. Drill a hole of required diameter and depth. Note: When fixing into brickwork, mortar joints should be avoided
2. Clear the hole of drilling dust and debris (using blowpump or equivalent method)
3. Insert the anchor (tap home until flush with surface) and position eye accordingly
4. Tighten to recommended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

**Product information**



Size	Product Code	Anchor		
		Diameter	External diameter	Length
		d	d <sub>nom</sub>	L
		[mm]	[mm]	[mm]
M6	R-RBL-06EW	6	12	73
M8	R-RBL-08EW	8	14	87
M10	R-RBL-10EW	10	16	108
M12	R-RBL-12EW	12	20	130

**Installation data**



Size	M6	M8	M10	M12		
Thread diameter	d	[mm]	6	8	10	12
Hole diameter in substrate	d <sub>o</sub>	[mm]	12	14	16	20
Min. installation depth	h <sub>nom</sub>	[mm]	45	50	60	80
Min. hole depth in substrate	h <sub>o</sub>	[mm]	50	55	65	85
Wrench size	Sw	[mm]	10	13	17	19
<b>SOLID SUBSTRATES</b>						
Installation torque	T <sub>inst</sub>	[Nm]	6.5	15	27	50
Min. substrate thickness	h <sub>min</sub>	[mm]	100	100	100	100
Min. spacing	s <sub>min</sub>	[mm]	35	40	50	60
Min. edge distance	c <sub>min</sub>	[mm]	53	60	75	90
<b>CERAMIC AND HOLLOW SUBSTRATES</b>						
Installation torque	T <sub>inst</sub>	[Nm]	3	5	8	10
Min. spacing	s <sub>min</sub>	[mm]	100	100	100	100
Min. edge distance	c <sub>min</sub>	[mm]	100	100	100	100

## Mechanical properties

Size			M6	M10	M12
Nominal ultimate tensile strength - tension	$f_{uk}$	[N/mm <sup>2</sup> ]	300	300	300
Nominal yield strength - tension	$f_{yk}$	[N/mm <sup>2</sup> ]	180	180	180
Cross sectional area - tension	$A_s$	[mm <sup>2</sup> ]	20.1	58	84.3
Elastic section modulus	$W_{el}$	[mm <sup>3</sup> ]	21.21	98.17	169.65
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12.72	58.9	101.79
Design bending resistance	M	[Nm]	10.18	47.12	81.43

## Basic performance data

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

Size			M6	M8	M10	M12
<b>NON-CRACKED CONCRETE</b>						
Effective embedment depth $h_{ef}$	[mm]		35.00	40.00	50.00	60.00
<b>CRACKED CONCRETE</b>						
Effective embedment depth $h_{ef}$	[mm]		35.00	40.00	50.00	60.00
<b>CHARACTERISTIC LOAD</b>						
<b>TENSION LOAD <math>N_{Rk}</math></b>						
NON-CRACKED CONCRETE	[kN]		6.00	7.50	12.00	16.00
CRACKED CONCRETE	[kN]		4.00	5.00	6.00	12.00
<b>SHEAR LOAD <math>V_{Rk}</math></b>						
NON-CRACKED CONCRETE	[kN]		5.00	9.00	14.00	20.00
CRACKED CONCRETE	[kN]		5.00	8.71	12.17	20.00
<b>DESIGN LOAD</b>						
<b>TENSION LOAD <math>N_{Rd}</math></b>						
NON-CRACKED CONCRETE	[kN]		3.33	4.17	6.67	8.89
CRACKED CONCRETE	[kN]		2.22	2.78	3.33	6.67
<b>SHEAR LOAD <math>V_{Rd}</math></b>						
NON-CRACKED CONCRETE	[kN]		4.00	7.20	11.20	16.00
CRACKED CONCRETE	[kN]		4.00	5.81	8.12	16.00

## Basic performance data

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

Size			M6	M8	M10	M12
<b>CHARACTERISTIC LOAD</b>						
<b>TENSION LOAD <math>N_{rk}</math></b>						
<b>Hollow core slab min. C20/25</b>						
Wall thickness	Material class					
23	C30/37	[kN]	4.00	5.00	-	-
	C35/45	[kN]	4.50	6.00	-	-
	C45/55	[kN]	5.00	6.50	-	-
	C50/60	[kN]	5.50	7.00	-	-
35	C30/37	[kN]	6.50	11.00	16.00	-
	C35/45	[kN]	6.50	12.00	17.00	-
	C45/55	[kN]	6.50	13.00	19.00	-
	C50/60	[kN]	6.50	13.00	19.00	-
40	C30/37	[kN]	6.50	13.00	19.00	22.00
	C35/45	[kN]	6.50	13.00	19.00	22.00
	C45/55	[kN]	6.50	13.00	19.00	22.00
	C50/60	[kN]	6.50	13.00	19.00	22.00
50	C20/25	[kN]	6.50	8.50	8.50	8.50
<b>Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness</b>		[kN]	1.20	2.00	-	-
<b>Lightweight concrete LAC class 5</b>		[kN]	5.50	5.50	5.50	5.50
<b>Solid clay brick class 20</b>		[kN]	6.00	6.00	6.00	6.00
<b>Silicate hollow block class 15</b>		[kN]	1.50	-	-	-
<b>SHEAR LOAD <math>V_{rk}</math></b>						
<b>Hollow core slab min. C20/25</b>						
Wall thickness	Material class					
23	C30/37	[kN]	4.00	4.50	-	-
	C35/45	[kN]	2.00	4.50	-	-
	C45/55	[kN]	2.00	4.50	-	-
	C50/60	[kN]	2.00	4.50	-	-
35	C30/37	[kN]	5.00	9.00	14.00	-
	C35/45	[kN]	5.00	9.00	14.00	-
	C45/55	[kN]	5.00	9.00	14.00	-
	C50/60	[kN]	5.00	9.00	14.00	-
40	C30/37	[kN]	5.00	9.00	14.00	20.00
	C35/45	[kN]	5.00	9.00	14.00	20.00
	C45/55	[kN]	5.00	9.00	14.00	20.00
	C50/60	[kN]	5.00	9.00	14.00	20.00
50	C20/25	[kN]	5.00	8.50	8.50	8.50
<b>Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness</b>		[kN]	1.20	2.00	-	-
<b>Lightweight concrete LAC class 5</b>		[kN]	5.00	5.50	5.50	5.50
<b>Solid clay brick class 20</b>		[kN]	5.00	6.00	6.00	6.00
<b>Silicate hollow block class 15</b>		[kN]	1.50	-	-	-

**Basic performance data**

Size			M6	M8	M10	M12
<b>DESIGN LOAD</b>						
<b>TENSION LOAD <math>N_{Rd}</math></b>						
<b>Hollow core slab min. C20/25</b>						
Wall thickness	Material class					
23	C30/37	[kN]	2.20	2.80	-	-
	C35/45	[kN]	2.50	3.30	-	-
	C45/55	[kN]	2.80	3.60	-	-
	C50/60	[kN]	3.10	3.90	-	-
35	C30/37	[kN]	3.60	6.10	8.90	-
	C35/45	[kN]	3.60	6.70	9.40	-
	C45/55	[kN]	3.60	7.20	10.60	-
	C50/60	[kN]	3.60	7.20	10.60	-
40	C30/37	[kN]	3.60	7.20	10.60	12.20
	C35/45	[kN]	3.60	7.20	10.60	12.20
	C45/55	[kN]	3.60	7.20	10.60	12.20
	C50/60	[kN]	3.60	7.20	10.60	12.20
50	C20/25	[kN]	3.60	4.70	4.70	4.70
<b>Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness</b>		[kN]	0.70	1.10	-	-
<b>Lightweight concrete LAC class 5</b>		[kN]	2.00	2.20	2.20	2.20
<b>Solid clay brick class 20</b>		[kN]	2.00	2.40	2.40	2.40
<b>Silicate hollow block class 15</b>		[kN]	0.60	-	-	-
<b>SHEAR LOAD <math>V_{Rd}</math></b>						
<b>Hollow core slab min. C20/25</b>						
Wall thickness	Material class					
23	C30/37	[kN]	3.20	3.60	-	-
	C35/45	[kN]	1.60	3.60	-	-
	C45/55	[kN]	1.60	3.60	-	-
	C50/60	[kN]	1.60	3.60	-	-
35	C30/37	[kN]	4.00	7.20	11.20	-
	C35/45	[kN]	4.00	7.20	11.20	-
	C45/55	[kN]	4.00	7.20	11.20	-
	C50/60	[kN]	4.00	7.20	11.20	-
40	C30/37	[kN]	4.00	7.20	11.20	16.00
	C35/45	[kN]	4.00	7.20	11.20	16.00
	C45/55	[kN]	4.00	7.20	11.20	16.00
	C50/60	[kN]	4.00	7.20	11.20	16.00
50	C20/25	[kN]	4.00	6.80	6.80	6.80
<b>Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness</b>		[kN]	1.00	1.60	-	-
<b>Lightweight concrete LAC class 5</b>		[kN]	4.00	4.40	4.40	4.40
<b>Solid clay brick class 20</b>		[kN]	4.00	4.80	4.80	4.80
<b>Silicate hollow block class 15</b>		[kN]	1.20	-	-	-

## Basic performance data

Size			M6	M8	M10	M12
<b>RECOMMENDED LOAD</b>						
<b>TENSION LOAD <math>N_{rec}</math></b>						
<b>Hollow core slab min. C20/25</b>						
Wall thickness	Material class	[kN]				
23	C30/37	[kN]	1.60	2.00	-	-
	C35/45	[kN]	1.80	2.40	-	-
	C45/55	[kN]	2.00	2.60	-	-
	C50/60	[kN]	2.20	2.80	-	-
35	C30/37	[kN]	2.60	4.40	6.30	-
	C35/45	[kN]	2.60	4.80	6.70	-
	C45/55	[kN]	2.60	5.20	7.50	-
	C50/60	[kN]	2.60	5.20	7.50	-
40	C30/37	[kN]	2.60	5.20	7.50	8.70
	C35/45	[kN]	2.60	5.20	7.50	8.70
	C45/55	[kN]	2.60	5.20	7.50	8.70
	C50/60	[kN]	2.60	2.50	7.50	8.70
50	C20/25	[kN]	2.60	3.40	3.40	3.40
<b>Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness</b>		[kN]	0.50	0.80	-	-
<b>Lightweight concrete LAC class 5</b>		[kN]	1.40	1.60	1.60	1.60
<b>Solid clay brick class 20</b>		[kN]	1.40	1.70	1.70	1.70
<b>Silicate hollow block class 15</b>		[kN]	0.40	-	-	-
<b>SHEAR LOAD <math>V_{rec}</math></b>						
<b>Hollow core slab min. C20/25</b>						
Wall thickness	Material class	[kN]				
23	C30/37	[kN]	2.30	2.60	-	-
	C35/45	[kN]	1.10	2.60	-	-
	C45/55	[kN]	1.10	2.60	-	-
	C50/60	[kN]	1.10	2.60	-	-
35	C30/37	[kN]	2.90	5.10	8.00	-
	C35/45	[kN]	2.90	5.10	8.00	-
	C45/55	[kN]	2.90	5.10	8.00	-
	C50/60	[kN]	2.90	5.10	8.00	-
40	C30/37	[kN]	2.90	5.10	8.00	11.40
	C35/45	[kN]	2.90	5.10	8.00	11.40
	C45/55	[kN]	2.90	5.10	8.00	11.40
	C50/60	[kN]	2.90	5.10	8.00	11.40
50	C20/25	[kN]	2.90	4.90	4.90	4.90
<b>Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness</b>		[kN]	0.70	1.10	-	-
<b>Lightweight concrete LAC class 5</b>		[kN]	2.90	3.10	3.10	3.10
<b>Solid clay brick class 20</b>		[kN]	2.90	3.40	3.40	3.40
<b>Silicate hollow block class 15</b>		[kN]	0.90	-	-	-

## Product commercial data

Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Codes
	Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-RBL-06EW	6	73	25	400	16000	0.92	14.7	617.2	5906675283128
R-RBL-08EW	8	87	25	200	8000	1.61	12.8	543.6	5906675283142
R-RBL-10EW	10	108	25	25	4000	2.9	2.9	492.4	5906675283166
R-RBL-12EW	12	130	25	25	3000	5.2	5.2	652.8	5906675283180