

R-RBP-PF Rawlbolt® - Bolt Projecting with plastic ferrule

World's most popular all-purpose expanding shield anchor - bolt projecting with plastic ferrule version



Product information

Features and benefits

- For use in concrete, hollowcore slabs, flooring blocks and ceramics
- Plastic ferrule simplifies installation in hollow substrates
- Wide range of diameters (M6 to M16)
- Three-pieces expanding sleeve of maximum expansion provides optimal load and safety of use in any substrate

Applications

- Roller shutter doors
- Fire doors
- Steelwork
- Security grills
- Heavy machinery
- Pipework/ductwork supports

Base materials

Approved for use in:

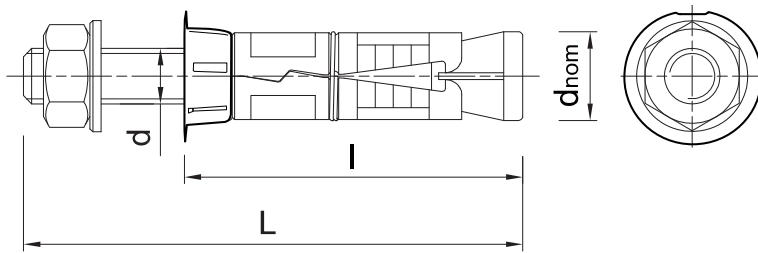
- Solid clay brick $\geq 20\text{MPa}$
- Hollow Lightweight Concrete Block LAC 5 $\geq 5\text{MPa}$
- Hollow Sand-lime Brick $\geq 15\text{MPa}$
- Concrete hollow floor block (eg. Teriva)
- Hollow-core Slab C20/25
- Hollow-core Slab C30/37-C50/60

Installation guide



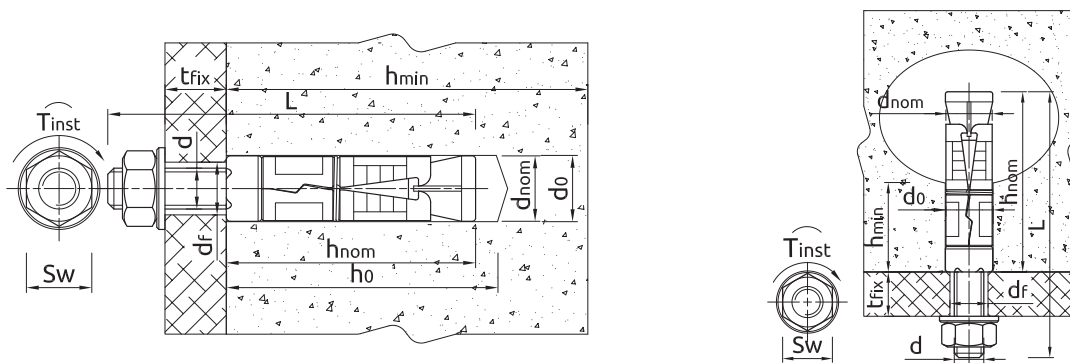
1. Drill a hole of required diameter and depth
2. Remove nut and washer and insert anchor into hole. Tap home with hammer until flush with surface
3. Position fixture over the projecting bolt
4. Add washer and nut and tighten to recommended torque

Product information



Size	Product Code	Approval type	Anchor			Fixture	
			Diameter	External diameter	Length	Max. thickness	Hole diameter
			d	d _{nom}	L	t _{fix}	d _i
		-	[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-RBP-PF-M06/10W	AT-15-7280/14	6	12	65	10	6,5
	R-RBP-PF-M06/25W	AT-15-7280/14	6	12	80	25	6,5
	R-RBP-PF-M06/60W	AT-15-7280/14	6	12	115	60	6,5
M8	R-RBP-PF-M08/10W	AT-15-7280/14	8	14	75	10	9
	R-RBP-PF-M08/25W	AT-15-7280/14	8	14	90	25	9
M10	R-RBP-PF-M10/15W	AT-15-7280/14	10	16	90	15	11
	R-RBP-PF-M10/30W	AT-15-7280/14	10	16	105	30	11
	R-RBP-PF-M10/60W	AT-15-7280/14	10	16	135	60	11
M12	R-RBP-PF-M12/15W	AT-15-7280/14	12	20	110	15	13
	R-RBP-PF-M12/30W	AT-15-7280/14	12	20	125	30	13
	R-RBP-PF-M12/75W	AT-15-7280/14	12	20	170	75	13
M16	R-RBP-PF-M16/15W	AT-15-7280/14	16	25	150	15	17
	R-RBP-PF-M16/35W	AT-15-7280/14	16	25	170	35	17
	R-RBP-PF-M16/75W	AT-15-7280/14	16	25	210	75	17

Installation data



Size			M6	M8	M10	M12	M16
Thread diameter	d	[mm]	6	8	10	12	16
Hole diameter in substrate	d ₀	[mm]	12	14	16	20	25
Min. installation depth	h _{nom}	[mm]	45	50	60	80	120
Min. hole depth in substrate	h ₀	[mm]	50	55	65	85	125
Wrench size	Sw	[mm]	10	13	17	19	24
SOLID SUBSTRATES							
Installation torque	T _{inst}	[Nm]	6.5	15	27	50	120
Min. substrate thickness	h _{min}	[mm]	100	100	100	100	142
Min. spacing	s _{min}	[mm]	35	40	50	60	95
Min. edge distance	c _{min}	[mm]	53	60	75	90	143

Installation data

Size			M6	M8	M10	M12	M16
CERAMIC AND HOLLOW SUBSTRATES							
Installation torque	T_{inst}	[Nm]	3	5	8	10	15
Min. spacing	s_{min}	[mm]	100	100	100	100	100
Min. edge distance	c_{min}	[mm]	100	100	100	100	143

Mechanical properties

Size			M6	M8	M10	M12	M16
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm ²]	500	500	500	500	500
Nominal yield strength - tension	f_{yk}	[N/mm ²]	400	400	400	400	400
Cross sectional area - tension	A_s	[mm ²]	20.1	36.6	58	84.3	157
Elastic section modulus	W_{el}	[mm ³]	21.21	50.27	98.17	169.65	402.12
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12.72	30.16	58.9	101.79	241.27
Design bending resistance	M	[Nm]	10.18	24.13	47.12	81.43	193.02

Basic performance data

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

Size			M6	M8	M10	M12	M16
CHARACTERISTIC LOAD							
TENSION LOAD N_{Rk}							
Hollow core slab min. C20/25							
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]	6.50	11.00	16.00	-	-
	C35/45	[kN]	7.00	12.00	17.00	-	-
	C45/55	[kN]	8.00	14.00	19.00	-	-
	C50/60	[kN]	8.50	15.00	20.00	-	-
40	C30/37	[kN]	7.00	16.00	19.00	24.00	-
	C35/45	[kN]	8.00	18.00	20.00	28.00	-
	C45/55	[kN]	8.50	20.00	22.00	30.00	-
	C50/60	[kN]	9.50	22.00	24.00	32.00	-
50	C20/25	[kN]	8.00	8.50	8.50	8.50	8.50
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	1.20	2.00	-	-	-
Lightweight concrete LAC class 5		[kN]	5.50	5.50	5.50	5.50	-
Solid clay brick class 20		[kN]	6.00	6.00	6.00	6.00	-
Silicate hollow block class 15		[kN]	1.50	-	-	-	-
SHEAR LOAD V_{Rk}							
Hollow core slab min. C20/25							
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	8.50
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	1.20	2.00	-	-	-
Lightweight concrete LAC class 5		[kN]	5.00	5.50	5.50	5.50	-
Solid clay brick class 20		[kN]	5.00	6.00	6.00	6.00	-
Silicate hollow block class 15		[kN]	1.50	-	-	-	-

Basic performance data

Size			M6	M8	M10	M12	M16
DESIGN LOAD							
TENSION LOAD N_{Rd}							
Hollow core slab min. C20/25							
Wall thickness	Material class						
23	C30/37	[kN]	2.20	2.50	-	-	-
	C35/45	[kN]	1.10	2.50	-	-	-
	C45/55	[kN]	1.10	2.50	-	-	-
	C50/60	[kN]	1.10	2.50	-	-	-
35	C30/37	[kN]	3.60	6.10	8.90	-	-
	C35/45	[kN]	3.90	6.70	9.40	-	-
	C45/55	[kN]	4.40	7.80	10.60	-	-
	C50/60	[kN]	4.70	8.30	11.10	-	-
40	C30/37	[kN]	3.90	8.90	10.60	13.30	-
	C35/45	[kN]	4.40	10.00	11.10	15.60	-
	C45/55	[kN]	4.70	11.10	12.20	16.70	-
	C50/60	[kN]	5.30	12.20	13.30	17.80	-
50	C20/25	[kN]	4.40	4.70	4.70	4.70	4.70
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	0.70	1.10	-	-	-
Lightweight concrete LAC class 5		[kN]	2.00	2.20	2.20	2.20	-
[English]: Cegła ceramiczna pełna 20MPa		[kN]	2.00	2.40	2.40	2.40	-
Silicate hollow block class 15		[kN]	0.60	-	-	-	-
SHEAR LOAD V_{Rd}							
Hollow core slab min. C20/25							
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	6.80
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	1.00	1.60	-	-	-
Lightweight concrete LAC class 5		[kN]	4.00	4.40	4.40	4.40	-
[English]: Cegła ceramiczna pełna 20MPa		[kN]	4.00	4.80	4.80	4.80	-
Silicate hollow block class 15		[kN]	1.20	-	-	-	-

Basic performance data

Size			M6	M8	M10	M12	M16
RECOMMENDED LOAD							
TENSION LOAD N_{rec}							
Hollow core slab min. C20/25							
Wall thickness	Material class						
23	C30/37	[kN]	1.60	1.80	-	-	-
	C35/45	[kN]	0.80	1.80	-	-	-
	C45/55	[kN]	1.60	1.80	-	-	-
	C50/60	[kN]	0.80	1.80	-	-	-
35	C30/37	[kN]	2.60	4.40	6.30	-	-
	C35/45	[kN]	2.80	4.80	6.70	-	-
	C45/55	[kN]	3.20	5.60	7.50	-	-
	C50/60	[kN]	3.40	6.00	7.90	-	-
40	C30/37	[kN]	2.80	6.30	7.50	9.50	-
	C35/45	[kN]	3.20	7.10	7.90	11.10	-
	C45/55	[kN]	3.40	7.90	8.70	11.90	-
	C50/60	[kN]	3.80	8.70	9.50	12.70	-
50	C20/25	[kN]	3.20	3.40	3.40	3.40	3.40
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	0.50	0.80	-	-	-
Lightweight concrete LAC class 5		[kN]	1.40	1.60	1.60	1.60	-
[English]: Cegła ceramiczna pełna 20MPa		[kN]	1.40	1.70	1.70	1.70	-
Silicate hollow block class 15		[kN]	0.40	-	-	-	-
SHEAR LOAD V_{rec}							
Hollow core slab min. C20/25							
Wall thickness	Material class						
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	4.90
Beam-and-block floor (eg.Terriva 4.0/2), min. 25mm wall thickness		[kN]	0.70	1.10	-	-	-
Lightweight concrete LAC class 5		[kN]	2.90	3.10	3.10	3.10	-
[English]: Cegła ceramiczna pełna 20MPa		[kN]	2.90	3.40	3.40	3.40	-
Silicate hollow block class 15		[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-RBP-PF-M06/10W	6	65	50	400	16000	2.8	22.5	930.0	5906675380728
R-RBP-PF-M06/25W	6	80	50	400	16000	1.66	13.3	562.0	5906675380735
R-RBP-PF-M06/60W	6	115	50	50	8000	2.0	2.0	352.0	5906675380742
R-RBP-PF-M08/10W	8	75	50	400	16000	2.9	23.0	950.8	5906675380759
R-RBP-PF-M08/25W	8	90	50	50	8000	3.1	3.1	528.0	5906675380766
R-RBP-PF-M10/15W	10	90	50	50	8000	4.9	4.9	816.0	5906675380780
R-RBP-PF-M10/30W	10	105	50	50	6000	5.3	5.3	667.5	5906675330075
R-RBP-PF-M10/60W	10	135	50	50	8000	6.0	6.0	992.0	5906675380797
R-RBP-PF-M12/15W	12	110	25	25	4000	4.1	4.1	678.5	5906675380803
R-RBP-PF-M12/30W	12	125	25	25	4000	5.0	5.0	822.5	5906675380810
R-RBP-PF-M12/75W	12	170	25	25	3000	5.8	5.8	722.2	5906675380827
R-RBP-PF-M16/15W	16	150	10	10	1600	4.1	4.1	682.9	5906675380834
R-RBP-PF-M16/35W	16	170	10	10	1600	4.7	4.7	774.1	5906675380841
R-RBP-PF-M16/75W	16	210	10	10	1200	5.3	5.3	660.1	5906675380858