Mechanical Anchors

The following pages provide detailed information and technical data for our range of Rawlplug® Mechanical Anchors.

These products have been designed to perform in demanding high-load and technical applications, but are equally suitable for your everyday anchoring requirements.

The range includes:
Throughbolts | Shield Anchors | Heavy-Duty Expansion Anchors
Wedge Anchors | Screw Anchors

THROUGHBOLTS

- R-HPTIIA4
  - Stainless Steel Throughbolt
- R-HPTIIZF
  - Zinc Flake Throughbolt
- R-XPTIIA4
  - Stainless Steel Throughbolt
- R-XPT
  - Throughbolt
- R-XPT-HD
  - Hot Dip Galvanized Throughbolt

R-HPTIIA4 Stainless Steel Throughbolt

Stainless steel throughbolt anchor for cracked and non-cracked concrete

Approvals and Reports

- ETA 17/0185

Installation movie

Product overview

Features and benefits

- Stainless steel material for the highest corrosion resistance
- High performance in cracked and non-cracked concrete confirmed by ETA Option 1
- Highest quality ensures maximum load capacity
- For applications requiring fire resistance up to 120 minutes
- Suitable for reduced embedment to avoid contact with reinforcement
- Embedment depth markings help to ensure precise installation of the anchor
- Design of R-HPTII allows drilling and installing directly through the fixture and helps to reduce installation time
- Suitable for installation in corrosive environments category C1, C2, C3 and C4
- Seismic category C1

Applications

- Cladding restraints
- Barriers
- Structural steel
- Curtain walling
- Hand rails
- Heavy plant
- Balustrading
- Passenger lifts
- Facades
- Fencing & gates
- Masonry support
- Platforms
- Public seating
- Racking systems

Base materials

Approved for use in:

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

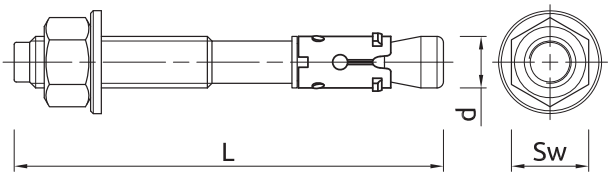
Also suitable for use in:

- Natural stone (after site testing)

Installation guide

1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Lightly tap the throughbolt through the fixture into hole with a hammer, until fixing depth is reached
4. Tighten to the recommended torque

Product information



R-HPTII-A4 Stainless Steel Throughbolt with regular washer DIN 125A

Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
		d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M8	R-HPTIIA4-08060/10	8	60	10	-	9
	R-HPTIIA4-08075/10	8	75	25	10	9
	R-HPTIIA4-08085/20	8	85	35	20	9
	R-HPTIIA4-08095/30	8	95	45	30	9
	R-HPTIIA4-08105/40	8	105	55	40	9
	R-HPTIIA4-08115/50	8	115	65	50	9
M10	R-HPTIIA4-10065/5	10	65	5	-	11
	R-HPTIIA4-10080/20	10	80	20	-	11
	R-HPTIIA4-10095/15	10	95	35	15	11
	R-HPTIIA4-10115/35	10	115	55	35	11
	R-HPTIIA4-10130/50	10	130	70	50	11
	R-HPTIIA4-10140/60	10	140	80	60	11
M12	R-HPTIIA4-12080/5	12	80	5	-	13
	R-HPTIIA4-12100/5	12	100	25	5	13
	R-HPTIIA4-12115/20	12	115	40	20	13
	R-HPTIIA4-12125/30	12	125	50	30	13
	R-HPTIIA4-12150/55	12	150	75	55	13
	R-HPTIIA4-12180/85	12	180	105	85	13
M16	R-HPTIIA4-16125/5	16	125	25	5	18
	R-HPTIIA4-16140/20	16	140	40	20	18
	R-HPTIIA4-16150/30	16	150	50	30	18
	R-HPTIIA4-16180/60	16	180	80	60	18

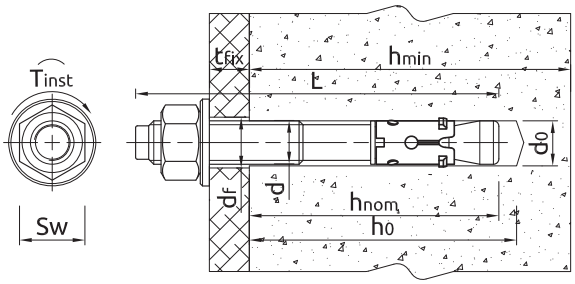
R-HPTII-A4 “D” Stainless Steel Throughbolt with large washer DIN 9021

Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
		d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M8	R-HPTIIA4D08060/10	8	60	10	-	9
	R-HPTIIA4D08075/10	8	75	25	10	9
	R-HPTIIA4D08085/20	8	85	35	20	9
	R-HPTIIA4D08095/30	8	95	45	30	9
	R-HPTIIA4D08105/40	8	105	55	40	9
	R-HPTIIA4D08115/50	8	115	65	50	9
M10	R-HPTIIA4D10065/5	10	65	5	-	11
	R-HPTIIA4D10080/20	10	80	20	-	11
	R-HPTIIA4D10095/15	10	95	35	15	11
	R-HPTIIA4D10115/35	10	115	55	35	11
	R-HPTIIA4D10130/50	10	130	70	50	11
	R-HPTIIA4D10140/60	10	140	80	60	11
M12	R-HPTIIA4D12080/5	12	80	5	-	13
	R-HPTIIA4D12100/5	12	100	25	5	13
	R-HPTIIA4D12115/20	12	115	40	20	13
	R-HPTIIA4D12125/30	12	125	50	30	13
	R-HPTIIA4D12150/55	12	150	75	55	13
	R-HPTIIA4D12180/85	12	180	105	85	13

Product information (cont.)

Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
		d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M16	R-HPTIIA4D16125/5	16	125	25	5	18
	R-HPTIIA4D16140/20	16	140	40	20	18
	R-HPTIIA4D16150/30	16	150	50	30	18
	R-HPTIIA4D16180/60	16	180	80	60	18

Installation data



Size			M8	M10	M12	M16
Thread diameter	d	[mm]	8	10	12	16
Hole diameter in substrate	d_0	[mm]	8	10	12	16
Installation torque	T_{inst}	[Nm]	15	30	50	100
Wrench size	S_w	[mm]	13	17	19	24
STANDARD EMBEDMENT DEPTH						
Min. hole depth in substrate	$h_{0,s}$	[mm]	65	80	90	110
Installation depth	$h_{nom,s}$	[mm]	55	69	80	100
Min. substrate thickness	$h_{min,s}$	[mm]	100	120	140	170
Min. spacing (Non-cracked concrete)	$s_{min,s}$	[mm]	55	70	90	135
Min. spacing (Cracked concrete)	$s_{min,s}$	[mm]	55	70	90	135
Min. edge distance (Non-cracked concrete)	$c_{min,s}$	[mm]	40	50	55	80
Min. edge distance (Cracked concrete)	$c_{min,s}$	[mm]	40	45	55	70
REDUCED EMBEDMENT DEPTH						
Min. hole depth in substrate	$h_{0,r}$	[mm]	50	60	70	90
Installation depth	$h_{nom,r}$	[mm]	40	49	60	80
Min. substrate thickness	$h_{min,r}$	[mm]	100	100	100	130
Min. spacing (Non-cracked concrete)	$s_{min,r}$	[mm]	50	70	120	150
Min. spacing (Cracked concrete)	$s_{min,r}$	[mm]	50	70	120	150
Min. edge distance (Non-cracked concrete)	$c_{min,r}$	[mm]	50	60	70	90
Min. edge distance (Cracked concrete)	$c_{min,r}$	[mm]	40	50	70	85

Mechanical properties

Size			M8	M10	M12	M16
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	600.0	600.0	550.0	550.0
Nominal yield strength - tension	f_{yk}	[N/mm²]	450.0	150.0	413.0	413.0
Cross sectional area - tension	A_s	[mm²]	36.6	58	84.3	157
Elastic section modulus	W_{el}	[mm³]	50.27	98.17	169.65	402.12
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	22.0	45.0	72.0	180.0
Design bending resistance	M	[Nm]	18	36	57	144.0

Basic performance data

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

Size		M8	M10	M12	M16
NON-CRACKED CONCRETE					
Standard embedment depth h_{ef}	[mm]	47.00	59.00	68.00	85.00
Reduced embedment depth h_{ef}	[mm]	32.00	39.00	48.00	65.00
CRACKED CONCRETE					
Standard embedment depth h_{ef}	[mm]	47.00	59.00	68.00	85.00
Reduced embedment depth h_{ef}	[mm]	32.00	39.00	48.00	65.00
CHARACTERISTIC LOAD					
TENSION LOAD N_{Rk}					
NON-CRACKED CONCRETE					
Standard embedment depth	[kN]	9.00	16.00	25.00	39.50
Reduced embedment depth	[kN]	7.50	12.00	16.80	26.40
CRACKED CONCRETE					
Standard embedment depth	[kN]	6.00	9.00	12.00	25.00
Reduced embedment depth	[kN]	3.00	7.50	9.00	16.00
SHEAR LOAD V_{Rk}					
NON-CRACKED CONCRETE					
Standard embedment depth	[kN]	11.70	18.50	24.60	45.40
Reduced embedment depth	[kN]	9.14	14.70	16.79	45.40
CRACKED CONCRETE					
Standard embedment depth	[kN]	11.60	16.31	24.60	45.40
Reduced embedment depth	[kN]	6.52	10.52	11.97	37.70
DESIGN LOAD					
TENSION LOAD N_{Rd}					
NON-CRACKED CONCRETE					
Standard embedment depth	[kN]	5.00	10.70	16.70	26.30
Reduced embedment depth	[kN]	4.17	6.67	11.20	17.60
CRACKED CONCRETE					
Standard embedment depth	[kN]	3.33	6.00	8.00	16.70
Reduced embedment depth	[kN]	1.67	4.17	6.00	10.70
SHEAR LOAD V_{Rd}					
NON-CRACKED CONCRETE					
Standard embedment depth	[kN]	9.40	14.80	19.70	36.30
Reduced embedment depth	[kN]	6.09	9.84	11.20	35.30
CRACKED CONCRETE					
Standard embedment depth	[kN]	7.73	10.88	19.68	36.30
Reduced embedment depth	[kN]	4.34	7.01	7.98	25.15
RECOMMENDED LOAD					
TENSION LOAD N_{rec}					
NON-CRACKED CONCRETE					
Standard embedment depth	[kN]	3.57	7.62	11.90	18.80
Reduced embedment depth	[kN]	2.98	4.76	8.00	12.60
CRACKED CONCRETE					
Standard embedment depth	[kN]	2.38	4.29	5.71	11.90
Reduced embedment depth	[kN]	1.19	2.98	4.29	7.62
SHEAR LOAD V_{rec}					
NON-CRACKED CONCRETE					
Standard embedment depth	[kN]	6.69	10.60	14.10	25.90
Reduced embedment depth	[kN]	4.35	7.03	8.00	25.20
CRACKED CONCRETE					
Standard embedment depth	[kN]	5.52	7.77	14.06	25.90
Reduced embedment depth	[kN]	3.10	5.01	5.70	18.00

Product commercial data

R-HPTII-A4 Stainless Steel Throughbolt with regular washer DIN 125A

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M8	R-HPTIIA4-08060/10	8	60	100	100	16000	2.6	2.6	441.0	5906675408873
	R-HPTIIA4-08075/10	8	75	100	100	12000	3.1	3.1	397.2	5906675408880
	R-HPTIIA4-08085/20	8	85	100	100	12000	3.3	3.3	430.2	5906675408897
	R-HPTIIA4-08095/30	8	95	100	100	12000	3.3	3.3	426.0	5906675408903
	R-HPTIIA4-08105/40	8	105	50	50	12000	2.2	2.2	558.0	5906675408910
	R-HPTIIA4-08115/50	8	115	100	100	12000	4.3	4.3	545.3	5906675408934
M10	R-HPTIIA4-10065/5	10	65	50	50	11000	2.4	2.4	551.2	5906675408941
	R-HPTIIA4-10080/20	10	80	50	50	6000	2.8	2.8	359.8	5906675408958
	R-HPTIIA4-10095/15	10	95	50	50	6000	3.1	3.1	404.8	5906675408965
	R-HPTIIA4-10115/35	10	115	50	50	6000	3.7	3.7	468.1	5906675408972
	R-HPTIIA4-10130/50	10	130	50	50	6000	4.0	4.0	508.3	5906675408989
	R-HPTIIA4-10140/60	10	140	50	50	6000	4.2	4.2	537.7	5906675408996
M12	R-HPTIIA4-12080/5	12	80	50	50	6000	4.1	4.1	524.0	5906675409009
	R-HPTIIA4-12100/5	12	100	50	50	6000	4.8	4.8	605.5	5906675409016
	R-HPTIIA4-12115/20	12	115	50	50	6000	7.0	7.0	870.0	5906675409030
	R-HPTIIA4-12125/30	12	125	50	50	6000	5.8	5.8	721.9	5906675409047
	R-HPTIIA4-12150/55	12	150	50	50	4000	6.7	6.7	561.6	5906675409054
	R-HPTIIA4-12180/85	12	180	50	50	3000	7.8	7.8	496.0	5906675409061
M16	R-HPTIIA4-16125/5	16	125	25	25	3000	5.4	5.4	673.7	5906675409078
	R-HPTIIA4-16140/20	16	140	25	25	2000	5.8	5.8	493.7	5906675409085
	R-HPTIIA4-16150/30	16	150	25	25	2000	6.1	6.1	518.2	5906675409092
	R-HPTIIA4-16180/60	16	180	25	25	2000	7.2	7.2	602.5	5906675409108

R-HPTII-A4 “D” Stainless Steel Throughbolt with large washer DIN 9021

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M8	R-HPTIIA4D08060/10 [1)]	8	60	100	100	21000	2.6	2.6	569.5	5906675046419
	R-HPTIIA4D08075/10 [1)]	8	75	100	100	16000	3.1	3.1	519.6	5906675046426
	R-HPTIIA4D08085/20 [1)]	8	85	100	100	16000	3.3	3.3	563.6	5906675046433
	R-HPTIIAD08095/30 [1)]	8	95	100	100	12000	3.3	3.3	426.0	5906675046440
	R-HPTIIA4D08105/40 [1)]	8	105	50	50	16000	2.2	2.2	734.0	5906675046457
	R-HPTIIA4D08115/50 [1)]	8	115	100	100	16000	4.3	4.3	717.0	5906675046464
M10	R-HPTIIA4D10065/5 [1)]	10	65	50	50	8000	2.4	2.4	409.0	5906675046471
	R-HPTIIA4D10080/20 [1)]	10	80	50	50	8000	2.8	2.8	469.7	5906675046488
	R-HPTIIA4D10095/15 [1)]	10	95	50	50	8000	3.1	3.1	529.7	5906675046495
	R-HPTIIA4D10115/35 [1)]	10	115	50	50	6000	3.7	3.7	468.1	5906675046501
	R-HPTIIA4D10130/50 [1)]	10	130	50	50	6000	4.0	4.0	508.3	5906675046518
	R-HPTIIA4D10140/60 [1)]	10	140	50	50	8000	4.2	4.2	707.0	5906675046532
M12	R-HPTIIA4D12080/5 [1)]	12	80	50	50	8000	4.1	4.1	688.7	5906675046549
	R-HPTIIA4D12100/5 [1)]	12	100	50	50	8000	4.8	4.8	797.4	5906675046556
	R-HPTIIA4D12115/20 [1)]	12	115	50	50	6000	7.0	7.0	870.0	5906675388106
	R-HPTIIA4D12125/30 [1)]	12	125	50	50	6000	5.8	5.8	721.9	5906675046563
	R-HPTIIA4D12150/55 [1)]	12	150	50	50	4000	6.7	6.7	561.6	5906675046570
	R-HPTIIA4D12180/85 [1)]	12	180	50	50	4000	7.8	7.8	651.3	5906675046587
M16	R-HPTIIA4D16125/5 [1)]	16	125	25	25	4000	5.4	5.4	888.2	5906675046594
	R-HPTIIA4D16140/20 [1)]	16	140	25	25	4000	5.8	5.8	957.4	5906675034898
	R-HPTIIA4D16150/30 [1)]	16	150	25	25	4000	6.1	6.1	1006.5	5906675046600
	R-HPTIIA4D16180/60 [1)]	16	180	25	25	3000	7.2	7.2	888.7	5906675046617

1) ETA 17/0185

R-HPTIIZF Zinc Flake Throughbolt

Throughbolt anchor with corrosion-resistant coating for cracked and non-cracked concrete

Approvals and Reports

- ETA 17/0184

Installation movie

Product overview

Features and benefits

- New generation of throughbolt with unique corrosion-resistant coating
- High performance in cracked and non-cracked concrete confirmed by ETA Option 1
- Highest quality to receive optimal load capability
- For applications requiring fire resistance up to 120 minutes
- Suitable for reduced embedment to avoid contact with reinforcement
- Embedment depth markings help to ensure precise installation of the anchor
- Design of R-HPTII allows drilling and installing directly through the fixture and helps to reduce installation time
- Seismic category C1, C2

Applications

- Cladding restraints
- Consoles
- Barriers
- Structural steel
- Curtain walling
- Hand rails
- Heavy Plant
- Balustrading
- Passenger lifts
- Facades

Base materials

Approved for use in:

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

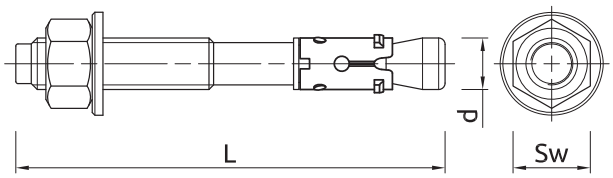
Also suitable for use in:

- Natural stone (after site testing)

Installation guide

1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Lightly tap the throughbolt through the fixture into hole with a hammer, until fixing depth is reached
4. Tighten to the recommended torque

Product information



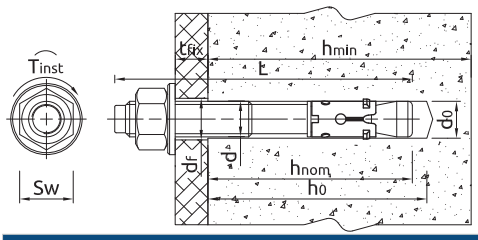
R-HPTII-ZF Zinc Flake Throughbolt with regular washer DIN 125A

Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
		d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M8	R-HPTIIZF-08065/15	8	65	15	-	9
	R-HPTIIZF-08080/15	8	80	30	15	9
	R-HPTIIZF-08100/35	8	100	50	35	9
	R-HPTIIZF-08115/50	8	115	65	50	9
M10	R-HPTIIZF-10065/5	10	65	5	-	11
	R-HPTIIZF-10080/20	10	80	20	-	11
	R-HPTIIZF-10095/15	10	95	35	15	11
	R-HPTIIZF-10115/35	10	115	55	35	11
	R-HPTIIZF-10130/50	10	130	70	50	11
M12	R-HPTIIZF-12080/5	12	80	5	-	13
	R-HPTIIZF-12100/5	12	100	25	5	13
	R-HPTIIZF-12120/25	12	120	45	25	13
	R-HPTIIZF-12135/40	12	135	60	40	13
	R-HPTIIZF-12150/55	12	150	75	55	13
M16	R-HPTIIZF-16105/10	16	105	10	-	18
	R-HPTIIZF-16140/20	16	140	40	20	18
	R-HPTIIZF-16180/60	16	180	80	60	18
	R-HPTIIZF16220/100	16	220	120	100	18
M20	R-HPTIIZF-20125/5	20	125	5	-	22
	R-HPTIIZF-20160/20	20	160	40	20	22
	R-HPTIIZF-20200/60	20	200	80	60	22

R-HPTII-ZF „D" Zinc Flake Throughbolt with large washer DIN 9021

Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
		d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M8	R-HPTIIZFD08065/15	8	65	15	-	9
	R-HPTIIZFD08080/15	8	80	30	15	9
	R-HPTIIZFD08100/35	8	100	50	35	9
	R-HPTIIZFD08115/50	8	115	65	50	9
M10	R-HPTIIZFD10065/5	10	65	5	-	11
	R-HPTIIZFD10080/20	10	80	20	-	11
	R-HPTIIZFD10095/15	10	95	35	15	11
	R-HPTIIZFD10115/35	10	115	55	35	11
	R-HPTIIZFD10130/50	10	130	70	50	11
M12	R-HPTIIZFD12080/5	12	80	5	-	13
	R-HPTIIZD12100/5	12	100	25	5	13
	R-HPTIIZFD12120/25	12	120	45	25	13
	R-HPTIIZFD12135/40	12	135	60	40	13
	R-HPTIIZFD12150/55	12	150	75	55	13
M16	R-HPTIIZFD16105/10	16	105	10	-	18
	R-HPTIIZFD16140/20	16	140	40	20	18
	R-HPTIIZFD16180/60	16	180	80	60	18
M20	R-HPTIIZFD20125/5	20	125	5	-	22
	R-HPTIIZFD20160/20	20	160	40	20	22

Installation data



Size			M8	M10	M12	M16	M20
Thread diameter	d	[mm]	8	10	12	16	20
Hole diameter in substrate	d_0	[mm]	8	10	12	16	20
Installation torque	T_{inst}	[Nm]	10	20	40	100	180
Wrench size	Sw	[mm]	13	17	19	24	30
STANDARD EMBEDMENT DEPTH							
Min. hole depth in substrate	$h_{0,s}$	[mm]	65	79	90	110	129
Installation depth	$h_{nom,s}$	[mm]	55	69	80	100	119
Min. substrate thickness	$h_{min,s}$	[mm]	100	120	140	170	200
Min. spacing (Non-cracked concrete)	$s_{min,s}$	[mm]	50	70	90	180	180
Min. spacing (Cracked concrete)	$s_{min,s}$	[mm]	50	70	90	180	180
Min. edge distance (Non-cracked concrete)	$c_{min,s}$	[mm]	40	50	65	100	120
Min. edge distance (Cracked concrete)	$c_{min,s}$	[mm]	40	45	65	100	100
REDUCED EMBEDMENT DEPTH							
Min. hole depth in substrate	$h_{0,r}$	[mm]	50	59	70	90	110
Installation depth	$h_{nom,r}$	[mm]	40	49	60	80	100
Min. substrate thickness	$h_{min,r}$	[mm]	100	100	100	130	160
Min. spacing (Non-cracked concrete)	$s_{min,r}$	[mm]	55	75	150	300	300
Min. spacing (Cracked concrete)	$s_{min,r}$	[mm]	55	75	150	300	300
Min. edge distance (Non-cracked concrete)	$c_{min,r}$	[mm]	45	60	70	160	200
Min. edge distance (Cracked concrete)	$c_{min,r}$	[mm]	40	50	80	120	120

Mechanical properties

Size			M8	M10	M12	M16	M20
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	620	620	620	620	620
Nominal ultimate tensile strength - shear	f_{uk}	[N/mm²]	520	520	520	520	520
Nominal yield strength - tension	f_{yk}	[N/mm²]	531	531	531	531	531
Nominal yield strength - shear	f_{yk}	[N/mm²]	416	416	416	416	416
Cross sectional area - tension	A_s	[mm²]	25.5	40.7	60.1	106.6	162.9
Cross sectional area - shear	A_s	[mm²]	38.9	61.7	89.6	165.2	259.1
Elastic section modulus	W_{el}	[mm³]	34.3	68.3	119.6	299.5	588.3
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	19	38	67	167	328
Design bending resistance	M	[Nm]	15	31	53	134	263

Basic performance data

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

Size		M8	M10	M12	M16	M20
CRACKED CONCRETE						
Standard embedment depth h_{ef}	[mm]	47.00	59.00	68.00	85.00	99.00
Reduced embedment depth h_{ef}	[mm]	32.00	39.00	48.00	65.00	80.00
NON-CRACKED CONCRETE						
Standard embedment depth h_{ef}	[mm]	47.00	59.00	68.00	85.00	99.00
Reduced embedment depth h_{ef}	[mm]	32.00	39.00	48.00	65.00	80.00

Basic performance data (cont.)

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

Size		M8	M10	M12	M16	M20
CHARACTERISTIC LOAD						
TENSION LOAD N_{Rk}						
NON-CRACKED CONCRETE						
Standard embedment depth	[kN]	9.00	12.00	20.00	35.00	49.74
Reduced embedment depth	[kN]	7.50	9.00	12.00	26.46	36.13
CRACKED CONCRETE						
Standard embedment depth	[kN]	5.00	9.00	12.00	20.00	30.00
Reduced embedment depth	[kN]	3.00	6.00	9.00	16.00	25.76
SHEAR LOAD V_{Rk}						
NON-CRACKED CONCRETE						
Standard embedment depth	[kN]	9.10	15.70	23.70	47.10	60.60
Reduced embedment depth	[kN]	9.10	12.30	16.79	47.10	60.60
CRACKED CONCRETE						
Standard embedment depth	[kN]	9.10	15.70	23.70	47.10	60.60
Reduced embedment depth	[kN]	6.52	8.77	11.97	37.73	51.52
DESIGN LOAD						
TENSION LOAD N_{Rd}						
NON-CRACKED CONCRETE						
Standard embedment depth	[kN]	5.00	8.00	13.30	23.33	33.16
Reduced embedment depth	[kN]	4.17	5.00	8.00	17.64	24.09
CRACKED CONCRETE						
Standard embedment depth	[kN]	2.78	6.00	8.00	13.33	20.00
Reduced embedment depth	[kN]	1.67	3.33	6.00	10.67	17.17
SHEAR LOAD V_{Rd}						
NON-CRACKED CONCRETE						
Standard embedment depth	[kN]	7.28	12.56	18.96	37.68	48.48
Reduced embedment depth	[kN]	6.09	8.20	11.20	35.29	48.18
CRACKED CONCRETE						
Standard embedment depth	[kN]	7.28	10.88	18.96	37.62	47.28
Reduced embedment depth	[kN]	4.34	5.85	7.98	25.15	34.35
RECOMMENDED LOAD						
TENSION LOAD N_{rec}						
NON-CRACKED CONCRETE						
Standard embedment depth	[kN]	3.57	5.71	9.52	16.67	23.69
Reduced embedment depth	[kN]	2.98	3.57	5.71	12.60	17.21
CRACKED CONCRETE						
Standard embedment depth	[kN]	1.98	4.29	5.71	9.52	14.29
Reduced embedment depth	[kN]	1.19	2.38	4.29	7.62	12.27
SHEAR LOAD V_{rec}						
NON-CRACKED CONCRETE						
Standard embedment depth	[kN]	5.20	8.97	13.54	26.91	34.63
Reduced embedment depth	[kN]	4.35	5.86	8.00	25.20	34.41
CRACKED CONCRETE						
Standard embedment depth	[kN]	5.20	7.77	13.54	26.87	33.77
Reduced embedment depth	[kN]	3.10	4.18	5.70	17.97	24.53

Product commercial data

R-HPTII-ZF Zinc Flake Throughbolt with regular washer DIN 125A

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M8	R-HPTIIZF-08065/15	8	65	100	100	16000	2.8	2.8	474.6	5906675022840
	R-HPTIIZF-08080/15	8	80	100	100	16000	3.2	3.2	544.7	5906675022857
	R-HPTIIZF-08100/35	8	100	100	100	12000	3.9	3.9	494.3	5906675034881
	R-HPTIIZF-08115/50	8	115	100	100	16000	4.3	4.3	711.8	5906675022871
M10	R-HPTIIZF-10065/5	10	65	50	50	8000	2.4	2.4	409.4	5906675022888
	R-HPTIIZF-10080/20	10	80	50	50	8000	2.8	2.8	471.1	5906675022895
	R-HPTIIZF-10095/15	10	95	50	50	8000	3.1	3.1	528.2	5906675022901
	R-HPTIIZF-10115/35	10	115	50	50	6000	3.6	3.6	463.3	5906675022918
	R-HPTIIZF-10130/50	10	130	50	50	6000	4.0	4.0	682.0	5906675022925
M12	R-HPTIIZF-12080/5	12	80	50	50	8000	5.0	5.0	630.0	5906675022932
	R-HPTIIZF-12100/5	12	100	50	50	8000	4.8	4.8	794.3	5906675022949
	R-HPTIIZF-12120/25	12	120	50	50	6000	5.4	5.4	679.8	5906675022956
	R-HPTIIZF-12135/40	12	135	50	50	6000	6.1	6.1	758.9	5906675022963
	R-HPTIIZF-12150/55	12	150	50	50	4000	6.6	6.6	557.2	5906675022970
M16	R-HPTIIZF-16105/10	16	105	25	25	4000	4.6	4.6	765.7	5906675022987
	R-HPTIIZF-16140/20	16	140	25	25	4000	5.7	5.7	941.2	5906675022994
	R-HPTIIZF-16180/60	16	180	25	25	3000	7.1	7.1	883.3	5906675023007
	R-HPTIIZF16220/100	16	220	25	25	3000	8.4	8.4	1041.5	5906675023014
M20	R-HPTIIZF-20125/5	20	125	25	25	3000	8.2	8.2	639.9	5906675023021
	R-HPTIIZF-20160/20	20	160	25	25	3000	10.1	10.1	790.0	5906675023038
	R-HPTIIZF-20200/60	20	200	10	10	3000	4.9	4.9	400.0	5906675023045

R-HPTII-ZF „D" Zinc Flake Throughbolt with large washer DIN 9021

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Codes
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M8	R-HPTIIZFD08065/15[1)]	8	65	100	100	12000	3.9	3.9	494.3	5906675403175
	R-HPTIIZFD08080/15[1)]	8	80	100	100	12000	3.2	3.2	416.0	5906675402505
	R-HPTIIZFD08100/35[1)]	8	100	100	100	17000	5.0	5.0	873.0	5906675403199
	R-HPTIIZFD08115/50[1)]	8	115	100	100	12000	5.4	5.4	672.1	5906675403205
M10	R-HPTIIZFD10065/5[1)]	10	65	50	50	10500	2.9	2.9	643.4	5906675403212
	R-HPTIIZFD10080/20[1)]	10	80	50	50	6000	3.3	3.3	426.8	5906675403236
	R-HPTIIZFD10095/15[1)]	10	95	50	50	6000	3.7	3.7	469.7	5906675403243
	R-HPTIIZFD10115/35[1)]	10	115	50	50	6000	4.2	4.2	529.3	5906675403250
	R-HPTIIZFD10130/50[1)]	10	130	50	50	6000	4.6	4.6	576.1	5906675403267
M12	R-HPTIIZFD12080/5[1)]	12	80	50	50	6000	5.9	5.9	741.0	5906675403274
	R-HPTIIZFD12100/5[1)]	12	100	50	50	6000	6.6	6.6	825.2	5906675403281
	R-HPTIIZFD12120/25[1)]	12	120	50	50	6000	7.3	7.3	901.8	5906675403298
	R-HPTIIZFD12135/40[1)]	12	135	50	50	3800	7.9	7.9	632.2	5906675403304
	R-HPTIIZFD12150/55[1)]	12	150	50	50	7600	8.4	8.4	1312.9	5906675403311
M16	R-HPTIIZFD16105/10[1)]	16	105	25	25	3600	6.5	6.5	965.7	5906675403335
	R-HPTIIZFD16140/20[1)]	16	140	25	25	4000	7.6	7.6	1245.2	5906675403342
	R-HPTIIZFD16180/60[1)]	16	180	25	25	1900	9.0	9.0	714.8	5906675403359
M20	R-HPTIIZFD20125/5[1)]	20	125	25	25	1900	11.2	11.2	880.7	5906675403366
	R-HPTIIZFD20160/20[1)]	20	160	25	25	1900	13.1	13.1	1027.7	5906675403373

[1)] ETA 17/0184

R-XPTIIA4 Stainless Steel Throughbolt

Stainless steel throughbolt for non-cracked concrete

Approvals and Reports

- ETA 17/0782
- AT-15-7370/2016

Installation movie

Product overview

Features and benefits

- Stainless steel anchor for the highest corrosion resistance
- High performance in non-cracked concrete confirmed by ETA Option 7
- Highest quality ensures maximum load capability
- Fire resistant
- Suitable for reduced embedment to avoid contact with reinforcement
- Embedment depth markings help to ensure precise installation of the anchor
- Simple through-installation (drilling and installation through fixed material)

Applications

- Cladding restraint
- Curtain wall
- Balustrading
- Barriers
- Handrails
- Racking
- Structural steel
- Bollards

Base materials

Approved for use in:

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

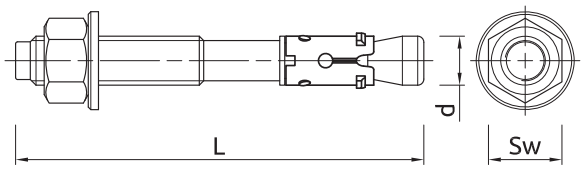
Also suitable for use in:

- Natural stone (after site testing)

Installation guide

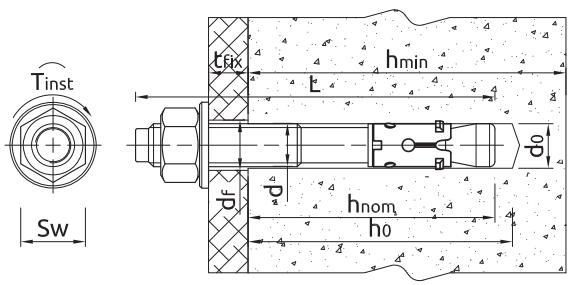
1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Lightly tap the throughbolt through the fixture into hole with a hammer, until fixing depth is reached
4. Tighten to the recommended torque

Product information



Size	Product Code	Approval type	Anchor		Fixture		
			Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
			d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		-	[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-XPTIIA4-06050/10	AT-15-7370/16	6	50	10	-	7
	R-XPTIIA4-06085/25	AT-15-7370/16	6	85	45	25	7
M8	R-XPTIIA4-08060/10	ETA 17/0782	8	60	10	-	9
	R-XPTIIA4-08075/10	ETA 17/0782	8	75	25	10	9
	R-XPTIIA4-08085/20	ETA 17/0782	8	85	35	20	9
	R-XPTIIA4-08095/30	ETA 17/0782	8	95	45	30	9
	R-XPTIIA4-08105/40	ETA 17/0782	8	105	55	40	9
	R-XPTIIA4-08115/50	ETA 17/0782	8	115	65	50	9
M10	R-XPTIIA4-10065/5	ETA 17/0782	10	65	5	-	11
	R-XPTIIA4-10080/20	ETA 17/0782	10	80	20	-	11
	R-XPTIIA4-10095/15	ETA 17/0782	10	95	35	15	11
	R-XPTIIA4-10115/35	ETA 17/0782	10	115	55	35	11
	R-XPTIIA4-10130/50	ETA 17/0782	10	130	70	50	11
	R-XPTIIA4-10140/60	ETA 17/0782	10	140	80	60	11
M12	R-XPTIIA4-12080/5	ETA 17/0782	12	80	5	-	13
	R-XPTIIA4-12100/5	ETA 17/0782	12	100	25	5	13
	R-XPTIIA4-12115/20	ETA 17/0782	12	115	40	20	13
	R-XPTIIA4-12125/30	ETA 17/0782	12	125	50	30	13
	R-XPTIIA4-12150/55	ETA 17/0782	12	150	75	55	13
	R-XPTIIA4-12180/85	ETA 17/0782	12	180	105	85	13
M16	R-XPTIIA4-16125/5	ETA 17/0782	16	125	25	5	18
	R-XPTIIA4-16140/20	ETA 17/0782	16	140	40	20	18
	R-XPTIIA4-16150/30	ETA 17/0782	16	150	50	30	18
	R-XPTIIA4-16180/60	ETA 17/0782	16	180	80	60	18
M20	R-XPTIIA4-20125/5	AT-15-7370/16	20	125	5	-	22
	R-XPTIIA4-20160/20	AT-15-7370/16	20	160	40	20	22
	R-XPTIIA4-20200/60	AT-15-7370/16	20	200	80	60	22
	R-XPTIIA4-20300/16	AT-15-7370/16	20	300	180	160	22
M24	R-XPTIIA4-24260/10	AT-15-7370/16	24	260	115	100	26

Installation data



Installation data (cont.)

Size			M6	M8	M10	M12	M16	M20	M24
Thread diameter	d	[mm]	6	8	10	12	16	20	24
Hole diameter in substrate	d_0	[mm]	6	8	10	12	16	20	24
Installation torque	T_{inst}	[Nm]	5	15	30	50	100	180	320
Wrench size	Sw	[mm]	10	13	17	19	24	30	36
STANDARD EMBEDMENT DEPTH									
Min. hole depth in substrate	$h_{0,s}$	[mm]	55	65	79	90	110	140	230
Installation depth	$h_{nom,s}$	[mm]	50	55	69	80	100	120	135
Min. substrate thickness	$h_{min,s}$	[mm]	100	100	120	140	170	210	155
Min. spacing (Non-cracked concrete)	$s_{min,s}$	[mm]	45	65	90	110	170	170	180
Min. edge distance (Non-cracked concrete)	$c_{min,s}$	[mm]	50	50	60	85	90	160	200
REDUCED EMBEDMENT DEPTH									
Min. hole depth in substrate	$h_{0,r}$	[mm]	40	50	59	70	90	120	140
Installation depth	$h_{nom,r}$	[mm]	30	40	49	60	80	100	120
Min. substrate thickness	$h_{min,r}$	[mm]	100	100	100	100	130	210	230
Min. spacing (Non-cracked concrete)	$s_{min,r}$	[mm]	40	65	115	150	190	160	190
Min. edge distance (Non-cracked concrete)	$c_{min,r}$	[mm]	45	50	80	100	120	125	160

Mechanical properties

Size			M6	M8	M10	M12	M16	M20	M24
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	800	600	600	550	550	500	500
Nominal yield strength - tension	f_{yk}	[N/mm²]	600	480	480	440	440	210	210
Cross sectional area - tension	A_s	[mm²]	14.25	25.5	40.7	60.1	106.6	162.9	234.52
Elastic section modulus	W_{el}	[mm³]	13.15	31.2	62.3	109	276.4	539.9	940.9
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12.62	22	45	72	180	323.9	564.54
Design bending resistance	M	[Nm]	9.49	17.6	36	57.6	144	136.11	237.2

Basic performance data

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

Size		M6	M8	M10	M12	M16	M20	M24
TENSION LOAD N_{Rk}								
Standard embedment depth	[kN]	7.50	9.00	16.00	25.00	39.57	20.00	25.00
Reduced embedment depth	[kN]	1.50	7.50	12.00	16.79	26.46	12.00	16.00
SHEAR LOAD V_{Rk}								
Standard embedment depth	[kN]	7.50	11.70	18.50	24.60	45.40	40.00	50.00
Reduced embedment depth	[kN]	1.50	9.14	12.30	16.79	45.40	24.00	32.00
DESIGN LOAD								
TENSION LOAD N_{Rk}								
Standard embedment depth	[kN]	2.97	5.00	10.67	16.67	26.38	7.94	9.92
Reduced embedment depth	[kN]	0.59	4.17	6.67	11.20	17.64	4.76	6.35
SHEAR LOAD V_{Rk}								
Standard embedment depth	[kN]	6.00	9.36	14.80	19.68	36.32	32.00	40.00
Reduced embedment depth	[kN]	1.20	6.09	8.20	11.20	35.29	19.20	25.60
RECOMMENDED LOAD								
TENSION LOAD N_{rec}								
Standard embedment depth	[kN]	2.12	3.57	7.62	11.90	18.85	5.67	7.09
Reduced embedment depth	[kN]	0.42	2.98	4.76	8.00	12.60	3.40	4.54
SHEAR LOAD V_{rec}								
Standard embedment depth	[kN]	4.28	6.69	10.57	14.06	25.94	22.85	28.57
Reduced embedment depth	[kN]	0.85	4.35	5.86	8.00	25.20	13.71	18.28

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-XPTIIA4-06050/10*	6	50	100	100	16000	1.27	1.27	233.0	5906675100081
	R-XPTIIA4-06085/25*	6	85	100	100	16000	1.84	1.84	324.6	5906675100104
M8	R-XPTIIA4-08060/10	8	60	100	100	16000	2.6	2.6	445.8	5906675047232
	R-XPTIIA4-08075/10	8	75	100	100	16000	3.1	3.1	519.6	5906675047249
	R-XPTIIA4-08085/20	8	85	100	100	16000	3.4	3.4	570.8	5906675047256
	R-XPTIIA4-08095/30	8	95	100	100	16000	3.7	3.7	473.9	5906675047263
	R-XPTIIA4-08105/40	8	105	100	100	16000	4.0	4.0	671.8	5906675047270
	R-XPTIIA4-08115/50	8	115	100	100	16000	4.3	4.3	721.7	5906675047287
M10	R-XPTIIA4-10065/5	10	65	50	50	8000	2.4	2.4	409.8	5906675047294
	R-XPTIIA4-10080/20	10	80	50	50	8000	2.8	2.8	470.6	5906675047300
	R-XPTIIA4-10095/15	10	95	50	50	8000	3.1	3.1	529.7	5906675047317
	R-XPTIIA4-10115/35	10	115	50	50	6000	3.7	3.7	470.3	5906675047324
	R-XPTIIA4-10130/50	10	130	50	50	6000	4.0	4.0	510.1	5906675047331
	R-XPTIIA4-10140/60	10	140	50	50	8000	4.2	4.2	708.7	5906675047348
M12	R-XPTIIA4-12080/5	12	80	50	50	8000	4.1	4.1	684.1	5906675047355
	R-XPTIIA4-12100/5	12	100	50	50	8000	4.8	4.8	799.1	5906675047362
	R-XPTIIA4-12115/25	12	115	50	50	6000	5.4	5.4	676.8	5906675324548
	R-XPTIIA4-12125/30	12	125	50	50	6000	5.8	5.8	720.5	5906675047379
	R-XPTIIA4-12150/55	12	150	50	50	4000	6.7	6.7	562.2	5906675047386
	R-XPTIIA4-12180/85	12	180	50	50	4000	7.8	7.8	652.1	5906675047393
M16	R-XPTIIA4-16125/5	16	125	25	25	4000	5.3	5.3	875.6	5906675047409
	R-XPTIIA4-16140/20	16	140	25	25	4000	5.8	5.8	956.9	5906675047416
	R-XPTIIA4-16150/30	16	150	25	25	4000	5.7	5.7	946.0	5906675047430
	R-XPTIIA4-16180/60	16	180	25	25	3000	7.1	7.1	886.1	5906675047447
M20	R-XPTIIA4-20125/5*	20	125	25	25	3000	8.5	8.5	1048.7	5906675100241
	R-XPTIIA4-20160/20*	20	160	25	25	3000	10.4	10.4	1271.9	5906675100364
	R-XPTIIA4-20200/60*	20	200	10	10	1200	5.0	5.0	631.4	5906675100401
	R-XPTIIA4-20300/160*	20	300	10	10	1200	7.1	7.1	884.4	5906675100418
M24	R-XPTIIA4-24260/100*	24	260	10	10	1200	9.5	9.5	1168.6	5906675100432

* AT-15-7370/2016

R-XPT Throughbolt

Throughbolt for non-cracked concrete

Approvals and Reports

- ETA 17/0183
- AT-15-9327/2014

Installation movie

Product overview

Features and benefits

- High performance in non-cracked concrete confirmed by ETA Option 7
- Suitable for reduced embedment to avoid contact with reinforcement
- Embedment depth markings help to ensure precise installation of the anchor
- Design allows drilling and installing directly through the fixture and helps to reduce installation time
- Cold formed body ensures consistent dimensional accuracy
- Simple through-installation (drilling and installation through fixed material)
- Optimized expander design with six grip features allows for a high load-bearing capacity
- Zinc plated passivated steel with clear Cr3 zinc layer of thickness not thinner than 5 μm according to EN ISO 4042

Applications

- Cladding restraint
- Curtain wall
- Balustrading
- Barriers
- Handrails
- Racking
- Structural steel
- Bollards

Base materials

Approved for use in:

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

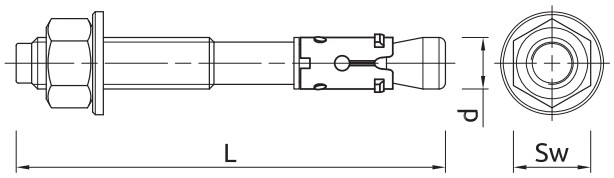
Also suitable for use in:

- Natural stone (after site testing)

Installation guide

1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Lightly tap the throughbolt through the fixture into hole with a hammer, until fixing depth is reached
4. Tighten to the recommended torque

Product information



Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
		d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-XPT-06050/10	6	50	10	-	7
	R-XPT-06065/5	6	65	25	5	7
	R-XPT-06085/25	6	85	45	25	7
	R-XPT-06100/40	6	100	60	40	7
M8	R-XPT-08050/5	8	50	5	-	9
	R-XPT-08060/10	8	60	10	-	9
	R-XPT-08065/15	8	65	15	-	9
	R-XPT-08075/10	8	75	25	10	9
	R-XPT-08080/15	8	80	30	15	9
	R-XPT-08085/20	8	85	35	20	9
	R-XPT-08095/30	8	95	45	30	9
	R-XPT-08115/50	8	115	65	50	9
	R-XPT-08140/75	8	140	90	75	9
	R-XPT-08150/85	8	150	100	85	9
M10	R-XPT-10065/5	10	65	5	-	11
	R-XPT-10080/10	10	80	20	10	11
	R-XPT-10095/25	10	95	35	25	11
	R-XPT-10115/45	10	115	55	45	11
	R-XPT-10130/60	10	130	70	60	11
	R-XPT-10140/70	10	140	80	70	11
	R-XPT-10150/80	10	150	90	80	11
	R-XPT-10180/110	10	180	120	110	11
M12	R-XPT-12080/5	12	80	5	-	13
	R-XPT-12100/5	12	100	25	5	13
	R-XPT-12120/25	12	120	45	25	13
	R-XPT-12125/30	12	125	50	30	13
	R-XPT-12135/40	12	135	60	40	13
	R-XPT-12140/45	12	140	65	45	13
	R-XPT-12150/55	12	150	75	55	13
	R-XPT-12160/65	12	160	85	65	13
	R-XPT-12180/85	12	180	105	85	13
	R-XPT-12200/105	12	200	125	105	13
	R-XPT-12220/125	12	220	145	125	13
	R-XPT-12250/155	12	250	175	155	13
	R-XPT-12280/185	12	280	205	185	13
M16	R-XPT-16100/5	16	100	5	-	18
	R-XPT-16105/10	16	105	10	-	18
	R-XPT-16125/5	16	125	25	5	18
	R-XPT-16140/20	16	140	40	20	18
	R-XPT-16150/30	16	150	50	30	18
	R-XPT-16160/40	16	160	60	40	18
	R-XPT-16180/60	16	180	80	60	18
	R-XPT-16200/80	16	200	100	80	18
	R-XPT-16220/100	16	220	120	100	18
	R-XPT-16250/130	16	250	150	130	18
	R-XPT-16280/160	16	280	180	160	18
	R-XPT-16300/180	16	300	200	180	18

R-XPT-HD Hot Dip Galvanized Throughbolt

Hot Dip Galvanized throughbolt for non-cracked concrete

Approvals and Reports

- AT-15-9326/2014

Product overview

Features and benefits

- Increased corrosion resistance due to hot dip zinc external protection layer
- R-XPT-HD is suitable for reduced embedment to avoid contact with reinforcement
- Embedment depth markings help to ensure precise installation of the anchor
- Design allows drilling and installing directly through the fixture and helps to reduce installation time
- High quality with cost effectiveness
- Cold formed body ensures consistent dimensional accuracy

Applications

- Cladding restraint
- Curtain wall
- Balustrading
- Barriers
- Handrails
- Racking
- Structural steel
- Bollards

Base materials

Approved for use in:

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

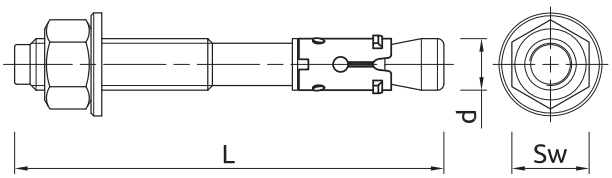
Also suitable for use in:

- Natural stone (after site testing)

Installation guide

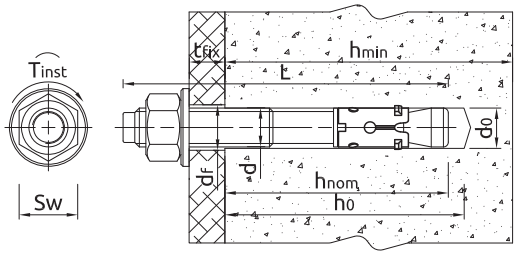
1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Lightly tap the throughbolt through the fixture into hole with a hammer, until fixing depth is reached
4. Tighten to the recommended torque

Product information



Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness		Hole diameter
		d	L	$t_{fix,r}$	$t_{fix,s}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-XPT-HD-06050/10	6	50	10	-	7
	R-XPT-HD-06085/25	6	85	45	25	7
	R-XPT-HD-06100/40	6	100	60	40	7
M8	R-XPT-HD-08050/5	8	50	5	-	9
	R-XPT-HD-08060/10	8	60	10	-	9
	R-XPT-HD-08065/15	8	65	15	-	9
	R-XPT-HD-08075/10	8	75	25	10	9
	R-XPT-HD-08080/15	8	80	30	15	9
	R-XPT-HD-08095/30	8	95	45	30	9
	R-XPT-HD-08115/50	8	115	65	50	9
	R-XPT-HD-08140/75	8	140	90	75	9
M10	R-XPT-HD-10065/5	10	65	5	-	11
	R-XPT-HD-10080/10	10	80	20	10	11
	R-XPT-HD-10095/25	10	95	35	25	11
	R-XPT-HD-10115/45	10	115	55	45	11
	R-XPT-HD-10130/60	10	130	70	60	11
	R-XPT-HD-10140/70	10	140	80	70	11
M12	R-XPT-HD-12080/5	12	80	5	-	13
	R-XPT-HD-12100/5	12	100	25	5	13
	R-XPT-HD-12120/25	12	120	45	25	13
	R-XPT-HD-12125/30	12	125	50	30	13
	R-XPT-HD-12135/40	12	135	60	40	13
	R-XPT-HD-12150/55	12	150	75	55	13
	R-XPT-HD-12180/85	12	180	105	85	13
	R-XPT-HD-12220/125	12	220	145	125	13
M16	R-XPT-HD-16100/5	16	100	5	-	18
	R-XPT-HD-16105/10	16	105	10	-	18
	R-XPT-HD-16125/5	16	125	25	5	18
	R-XPT-HD-16140/20	16	140	40	20	18
	R-XPT-HD-16150/30	16	150	50	30	18
	R-XPT-HD-16180/60	16	180	80	60	18
	R-XPT-HD-16220/100	16	220	120	100	18
M20	R-XPT-HD-20125/5	20	125	5	-	22
	R-XPT-HD-20160/20	20	160	40	20	22
	R-XPT-HD-20200/60	20	200	80	60	22
M24	R-XPT-HD-24260/100	24	260	115	100	26

Installation data



Installation data

Size			M6	M8	M10	M12	M16	M20	M24
Thread diameter	d	[mm]	6	8	10	12	16	20	24
Hole diameter in substrate	d_0	[mm]	6	8	10	12	16	20	24
Installation torque	T_{inst}	[Nm]	5	15	30	50	100	200	300
Wrench size	Sw	[mm]	10	13	17	19	24	30	36
STANDARD EMBEDMENT DEPTH									
Min. hole depth in substrate	$h_{0,s}$	[mm]	55	60	65	85	105	125	140
Installation depth	$h_{nom,s}$	[mm]	50	55	59	80	100	119	135
Min. substrate thickness	$h_{min,s}$	[mm]	84	100	100	136	170	198	224
Min. spacing	$s_{min,s}$	[mm]	45	50	55	75	90	140	180
Min. edge distance	$c_{min,s}$	[mm]	50	40	50	65	80	100	200
REDUCED EMBEDMENT DEPTH									
Min. hole depth in substrate	$h_{0,r}$	[mm]	35	45	55	65	85	105	125
Installation depth	$h_{nom,r}$	[mm]	30	40	49	60	80	99	120
Min. substrate thickness	$h_{min,r}$	[mm]	80	100	100	100	130	158	194
Min. spacing	$s_{min,r}$	[mm]	40	45	55	100	100	125	160
Min. edge distance	$c_{min,r}$	[mm]	45	40	65	100	100	125	160

Mechanical properties

Size			M6	M8	M10	M12	M16	M20	M24
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	400	400	400	400	400	480	480
Nominal ultimate tensile strength - shear	f_{uk}	[N/mm²]	520	520	520	520	520	520	680
Nominal yield strength - tension	f_{yk}	[N/mm²]	539	531	531	531	531	531	496
Nominal yield strength - shear	f_{yk}	[N/mm²]	416	416	416	416	416	416	544
Cross sectional area - tension	A_s	[mm²]	15.2	25.5	40.7	60.1	106.6	162.9	311
Cross sectional area - shear	A_s	[mm²]	20.1	36.6	58	84.3	157	245	353
Elastic section modulus	W_{el}	[mm³]	12.7	31.2	62.3	109.2	277.5	540.9	935.5
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	7.1	17	35	61	155	302	651
Design bending resistance	M	[Nm]	5.7	14	28	49	124	241	521

Basic performance data

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

Size		M6	M8	M10	M12	M16	M20	M24
NON-CRACKED CONCRETE								
CHARACTERISTIC LOAD								
TENSION LOAD N_{Rk}								
Standard embedment depth	[kN]	6.85	9.72	12.61	20.17	27.59	35.02	41.89
Reduced embedment depth	[kN]	2.98	6.05	8.87	12.87	19.36	28.05	35.56
SHEAR LOAD V_{Rk}								
Standard embedment depth	[kN]	5.50	9.72	12.61	23.30	43.00	67.40	83.78
Reduced embedment depth	[kN]	2.98	6.05	8.87	12.87	38.72	56.10	70.72
DESIGN LOAD								
TENSION LOAD N_{Rd}								
Standard embedment depth	[kN]	2.72	3.86	5.00	8.00	10.95	13.90	16.62
Reduced embedment depth	[kN]	1.18	2.40	3.52	5.11	7.68	11.13	14.03
SHEAR LOAD V_{Rd}								
Standard embedment depth	[kN]	2.72	3.86	5.00	16.01	21.90	27.79	33.25
Reduced embedment depth	[kN]	1.18	2.40	3.52	5.11	15.37	22.26	28.06

Basic performance data (cont.)

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

Size		M6	M8	M10	M12	M16	M20	M24
RECOMMENDED LOAD								
TENSION LOAD N_{rec}								
Standard embedment depth	[kN]	1.94	2.76	3.57	5.72	7.82	9.93	11.87
Reduced embedment depth	[kN]	0.84	1.71	2.51	3.65	5.49	7.95	10.02
SHEAR LOAD V_{rec}								
Standard embedment depth	[kN]	1.94	2.76	3.57	11.43	15.64	19.86	23.75
Reduced embedment depth	[kN]	0.84	1.71	2.51	3.65	10.98	15.80	20.05

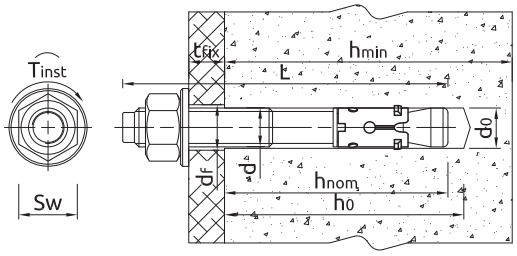
Product commercial data

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Codes
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M6	R-XPT-HD-06050/10	6	50	100	100	16000	1.32	1.32	241.2	5906675277844
	R-XPT-HD-06085/25	6	85	100	100	16000	2.0	2.0	342.0	5906675277851
	R-XPT-HD-06100/40	6	100	100	100	16000	2.2	2.2	385.2	5906675277868
M8	R-XPT-HD-08050/5	8	50	100	100	16000	2.3	2.3	404.4	5906675277875
	R-XPT-HD-08060/10	8	60	100	100	16000	2.8	2.8	470.0	5906675234007
	R-XPT-HD-08065/15	8	65	100	100	16000	2.9	2.9	490.8	5906675277882
	R-XPT-HD-08075/10	8	75	100	100	16000	3.2	3.2	542.0	5906675234014
	R-XPT-HD-08080/15	8	80	100	100	16000	3.3	3.3	553.2	5906675277899
	R-XPT-HD-08095/30	8	95	100	100	12000	3.8	3.8	482.4	5906675234618
	R-XPT-HD-08115/50	8	115	100	100	12000	4.4	4.4	561.6	5906675234038
	R-XPT-HD-08140/75	8	140	100	100	16000	5.2	5.2	865.2	5906675234045
M10	R-XPT-HD-10065/5	10	65	50	50	8000	2.4	2.4	414.0	5906675234052
	R-XPT-HD-10080/10	10	80	50	50	8000	2.8	2.8	473.2	5906675234069
	R-XPT-HD-10095/25	10	95	50	50	8000	3.2	3.2	534.8	5906675234076
	R-XPT-HD-10115/45	10	115	50	50	6000	3.7	3.7	472.2	5906675234083
	R-XPT-HD-10130/60	10	130	50	50	8000	4.0	4.0	676.4	5906675277905
	R-XPT-HD-10140/70	10	140	50	50	8000	4.4	4.4	728.4	5906675234090
M12	R-XPT-HD-12080/5	12	80	50	50	8000	4.1	4.1	684.4	5906675234106
	R-XPT-HD-12100/5	12	100	50	50	8000	4.8	4.8	799.6	5906675234113
	R-XPT-HD-12120/25	12	120	50	50	6000	5.6	5.6	698.4	5906675277912
	R-XPT-HD-12125/30	12	125	50	50	6000	5.7	5.7	717.0	5906675234625
	R-XPT-HD-12135/40	12	135	50	50	6000	6.3	6.3	781.8	5906675277929
	R-XPT-HD-12150/55	12	150	50	50	6000	6.7	6.7	831.0	5906675234137
	R-XPT-HD-12180/85	12	180	50	50	4000	7.8	7.8	656.0	5906675234144
	R-XPT-HD-12220/125	12	220	50	50	4000	9.3	9.3	775.6	5906675234151
M16	R-XPT-HD-16100/5	16	100	25	25	4000	4.4	4.4	733.2	5906675234168
	R-XPT-HD-16105/10	16	105	25	25	4000	4.0	4.0	661.2	5906675277936
	R-XPT-HD-16125/5	16	125	25	25	4000	5.4	5.4	890.0	5906675234175
	R-XPT-HD-16140/20	16	140	25	25	4000	5.9	5.9	975.2	5906675277943
	R-XPT-HD-16150/30	16	150	25	25	4000	6.1	6.1	1003.6	5906675249728
	R-XPT-HD-16180/60	16	180	25	25	3000	7.2	7.2	898.8	5906675249735
	R-XPT-HD-16220/100	16	220	25	25	3000	8.4	8.4	1040.1	5906675234205
M20	R-XPT-HD-20125/5	20	125	25	25	3000	8.5	8.5	1051.2	5906675234212
	R-XPT-HD-20160/20	20	160	25	25	2000	10.3	10.3	855.6	5906675234229
	R-XPT-HD-20200/60	20	200	10	10	1200	5.0	5.0	624.1	5906675234236
M24	R-XPT-HD-24260/100	24	260	10	10	1200	9.4	9.4	1155.5	5906675249742

Product information (cont.)

Size	Product Code	Anchor		Fixture		
		Diameter	Length	Max. thickness t_{fix} for:		Hole diameter
		d	L	$h_{nom,red}$	$h_{nom,std}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M20	R-XPT-20125/5	20	125	5	-	22
	R-XPT-20160/20	20	160	40	20	22
	R-XPT-20200/60	20	200	80	60	22
	R-XPT-20250/110	20	250	130	110	22
	R-XPT-20300/160	20	300	180	160	22
M24	R-XPT-24180/20	24	180	35	20	26
	R-XPT-24260/100	24	260	115	100	26
	R-XPT-24300/140	24	300	155	140	26

Installation data



Size			M6	M8	M10	M12	M16	M20	M24
Thread diameter	d	[mm]	6	8	10	12	16	20	24
Hole diameter in substrate	d_0	[mm]	6	8	10	12	16	20	24
Installation torque	T_{inst}	[Nm]	5	15	30	50	100	200	300
Wrench size	Sw	[mm]	10	13	17	19	24	30	36
STANDARD EMBEDMENT DEPTH									
Min. hole depth in substrate	$h_{0,s}$	[mm]	55	55	59	80	100	119	140
Installation depth	$h_{nom,s}$	[mm]	50	55	59	80	100	119	135
Min. substrate thickness	$h_{min,s}$	[mm]	84	100	100	136	170	198	224
Min. spacing	$s_{min,s}$	[mm]	45	50	55	75	90	140	180
Min. edge distance	$c_{min,s}$	[mm]	50	40	50	65	80	100	200
REDUCED EMBEDMENT DEPTH									
Min. hole depth in substrate	$h_{0,r}$	[mm]	35	40	49	60	80	100	125
Installation depth	$h_{nom,r}$	[mm]	30	40	49	60	80	100	120
Min. substrate thickness	$h_{min,r}$	[mm]	80	100	100	100	130	158	194
Min. spacing	$s_{min,r}$	[mm]	40	45	55	100	100	125	160
Min. edge distance	$c_{min,r}$	[mm]	45	40	65	100	100	125	160

Mechanical properties

Size			M6	M8	M10	M12	M16	M20	M24
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	620	620	620	620	620	620	620
Nominal yield strength - tension	f_{yk}	[N/mm²]	531	531	531	531	531	531	531
Cross sectional area - tension	A_s	[mm²]	14.25	25.5	40.7	60.1	106.6	162.9	234.52
Elastic section modulus	W_{el}	[mm³]	13.15	31.2	62.3	109	276.4	539.9	940.9
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	7	17	35	61	154	301	525
Design bending resistance	M	[Nm]	5.6	13.6	28	48.8	123.2	240.8	420

Basic performance data

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

Size		M6	M8	M10	M12	M16	M20	M24
Standard embedment depth h_{ef}	[mm]	42	47	49	68	85	99	112
Reduced embedment depth h_{ef}	[mm]	22	32	39	48	65	79	97
CHARACTERISTIC LOAD								
TENSION LOAD N_{Rk}								
Standard embedment depth	[kN]	8.67	12.00	12.00	25.00	39.57	40.00	38.14
Reduced embedment depth	[kN]	4.27	9.00	9.00	16.00	26.46	35.00	31.92
SHEAR LOAD V_{Rk}								
Standard embedment depth	[kN]	5.50	10.10	16.0	23.30	43.00	67.40	97.10
Reduced embedment depth	[kN]	5.50	9.14	9.14	16.79	43.00	67.40	97.10
DESIGN LOAD								
TENSION LOAD N_{Rd}								
Standard embedment depth	[kN]	3.44	6.67	6.67	13.89	21.99	22.22	15.13
Reduced embedment depth	[kN]	1.69	5.00	5.00	8.89	14.70	19.44	12.67
SHEAR LOAD V_{Rd}								
Standard embedment depth	[kN]	4.40	8.08	11.55	18.64	34.40	53.92	77.68
Reduced embedment depth	[kN]	4.40	6.09	6.09	11.20	34.40	42.28	77.68
RECOMMENDED LOAD								
TENSION LOAD N_{rec}								
Standard embedment depth	[kN]	2.46	4.76	4.76	9.92	15.70	15.87	10.81
Reduced embedment depth	[kN]	1.21	3.57	3.60	6.35	10.50	13.89	9.05
SHEAR LOAD V_{rec}								
Standard embedment depth	[kN]	3.14	5.77	8.25	13.31	24.57	38.51	55.49
Reduced embedment depth	[kN]	3.14	4.35	4.35	8.00	24.57	33.77	55.49

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-XPT-06050/10*	6	50	100	100	16000	1.27	1.27	233.2	5906675233499
	R-XPT-06065/5*	6	65	100	100	16000	1.55	1.55	278.0	5906675233505
	R-XPT-06085/25*	6	85	100	100	16000	1.85	1.85	326.0	5906675233512
	R-XPT-06100/40*	6	100	100	100	16000	2.1	2.1	370.8	5906675250311
M8	R-XPT-08050/5	8	50	100	100	16000	2.3	2.3	396.4	5906675250328
	R-XPT-08060/10	8	60	100	100	16000	2.6	2.6	446.0	5906675234601
	R-XPT-08065/15	8	65	100	100	16000	2.7	2.7	465.2	5906675250335
	R-XPT-08075/10	8	75	100	100	16000	3.1	3.1	518.0	5906675233536
	R-XPT-08080/15	8	80	100	100	16000	3.2	3.2	542.0	5906675250342
	R-XPT-08085/20	8	85	100	100	16000	3.4	3.4	578.8	5906675249636
	R-XPT-08095/30	8	95	100	100	12000	3.7	3.7	469.2	5906675233543
	R-XPT-08115/50	8	115	100	100	12000	4.3	4.3	540.0	5906675233550
	R-XPT-08140/75	8	140	100	100	16000	5.2	5.2	855.6	5906675233567
	R-XPT-08150/85	8	150	100	100	16000	5.4	5.4	887.6	5906675250359

Product commercial data

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Codes
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M10	R-XPT-10065/5	10	65	50	50	8000	2.4	2.4	408.4	5906675233574
	R-XPT-10080/10	10	80	50	50	8000	2.7	2.7	468.4	5906675233581
	R-XPT-10095/25	10	95	50	50	8000	3.1	3.1	527.6	5906675233598
	R-XPT-10115/45	10	115	50	50	6000	3.6	3.6	463.2	5906675233604
	R-XPT-10130/60	10	130	50	50	8000	4.0	4.0	664.4	5906675249643
	R-XPT-10140/70	10	140	50	50	8000	4.2	4.2	705.2	5906675233611
	R-XPT-10150/80	10	150	50	50	8000	4.5	4.5	742.0	5906675249650
	R-XPT-10180/110	10	180	50	50	6000	5.2	5.2	654.6	5906675250366
M12	R-XPT-12080/5	12	80	50	50	8000	4.1	4.1	678.0	5906675233628
	R-XPT-12100/5	12	100	50	50	8000	4.8	4.8	792.4	5906675233635
	R-XPT-12120/25	12	120	50	50	6000	5.5	5.5	690.0	5906675250373
	R-XPT-12125/30	12	125	50	50	6000	5.7	5.7	709.2	5906675233642
	R-XPT-12135/40	12	135	50	50	6000	6.1	6.1	757.8	5906675250380
	R-XPT-12140/45	12	140	50	50	6000	6.2	6.2	769.2	5906675249667
	R-XPT-12150/55	12	150	50	50	4000	6.6	6.6	558.4	5906675233659
	R-XPT-12160/65	12	160	50	50	4000	6.9	6.9	584.4	5906675216416
	R-XPT-12180/85	12	180	50	50	4000	7.6	7.6	639.2	5906675233666
	R-XPT-12200/105	12	200	50	50	4000	8.3	8.3	696.4	5906675312132
	R-XPT-12220/125	12	220	50	50	4000	9.1	9.1	755.2	5906675233673
	R-XPT-12250/155	12	250	25	25	3000	5.1	5.1	637.8	5906675312149
	R-XPT-12280/185	12	280	20	20	1600	4.6	4.6	395.8	5906675312156
M16	R-XPT-16100/5	16	100	25	25	4000	4.4	4.4	731.6	5906675233680
	R-XPT-16105/10	16	105	25	25	4000	4.6	4.6	763.6	5906675250403
	R-XPT-16125/5	16	125	25	25	4000	5.3	5.3	869.6	5906675233697
	R-XPT-16140/20	16	140	25	25	4000	5.7	5.7	948.4	5906675249063
	R-XPT-16150/30	16	150	25	25	4000	6.1	6.1	1001.2	5906675249674
	R-XPT-16160/40	16	160	25	25	3000	6.4	6.4	792.9	5906675250410
	R-XPT-16180/60	16	180	25	25	3000	7.0	7.0	873.3	5906675249681
	R-XPT-16200/80	16	200	25	25	3000	12.5	12.5	1530.0	5906675312163
	R-XPT-16220/100	16	220	25	25	3000	8.4	8.4	1037.4	5906675233727
	R-XPT-16250/130	16	250	25	25	3000	9.3	9.3	1148.1	5906675312170
	R-XPT-16280/160	16	280	15	15	1200	6.3	6.3	532.3	5906675250427
	R-XPT-16300/180	16	300	10	10	650	4.4	4.4	318.5	5906675312187
M20	R-XPT-20125/5	20	125	25	25	3000	8.3	8.3	1020.0	5906675233734
	R-XPT-20160/20	20	160	25	25	2000	10.1	10.1	836.0	5906675233741
	R-XPT-20200/60	20	200	10	10	1200	4.9	4.9	619.7	5906675233758
	R-XPT-20250/110	20	250	10	10	1200	5.0	5.0	630.0	5906675312194
	R-XPT-20300/160	20	300	10	10	800	7.1	7.1	593.7	5906675233765
M24	R-XPT-24180/20*	24	180	10	10	1200	7.0	7.0	872.2	5906675233772
	R-XPT-24260/100*	24	260	10	10	1200	9.3	9.3	1148.8	5906675233789
	R-XPT-24300/140*	24	300	10	10	800	10.5	10.5	872.7	5906675233796

* AT-15-9327/2014

R-LX

Self-tapping concrete screw

STRENGTH OF A SINGLE SCREW

The ring-like structure and the special high-low type thread is a perfect combination of features that enables the thread to bite into the material and develop a reliable and lasting joint. The functioning of our concrete screws is not based on the expansion principle, but they undercut the substrate in order to be able to transfer increased loads. There is more to that, since the design of the screws enables them to efficiently and evenly distribute the forces affecting them over the entire thread. In practice, this means that force distribution in the substrate is analogical to that of elements embedded in concrete. And the effect? Rawlplug's R-LX anchors attain the highest available load capacity compared to other anchors in the class. **STRONG CONNECTION.**

CORROSION PROBLEM – SOLVED

Our solution is so powerful owing to the innovative forging and heat treatment process. Not only does it ensure high steel class in the final product, it also enables multiple use in installation. The process has allowed us to eliminate the risk of what is referred to as hydrogen embrittlement which haunts contractors when they decide to use products made of high hardness carbon steel. Moreover, the R-LX screws have been designed in two variants, and come with high-quality zinc electroplated finish or zinc-flake finish of even higher corrosion resistance. The anticorrosive characteristics of the brand's products have been confirmed in a salt spray chamber test with the result being 1,500 hours! It has ascertained us that the R-LX screws are suitable for certain applications in environments as corrosive as class C4. **100% CERTAINTY OF CORROSION PROTECTION.**

ASTONISHING INSTALLATION SIMPLICITY

Just drill a hole to a diameter slightly smaller than the screw itself by following the clear drill size guidelines provided in the screw product code. A hole thus prepared ensures appropriate screw guiding while its main thread will create precise undercutting of the substrate material as you screw it in. And since this is a one-piece fixing solution, you don't need to use any washers or nuts. Additionally, the screws require no special tools for installation, and even more importantly – they can be completely removed when needed without making any damage. **IT'S SIMPLE.**

EVERY CONTRACTOR'S PROBLEM SOLVED

There is another reason why this product is truly worth your while. The R-LX line is very extensive, encompassing even highly specific requirements and satisfying the needs of professionals from all construction segments. Rawlplug's screws come with as many as 6 different head variations: hexagonal version with integrated washer, countersunk version for flush installation, internally threaded socket version, threaded rod version, cylinder head version and hexagonal version without integrated washer for temporary fixing. Additionally, most of the variants, covers diameters from 5 to 14 mm. **AS YOU NEED IT.**

R-LX

SELF-TAPPING CONCRETE SCREW

The R-LX is an innovative mechanical anchor. The impressive speed and simplicity of installation as well as small edge distance requirements make it unrivalled in many applications. It is exactly what you need to complete a large number of fixings in a short time.

ETA-17/0783 ETA-17/0806

Hexagonal head screw with washer
R-LX-HF

Countersunk head screw
R-LX-CS

Internally threaded head screw
R-LX-I

Externally threaded head screw
R-LX-E

Panhead screw
R-LX-P

Hexagonal head screw for temporary installation
R-LX-H*

*no ETA - for temporary use

Quick, efficient and secure anchoring

EasyFix
The product is fully supported by **EasyFix** design software

6 screw head variants for **easy adaptation to the piece to be fixed**

Removal and **multi-functional use**

Main thread's distinctive outline to **maximise the undercut**

Unique and **patented thread profile**

Design facilitating transfer of tightening torque to thread

Perfect tip profile **making application easy**

Double thread that ensures **optimum load capacity**

The thread of the R-LX screws bites into the concrete enabling secure transfer of high loads. This allows you to use it without constraints where you were once forced to replace a mechanical anchor with a bonded one. Special thread form and high steel grade allowed this product to top parametres also in seismic class C1 and C2 categories.

RELATED PRODUCT

Testing Gauge allows to determine whether the product R-LX is suitable for re-use.

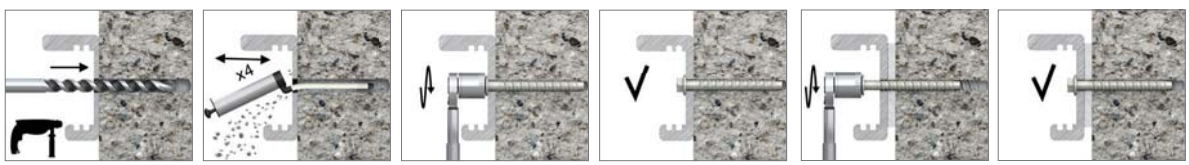
INSTALLATION GUIDE

You can adjust the screw positioning after fixing.

As confirmed by the European Technical Assessment (ETA) conforming with EAD 330022-00-0601, the screw position can be adjusted twice within a range of up to 1 cm without compromising its load capacity.

Concrete screw

R-LX



1. Drill a hole to the required diameter and depth.
2. Clean the hole of drilling dust using a brush and a blowpump.
3. Insert a screw into the hole through the fixture and use a torque wrench to tighten it to the required tightening torque.
4. If necessary ease the screw to place a washer, and then tighten it for optimum fixing effect.

R-LX Concrete Screw Anchor

Self-tapping concrete screwbolt

R-LX-HF

R-LX-CS

R-LX-I

R-LX-E
*Make to order

R-LX-P

R-LX-H
*no ETA - for temporary use

ETA-17/0783 ETA-17/0806

Product overview

Features and benefits

- Time-efficient installation through streamlined procedure - simply drill and drive
- Completely removable
- Special zinc flake corrosion-resistant coating
- Unique design with patented threadform ensures high performance for relatively small hole diameter and low torque level during installation
- Non-expansion functioning ensures low risk of damage to base material and makes R-LX ideal for installation near edges and adjacent anchors
- Performance data at two embedment depths (reduced embedment to avoid contact with reinforcement)
- Seismic category C1, C2

Applications

- Through-fixing
- Temporary anchorages
- Formwork supports
- Balustrading & handrails
- Fencing & gates
- Racking systems
- Public seating
- Scaffolding

Base materials

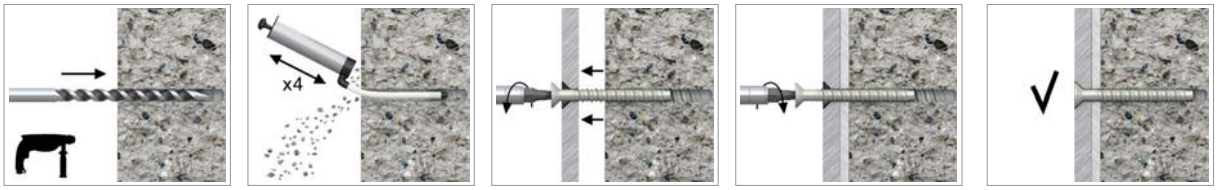
Approved for use in

- Cracked concrete C20/25-C50/60
- Non-cracked concrete C20/25-C50/60
- Hollow core slabs (only R-LX-06)
- Unreinforced concrete
- Reinforced concrete

Installation guide R-LX-HF

1. Drill the hole with rotary percussive machine. Drill to a required depth
2. Blow out dust at least 4 times with a hand pump
3. Possibility of unscrewing and re-screwing
4. Tighten to the recommended torque.
5. After installation.

Installation guide R-LX-CS



1. Drill the hole with rotary percussive machine. Drill to a required depth
2. Blow out dust at least 4 times with a hand pump
3. Possibility of unscrewing and re-screwing
4. Tighten to the recommended torque
5. After installation.

Installation guide R-LX-I

1. Drill the hole with rotary percussive machine. Drill to a required depth
2. Blow out dust at least 4 times with a hand pump
3. Possibility of unscrewing and re-screwing
4. Tighten to the recommended torque
5. After installation.

Installation guide R-LX-E

1. Drill the hole with rotary percussive machine. Drill to a required depth
2. Blow out dust at least 4 times with a hand pump
3. Possibility of unscrewing and re-screwing
4. Tighten to the recommended torque
5. After installation.

Installation guide R-LX-P

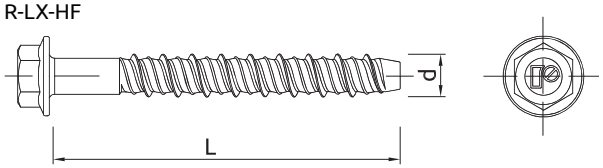
1. Drill the hole with rotary percussive machine. Drill to a required depth
2. Blow out dust at least 4 times with a hand pump
3. Tighten to the recommended torque
4. After installation.

Installation guide R-LX-H

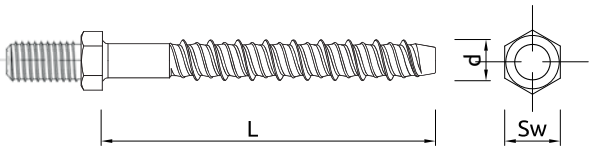
1. Drill the hole with rotary percussive machine. Drill to a required depth
2. Blow out dust at least 4 times with a hand pump
3. Possibility of unscrewing and re-screwing
4. Tighten to the recommended torque
5. After installation.

Product information

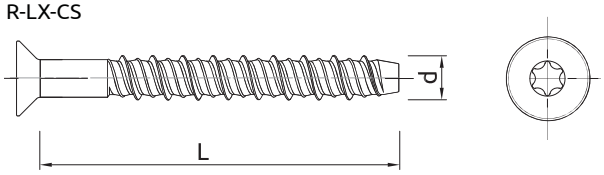
R-LX-HF



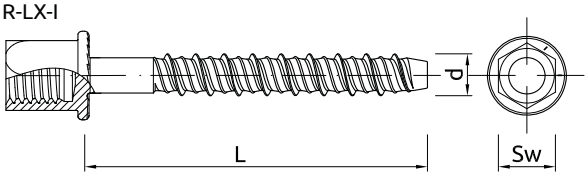
R-LX-E



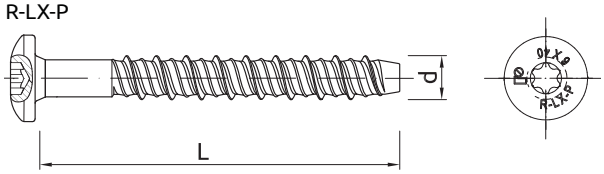
R-LX-CS



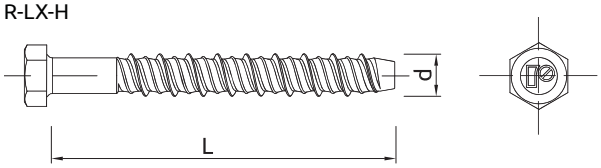
R-LX-I



R-LX-P



R-LX-H



*no ETA - for temporary use

Size	Product Code	Drill	Anchor		Fixture		
			Diameter	Length	Max. thickness		Hole diameter
			d	L	$t_{fix,r}$	$t_{fix,s}$	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
R-LX-HF Hex with Flange Concrete Screw Anchor							
Ø6,3	R-LX-05X050-HF-ZP/R-LX-05X050-HF-ZF	5.0	6.3	50	25	10	7
	R-LX-05X075-HF-ZP/R-LX-05X075-HF-ZF	5.0	6.3	75	50	35	7
Ø7,5	R-LX-06X035-HF-ZP	6.0	7.5	35			9
	R-LX-06X040-HF-ZP	6.0	7.5	40			9
	R-LX-06X050-HF-ZP/R-LX-06X050-HF-ZF	6.0	7.5	50	10	-	9
	R-LX-06X075-HF-ZP/R-LX-06X075-HF-ZF	6.0	7.5	75	35	20	9
	R-LX-06X100-HF-ZP/R-LX-06X100-HF-ZF	6.0	7.5	100	60	45	9
	R-LX-06X130-HF-ZP/R-LX-06X130-HF-ZF	6.0	7.5	130	90	75	9
	R-LX-06X150-HF-ZP/R-LX-06X150-HF-ZF	6.0	7.5	150	110	95	9
Ø10	R-LX-08X060-HF-ZP/R-LX-08X060-HF-ZF	8.0	10	60	10	-	12
	R-LX-08X075-HF-ZP/R-LX-08X075-HF-ZF	8.0	10	75	25	5	12
	R-LX-08X090-HF-ZP/R-LX-08X090-HF-ZF	8.0	10	90	40	20	12
	R-LX-08X100-HF-ZP/R-LX-08X100-HF-ZF	8.0	10	100	50	30	12
	R-LX-08X130-HF-ZP/R-LX-08X130-HF-ZF	8.0	10	130	80	60	12
	R-LX-08X150-HF-ZP/R-LX-08X150-HF-ZF	8.0	10	150	100	80	12
Ø12,5	R-LX-10X065-HF-ZP/R-LX-10X065-HF-ZF	10.0	12.5	65	10	-	14
	R-LX-10X075-HF-ZP/R-LX-10X075-HF-ZF	10.0	12.5	75	20	-	14
	R-LX-10X085-HF-ZP/R-LX-10X085-HF-ZF	10.0	12.5	85	30	-	14
	R-LX-10X100-HF-ZP/R-LX-10X100-HF-ZF	10.0	12.5	100	45	15	14
	R-LX-10X120-HF-ZP/R-LX-10X120-HF-ZF	10.0	12.5	120	65	35	14
	R-LX-10X140-HF-ZP/R-LX-10X140-HF-ZF	10.0	12.5	140	85	55	14
Ø14.9*	R-LX-12X075-HF-ZP/R-LX-12X075-HF-ZF	12.0	14.9	75	10	-	16
	R-LX-12X100-HF-ZP/R-LX-12X100-HF-ZF	12.0	14.9	100	35	-	16
	R-LX-12X130-HF-ZP/R-LX-12X130-HF-ZF	12.0	14.9	130	65	30	16
	R-LX-12X150-HF-ZP/R-LX-12X150-HF-ZF	12.0	14.9	150	85	50	16
Ø17	R-LX-14X080-HF-ZP/R-LX-14X080-HF-ZF	14.0	17	80	5	-	18
	R-LX-14X105-HF-ZP/R-LX-14X105-HF-ZF	14.0	17	105	30	-	18
	R-LX-14X115-HF-ZP/R-LX-14X115-HF-ZF	14.0	17	115	40	-	18
	R-LX-14X135-HF-ZP/R-LX-14X135-HF-ZF	14.0	17	135	60	15	18

* not included in the approval

Product information (cont.)

Size	Product Code	Drill	Anchor		Fixture		
			Diameter	Length	Max. thickness		Hole diameter
			d	L	$t_{fix,r}$	$t_{fix,s}$	d_f
			[mm]	[mm]	[mm]	[mm]	[mm]
R-LX-CS Countersunk Concrete Screw Anchor							
Ø6,3	R-LX-05X050-CS-ZP/R-LX-05X050-CS-ZF	5.0	6.3	50	-	7	7
	R-LX-05X075-CS-ZP/R-LX-05X075-CS-ZF	5.0	6.3	75	-	32	7
Ø7,5	R-LX-06X050-CS-ZP/R-LX-06X050-CS-ZF	6.0	7.5	50	7	-	9
	R-LX-06X075-CS-ZP/R-LX-06X075-CS-ZF	6.0	7.5	75	32	20	9
	R-LX-06X100-CS-ZP/R-LX-06X100-CS-ZF	6.0	7.5	100	57	45	9
	R-LX-06X130-CS-ZP/R-LX-06X130-CS-ZF	6.0	7.5	130	87	75	9
	R-LX-06X150-CS-ZP/R-LX-06X150-CS-ZF	6.0	7.5	150	107	95	9
Ø10	R-LX-08X060-CS-ZP/R-LX-08X060-CS-ZF	8.0	10	60	10	-	12
	R-LX-08X075-CS-ZP/R-LX-08X075-CS-ZF	8.0	10	75	25	5	12
	R-LX-08X090-CS-ZP/R-LX-08X090-CS-ZF	8.0	10	90	40	20	12
	R-LX-08X100-CS-ZP/R-LX-08X100-CS-ZF	8.0	10	100	50	30	12
	R-LX-08X130-CS-ZP/R-LX-08X130-CS-ZF	8.0	10	130	80	60	12
	R-LX-08X150-CS-ZP/R-LX-08X150-CS-ZF	8.0	10	150	100	80	12
Ø12,5	R-LX-10X065-CS-ZP/R-LX-10X065-CS-ZF	10.0	12.5	65	10	-	14
	R-LX-10X075-CS-ZP/R-LX-10X075-CS-ZF	10.0	12.5	75	20	-	14
	R-LX-10X085-CS-ZP/R-LX-10X085-CS-ZF	10.0	12.5	85	30	-	14
	R-LX-10X100-CS-ZP/R-LX-10X100-CS-ZF	10.0	12.5	100	45	15	14
	R-LX-10X120-CS-ZP/R-LX-10X120-CS-ZF	10.0	12.5	120	65	35	14
	R-LX-10X140-CS-ZP/R-LX-10X140-CS-ZF	10.0	12.5	140	85	55	14
	R-LX-10X160-CS-ZP/R-LX-10X160-CS-ZF	10.0	12.5	160	105	75	14
R-LX-I Internally threaded head screw							
Ø7,5	R-LX-06X035-I06-ZP	6.0	7.5	35	-	-	-
	R-LX-06X035-I08-ZP	6.0	7.5	35	-	-	-
	R-LX-06X035-I10-ZP	6.0	7.5	35	-	-	-
	R-LX-06X055-I08-ZP	6.0	7.5	55	-	-	-
	R-LX-06X055-I10-ZP	6.0	7.5	55	-	-	-
R-LX-P Panhead head screw							
Ø7,5	R-LX-06X040-P-ZP	6.0	7.5	40	1	-	9
R-LX-H Hex Concrete Screw Anchor							
Ø10	R-LX-10X060-H-ZP/R-LX-10X060-H-ZF	8.0	10.0	60	10	-	12
	R-LX-10X075-H-ZP/R-LX-10X075-H-ZF	8.0	10.0	75	25	5	12
	R-LX-10X090-H-ZP/R-LX-10X090-H-ZF	8.0	10.0	90	40	20	12
	R-LX-10X100-H-ZP/R-LX-10X100-H-ZF	8.0	10.0	100	50	30	12
	R-LX-10X130-H-ZP/R-LX-10X130-H-ZF	8.0	10.0	130	80	60	12
	R-LX-10X150-H-ZP/R-LX-10X150-H-ZF	8.0	10.0	150	100	80	12
Ø12.5	R-LX-14X065-H-ZP/R-LX-14X065-H-ZF	10.0	12.5	65	10	-	17
	R-LX-14X075-H-ZP/R-LX-14X075-H-ZF	10.0	12.5	75	20	-	17
	R-LX-14X085-H-ZP/R-LX-14X085-H-ZF	10.0	12.5	85	30	-	17
	R-LX-14X100-H-ZP/R-LX-14X100-H-ZF	10.0	12.5	100	45	15	17
	R-LX-14X120-H-ZP/R-LX-14X120-H-ZF	10.0	12.5	120	65	35	17
	R-LX-14X140-H-ZP/R-LX-14X140-H-ZF	10.0	12.5	140	85	55	17

* not included in the approval

Installation data

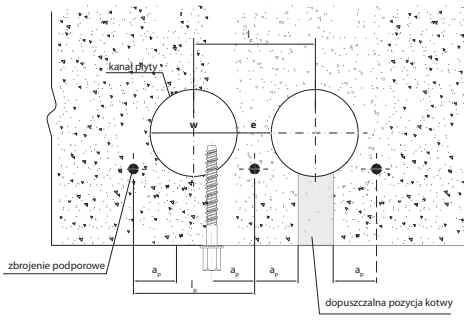
Installation data - concrete

Size			R-LX-05	R-LX-06	R-LX-08	R-LX-10	R-LX-14
Thread diameter	d	[mm]	6,3	7,5	10	12,5	17,0
Hole diameter in substrate	d_0	[mm]	5	6	8	10	14
Min. spacing	$s_{min,s}$	[mm]	40	45	50	60	100
Min. edge distance	$c_{min,s}$	[mm]	40	45	50	60	100
STANDARD EMBEDMENT DEPTH							
Min. hole depth in substrate	$h_{0,s}$	[mm]	50	65	80	95	130
Installation depth	$h_{nom,s}$	[mm]	43/40**	55	70	85	120
Min. substrate thickness	$h_{min,s}$	[mm]	100/80**	100/84**	110	130	190
REDUCED EMBEDMENT DEPTH							
Min. hole depth in substrate	$h_{0,r}$	[mm]	35**	50/45**	60	65	85
Installation depth	$h_{nom,r}$	[mm]	25**	43/39*/35**	50	55	75
Min. substrate thickness	$h_{min,r}$	[mm]	80**	100/80**			110

* for R-LX-I and R-LX-E
**for non-structural applications

Installation data - płyty kanałowe **

Size			R-LX-06
Thread diameter	d	[mm]	7,5
Hole diameter in substrate	d_0	[mm]	6
Min. spacing	$s_{min,s}$	[mm]	100
Min. edge distance	$c_{min,s}$	[mm]	100
STANDARD EMBEDMENT DEPTH			
Min. hole depth in substrate	$h_{0,s}$	[mm]	45
Installation depth	$h_{nom,s}$	[mm]	35
Core width / Web thickness	w/e	-	≤ 4,2
Core distance	lc	[mm]	≥ 100
Prestressing steel	lp	[mm]	≥ 100
Distance between anchor position and prestressing steel	ap	[mm]	≥ 50



**for non-structural applications

Mechanical properties

Size			5	6	8	10	14
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	1300	1250	1200	1050	1020
Nominal yield strength - tension	f_{yk}	[N/mm²]	1150	1100	1050	950	800
Cross sectional area - tension	A_s	[mm²]	19.6	28.3	50.3	78.5	153.9
Elastic section modulus	W_{el}	[mm³]	12.2	21.2	50.3	98.1	269.3
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	19.0	31.8	72.4	123.6	329.6
Design bending resistance	M	[Nm]	12.67	21.2	48.27	82.4	219.73

Basic performance data

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

Size		Ø5	Ø6	Ø8	Ø10	Ø14
CHARACTERISTIC LOAD						
TENSION LOAD $N_{Ru,m}$						
NON-CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	7.00	12.00	19.49	26.46	44.56
Reduced embedment depth	[kN]	-	9.14	10.91	12.78	20.04
CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	4.50	7.00	13.00	18.87	31.77
Reduced embedment depth	[kN]	-	6.52	7.50	8.00	13.00
SHEAR LOAD $N_{Ru,m}$						
NON-CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	9.14	13.75	19.49	41.20	78.50
Reduced embedment depth	[kN]	-	9.14	10.91	12.78	20.04
CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	6.52	9.80	13.89	37.73	63.54
Reduced embedment depth	[kN]	-	6.52	7.78	9.11	14.29
DESIGN LOAD						
TENSION LOAD $N_{Ru,m}$						
NON-CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	3.89	8.00	12.99	17.64	29.71
Reduced embedment depth	[kN]	-	6.09	7.27	8.52	13.36
CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	2.50	4.67	8.67	12.58	21.18
Reduced embedment depth	[kN]	-	4.34	5.00	5.33	8.67
SHEAR LOAD $N_{Ru,m}$						
NON-CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	6.09	9.16	12.99	27.47	52.33
Reduced embedment depth	[kN]	-	6.09	7.27	8.52	13.36
CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	4.34	6.53	9.26	25.15	42.36
Reduced embedment depth	[kN]	-	4.34	5.18	6.07	9.52
RECOMMENDED LOAD						
TENSION LOAD $N_{Ru,m}$						
NON-CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	2.78	5.71	9.28	12.60	21.22
Reduced embedment depth	[kN]	-	4.35	5.19	6.08	9.54
CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	1.79	3.33	6.19	8.98	15.13
Reduced embedment depth	[kN]	-	3.10	3.57	3.81	6.19
SHEAR LOAD $N_{Ru,m}$						
NON-CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	4.35	6.55	9.28	19.62	37.38
Reduced embedment depth	[kN]	-	4.35	5.19	6.08	9.54
CRACKED CONCRETE C20/25						
Standard embedment depth	[kN]	3.10	4.67	6.61	17.97	30.25
Reduced embedment depth	[kN]	-	3.10	3.70	4.34	6.80

Product Commercial Data

Size	Product Code		Anchor		Quantity [pcs]	Bar Code	
			Diameter	Length	Box		
			d	L			
			[mm]				
R-LX-HF Hex with Flange Concrete Screw Anchor						**R-LX-HF-ZP**	**R-LX-HF-ZF**
Ø6,3	R-LX-05X050-HF-ZP	R-LX-05X050-HF-ZF	6.3	50	100	5906675112947	5906675129570
	R-LX-05X075-HF-ZP	R-LX-05X075-HF-ZF	6.3	75	100	5906675112961	5906675129587
Ø7,5	R-LX-06X035-HF-ZP	-	7.5	35	100	5906675391083	-
	R-LX-06X040-HF-ZP	-	7.5	40	100	5906675391090	-
	R-LX-06X050-HF-ZP	R-LX-06X050-HF-ZF	7.5	50	100	5906675112978	5906675129594
	R-LX-06X075-HF-ZP	R-LX-06X075-HF-ZF	7.5	75	100	5906675119175	5906675129600
	R-LX-06X100-HF-ZP	R-LX-06X100-HF-ZF	7.5	100	100	5906675119182	5906675129617
	R-LX-06X130-HF-ZP	R-LX-06X130-HF-ZF	7.5	130	100	5906675119199	5906675129624
	R-LX-06X150-HF-ZP	R-LX-06X150-HF-ZF	7.5	150	100	5906675119205	5906675129631
Ø10	R-LX-08X060-HF-ZP	R-LX-08X060-HF-ZF	10	60	100	5906675119212	5906675129648
	R-LX-08X075-HF-ZP	R-LX-08X075-HF-ZF	10	75	100	5906675119236	5906675129655
	R-LX-08X090-HF-ZP	R-LX-08X090-HF-ZF	10	90	100	5906675119243	5906675129662
	R-LX-08X100-HF-ZP	R-LX-08X100-HF-ZF	10	100	100	5906675119250	5906675129679
	R-LX-08X130-HF-ZP	R-LX-08X130-HF-ZF	10	130	50	5906675119267	5906675129686
	R-LX-08X150-HF-ZP	R-LX-08X150-HF-ZF	10	150	50	5906675119274	5906675129693
Ø12,5	R-LX-10X065-HF-ZP	R-LX-10X065-HF-ZF	12.5	65	50	5906675119281	5906675129709
	R-LX-10X075-HF-ZP	R-LX-10X075-HF-ZF	12.5	75	50	5906675119304	5906675129716
	R-LX-10X085-HF-ZP	R-LX-10X085-HF-ZF	12.5	85	50	5906675119311	5906675129723
	R-LX-10X100-HF-ZP	R-LX-10X100-HF-ZF	12.5	100	50	5906675119335	5906675129730
	R-LX-10X120-HF-ZP	R-LX-10X120-HF-ZF	12.5	120	25	5906675119342	5906675129747
	R-LX-10X140-HF-ZP	R-LX-10X140-HF-ZF	12.5	140	25	5906675119410	5906675129754
Ø14	R-LX-12X075-HF-ZP*	R-LX-12X075-HF-ZF*	14.9	75	50	5906675119489	5906675129761
	R-LX-12X100-HF-ZP*	R-LX-12X100-HF-ZF*	14.9	100	50	5906675431901	5906675431932
	R-LX-12X130-HF-ZP*	R-LX-12X130-HF-ZF*	14.9	130	50	5906675431918	5906675431949
	R-LX-12X150-HF-ZP*	R-LX-12X150-HF-ZF*	14.9	150	50	5906675423746	5906675423753
Ø17	R-LX-14X080-HF-ZP	R-LX-14X080-HF-ZF	17	80	20	5906675119946	5906675129822
	R-LX-14X105-HF-ZP	R-LX-14X105-HF-ZF	17	105	20	5906675119953	5906675129839
	R-LX-14X115-HF-ZP	R-LX-14X115-HF-ZF	17	115	20	5906675119960	5906675129846
	R-LX-14X135-HF-ZP	R-LX-14X135-HF-ZF	17	135	20	5906675119977	5906675129853
R-LX-CS Countersunk Concrete Screw Anchor						**R-LX-CS-ZP**	**R-LX-CS-ZF**
Ø6,3	R-LX-05X050-CS-ZP	R-LX-05X050-CS-ZF	6.3	50	-	5906675127859	5906675130217
	R-LX-05X075-CS-ZP	R-LX-05X075-CS-ZF	6.3	75	-	5906675128054	5906675130224
Ø7,5	R-LX-06X050-CS-ZP	R-LX-06X050-CS-ZF	7.5	50	100	5906675128801	5906675130231
	R-LX-06X075-CS-ZP	R-LX-06X075-CS-ZF	7.5	75	100	5906675129280	5906675130248
	R-LX-06X100-CS-ZP	R-LX-06X100-CS-ZF	7.5	100	100	5906675129297	5906675130255
	R-LX-06X130-CS-ZP	R-LX-06X130-CS-ZF	7.5	130	100	5906675129303	5906675130262
	R-LX-06X150-CS-ZP	R-LX-06X150-CS-ZF	7.5	150	100	5906675129310	5906675130279
Ø10	R-LX-08X060-CS-ZP	R-LX-08X060-CS-ZF	10	60	100	5906675129327	5906675130385
	R-LX-08X075-CS-ZP	R-LX-08X075-CS-ZF	10	75	100	5906675129334	5906675130392
	R-LX-08X090-CS-ZP	R-LX-08X090-CS-ZF	10	90	100	5906675129341	5906675130408
	R-LX-08X100-CS-ZP	R-LX-08X100-CS-ZF	10	100	100	5906675129358	5906675130415
	R-LX-08X130-CS-ZP	R-LX-08X130-CS-ZF	10	130	50	5906675129365	5906675130422
	R-LX-08X150-CS-ZP	R-LX-08X150-CS-ZF	10	150	50	5906675129372	5906675130439
Ø12.5	R-LX-10X065-CS-ZP	R-LX-10X065-CS-ZF	12.5	65	50	5906675129389	5906675130453
	R-LX-10X075-CS-ZP	R-LX-10X075-CS-ZF	12.5	75	50	5906675129396	5906675130460
	R-LX-10X085-CS-ZP	R-LX-10X085-CS-ZF	12.5	85	50	5906675129402	5906675130477
	R-LX-10X100-CS-ZP	R-LX-10X100-CS-ZF	12.5	100	50	5906675129419	5906675130491
	R-LX-10X120-CS-ZP	R-LX-10X120-CS-ZF	12.5	120	25	5906675129426	5906675130514
	R-LX-10X140-CS-ZP	R-LX-10X140-CS-ZF	12.5	140	25	5906675129433	5906675130521
	R-LX-10X160-CS-ZP	R-LX-10X160-CS-ZF	12.5	160	20	5906675129440	5906675130538

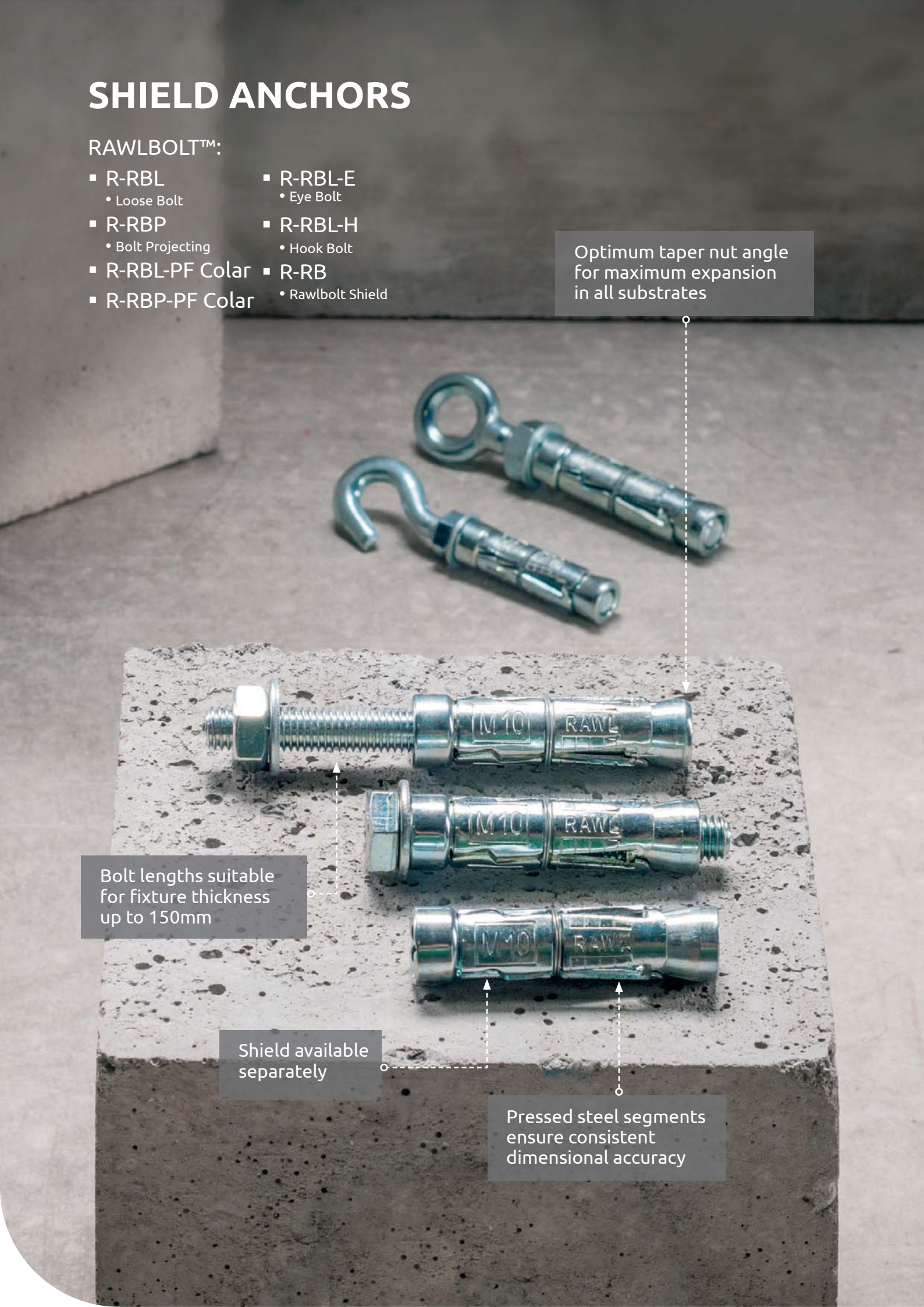
Product Commercial Data

Size	Product Code		Anchor		Quantity [pcs]	Bar Code	
			Diameter	Length	Box		
			d	L			
			[mm]				
R-LX-P Panhead head screw						**R-LX-P-ZP**	
Ø7.5	R-LX-06X040-P-ZP		7.5	40	100	5906675034546	
R-LX-I Internally threaded head screw						**R-LX-I-ZP**	
Ø6	R-LX-06X035-I06-ZP		7.5	35	100	5906675430836	
	R-LX-06X035-I08-ZP		7.5	35	100	5906675416069	
	R-LX-06X035-I10-ZP		7.5	35	100	5906675416076	
	R-LX-06X055-I08-ZP		7.5	55	100	5906675416083	
	R-LX-06X055-I10-ZP		7.5	55	100	5906675416090	
R-LX-H Hex Concrete Screw Anchor						**R-LX-H-ZP**	**R-LX-H-ZF**
Ø10	*R-LX-08X060-H-ZP	*R-LX-08X060-H-ZF	10	60	100	5906675120768	5906675129969
	*R-LX-08X075-H-ZP	*R-LX-08X075-H-ZF	10	75	100	5906675120812	5906675129976
	*R-LX-08X090-H-ZP	*R-LX-08X090-H-ZF	10	90	100	5906675120843	5906675129983
	*R-LX-08X100-H-ZP	*R-LX-08X100-H-ZF	10	100	100	5906675121055	5906675129990
	*R-LX-08X130-H-ZP	*R-LX-08X130-H-ZF	10	130	50	5906675121185	5906675130002
	*R-LX-08X150-H-ZP	*R-LX-08X150-H-ZF	10	150	50	5906675121192	5906675130019
Ø12,5	*R-LX-10X065-H-ZP	*R-LX-10X065-H-ZF	12,5	65	50	5906675121208	5906675130026
	*R-LX-10X075-H-ZP	*R-LX-10X075-H-ZF	12,5	75	50	5906675121482	5906675130033
	*R-LX-10X085-H-ZP	*R-LX-10X085-H-ZF	12,5	85	50	5906675122076	5906675130040
	*R-LX-10X100-H-ZP	*R-LX-10X100-H-ZF	12,5	100	50	5906675122557'	5906675130057
	*R-LX-10X120-H-ZP	*R-LX-10X120-H-ZF	12,5	120	25	5906675123141	5906675130064
	*R-LX-10X140-H-ZP	*R-LX-10X140-H-ZF	12,5	140	25	5906675123615	5906675130071
Ø17	*R-LX-14X105-H-ZP	*R-LX-14X105-H-ZF	17,0	105	20	5906675127521	5906675130156
	*R-LX-14X135-H-ZP	*R-LX-14X135-H-ZF	17,0	135	20	5906675127545	5906675130170

SHIELD ANCHORS

RAWLBOLT™:

- R-RBL
  - Loose Bolt
- R-RBP
  - Bolt Projecting
- R-RBL-PF Colar
- R-RBP-PF Colar
- R-RBL-E
  - Eye Bolt
- R-RBL-H
  - Hook Bolt
- R-RB
  - Rawlbolt Shield



R-RBL, R-RBP Rawlbolt for use in cracked and non-cracked concrete

World's most popular all-purpose expanding shield anchor

R-RBL

R-RBP

Approvals and Reports

- ETA-11/0479

Versions

- R-RBL - Loose Bolt
- R-RBP - Bolt Projecting

Installation movie

Product overview

Features and benefits

- RAWLBOLT® - first ever mechanical anchor in the world, forerunner of all of the later mechanical anchors
- For use in cracked and non-cracked concrete (ETA option 1), hollow-core slabs, flooring blocks and ceramics
- Product recommended for applications requiring fire resistance up to 120 min
- Three-piece expanding sleeve provides maximum expansion to ensure optimum loads and safety are achieved in various substrates
- Wide range of diameters (M6 to M24)

Applications

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

Base materials

Approved for use in:

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

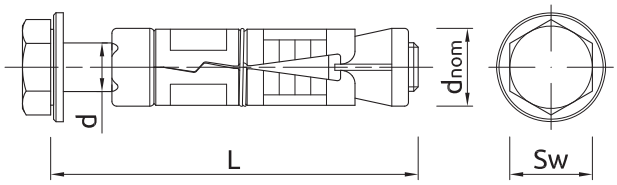
Installation guide

Installation guide (cont.)

1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Remove pre-assembled bolt and washer. Insert shield into hole and tap home with hammer until flush with surface
4. Insert bolt with washer through fixture into the shield
5. Tighten to the recommended torque

Product information

R-RBL

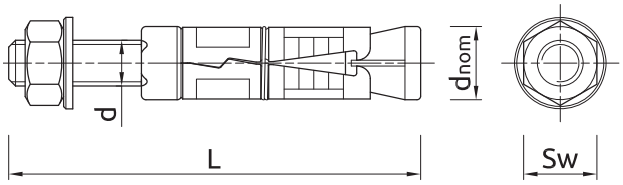


Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Bolt length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-RBL-M06/10W	6	12	55	10	6.5
	R-RBL-M06/25W	6	12	70	25	6.5
	R-RBL-M06/40W	6	12	85	40	6.5
M8	R-RBL-M08/10W	8	14	65	10	9
	R-RBL-M08/25W	8	14	80	25	9
	R-RBL-M08/40W	8	14	95	40	9
M10	R-RBL-M10/10W	10	16	75	10	11
	R-RBL-M10/25W	10	16	90	25	11
	R-RBL-M10/50W	10	16	115	50	11
	R-RBL-M10/75W	10	16	140	75	11
M12	R-RBL-M12/10W	12	20	90	10	13
	R-RBL-M12/25W	12	20	105	25	13
	R-RBL-M12/40W	12	20	120	40	13
	R-RBL-M12/60W	12	20	140	60	13
M16	R-RBL-M16/15W	16	25	135	15	17
	R-RBL-M16/30W	16	25	150	30	17
	R-RBL-M16/60W	16	25	180	60	17
M20	R-RBL-M20/60W	20	32	195	60	22
	R-RBL-M20/100W	20	32	235	110	22
M24*	R-RBL-M24/100W	24	38	255	100	26
	R-RBL-M24/150W	24	38	300	150	26

*M24 not included in the approval

Product information (cont.)

R-RBP

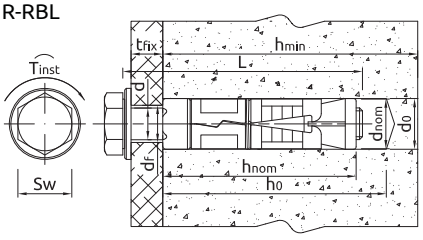


Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-RBP-M06/10W	6	12	65	10	6.5
	R-RBP-M06/25W	6	12	80	25	6.5
	R-RBP-M06/60W	6	12	115	60	6.5
M8	R-RBP-M08/10W	8	14	75	10	9
	R-RBP-M08/25W	8	14	90	25	9
	R-RBP-M08/60W	8	14	125	60	9
M10	R-RBP-M10/15W	10	16	90	15	11
	R-RBP-M10/30W	10	16	105	30	11
	R-RBP-M10/60W	10	16	135	60	11
M12	R-RBP-M12/15W	12	20	110	15	13
	R-RBP-M12/30W	12	20	125	30	13
	R-RBP-M12/75W	12	20	170	75	13
M16	R-RBP-M16/15W	16	25	150	15	17
	R-RBP-M16/35W	16	25	170	35	17
	R-RBP-M16/75W	16	25	210	75	17
M20	R-RBP-M20/15W	20	32	170	15	22
	R-RBP-M20/30W	20	32	185	30	22
	R-RBP-M20/100W	20	32	255	100	22
M24*	R-RBP-M24/75W	24	38	255	75	26
	R-RBP-M24/150W	24	38	300	150	26

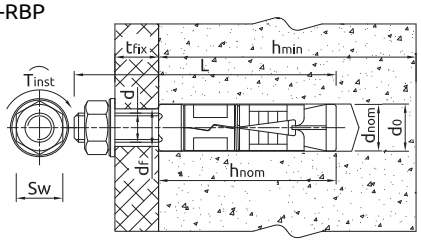
*M24 not included in the approval

Installation data

R-RBL



R-RBP



Size			M6	M8	M10	M12	M16	M20	M24
Thread diameter	d	[mm]	6	8	10	12	16	20	24
Hole diameter in substrate	d_0	[mm]	12	14	16	20	25	32	38
Installation torque	T_{inst}	[Nm]	6.5	15	27	50	120	230	400
Min. hole depth in substrate	h_0	[mm]	50	55	65	85	125	140	160
Installation depth	h_{nom}	[mm]	45	50	60	80	120	135	155
Min. substrate thickness	h_{min}	[mm]	100				142.5	172.5	240
Min. spacing	s_{min}	[mm]	35	40	50	60	95	115	210
Min. edge distance	c_{min}	[mm]	53	60	75	90	143	173	188

Mechanical properties

Size			M6	M8	M10	M12	M16	M20	M24
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	500	500	500	500	500	500	500
Nominal yield strength - tension	f_{yk}	[N/mm²]	400	400	400	400	400	400	400
Cross sectional area - tension	A_s	[mm²]	20.1	36.6	58.0	84.3	157.0	245.0	353.0
Elastic section modulus	W_{el}	[mm³]	21.21	50.27	98.17	169.65	402.12	785.4	1357.17
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12.72	30.16	58.9	101.79	241.27	471.24	814.3
Design bending resistance	M	[Nm]	10.18	24.13	47.12	81.43	193.02	376.99	651.44

Basic performance data

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

Size		M6	M8	M10	M12	M16	M20	M24
Embedment depth h_{ef}	[mm]	35	40	50	60	95	115	125
CHARACTERISTIC LOAD								
TENSION LOAD N_{Rk}								
NON-CRACKED CONCRETE	[kN]	6.00	7.50	12.00	16.00	40.00	50.00	70.00
CRACKED CONCRETE	[kN]	4.00	5.00	6.00	12.00	16.00	30.00	-
SHEAR LOAD V_{Rk}								
NON-CRACKED CONCRETE	[kN]	5.03	9.15	14.50	21.08	39.25	61.25	88.3
CRACKED CONCRETE	[kN]	5.03	9.11	12.73	21.08	39.25	61.25	-
DESIGN LOAD								
TENSION LOAD N_{Rd}								
NON-CRACKED CONCRETE	[kN]	3.33	4.17	6.67	8.89	22.22	27.78	38.90
CRACKED CONCRETE	[kN]	2.22	2.78	3.33	6.67	8.89	16.67	-
SHEAR LOAD V_{Rd}								
NON-CRACKED CONCRETE	[kN]	4.02	7.32	11.60	16.86	31.40	49.00	70.60
CRACKED CONCRETE	[kN]	4.02	7.32	10.61	16.86	31.40	49.00	-
RECOMMENDED LOAD								
TENSION LOAD N_{rec}								
NON-CRACKED CONCRETE	[kN]	2.38	2.98	4.76	6.35	15.87	19.84	27.80
CRACKED CONCRETE	[kN]	1.59	1.99	2.38	4.76	6.35	11.91	-
SHEAR LOAD V_{rec}								
NON-CRACKED CONCRETE	[kN]	2.87	5.23	8.29	12.05	22.43	35.00	50.40
CRACKED CONCRETE	[kN]	2.87	5.23	7.58	12.05	22.43	35.00	-

Product commercial data

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
Rawlbolt R-RBL Loose Bolt										
M6	R-RBL-M06/10W	6	55	50	400	16000	1.56	12.4	527.6	5906675283210
	R-RBL-M06/25W	6	70	50	50	16000	1.65	13.2	556.4	5906675283234
	R-RBL-M06/40W	6	85	50	50	8000	1.81	1.81	319.6	5906675283258
M8	R-RBL-M08/10W	8	65	50	50	16000	2.7	21.6	895.6	5906675283272
	R-RBL-M08/25W	8	80	50	50	8000	3.0	3.0	502.0	5906675283296
	R-RBL-M08/40W	8	95	50	50	8000	3.2	3.2	541.2	5906675283319

Product commercial data (cont.)

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M10	R-RBL-M10/10W	10	75	50	50	8000	4.6	4.6	765.2	5906675283333
	R-RBL-M10/25W	10	90	50	50	8000	5.0	5.0	832.4	5906675283357
	R-RBL-M10/50W	10	115	50	50	6000	5.6	5.6	705.6	5906675283371
	R-RBL-M10/75W	10	140	50	50	8000	6.4	6.4	1054.0	5906675283395
M12	R-RBL-M12/10W	12	90	25	25	4000	4.2	4.2	700.4	5906675283401
	R-RBL-M12/25W	12	105	25	25	4000	4.5	4.5	749.6	5906675283418
	R-RBL-M12/40W	12	120	25	25	3000	4.9	4.9	614.7	5906675283425
	R-RBL-M12/60W	12	140	25	25	4000	5.2	5.2	862.0	5906675283432
M16	R-RBL-M16/15W	16	135	10	10	1600	4.2	4.2	693.5	5906675283449
	R-RBL-M16/30W	16	150	10	10	1600	4.4	4.4	734.3	5906675283456
	R-RBL-M16/60W	16	180	10	10	1200	4.8	4.8	608.3	5906675283463
M20	R-RBL-M20/60W	20	195	10	10	1200	9.0	9.0	1113.5	5906675283487
	R-RBL-M20/100W	20	235	10	10	1200	9.8	9.8	1207.8	5906675283470
M24*	R-RBL-M24/100W	24	255	5	5	400	7.4	7.4	622.2	5906675283494
	R-RBL-M24/150W	24	300	2	10	400	16.3	16.3	681.5	5906675283500
Rawlbolt R-RBP Bolt Projecting										
M6	R-RBP-M06/10W	6	65	50	400	16000	1.59	12.7	538.8	5906675283593
	R-RBP-M06/25W	6	80	50	400	16000	1.73	13.8	582.0	5906675283616
	R-RBP-M06/60W	6	115	50	50	8000	2.0	2.0	354.0	5906675283630
M8	R-RBP-M08/10W	8	75	50	400	16000	2.9	22.9	946.8	5906675283654
	R-RBP-M08/25W	8	90	50	50	8000	3.1	3.1	528.4	5906675283678
	R-RBP-M08/60W	8	125	50	50	8000	3.7	3.7	614.8	5906675283692
M10	R-RBP-M10/15W	10	90	50	50	8000	5.0	5.0	825.2	5906675283715
	R-RBP-M10/30W	10	105	50	50	6000	5.3	5.3	666.0	5906675283739
	R-RBP-M10/60W	10	135	50	50	8000	6.1	6.1	998.0	5906675283753
M12	R-RBP-M12/15W	12	110	25	25	4000	4.6	4.6	767.2	5906675283760
	R-RBP-M12/30W	12	125	25	25	4000	4.9	4.9	818.4	5906675283777
	R-RBP-M12/75W	12	170	25	25	3000	5.8	5.8	721.8	5906675283784
M16	R-RBP-M16/15W	16	150	10	10	1600	4.4	4.4	733.5	5906675283791
	R-RBP-M16/35W	16	170	10	10	1600	4.7	4.7	773.5	5906675283807
	R-RBP-M16/75W	16	210	10	10	1200	5.3	5.3	662.9	5906675283814
M20	R-RBP-M20/15W	20	170	10	10	1200	8.0	8.0	985.1	5906675283821
	R-RBP-M20/30W	20	185	10	10	1200	8.3	8.3	1030.4	5906675283838
	R-RBP-M20/100W	20	255	10	10	1200	9.9	9.9	1219.2	5906675284781
M24*	R-RBP-M24/75W	24	255	5	5	600	7.1	7.1	887.2	5906675283852
	R-RBP-M24/150W	24	300	2	2	400	3.2	3.2	672.0	5906675283845

*M24 not included in the approval

R-RBL, R-RBP Rawlbolt for use in hollow core slab and ceramic substrates

World's most popular all-purpose expanding shield anchor for use in hollow core slab and ceramic substrates

R-RBL - Loose Bolt

R-RBP - Bolt Projecting

Approvals and Reports

- AT-15-7280/2014

Versions

- R-RBL - Loose Bolt
- R-RBP - Bolt Projecting

Installation movie

Product overview

Features and benefits

- RAWLBOLT® - first ever mechanical anchor in the world, forerunner of all of the later mechanical anchors
- For use in cracked and non-cracked concrete (ETA option 1), hollow-core slabs, flooring blocks and ceramics
- Three-piece expanding sleeve provides maximum expansion to ensure optimum loads and safety are achieved in various substrates
- Wide range of diameters (M6 to M24)

Applications

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

Base materials

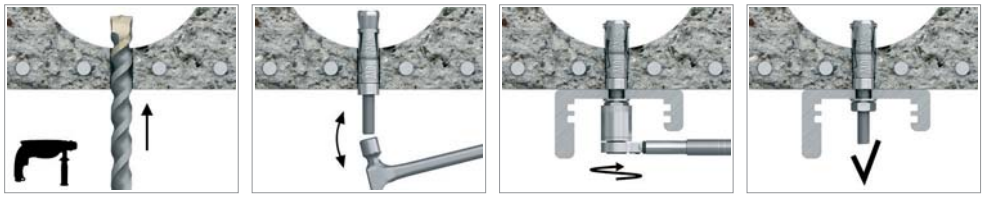
Approved for use in:

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

Installation guide

R-RBL

R-RBP

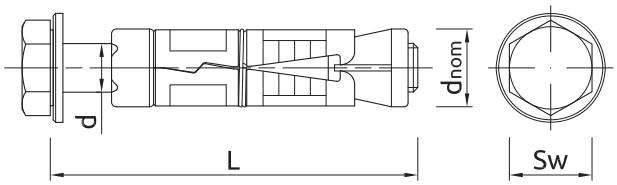


Installation guide (cont.)

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 blow pump and brush or equivalent method)
3. Remove pre-assembled bolt and washer. Insert shield into hole and tap home with hammer until flush with surface
4. Insert bolt with washer through fixture into the shield
5. Tighten to the recommended torque

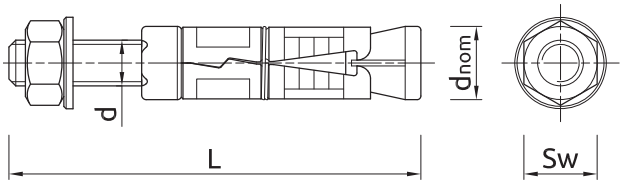
Product information

R-RBL



Size	Product Code	Anchor			Fixture	
		Diameter	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-RBL-M06/10W	6	12	55	10	6.5
	R-RBL-M06/25W	6	12	70	25	6.5
	R-RBL-M06/40W	6	12	85	40	6.5
M8	R-RBL-M08/10W	8	14	65	10	9
	R-RBL-M08/25W	8	14	80	25	9
	R-RBL-M08/40W	8	14	95	40	9
M10	R-RBL-M10/10W	10	16	75	10	11
	R-RBL-M10/25W	10	16	90	25	11
	R-RBL-M10/50W	10	16	115	50	11
	R-RBL-M10/75W	10	16	140	75	11
M12	R-RBL-M12/10W	12	20	90	10	13
	R-RBL-M12/25W	12	20	105	25	13
	R-RBL-M12/40W	12	20	120	40	13
	R-RBL-M12/60W	12	20	140	60	13
M16	R-RBL-M16/15W	16	25	135	15	17
	R-RBL-M16/30W	16	25	150	30	17
	R-RBL-M16/60W	16	25	180	60	17
M20	R-RBL-M20/60W	20	32	195	60	22
	R-RBL-M20/100W	20	32	235	110	22

R-RBP



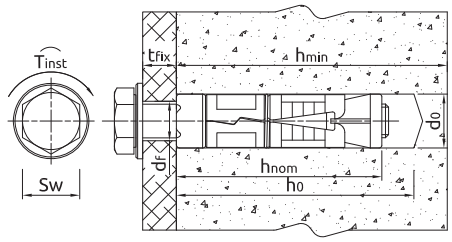
Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-RBP-M06/10W	6	12	65	10	6.5
	R-RBP-M06/25W	6	12	80	25	6.5
	R-RBP-M06/60W	6	12	115	60	6.5
M8	R-RBP-M08/10W	8	14	75	10	9
	R-RBP-M08/25W	8	14	90	25	9
	R-RBP-M08/60W	8	14	125	60	9
M10	R-RBP-M10/15W	10	16	90	15	11
	R-RBP-M10/30W	10	16	105	30	11
	R-RBP-M10/60W	10	16	135	60	11

Product information (cont.)

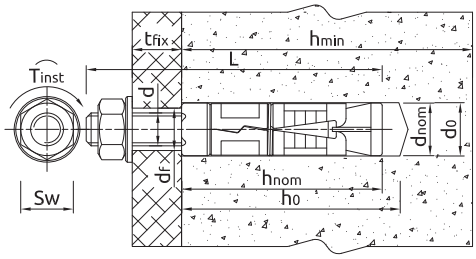
Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M12	R-RBP-M12/15W	12	20	110	15	13
	R-RBP-M12/30W	12	20	125	30	13
	R-RBP-M12/75W	12	20	170	75	13
M16	R-RBP-M16/15W	16	25	150	15	17
	R-RBP-M16/35W	16	25	170	35	17
	R-RBP-M16/75W	16	25	210	75	17
M20	R-RBP-M20/15W	20	32	170	15	22
	R-RBP-M20/30W	20	32	185	30	22
	R-RBP-M20/100W	20	32	255	100	22

Installation data

R-RBL

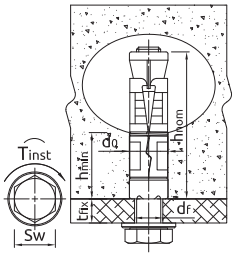


R-RBP

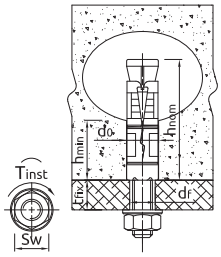


Installation in ceramic substrates

R-RBL



R-RBP



Installation in hollow core slab

Size			M6	M8	M10	M12	M16	M20
Thread diameter	d	[mm]	6	8	10	12	16	20
Hole diameter in substrate	d_0	[mm]	12	14	16	20	25	32
Wrench size	Sw	[mm]	10	13	17	19	24	30
SOLID AND HOLLOW SUBSTRATES*								
Installation torque	T_{inst}	[Nm]	3	6.5	12	20	30	50
Min. hole depth in substrate	h_0	[mm]	50	55	65	85	125	140
Installation depth	h_{nom}	[mm]	45	50	60	80	120	135
Min. substrate thickness	h_{min}	[mm]	100	100	100	100	142	172
HOLLOW CORE SLABS								
Installation torque	T_{inst}	[Nm]	6.5	15	27	50	120	230
Min. hole depth in substrate	h_0	[mm]	-	-	-	-	-	-
Installation depth	h_{nom}	[mm]	45	50	60	80	120	135
Min. substrate thickness	h_{min}	[mm]	23	23	35	40	50	50

*hollow substrates
** rest of substrates

Mechanical properties

Size			M6	M8	M10	M12	M16	M20
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	500	500	500	500	500	500
Nominal yield strength - tension	f_{yk}	[N/mm²]	400	400	400	400	400	400
Cross sectional area - tension	A_s	[mm²]	20.1	36.6	58.0	84.3	157.0	245.0
Elastic section modulus	W_{el}	[mm³]	21.21	50.27	98.17	169.65	402.12	785.4
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12.72	30.16	58.9	101.79	241.27	471.24
Design bending resistance	M	[Nm]	10.18	24.13	47.12	81.43	193.02	376.99

Basic performance data

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

Size			M6	M8	M10	M12	M16	M20
CHARACTERISTIC LOAD								
TENSION AND SHEAR LOAD $FR_{u,m}$								
Hollow core slab min. C20/25								
Wall thickness	Material class							
23	C30/37	[kN]	4.36	5.44				
	C35/45	[kN]	4.82	6.02				
	C45/55	[kN]	5.35	6.67				
	C50/60	[kN]	5.81	7.25				
35	C30/37	[kN]	6.61	11.42	16.07			
	C35/45	[kN]	7.31	12.64	17.78			
	C45/55	[kN]	8.11	14.01	19.71			
	C50/60	[kN]	8.81	15.23	21.42			
40	C30/37	[kN]	7.30	16.94	19.19	25.46		
	C35/45	[kN]	8.08	18.75	21.23	28.18		--
	C45/55	[kN]	8.95	20.78	23.53	31.23		
	C50/60	[kN]	9.73	22.59	25.58	33.95		
50	C20/25	[kN]	8.45	8.93	8.93	8.93	8.93	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]	5.98	5.99	5.99	5.99		
Solid clay brick class 20		[kN]	6.25	6.37	6.37	6.37		
Silicate hollow block class 15		[kN]	1.90					
DESIGN LOAD								
TENSION AND SHEAR LOAD $FR_{u,m}$								
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]	2.12	2.65				
	C50/60	[kN]	2.31	2.88				
35	C30/37	[kN]	2.62	4.53	6.38			
	C35/45	[kN]	2.90	5.02	7.06			
	C45/55	[kN]	3.22	5.56	7.82			
	C50/60	[kN]	3.50	6.04	8.50			
40	C30/37	[kN]	2.90	6.72	7.62	10.10		
	C35/45	[kN]	3.21	7.44	8.42	11.18		
	C45/55	[kN]	3.55	8.25	9.34	12.39		
	C50/60	[kN]	3.86	8.96	10.15	13.47		
50	C20/25	[kN]	3.35	3.54	3.54	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]	1.95	1.96	1.96	1.96		
Solid clay brick class 20		[kN]	2.16	2.20	2.20	2.20		
Silicate hollow block class 15		[kN]	0.75					

Basic performance data (cont.)

Size			M6	M8	M10	M12	M16	M20
RECOMMENDED LOAD								
TENSION AND SHEAR LOAD $FR_{u,m}$								
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]	1.52	1.89				
	C50/60	[kN]	1.65	2.05				
35	C30/37	[kN]	1.87	3.24	4.55			
	C35/45	[kN]	2.07	3.58	5.04			
	C45/55	[kN]	2.30	3.97	5.59			
	C50/60	[kN]	2.50	4.32	6.07			
40	C30/37	[kN]	2.07	4.80	5.44	7.22		
	C35/45	[kN]	2.29	5.31	6.02	7.99		
	C45/55	[kN]	2.54	5.89	6.67	8.85		
	C50/60	[kN]	2.76	6.40	7.25	9.62		
50	C20/25	[kN]	2.40	2.53	2.53	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]	1.40	1.40	1.40	1.40		
Solid clay brick class 20		[kN]	1.54	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 Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
Rawlbolt R-RBL Loose Bolt										
M6	R-RBL-M06/10W	6	55	50	400	16000	1.56	12.4	527.6	5906675283210
	R-RBL-M06/25W	6	70	50	50	16000	1.65	13.2	556.4	5906675283234
	R-RBL-M06/40W	6	85	50	50	8000	1.81	1.81	319.6	5906675283258
M8	R-RBL-M08/10W	8	65	50	50	16000	2.7	21.6	895.6	5906675283272
	R-RBL-M08/25W	8	80	50	50	8000	3.0	3.0	502.0	5906675283296
	R-RBL-M08/40W	8	95	50	50	8000	3.2	3.2	541.2	5906675283319
M10	R-RBL-M10/10W	10	75	50	50	8000	4.6	4.6	765.2	5906675283333
	R-RBL-M10/25W	10	90	50	50	8000	5.0	5.0	832.4	5906675283357
	R-RBL-M10/50W	10	115	50	50	6000	5.6	5.6	705.6	5906675283371
	R-RBL-M10/75W	10	140	50	50	8000	6.4	6.4	1054.0	5906675283395
M12	R-RBL-M12/10W	12	90	25	25	4000	4.2	4.2	700.4	5906675283401
	R-RBL-M12/25W	12	105	25	25	4000	4.5	4.5	749.6	5906675283418
	R-RBL-M12/40W	12	120	25	25	3000	4.9	4.9	614.7	5906675283425
	R-RBL-M12/60W	12	140	25	25	4000	5.2	5.2	862.0	5906675283432
M16	R-RBL-M16/15W	16	135	10	10	1600	4.2	4.2	693.5	5906675283449
	R-RBL-M16/30W	16	150	10	10	1600	4.4	4.4	734.3	5906675283456
	R-RBL-M16/60W	16	180	10	10	1200	4.8	4.8	608.3	5906675283463
M20	R-RBL-M20/60W	20	195	10	10	1200	9.0	9.0	1113.5	5906675283487
	R-RBL-M20/100W	20	235	10	10	1200	9.8	9.8	1207.8	5906675283470

Product commercial data (cont.)

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
Rawlbolt R-RBP Bolt Projecting										
M6	R-RBP-M06/10W	6	65	50	400	16000	1.59	12.7	538.8	5906675283593
	R-RBP-M06/25W	6	80	50	400	16000	1.73	13.8	582.0	5906675283616
	R-RBP-M06/60W	6	115	50	50	8000	2.0	2.0	354.0	5906675283630
M8	R-RBP-M08/10W	8	75	50	400	16000	2.9	22.9	946.8	5906675283654
	R-RBP-M08/25W	8	90	50	50	8000	3.1	3.1	528.4	5906675283678
	R-RBP-M08/60W	8	125	50	50	8000	3.7	3.7	614.8	5906675283692
M10	R-RBP-M10/15W	10	90	50	50	8000	5.0	5.0	825.2	5906675283715
	R-RBP-M10/30W	10	105	50	50	6000	5.3	5.3	666.0	5906675283739
	R-RBP-M10/60W	10	135	50	50	8000	6.1	6.1	998.0	5906675283753
M12	R-RBP-M12/15W	12	110	25	25	4000	4.6	4.6	767.2	5906675283760
	R-RBP-M12/30W	12	125	25	25	4000	4.9	4.9	818.4	5906675283777
	R-RBP-M12/75W	12	170	25	25	3000	5.8	5.8	721.8	5906675283784
M16	R-RBP-M16/15W	16	150	10	10	1600	4.4	4.4	733.5	5906675283791
	R-RBP-M16/35W	16	170	10	10	1600	4.7	4.7	773.5	5906675283807
	R-RBP-M16/75W	16	210	10	10	1200	5.3	5.3	662.9	5906675283814
M20	R-RBP-M20/15W	20	170	10	10	1200	8.0	8.0	985.1	5906675283821
	R-RBP-M20/30W	20	185	10	10	1200	8.3	8.3	1030.4	5906675283838
	R-RBP-M20/100W	20	255	10	10	1200	9.9	9.9	1219.2	5906675284781

R-RBL-PF, R-RBP-PF RAWLBOLT Plastic Ferrule

World's most popular all-purpose expanding shield anchor

R-RBL-PF

R-RBP-PF

Approvals and Reports

- AT-15-7280/2014

Product overview

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-piece expanding sleeve provides maximum expansion to ensure optimum loads and safety are achieved in various substrates

Applications

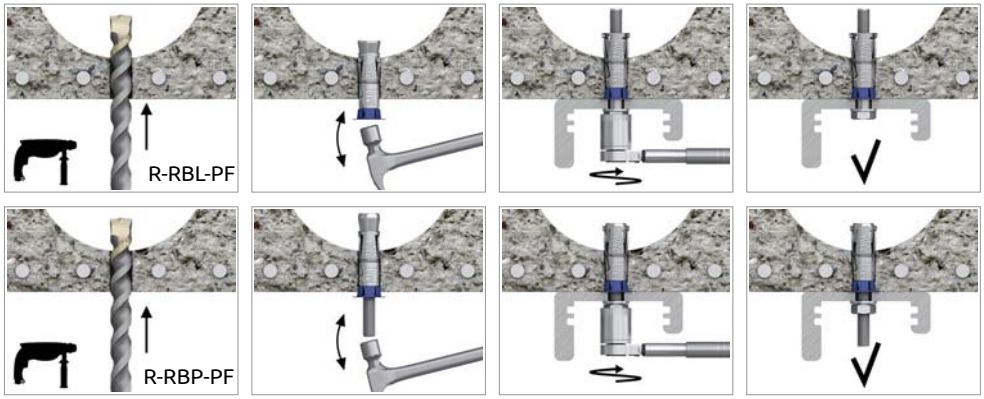
- Roller shutter doors
- Fire doors
- Steelwork
- Security grills
- Heavy machinery
- Installation of metal and plastic pipes in all pipework installations

Base materials

Approved for use in:

- 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

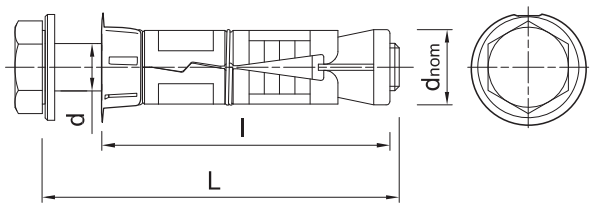
Installation guide



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 blow pump and brush or equivalent method)
3. Remove pre-assembled bolt and washer. Insert shield into hole and tap home with hammer until flush with surface
4. Insert bolt with washer through fixture into the shield
5. Tighten to the recommended torque

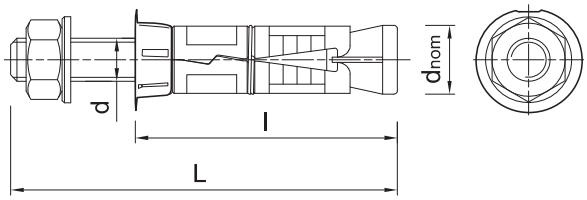
Product information

R-RBL-PF



Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Bolt length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-RBL-PF-M06/10W	6	12	55	10	6.5
	R-RBL-PF-M06/25W	6	12	70	25	6.5
	R-RBL-PF-M06/40W	6	12	85	40	6.5
M8	R-RBL-PF-M08/10W	8	14	65	10	9
	R-RBL-PF-M08/25W	8	14	80	25	9
	R-RBL-PF-M08/40W	8	14	95	40	9
M10	R-RBL-PF-M10/10W	10	16	75	10	11
	R-RBL-PF-M10/25W	10	16	90	25	11
	R-RBL-PF-M10/50W	10	16	115	50	11
	R-RBL-PF-M10/75W	10	16	140	75	11
M12	R-RBL-PF-M12/10W	12	20	90	10	13
	R-RBL-PF-M12/25W	12	20	105	25	13
	R-RBL-PF-M12/40W	12	20	120	40	13
	R-RBL-PF-M12/60W	12	20	140	60	13
M16	R-RBL-PF-M16/15W	16	25	135	15	17
	R-RBL-PF-M16/30W	16	25	150	30	17
	R-RBL-PF-M16/60W	16	25	180	60	17

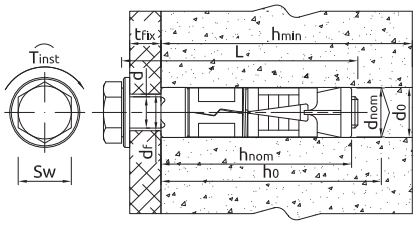
R-RBP-PF



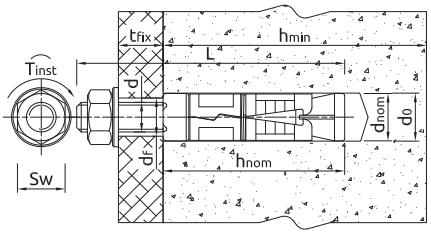
Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Bolt length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-RBP-PF-M06/10W	6	12	65	10	6.5
	R-RBP-PF-M06/25W	6	12	80	25	6.5
	R-RBP-PF-M06/60W	6	12	115	60	6.5
M8	R-RBP-PF-M08/10W	8	14	75	10	9
	R-RBP-PF-M08/25W	8	14	90	25	9
	R-RBP-PF-M08/60W	8	14	125	60	9
M10	R-RBP-PF-M10/15W	10	16	90	15	11
	R-RBP-PF-M10/30W	10	16	105	30	11
	R-RBP-PF-M10/60W	10	16	135	60	11
M12	R-RBP-PF-M12/15W	12	20	110	15	13
	R-RBP-PF-M12/30W	12	20	125	30	13
	R-RBP-PF-M12/75W	12	20	170	75	13
M16	R-RBP-PF-M16/15W	16	25	150	15	17
	R-RBP-PF-M16/35W	16	25	170	35	17
	R-RBP-PF-M16/75W	16	25	210	75	17

Installation data

R-RBL-PF

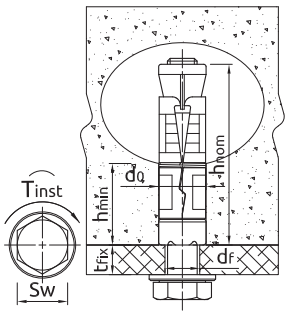


R-RBP-PF

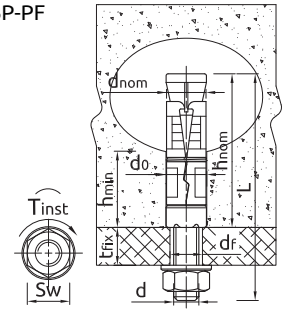


Installation in ceramic substrates

R-RBL-PF



R-RBP-PF



Installation in hollow core slab

Size			M6	M8	M10	M12	M16	M20
Thread diameter	d	[mm]	6	8	10	12	16	20
Hole diameter in substrate	d_0	[mm]	12	14	16	20	25	32
Wrench size	Sw	[mm]	10	13	17	19	24	30
SOLID AND HOLLOW SUBSTRATES*								
Installation torque	T_{inst}	[Nm]	3	6.5	12	20	30	50
Min. hole depth in substrate	h_0	[mm]	50	55	65	85	125	140
Installation depth	h_{nom}	[mm]	45	50	60	80	120	135
Min. substrate thickness	h_{min}	[mm]	100	100	100	100	142	172
HOLLOW CORE SLABS								
Installation torque	T_{inst}	[Nm]	6.5	15	27	50	120	230
Min. hole depth in substrate	h_0	[mm]	-	-	-	-	-	-
Installation depth	h_{nom}	[mm]	45	50	60	80	120	135
Min. substrate thickness	h_{min}	[mm]	23	23	35	40	50	50

*hollow substrates
** rest of substrates

Mechanical properties

Size			M6	M8	M10	M12	M16
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	500	500	500	500	500
Nominal yield strength - tension	f_{yk}	[N/mm²]	400	400	400	400	400
Cross sectional area - tension	A_s	[mm²]	20.1	36.6	58.0	84.3	157.0
Elastic section modulus	W_{el}	[mm³]	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	M20
CHARACTERISTIC LOAD								
TENSION AND SHEAR LOAD $FR_{u,m}$								
Hollow core slab min. C20/25								
Wall thickness	Material class							
23	C30/37	[kN]	4.36	5.44				
	C35/45	[kN]	4.82	6.02				
	C45/55	[kN]	5.35	6.67				
	C50/60	[kN]	5.81	7.25				
35	C30/37	[kN]	6.61	11.42	16.07			
	C35/45	[kN]	7.31	12.64	17.78			
	C45/55	[kN]	8.11	14.01	19.71			
	C50/60	[kN]	8.81	15.23	21.42			
40	C30/37	[kN]	7.30	16.94	19.19	25.46		
	C35/45	[kN]	8.08	18.75	21.23	28.18		--
	C45/55	[kN]	8.95	20.78	23.53	31.23		
	C50/60	[kN]	9.73	22.59	25.58	33.95		
50	C20/25	[kN]	8.45	8.93	8.93	8.93	8.93	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]	5.98	5.99	5.99	5.99		
Solid clay brick class 20		[kN]	6.25	6.37	6.37	6.37		
Silicate hollow block class 15		[kN]	1.90					
DESIGN LOAD								
TENSION AND SHEAR LOAD $FR_{u,m}$								
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]	2.12	2.65				
	C50/60	[kN]	2.31	2.88				
35	C30/37	[kN]	2.62	4.53	6.38			
	C35/45	[kN]	2.90	5.02	7.06			
	C45/55	[kN]	3.22	5.56	7.82			
	C50/60	[kN]	3.50	6.04	8.50			
40	C30/37	[kN]	2.90	6.72	7.62	10.10		
	C35/45	[kN]	3.21	7.44	8.42	11.18		
	C45/55	[kN]	3.55	8.25	9.34	12.39		
	C50/60	[kN]	3.86	8.96	10.15	13.47		
50	C20/25	[kN]	13.47	3.54	3.54	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]	1.95	1.96	1.96	1.96		
Solid clay brick class 20		[kN]	2.16	2.20	2.20	2.20		
Silicate hollow block class 15		[kN]	0.75					

Basic performance data (cont.)

Size			M6	M8	M10	M12	M16	M20
RECOMMENDED LOAD								
TENSION AND SHEAR LOAD $FR_{u,m}$								
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]	1.52	1.89				
	C50/60	[kN]	1.65	2.05				
35	C30/37	[kN]	1.87	3.24	4.55			
	C35/45	[kN]	2.07	3.58	5.04			
	C45/55	[kN]	2.30	3.97	5.59			
	C50/60	[kN]	2.50	4.32	6.07			
40	C30/37	[kN]	2.07	4.80	5.44	7.22		
	C35/45	[kN]	2.29	5.31	6.02	7.99		
	C45/55	[kN]	2.54	5.89	6.67	8.85		
	C50/60	[kN]	2.76	6.40	7.25	9.62		
50	C20/25	[kN]	3.35	2.53	2.53	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]	1.40	1.40	1.40	1.40		
Solid clay brick class 20		[kN]	1.54	1.57	1.57	1.57		
Silicate hollow block class 15		[kN]	0.54					

Product commercial data

799.5	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
Rawlbolt R-RBL-PF Loose Bolt										
M6	R-RBL-PF-M06/10W	6	55	50	400	16000	1.56	12.5	530.0	5906675380582
	R-RBL-PF-M06/25W	6	70	50	400	16000	1.61	12.9	546.0	5906675380599
	R-RBL-PF-M06/40W	6	85	50	50	8000	1.86	1.86	328.0	5906675380605
M8	R-RBL-PF-M08/10W	8	65	50	400	16000	2.7	21.7	898.0	5906675380612
	R-RBL-PF-M08/25W	8	80	50	50	8000	3.0	3.0	509.2	5906675375915
	R-RBL-PF-M08/40W	8	95	50	50	8000	3.3	3.3	560.0	5906675380629
M10	R-RBL-PF-M10/10W	10	75	50	50	8000	4.6	4.6	768.0	5906675375908
	R-RBL-PF-M10/25W	10	90	50	50	8000	5.0	5.0	832.0	5906675330068
	R-RBL-PF-M10/50W	10	115	50	50	6000	5.7	5.7	715.5	5906675380636
	R-RBL-PF-M10/75W	10	140	50	50	6000	6.4	6.4	799.5	5906675380643
M12	R-RBL-PF-M12/10W	12	90	25	25	4000	4.2	4.2	700.9	5906675380650
	R-RBL-PF-M12/25W	12	105	25	25	4000	4.6	4.6	758.5	5906675380667
	R-RBL-PF-M12/40W	12	120	25	25	3000	4.6	4.6	579.4	5906675380674
	R-RBL-PF-M12/60W	12	140	25	25	4000	5.2	5.2	862.5	5906675380681
M16	R-RBL-PF-M16/15W	16	135	10	10	1600	4.1	4.1	690.9	5906675380698
	R-RBL-PF-M16/30W	16	150	10	10	1600	4.4	4.4	726.1	5906675380704
	R-RBL-PF-M16/60W	16	180	10	10	1200	4.8	4.8	604.9	5906675380711

799.5	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
Rawlbolt R-RBP-PF Bolt Projecting										
M6	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
M8	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-M08/60W	8	125	50	50	8000	3.7	3.7	616.8	5906675380773
M10	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
M12	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
M16	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

R-RBL-E, R-RBL-H Rawlbolt

World's most popular all-purpose expanding shield anchor

R-RBL-E

R-RBL-H

Approvals and Reports

- AT-15-7280/2014

Versions

- R-RBL-E Eye Bolt
- R-RBL-H Hook Bolt

Installation movie

Product overview

Features and benefits

- Hook and Eyebolt and hook designed & manufactured for maximum performance
- Three-piece expanding sleeve provides maximum expansion to ensure optimum loads and safety are achieved in various substrates
- Hook and Eye Rawlbolts are not suitable for fall arrest systems or shock loading

Applications

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

Base materials

Suitable for use in:

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

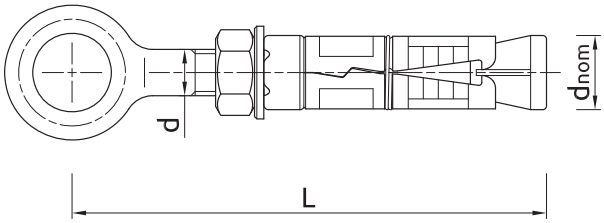
Installation guide

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 blow pump and brush or equivalent method)
3. Insert the anchor (tap home until flush with surface) and position eye/hook accordingly
4. Tighten to recommended torque, using the hex nut (not the eye/hook)

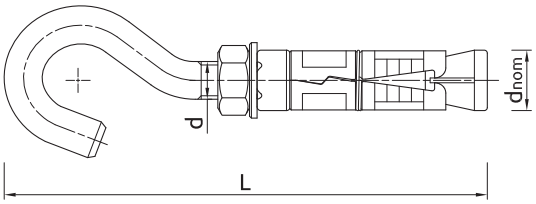
Product information

R-RBL-E



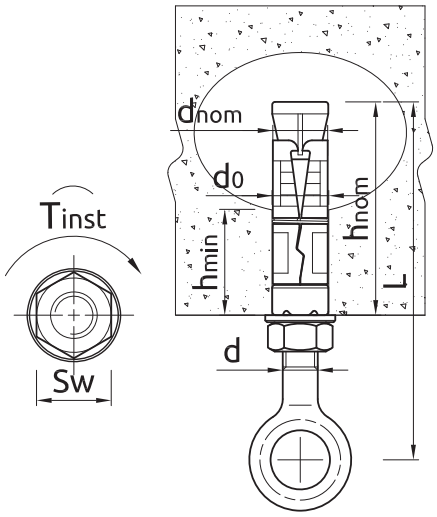
Size	Product Code	Anchor		
		Bolt diameter	External diameter	Length
		d	d_{nom}	L
		[mm]	[mm]	[mm]
M6	R-RBL-06EW	6	12	73
M8	R-RBL-08EW	8	14	87
M10	R-RBL-10EW	10	16	108
M12	R-RBL-12EW	12	20	130

R-RBL-H

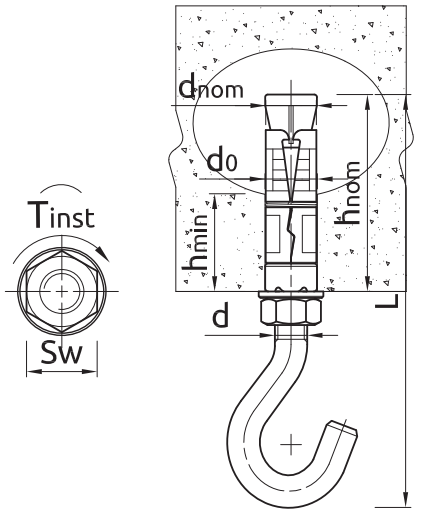


Size	Product Code	Anchor		
		Bolt diameter	External diameter	Length
		d	d_{nom}	L
		[mm]	[mm]	[mm]
M6	R-RBL-06HW	6	12	83
M8	R-RBL-08HW	8	14	98
M10	R-RBL-10HW	10	16	120
M12	R-RBL-12HW	12	20	145

Installation data



R-RBL-E



R-RBL-H

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 CONCRETE						
Installation torque	T_{inst}	[Nm]	6.5	15	27	50
Min. hole depth in substrate	h_0	[mm]	50	55	65	85
Installation depth	h_{nom}	[mm]	45	50	60	80
Min. substrate thickness	h_{min}	[mm]	100	100	100	100
Min. spacing	s_{min}	[mm]	35	40	50	60
Min. edge distance	c_{min}	[mm]	53	60	75	90
CERAMIC AND HOLLOW SUBSTRATES						
Installation torque	T_{inst}	[Nm]	3	6	12	20
Min. hole depth in substrate	h_0	[mm]	50	55	65	85
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
Hollow core slab	T_{inst}	[Nm]	6.5	15	27	50

Basic performance data

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

Size			M6	M8	M10	M12
CHARACTERISTIC LOAD						
TENSION AND SHEAR LOAD F_{Rk}						
Cracked concrete C20/25		[kN]	4.00	5.00	6.00	12.00
Non-cracked concrete C20/25		[kN]	6.00	7.50	12.00	16.00
Hollow core slab min. C20/25						
Wall thickness	Material class					
23	C30/37	[kN]	4.36	5.44	-	-
	C35/45	[kN]	4.82	6.02	-	-
	C45/55	[kN]	5.35	6.67	-	-
	C50/60	[kN]	5.81	7.25	-	-
35	C30/37	[kN]	6.61	11.42	16.07	-
	C35/45	[kN]	6.61	12.64	17.78	-
	C45/55	[kN]	6.61	13.13	19.00	-
	C50/60	[kN]	6.61	13.13	19.00	-
40	C30/37	[kN]	6.61	13.13	19.00	23.87
	C35/45	[kN]	6.61	13.13	19.00	23.87
	C45/55	[kN]	6.61	13.13	19.00	23.87
	C50/60	[kN]	6.61	13.13	19.00	23.87
50	C20/25	[kN]	6.61	8.93	8.93	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]	5.98	5.99	5.99	5.99
Solid clay brick class 20		[kN]	6.25	6.37	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]	2.22	2.78	3.33	6.67
Non-cracked concrete C20/25		[kN]	3.33	4.17	6.67	8.89
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]	2.12	2.65	-	-
	C50/60	[kN]	2.31	2.88	-	-
35	C30/37	[kN]	2.62	4.53	6.38	-
	C35/45	[kN]	2.90	5.02	7.06	-
	C45/55	[kN]	3.22	5.56	7.82	-
	C50/60	[kN]	3.50	6.04	8.50	-
40	C30/37	[kN]	2.90	6.72	7.62	10.10
	C35/45	[kN]	3.21	7.44	8.42	11.18
	C45/55	[kN]	3.55	8.25	9.34	12.39
	C50/60	[kN]	3.86	8.96	10.15	13.47
50	C20/25	[kN]	3.35	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]	1.95	1.96	1.96	1.96
Solid clay brick class 20		[kN]	2.16	2.20	2.20	2.20
Silicate hollow block class 15		[kN]	0.75	-	-	-

Basic performance data (cont.)

Size			M6	M8	M10	M12
RECOMMENDED LOAD						
TENSION AND SHEAR LOAD F_{rec}						
Cracked concrete C20/25		[kN]	1.59	1.99	2.38	4.76
Non-cracked concrete C20/25		[kN]	2.38	2.98	4.76	6.35
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]	1.52	1.89	-	-
	C50/60	[kN]	1.65	2.05	-	-
35	C30/37	[kN]	1.87	3.24	4.55	-
	C35/45	[kN]	2.07	3.58	5.04	-
	C45/55	[kN]	2.30	3.97	5.59	-
	C50/60	[kN]	2.50	4.32	6.07	-
40	C30/37	[kN]	2.07	4.80	5.44	7.22
	C35/45	[kN]	2.29	5.31	6.02	7.99
	C45/55	[kN]	2.54	5.89	6.67	8.85
	C50/60	[kN]	2.76	6.40	7.25	9.62
50	C20/25	[kN]	2.40	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]	1.40	1.40	1.40	1.40
Solid clay brick class 20		[kN]	1.54	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 Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
Rawlbolt R-RBL-E Eye Bolt										
M6	R-RBL-06EW	6	73	25	400	16000	0.92	14.7	617.2	5906675283128
M8	R-RBL-08EW	8	87	25	200	8000	1.61	12.8	543.6	5906675283142
M10	R-RBL-10EW	10	108	25	25	4000	2.9	2.9	492.4	5906675283166
M12	R-RBL-12EW	12	130	25	25	3000	5.2	5.2	652.8	5906675283180
R-RBL-H Hook Bolt										
M6	R-RBL-06HW	6	83	25	400	16000	1.08	1.73	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

R-RB Rawlbolt Shield

World's most popular all-purpose expanding shield anchor - shield

Product overview

Features and benefits

- Product recommended for applications requiring fire resistance
- Three-pieces expanding sleeve of maximum expansion provides optimal load and safety of use in any substrate
- Designed & manufactured for maximum performance

Applications

- Roller shutter doors
- Fire doors
- Wall plates
- Security grills
- Signs
- Manufacturing and installation of fencing
- Heavy machinery
- Pipework/duct work support
- Supporting guy ropes, stays and cables
- Supporting ladder restraints

Base materials

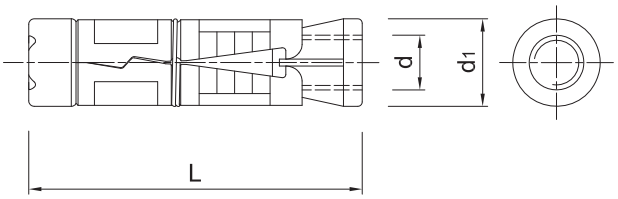
Suitable for use in:

- 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
- Natural Stone

Installation guide

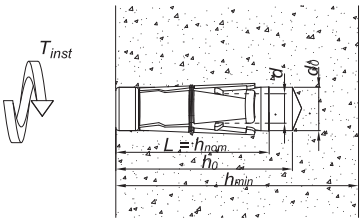
1. Drill a hole of required diameter and depth. Note: When fixing into brickwork, mortar joints should be avoided
2. Remove debris and thoroughly clean hole with brush and pum
3. Tap home with hammer until flush with surface

Product information



Size	Product Code	Anchor			Fixture
		Thread diameter	External diameter	Length	Hole diameter
		d	d_1	L	d_f
		[mm]	[mm]	[mm]	[mm]
M6	R-RB-M06W	6	12	45	6.5
M8	R-RB-M08W	8	14	50	9
M10	R-RB-M10W	10	16	60	11
M12	R-RB-M12W	12	20	75	13
M16	R-RB-M16W	16	25	115	17
M20	R-RB-M20W	20	32	130	22
M24	R-RB-M24W	24	38	150	26

Installation data



Size			M6	M8	M10	M12	M16	M20	M24
Thread diameter	d	[mm]	6	8	10	12	16	20	24
Hole diameter in substrate	d_0	[mm]	12	14	16	20	25	32	38
Installation torque	T_{inst}	[Nm]	6.5	15	27	50	120	230	400
Min. hole depth in substrate	h_0	[mm]	50	55	65	85	125	140	160
Installation depth	h_{nom}	[mm]	45	50	60	80	120	135	155
Min. substrate thickness	h_{min}	[mm]	100	100	100	100	142.5	172.5	240
Min. spacing	s_{min}	[mm]	35	40	50	60	95	115	210
Min. edge distance	c_{min}	[mm]	53	60	75	90	143	173	188

Product commercial data (cont.)

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-RB Shield										
M6	R-RB-M06W	6	45	100	100	32000	1.79	14.3	602.8	5906675283517
M8	R-RB-M08W	8	50	100	100	16000	2.7	2.7	454.0	5906675283524
M10	R-RB-M10W	10	60	100	100	16000	4.0	4.0	671.6	5906675283531
M12	R-RB-M12W	12	75	50	50	8000	4.0	4.0	672.4	5906675283548
M16	R-RB-M16W	16	115	25	25	3000	4.3	4.3	550.8	5906675283555
M20	R-RB-M20W	20	130	15	15	1800	6.2	6.2	776.3	5906675283562
M24	R-RB-M24W	24	150	5	5	800	2.6	2.6	440.6	5906675283579

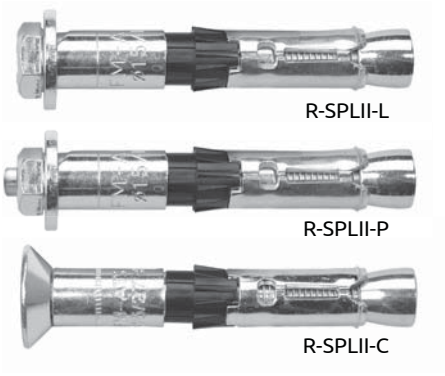
HEAVY-DUTY EXPANSION ANCHORS

SafetyPlus:

- R-SPLII-L
  - Loose Bolt
- R-SPLII-P
  - Bolt Projecting
- R-SPLII-C
  - Countersunk Bolt
- R-SPL
  - Loose Bolt
- R-SPL-BP
  - Bolt Projecting
- R-SPL-C
  - Countersunk Bolt

R-SPLII-L, R-SPLII-P, R-SPLII-C SafetyPlus

High performance mechanical anchor for cracked and non-cracked concrete



Approvals and Reports

- ETA-14/0345

Versions

- R-SPLII-L - Loose Bolt
- R-SPLII-P - Bolt Projecting
- R-SPLII-C - Countersunk

Product overview

Features and benefits

- Mechanical anchor for highest tension and shear loads
- Seismic category C2 for Structural applications. Seismic category C1 for non-structural use in areas with low seismic risk
- For usage with required fire resistance
- Option 1 ETA for Cracked and Non-Cracked Concrete
- Antirotation to prevent rotation during installation
- Anchor's construction allows easy through-installation (drilling and installation through fixed material)
- Three types of tips (nut, flat or tapered bolt) allow simple fitment for installed element
- 8.8 grade steel provides maximum performance and durability

Applications

- Structural steel
- Masonry support
- Cladding restraints
- Road Signs
- Heavy machinery
- Racking systems
- Industrial doors
- Safety barriers

Base materials

Approved for use in:

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

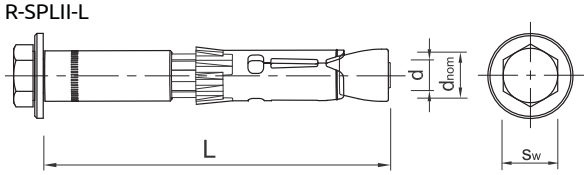
Installation guide

Installation guide (cont.)

1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Insert anchor through fixture into hole and tap until required installation depth is achieved
4. Tighten to the recommended torque

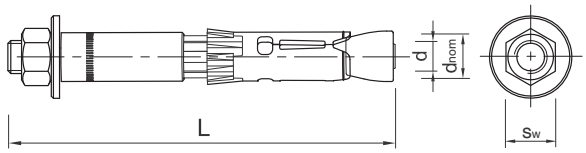
Product information

R-SPLII-L



Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
R-SPLII SafetyPlus - Loose Bolt						
M6	R-SPL-II-06080/20L	6	10	80	20	12
	R-SPL-II-06110/50L	6	10	110	50	12
M8	R-SPL-II-08080/10L	8	12	80	10	14
	R-SPL-II-08090/20L	8	12	90	20	14
	R-SPL-II-08120/20L	8	12	120	50	14
M10	R-SPL-II-10090/10L	10	15	90	10	17
	R-SPL-II-10100/20L	10	15	100	20	17
	R-SPL-II-10130/50L	10	15	130	50	17
	R-SPL-II-10180100L	10	15	180	100	17
M12	R-SPL-II-12110/10L	12	18	110	10	20
	R-SPL-II-12125/25L	12	18	125	25	20
	R-SPL-II-12150/50L	12	18	150	50	20
	R-SPL-II-12200100L	12	18	200	100	20
M16	R-SPL-II-16125/10L	16	24	125	10	26
	R-SPL-II-16140/25L	16	24	140	25	26
	R-SPL-II-16165/50L	16	24	165	50	26
	R-SPL-II-16215100L	16	24	215	100	26

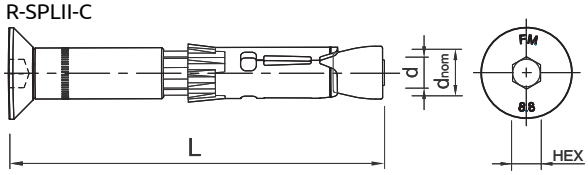
R-SPLII-P



Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
R-SPLII-P SafetyPlus - Bolt Projecting						
M6	R-SPL-II-06110/50P	6	10	110	50	12
M8	R-SPL-II-08090/20P	8	12	90	20	14
M10	R-SPL-II-10100/20P	10	15	100	20	17
M12	R-SPL-II-12125/25P	12	18	125	25	20
	R-SPL-II-12150/50P	12	18	150	50	20
M16	R-SPL-II-16125/10P	16	24	125	10	26

Product information (cont.)

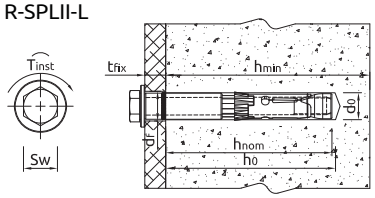
R-SPLII-C



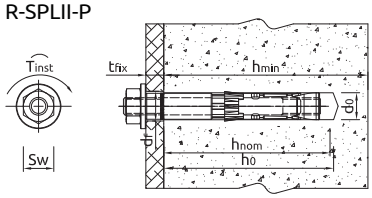
Size	Product Code	Anchor			Fixture	
		Bolt diameter	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
R-SPLII-C SafetyPlus - Countersunk						
M6	R-SPL-II-06080/20C	6	10	80	20	12
M8	R-SPL-II-08080/16C	8	12	80	16	14
	R-SPL-II-08090/26C	8	12	90	26	14
M10	R-SPL-II-10090/17C	10	15	90	17	17
	R-SPL-II-10100/27C	10	15	100	27	17
M12	R-SPL-II-12125/33C	12	18	125	33	20

Installation data

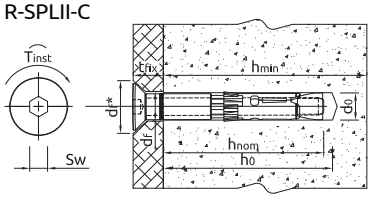
R-SPLII-L



R-SPLII-P



R-SPLII-C



Size			M6	M8	M10	M12	M16*
Thread diameter	d	[mm]	6	8	10	12	16
Hole diameter in substrate	d_0	[mm]	10	12	15	18	24
Installation torque	T_{inst}	[Nm]	10	20	45	80	150
Min. hole depth in substrate	h_0	[mm]	75	85	95	115	130
Installation depth	h_{nom}	[mm]	60	70	80	100	115
Min. substrate thickness	h_{min}	[mm]	100	120	140	180	200
Min. spacing	s_{min}	[mm]	50	60	70	80	100
Min. edge distance	c_{min}	[mm]	50	60	70	80	100
Wrench size	S_w	[mm]	10	13	17	19	24

*Size not offered in R-SPLII-C

Mechanical properties

Size			M6	M8	M10	M12	M16*
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	800	800	800	800	830
Nominal yield strength - tension	f_{yk}	[N/mm²]	640	640	640	640	660
Cross sectional area - tension	A_s	[mm²]	20.1	36.6	58.0	84.3	157.0
Elastic section modulus	W_{el}	[mm³]	21.2	50.3	98.2	169.7	402.1
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12	30	60	105	266
Design bending resistance	M	[Nm]	9.6	24	48	84	214

*Size not offered in R-SPLII-C

Basic performance data

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

Size		M6	M8	M10	M12	M16*	M6	M8	M10	M12	M16*
Substrate		Non-cracked concrete					Cracked concrete				
Standard embedment depth h_{ef}	[mm]	49.00	59.00	67.00	88.00	99.00	49.00	59.00	67.00	88.00	99.00
CHARACTERISTIC LOAD											
TENSION LOAD N_{Rk}	[kN]	16.00	22.90	27.70	41.70	49.70	9.00	12.00	16.00	25.00	35.50
SHEAR LOAD V_{Rk}	[kN]	14.00	22.90	42.00	50.00	97.00	12.30	16.30	39.50	50.00	70.90
DESIGN LOAD											
TENSION LOAD N_{Rd}	[kN]	10.70	15.30	18.50	27.80	33.20	6.00	8.00	10.70	16.70	23.60
SHEAR LOAD V_{Rd}	[kN]	11.20	15.30	33.60	40.00	66.30	8.23	10.88	26.30	39.60	47.30
RECOMMENDED LOAD											
TENSION LOAD N_{Rec}	[kN]	7.62	10.90	13.20	19.90	23.70	4.29	5.71	7.62	11.90	16.90
SHEAR LOAD V_{Rec}	[kN]	8.00	10.90	24.00	28.60	47.40	5.88	7.77	18.80	28.30	33.80

Seismic performance data

Size		M6	M8	M10	M12	M16**	M6	M8	M10	M12	M16**
Seismic Performance Category		C1					C2				
Standard embedment depth h_{ef}	[mm]	49	59	67	88	99	49	59	67	88	99
CHARACTERISTIC LOAD											
TENSION STEEL FAILURE NRk.s.seis	[kN]	16.0	29.0	46.0	67.0	126.0	-	29.0	46.0	67.0	126.0
PULL-OUT FAILURE NRk.p.seis	[kN]	6.8	12.0	16.0	25.0	35.5*	-	3.9	7.8	15.3	28.8
SHEAR STEEL FAILURE VRk.s.seis	[kN]	9.8	13.0	20.0	20.0	48.5	-	10.2	17.0	17.0	43.9
DESIGN LOAD											
TENSION STEEL FAILURE NRd.s.seis	[kN]	10.7	19.3	30.7	44.7	84.0	-	19.3	30.7	44.7	84.0
PULL-OUT FAILURE NRd.p.seis	[kN]	4.5	8.0	10.7	16.7	23.7	-	2.6	5.2	10.2	19.2
SHEAR STEEL FAILURE VRd.s.seis	[kN]	7.84	6.4	16.0	16.0	38.8	-	8.16	13.6	13.6	35.1

*Pull-Out Failure not decisive
*Size not offered

Product commercial data

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-SPLII SafetyPlus - Loose Bolt										
M6	R-SPL-II-06080/20L	6	80	50	400	9600	2.2	17.2	442.8	5010445007217
	R-SPL-II-06110/50L	6	110	50	300	7200	2.9	17.4	447.6	5010445007224
M8	R-SPL-II-08080/10L	8	80	25	200	4800	1.6	16.2	418.4	5010445007231
	R-SPL-II-08090/20L	8	90	25	200	4800	1.8	18.0	462.0	5010445007248
	R-SPL-II-08120/20L	8	120	25	150	3600	2.4	14.4	375.6	5010445007255
M10	R-SPL-II-10090/10L	10	90	20	160	3840	2.3	18.7	479.3	5010445007262
	R-SPL-II-10100/20L	10	100	20	160	3840	2.6	25.6	644.4	5010445007279
	R-SPL-II-10130/50L	10	130	20	120	2880	3.4	20.2	513.8	5010445007286
	R-SPL-II-10180100L	10	180	20	80	500	3.8	15.2	125.0	5906675375441
M12	R-SPL-II-12110/10L	12	110	20	80	1920	4.2	17.0	437.0	5010445007293
	R-SPL-II-12125/25L	12	125	20	20	3840	4.8	4.8	959.1	5010445007309
	R-SPL-II-12150/50L	12	150	20	20	3840	5.6	16.8	433.2	5010445007316
	R-SPL-II-12200100L	12	200	20	20	2100	4.8	4.8	959.1	5906675375458
M16	R-SPL-II-16125/10L	16	125	10	60	1440	4.4	26.2	659.3	5010445007323
	R-SPL-II-16140/25L	16	140	10	40	960	4.8	19.4	494.4	5010445007330
	R-SPL-II-16165/50L	16	165	10	10	890	5.7	5.7	535.5	5906675375465
	R-SPL-II-16215100L	16	215	10	10	700	7.1	7.1	5228.4	5906675375472
R-SPLII-P SafetyPlus - Bolt Projecting										
M6	R-SPL-II-06110/50P	6	110	50	300	7200	3.0	17.7	454.8	5010445007354
M8	R-SPL-II-08090/20P	8	90	25	200	4800	1.73	13.8	362.2	5010445007361
M10	R-SPL-II-10100/20P	10	100	20	160	3840	2.6	20.6	525.4	5010445007378
M12	R-SPL-II-12125/25P	12	125	20	20	3840	4.5	4.5	899.6	5010445007385
	R-SPL-II-12150/50P	12	150	20	20	2200	4.5	4.5	527.2	5906675375489
M16	R-SPL-II-16125/10P	16	125	10	60	1440	4.3	25.9	652.1	5010445007392
R-SPLII-C SafetyPlus - Countersunk										
M6	R-SPL-II-06080/20C	6	80	50	400	9600	2.1	16.6	429.4	5010445007408
M8	R-SPL-II-08080/16C	8	80	25	250	6000	1.88	18.8	480.0	5906675375496
	R-SPL-II-08090/26C	8	90	25	200	4800	1.79	14.4	374.3	5010445007415
M10	R-SPL-II-10090/17C	10	90	20	20	4060	2.5	2.5	541.6	5906675375502
	R-SPL-II-10100/27C	10	100	20	200	3840	2.3	23.2	586.8	5010445007422
M12	R-SPL-II-12125/33C	12	125	20	80	1920	4.5	18.1	463.9	5010445007439

R-SPL, R-SPL-BP, R-SPL-C SafetyPlus

High performance mechanical anchor

R-SPL - Loose Bolt

R-SPL-BP - Bolt Projecting

R-SPL-C - Countersunk

Approvals and Reports

- ETA-11/0126

Versions

- R-SPL - Loose Bolt
- R-SPL-BP - Bolt Projecting
- R-SPL-C - Countersunk

Product overview

Features and benefits

- Design of SafetyPlus allows easy through fixing
- Integral controlled collapse and anti-rotation feature ensures fixture is firmly secured
- Unique zig-zag feature provides balanced expansion
- Ensuring secure setting and maximised load-bearing capacity
- Case-hardened nut with optimum taper angle for enhanced expansion

Applications

- Structural steel
- Masonry support
- Cladding restraints
- Road Signs
- Heavy machinery
- Racking systems
- Industrial doors
- Safety barriers

Base materials

Approved for use in:

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

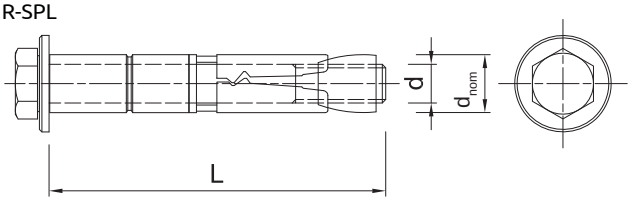
Installation guide

Installation guide

1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Insert anchor through fixture into hole and tap until required installation depth is achieved
4. Tighten to the recommended torque

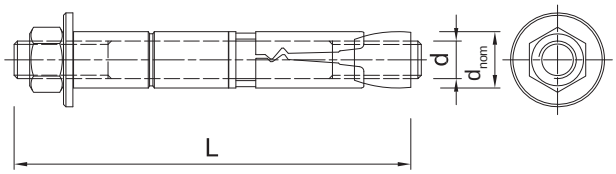
Product information

R-SPL



Size	Product Code	Anchor			Fixture	
		Thread size	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M8	R-SPL-08090/15	8	12	90	15	14
	R-SPL-08110/40	8	12	110	40	14
M10	R-SPL-10105/20	10	15	105	20	17
	R-SPL-10120/40	10	15	120	40	17
	R-SPL-10140/60	10	15	140	60	17
M12	R-SPL-12120/25	12	18	120	25	20
	R-SPL-12150/50	12	18	150	50	20
M16	R-SPL-16145/25	16	24	145	25	26
	R-SPL-16170/50	16	24	170	50	26
M20	R-SPL-20175/30	20	28	175	30	30

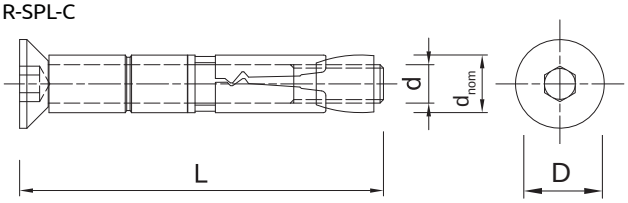
R-SPL-BP



Size	Product Code	Anchor			Fixture	
		Thread size	External diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M10	R-SPL-BP-10110/20	10	15	110	20	17
M12	R-SPL-BP-12135/25	12	18	135	25	20
	R-SPL-BP-12160/50	12	18	160	50	20
M16	R-SPL-BP-16160/25	16	24	160	25	26
	R-SPL-BP-16185/50	16	24	185	50	26
M20	R-SPL-BP-20190/30	20	28	190	30	30

Product information (cont.)

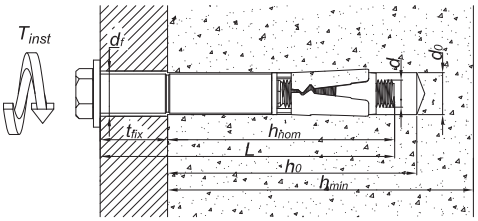
R-SPL-C



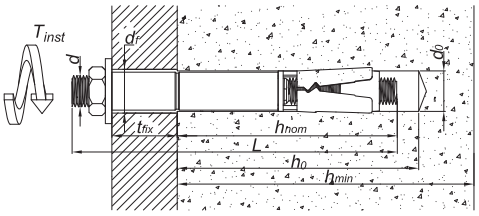
Size	Product Code	Anchor				Fixture	
		Thread size	External diameter	Head diameter	Length	Max. thickness	Hole diameter
		d	d_{nom}	D	L	t_{fix}	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M8	R-SPL-C-08090/20	8	12	22	90	20	14
M10	R-SPL-C-10105/25	10	15	28	105	25	17
M12	R-SPL-C-12125/30	12	18	33	120	30	20
M16	R-SPL-C-16145/30	16	24	40	145	30	26

Installation data

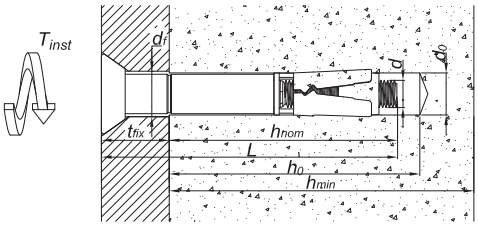
R-SPL



R-SPL-BP



R-SPL-C



Size			M8	M10	M12	M16	M20*
Thread diameter	d	[mm]	8	10	12	16	20
Hole diameter in substrate	d_0	[mm]	12	15	18	24	28
Min. hole depth in substrate	h_0	[mm]	80	90	100	125	155
Installation depth	h_{nom}	[mm]	70	80	90	110	130
Wrench size R-SPL	S_w	[mm]	13	17	19	24	30
Wrench size R-SPL	S_w	[mm]	6	8	10	12	-
Min. substrate thickness	h_{min}	[mm]	100	105	120	150	188
Min. spacing	s_{min}	[mm]	60	70	80	100	125
Min. edge distance	c_{min}	[mm]	90	105	120	150	186

*Size not offered in R-SPL-C

Mechanical properties

R-SPL, R-SPL-BP

Size			M8	M10	M12	M16	M20
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	800	800	800	800	830
Nominal yield strength - tension	f_{yk}	[N/mm²]	640	640	640	640	640
Cross sectional area - tension	A_s	[mm²]	36.6	58.0	84.3	157.0	245.0
Elastic section modulus	W_{el}	[mm³]	50.3	98.2	169.7	402.1	785.4
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	45.04	87.97	152.01	365.97	728.54
Design bending resistance	M	[Nm]	36.03	70.38	121.61	292.78	592.83

Mechanical properties (cont.)

R-SPL-C

Size			M8	M10	M12	M16
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	800	800	800	800
Nominal yield strength - tension	f_{yk}	[N/mm²]	640	640	640	640
Cross sectional area - tension	A_s	[mm²]	36.6	58.0	84.3	157.0
Elastic section modulus	W_{el}	[mm³]	50.3	98.2	169.7	402.1
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	45.04	87.97	152.01	366.0
Design bending resistance	M	[Nm]	36.03	70.38	121.61	293.0

Basic performance data

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

Size		M8**	M10	M12	M16	M20*
Embedment depth h_{ef}	[mm]	60.0	70.0	80.0	100.0	125.0
CHARACTERISTIC LOAD						
TENSION LOAD N_{Rk}	[kN]	9.00**	12.00	16.00	35.00	40.00
SHEAR LOAD V_{Rk}	[kN]	18.00**	24.00	32.00	70.00	73.68
DESIGN LOAD						
TENSION LOAD N_{Rd}	[kN]	4.29**	5.71	7.62	16.67	19.05
SHEAR LOAD V_{Rd}	[kN]	8.57**	11.4	15.2	33.33	38.10
RECOMMENDED LOAD						
TENSION LOAD N_{rec}	[kN]	3.06**	4.08	5.44	11.90	13.61
SHEAR LOAD V_{rec}	[kN]	6.12**	8.16	10.89	23.81	27.21

*Size not offered in R-SPL-C
**Not for R-SPL-BL

Product commercial data

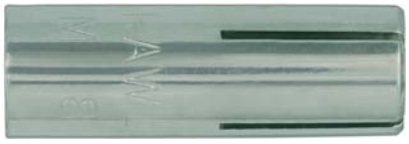
Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-SPL SafetyPlus - Loose Bolt										
M8	R-SPL-08090/15	8	90	50	50	8000	3.8	3.8	638.0	5010445500107
	R-SPL-08110/40	8	110	50	50	8000	4.6	4.6	770.8	5010445500152
M10	R-SPL-10105/20	10	105	50	50	8000	6.6	6.6	1089.2	5010445500206
	R-SPL-10120/40	10	120	50	50	6000	7.9	7.9	976.2	5010445500251
	R-SPL-10140/60	10	140	50	50	4000	9.0	9.0	752.0	5010445500305
M12	R-SPL-12120/25	12	120	25	25	4000	5.8	5.8	956.4	5010445500350
	R-SPL-12150/50	12	150	25	25	3000	7.0	7.0	870.6	5010445500404
M16	R-SPL-16145/25	16	145	10	10	1600	4.8	4.8	801.4	5010445500503
	R-SPL-16170/50	16	170	10	10	1200	5.6	5.6	700.3	5010445500558
M20	R-SPL-20175/30	20	175	10	10	1200	8.4	8.4	1033.4	5010445500657
R-SPL-BP SafetyPlus - Bolt Projecting										
M10	R-SPL-BP-10110/20	10	110	50	50	8000	6.4	6.4	1046.8	5010445501203
M12	R-SPL-BP-12135/25	12	135	25	25	4000	5.7	5.7	935.6	5010445501357
	R-SPL-BP-12160/50	12	160	25	25	4000	6.6	6.6	1080.4	5010445501401
M16	R-SPL-BP-16160/25	16	160	10	10	1600	4.7	4.7	780.9	5010445501500
	R-SPL-BP-16185/50	16	185	10	10	1200	5.5	5.5	687.8	5010445501555
M20	R-SPL-BP-20190/30	20	190	10	10	1200	8.0	8.0	988.6	5010445501654
R-SPL-C SafetyPlus - Countersunk										
M8	R-SPL-C-08090/20	8	90	50	50	8000	3.6	3.6	605.2	5010445502101
M10	R-SPL-C-10105/25	10	105	50	50	8000	6.6	6.6	1085.2	5010445502200
M12	R-SPL-C-12125/30	12	120	25	25	4000	5.8	5.8	949.2	5010445502354
M16	R-SPL-C-16145/30	16	145	10	10	1600	4.6	4.6	763.4	5010445502507

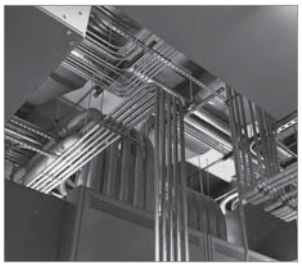
DROP-IN ANCHORS

- R-DCA-A4
  - Stainless Steel Drop-in Anchors
- R-DCA
  - Drop-in Anchors
- R-DCL
  - Lipped Drop-in Anchors

R-DCA-A4 Stainless Steel Drop-in Anchors

Internally threaded stainless steel drop-in anchors for simple hammer-set installation





Approvals and Reports

- ETA-13/0584
- KOT-2017-0165

Product overview

Features and benefits

- High performance in cracked and non-cracked concrete confirmed by ETA
- Product recommended for applications requiring fire resistance
- Stainless steel material for high resistance to corrosion
- Easy to install by hammer action
- Slotted sleeve and internal wedge component together facilitate easy setting and expansion

Applications

- Pipelines systems
- Ventilation systems
- Sprinkler systems
- Cable conduits and wires
- Gratings

Base materials

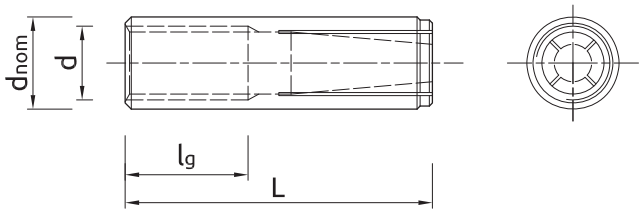
Approved for use in:

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

Installation guide

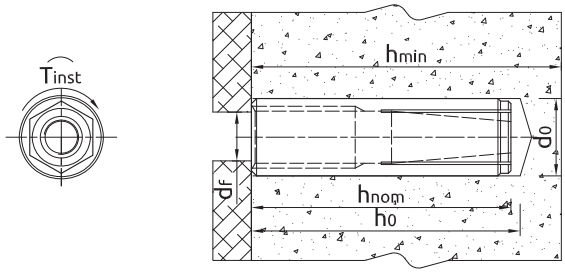
1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Insert wedge anchor, slotted end first
4. Use the setting tool to drive the internal wedge into the anchor
5. Insert bolt or stud through fixture and tighten to the recommended torque

Product information



Size	Product Code	Anchor				Fixture
		Diameter	External diameter	Length	Internal thread length	Hole diameter
		d	d_{nom}	L	l_g	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-DCA-06-25-A4	6	8	25	11	7
M8	R-DCA-08-30-A4	8	10	30	14	9
M10	R-DCA-10-40-A4	10	12	40	19	12
M12	R-DCA-12-50-A4	12	15	50	25	14
M16	R-DCA-16-65-A4	16	20	65	28	18

Installation data



Size			M6	M8	M10	M12	M16
Thread diameter	d	[mm]	6	8	10	12	16
Hole diameter in substrate	d_0	[mm]	8	10	12	15	20
Installation torque	T_{inst}	[Nm]	4.5	11	22	38	98
Min. hole depth in substrate	h_0	[mm]	30	32	42	53	70
Installation depth	h_{nom}	[mm]	25	30	40	50	65
Min. substrate thickness	h_{min}	[mm]	80			100	130
Min. spacing	s_{min}	[mm]	200				260
Min. edge distance	c_{min}	[mm]	150				195

Mechanical properties

Size			M6	M8	M10	M12	M16
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	500	500	500	500	500
Nominal yield strength - tension	f_{yk}	[N/mm²]	210	210	210	210	210
Cross sectional area - tension	A_s	[mm²]	20.1	36.6	58.0	84.3	157.0
Elastic section modulus	W_{el}	[mm³]	21.21	50.27	98.17	169.65	402.12
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	17.81	42.22	82.47	142.5	337.78
Design bending resistance	M	[Nm]	11.88	28.15	54.98	95.0	225.19

Basic performance data

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

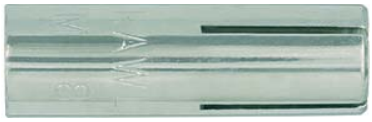
Size		M6	M8	M10	M12	M16
Embedment depth h_{ef}	[mm]	25	30	40	50	65
CHARACTERISTIC LOAD						
TENSION LOAD N_{Rk}	[kN]	1.00	2.01	3.20	4.59	8.27
SHEAR LOAD V_{Rk}	[kN]	1.00	2.01	3.20	4.59	8.27
DESIGN LOAD						
TENSION LOAD N_{Rd}	[kN]	0.48	0.96	1.52	2.19	3.94
SHEAR LOAD V_{Rd}	[kN]	0.48	0.96	1.52	2.19	3.94
RECOMMENDED LOAD						
TENSION LOAD N_{rec}	[kN]	0.34	0.68	1.09	1.56	2.81
SHEAR LOAD V_{rec}	[kN]	0.34	0.68	1.09	1.56	2.81

Product commercial data

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M6	R-DCA-06-25-A4	6	25	100	1000	100000	0.73	7.3	760.0	5010445776083
M8	R-DCA-08-30-A4	8	30	100	1000	64000	1.27	12.7	842.8	5010445776205
M10	R-DCA-10-40-A4	10	40	50	500	32000	1.18	11.8	785.2	5010445776328
M12	R-DCA-12-50-A4	12	50	50	400	16000	2.4	19.2	798.0	5010445776410
M16	R-DCA-16-65-A4	16	65	25	100	6000	2.8	11.3	706.8	5010445776502

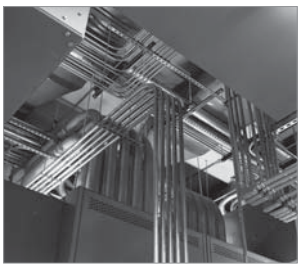
R-DCA, R-DCL Drop-in Anchors

Internally-threaded wedge anchor for simple hammer-set installation



R-DCA - Drop-in Anchors

R-DCL - Lipped Drop-in Anchors



Approvals and Reports

- ETA-13/0584
- KOT-2017-0165 (R-DCA)

Versions

- R-DCA - Drop-in Anchors
- R-DCL - Lipped Drop-in Anchors

Installation movie

Product overview

Features and benefits

- High performance in cracked and non-cracked concrete confirmed by ETA and ITB technical approval
- Product recommended for applications requiring fire resistance
- Internally-threaded to be used with threaded stud or bolt
- Easy to install by hammer action
- Slotted sleeve and internal wedge component together facilitate easy setting and expansion

Applications

- Pipelines systems
- Ventilation systems
- Sprinkler systems
- Cable conduits and wires
- Gratings

Base materials

Approved for use in:

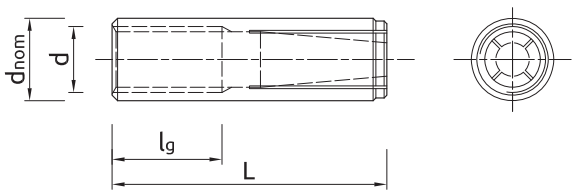
- Cracked concrete C20/25-C50/60
- Non-cracked concrete C20/25-C50/60
- Unreinforced concrete
- Reinforced concrete
- Hollow core slabs (only R-DCL)

Installation guide

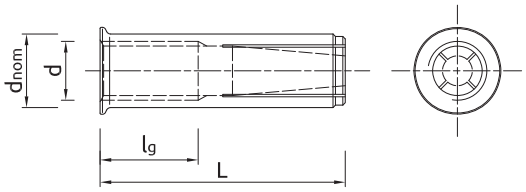
1. Drill a hole of required diameter and depth
2. Clear the hole of drilling dust and debris (using blow pump and brush or equivalent method)
3. Insert wedge anchor, slotted end first
4. Use the setting tool to drive the internal wedge into the anchor
5. Insert bolt or stud through fixture and tighten to the recommended torque

Product information

R-DCA



R-DCL

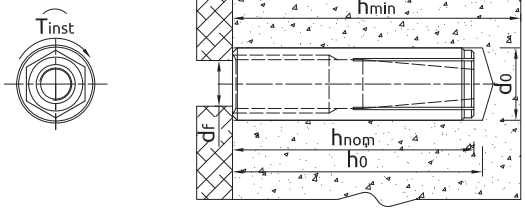


Size	Product Code	Anchor				Fixture
		Diameter	External diameter	Length	Internal thread length	Hole diameter
		d	d_{nom}	L	l_g	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-DCA-06-25	6	8	25	11	7
M8	R-DCA-08-30	8	10	30	14	9
	R-DCA-08-30-100B	8	10	30	14	9
M10	R-DCA-10-40	10	12	40	19	12
	R-DCA-10-40-50B	10	12	40	19	12
M12	R-DCA-12-50	12	15	50	25	14
	R-DCA-12-50-30B	12	15	50	25	14
M16	R-DCA-16-65	16	20	65	28	18
	R-DCA-16-65-15B	16	20	65	28	18
M20	R-DCA-20-80	20	25	80	38	22

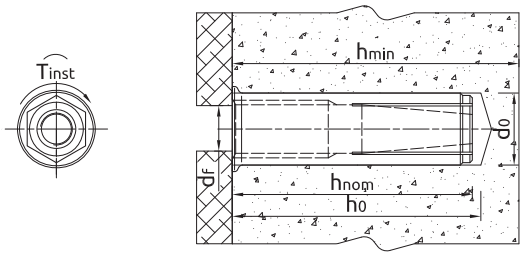
Size	Product Code	Anchor				Fixture
		Diameter	External diameter	Length	Internal thread length	Hole diameter
		d	d_{nom}	L	l_g	d_f
		[mm]	[mm]	[mm]	[mm]	[mm]
M6	R-DCL-06	6	8	25	11	7
M8	R-DCL-08-25	8	10	25	14	9
	R-DCL-08	8	10	30	14	9
M10	R-DCL-10-25	10	12	25	14	12
	R-DCL-10	10	12	40	19	12
M12	R-DCL-12-25	12	15	25	14	14
	R-DCL-12	12	15	50	25	14
M16	R-DCL-16	16	20	65	28	18

Installation data

R-DCA



R-DCL



Size			M6	M8	M10	M12	M16	M20*
Thread diameter	d	[mm]	6	8	10	12	16	20
Hole diameter in substrate	d_0	[mm]	8	10	12	15	20	25
Installation torque	T_{inst}	[Nm]	4.5	11	22	38	98	130
Min. hole depth in substrate	h_0	[mm]	30	32	42	53	70	85
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]	105	105	220	220	220	225
Min. edge distance	c_{min}	[mm]	105	105	220	220	220	225

*not R-DCL

Mechanical properties

Size			M6	M8	M10	M12	M16	M20*
Nominal ultimate tensile strength - tension	f_{uk}	[N/mm²]	450	450	450	450	450	450
Nominal yield strength - tension	f_{yk}	[N/mm²]	360	360	360	360	360	360
Cross sectional area - tension	A_s	[mm²]	20.1	36.6	58.0	84.3	157.0	245.0
Elastic section modulus	W_{el}	[mm³]	21.21	50.3	98.2	169.7	402.1	785.4
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	12.72	30.2	61.0	101.8	241.3	471.2
Design bending resistance	M	[Nm]	10.18	24.1	49.0	81.4	193.0	377.0

*not R-DCL

Basic performance data

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

Size		M6	M8	M10	M12	M16	M20*
Embedment depth h_{ef}	[mm]	25.0	30.0	40.0	50.0	65.0	80.0
CHARACTERISTIC LOAD							
TENSION LOAD N_{Rk}	[kN]	1.52	3.00	4.57	6.40	13.30	17.40
SHEAR LOAD V_{Rk}	[kN]	1.52	3.00	4.57	6.40	13.30	17.40
DESIGN LOAD							
TENSION LOAD N_{Rd}	[kN]	0.72	1.43	2.18	3.06	6.30	8.30
SHEAR LOAD V_{Rd}	[kN]	0.72	1.43	2.18	3.06	6.30	8.30
RECOMMENDED LOAD							
TENSION LOAD N_{rec}	[kN]	0.51	1.02	1.55	2.19	4.50	5.90
SHEAR LOAD V_{rec}	[kN]	0.51	1.02	1.55	2.19	4.50	5.90

*not R-DCL

Product commercial data

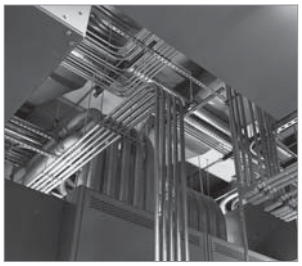
Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Thread size [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-DCA Wedge Anchor										
M6	R-DCA-06-25	6	25	100	1000	36000	0.67	6.7	271.2	5010445771088
M8	R-DCA-08-30	8	30	100	1000	60000	1.19	11.9	744.0	5010445771200
	R-DCA-08-30-100B	8	30	100	1700	54400	1.20	20.4	682.8	5906675439112
M10	R-DCA-10-40	10	40	50	500	37500	1.15	11.5	892.5	5906675151687
	R-DCA-10-40-50B	10	40	50	900	28800	1.15	20.7	692.4	5906675439136
M12	R-DCA-12-50	12	50	50	400	18000	2.3	18.3	854.4	5906675152004
	R-DCA-12-50-30B	12	50	30	360	11520	1.50	18.0	606.0	5906675438108
M16	R-DCA-16-65	16	65	25	100	6000	2.7	10.8	680.4	5010445771507
	R-DCA-16-65-15B	16	65	15	180	5760	1.53	18.4	617.5	5906675438115
M20	R-DCA-20-80[1)]	20	80	15	90	3240	3.0	18.1	680.9	5010445002298
R-DCL Lipped Wedge Anchor										
M6	R-DCL-06	6	25	100	1000	56000	0.71	7.1	427.6	5010445779084
M8	R-DCL-08-25	8	25	100	1200	57600	1.06	12.8	640.5	5906675397320
	R-DCL-08	8	30	100	1200	57600	1.24	14.9	744.2	5010445779206
M10	R-DCL-10-25	10	25	50	600	36000	0.72	8.6	548.4	5906675397337
	R-DCL-10	10	40	50	600	36000	1.20	14.3	890.4	5010445779329
M12	R-DCL-12-25	12	25	50	200	6000	0.90	3.6	138.0	5906675418285
	R-DCL-12	12	50	50	200	6000	2.40	9.5	315.0	5010445779411
M16	R-DCL-16	16	65	25	150	6000	2.90	17.2	718.8	5010445779503

R-DCA-ST-II/R-DCA-ST
Drop-in Anchors Setting Tools

Manual setting tool for drop in anchor installation

R-DCA-ST-II

R-DCA-ST



Approvals and Reports

- ETA-13/0584

Product overview

Features and benefits

- Manual installation of wedge anchors with rubber grip and hand protection

Applications

- Installation of drop in anchor

Installation guide

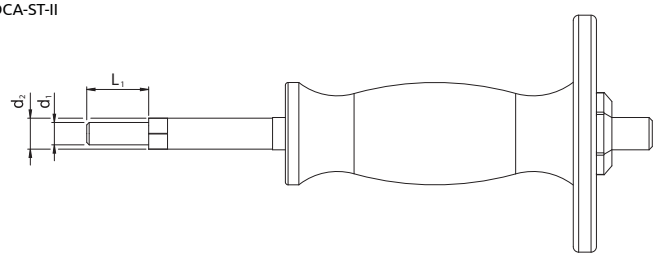
R-DCA-ST-II

R-DCA-ST

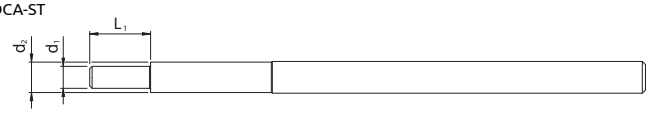
1. Use the manual setting tool with hammer to drive the internal wedge into the anchor

Product information

R-DCA-ST-II



R-DCA-ST



Size	Product Code	Diameter		
		Thread size	External diameter	Length
		d_1	d_2	L_1
		[mm]	[mm]	[mm]
M6	R-DCA-ST-II-06 / R-DCA-ST-06	5	7.5	14.8
M8	R-DCA-ST-II-08-25	6.6	9.5	17
	R-DCA-ST-II-08 / R-DCA-ST-08	6.6	9.5	18
M10	R-DCA-ST-II-10-25	8.3	11.5	17
	R-DCA-ST-II-10 / R-DCA-ST-10	8.3	11.5	23
M12	R-DCA-ST-II-12-25	10.2	14.5	17
	R-DCA-ST-II-12 / R-DCA-ST-12	10.2	14.5	28
M16	R-DCA-ST-II-16 / R-DCA-ST-16	13.5	19.5	33
M20	R-DCA-ST-20	16.8	24.5	47

Product commercial data

Size	Product Code	Anchor		Quantity [pcs]			Weight [kg]			Bar Code
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
M6	R-DCA-ST-II-06	5	14.8	10	10	560	0.24	2.4	162.7	5906675423449
M8	R-DCA-ST-II-08-25	6.6	17	10	10	560	2.8	2.8	185.7	5906675430775
	R-DCA-ST-II-08	6.6	18	10	10	560	0.28	2.8	185.7	5906675423456
M10	R-DCA-ST-II-10-25	8.3	17	10	10	560	3.3	3.3	213.1	5906675430782
	R-DCA-ST-II-10	8.3	23	10	10	560	0.33	3.3	213.1	5906675423463
M12	R-DCA-ST-II-12-25	10.2	17	10	10	560	4.1	4.1	261.3	5906675432090
	R-DCA-ST-II-12	10.2	28	10	10	560	0.41	4.1	261.3	5906675423470
M16	R-DCA-ST-II-16	13.5	33	10	10	240	0.62	6.2	177.6	5906675423487
M6	R-DCA-ST-06	5	14.8	1	100	6000	0.08	8.0	510.0	5906675204888
M8	R-DCA-ST-08	6.6	18	1	100	6000	0.07	6.9	441.0	5906675204895
M10	R-DCA-ST-10	8.3	23	1	100	4500	0.13	13.0	615.0	5906675204901
M12	R-DCA-ST-12	10.2	28	1	50	3000	0.26	12.9	803.4	5906675204918
M16	R-DCA-ST-16	13.5	33	1	30	1350	0.54	16.3	761.3	5906675204925
M20	R-DCA-ST-20	16.8	47	1	20	900	0.39	7.8	381.0	5906675204932

Concrete screw re-usability testing gauge

Concrete screw re-usability testing gauge

Product overview

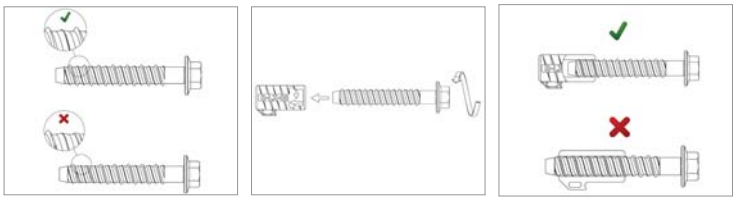
Features and benefits

- Testing Gauge allows to determine whether the product R-LX is suitable for re-use.

Applications

- Concrete screw re-usability testing gauge

Installation guide



1. Visual assessment. The anchor thread shall not be damaged
2. Drive the screw counterclockwise into the no-go gauge with at least one revolution during the test. You can re-use the anchor if its tip is not visible on the other end of the no-go gauge
3. Screws which failed the test 1 or the test 2 are not recommended to use

Product information

Product Code	Description
R-S1-LX-TEST-08/2	Wear Gauge for R-LX-08
R-S1-LX-TEST-10/2	Wear Gauge for R-LX-10
R-S1-LX-TEST-14/2	Wear Gauge for R-LX-14

Product commercial data

Product Code	Description	Quantity [pcs]			Weight [kg]			Bar Code
		Box	Outer	Pallet	Box	Outer	Pallet	
R-S1-LX-TEST-08/2	Wear Gauge for R-LX-08	1	1	-	0.01	0.01	-	5906675437408
R-S1-LX-TEST-10/2	Wear Gauge for R-LX-10	1	1	-	0.02	0.02	-	5906675437545
R-S1-LX-TEST-14/2	Wear Gauge for R-LX-14	1	1	-	0.03	0.03	-	5906675439396

ACCESSORIES

- Tension Tester

Rawlplug Tension Tester Kit

Model 2000 tester kit for measurement of tensile loads on anchors

Product overview

Features and benefits

- Pull-out tester enables engineers to confirm the holding power of anchors in most construction materials

Applications

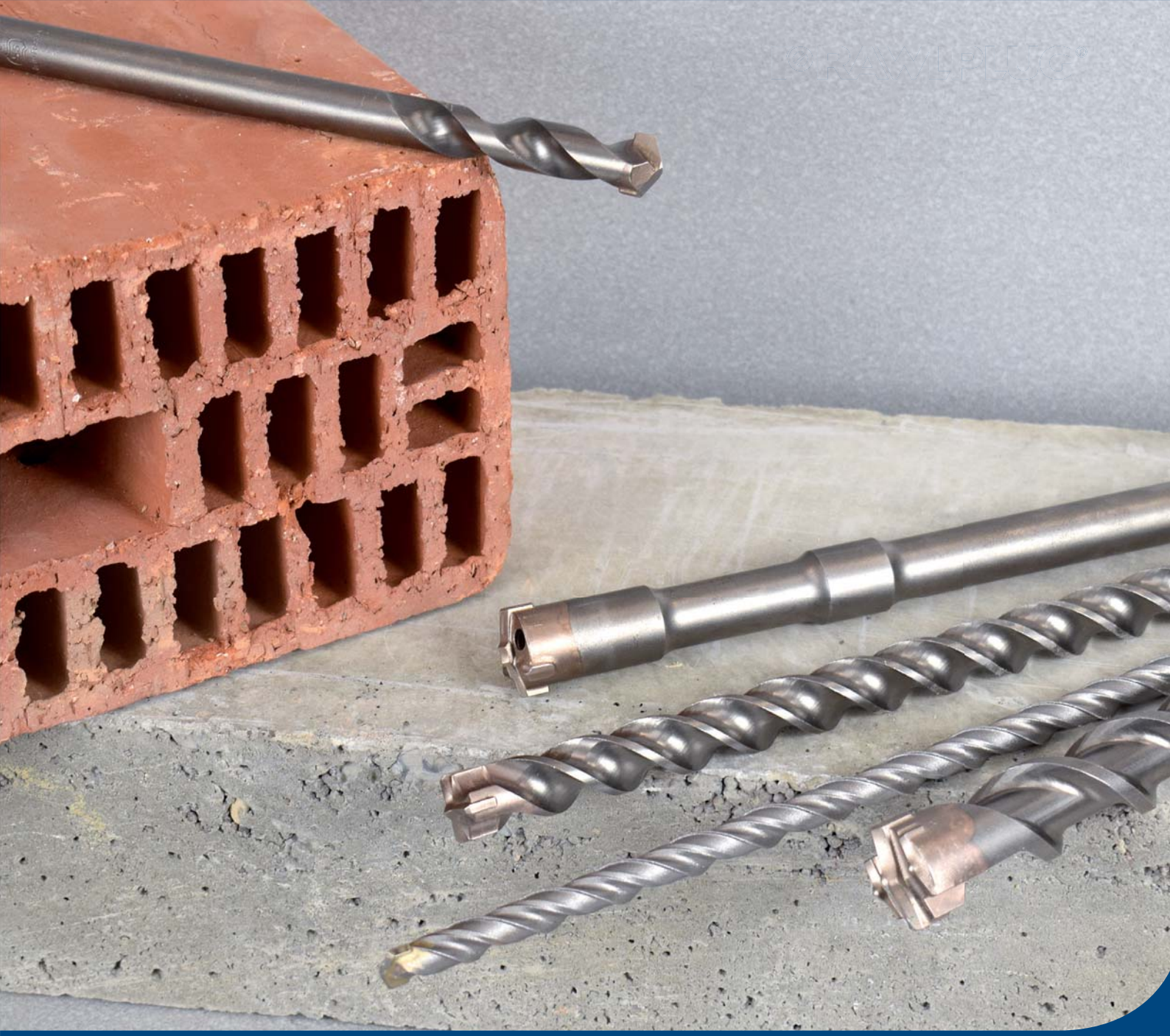
- Pull-out tester for testing fixings, fasteners and anchors

Instructions for use

1. Fit the appropriate button to the fastener to be tested
2. Slide the slot in the bolt tester adaptor over the button adaptor until the fastener axis and bolt tester axis are in alignment
3. Adjust the length of the threaded legs until the head of the bolt tester adaptor can be passed through the opening in the load spreading bridge. Check that the head of the load spreading bridge is centered in the tester and the button adaptor is square in the u shaped slot in the puller. Make final adjustments so that the bolt tester adaptor, tester and fixing are aligned
4. Position the tester so that the gauge can be easily read
5. Adjust the length of the threaded legs so that all three are in contact with the base material and the load spreading bridge is aligned and level by referring to the bubble levels on each face
6. Set the red pointer on the gauge to zero – hold the tester by the grip handle and proceed to load the fastener by turning the operating handle clockwise
7. Increase the load until the required test load is attained. Hold this load and observe any falling back of the gauge pointer which would indicate movement and possible failure of the fastener. Record the satisfactory result
8. Release the load on the fastener by turning the operating handle anti-clockwise and allowing the test jaw to return to the original position
9. Remove the tester and bolt tester adaptor

RAWLPLUG®

Trust & Innovation



Power Tool Accessories

DRILL BITS

- RT-SDSA Aggressor SDS plus
- RT-SDSR Rebardrill SDS plus
- RT-SDSB Brickdrill SDS plus
- RT-SDSH Dustlessdrill SDS plus
- RT-MAXA Aggressor SDS max
- RT-MAXR Rebardrill SDS max
- RT-MAXT Turbodrill SDS max
- RT-MAXH Dustlessdrill SDS max

RT-SDSA Aggressor SDS plus

Drill bits for fast drilling in concrete AGGRESSOR SDS plus

Certificate

Product overview

Features and benefits

- Self-aligning drill bit tip enables quick and easy start drilling at the marked spot
- Increased angle plates to 160° results in faster drilling in concrete
- Very deep seating of carbide plate significantly increases the durability of the connection to the core drill which improves the quality of the drill
- Aggressive flutes increase dust extraction and accelerate drilling
- Steel on the specification of 34CrNiMo6 provides high resistance and durability
- Subjected to a heat treatment by which the hardness of the steel increases to 52 HRC for optimal resistance during drilling
- Drilling speed increased by 30%
- Extremely high durability confirmed by the international certificate SicherSafe

Applications

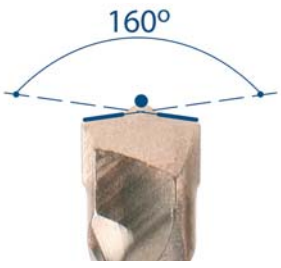
- Drilling in concrete, brick and stone
- Suitable for use with SDS plus Rotary Hammer

Base materials

For use in:

- Concrete
- Solid Brick
- Hollow Brick
- Natural Stone
- Aerated Concrete Block

Packaging



Product Commercial Data

Product Code	Description			Logistic data		Bar Code
	Diameter	Length				
	Ø	L	L1	Quantity	Weight	
	[mm]			[szt.]	[kg]	
RT-SDSA-4/110	4	110	50	1	0.0377	5906675114767
RT-SDSA-5/110	5	110	50	1	0.0395	5906675114774
RT-SDSA-5/160	5	160	100	1	0.039	5906675027944
RT-SDSA-5/160B12	5	160	100	1	0.042	5906675335247
RT-SDSA-5/210	5	210	150	1	0.036	5906675114781
RT-SDSA-5/310	5	310	250	1	0.064	5906675063461
RT-SDSA-5/310B12	5	310	250	12	0.760	5906675063478
RT-SDSA-5/460	5	460	400	1	0.077	5906675114798
RT-SDSA-55/110	5.5	110	50	1	0.036	5906675422947
RT-SDSA-55/160	5.5	160	100	1	0.041	5906675026503
RT-SDSA-55/260	5.5	260	100	1	0.06	5906675114804
RT-SDSA-55/310	5.5	310	250	1	0.06	5906675114811
RT-SDSA-55/460	5.5	460	400	1	0.09	5906675114828
RT-SDSA-6/110	6	110	50	1	0.037	5906675027920
RT-SDSA-6/160	6	160	100	1	0,045	5906675026589
RT-SDSA-6/160B12	6	160	100	12	0.57	5906675063539
RT-SDSA-6/210	6	210	150	1	0.045	5906675027982
RT-SDSA-6/210B12	6	260	200	1	0,054	5906675335605
RT-SDSA-6/260	6	260	200	1	0.100	5906675048598
RT-SDSA-6/310B12	6	310	250	12	0.884	5906675063485
RT-SDSA-6/360	6	360	300	1	0.080	5906675387093
RT-SDSA-6/460	6	460	400	1	0.090	5906675114835
RT-SDSA-65/110	6.5	110	50	1	0.038	5906675422954
RT-SDSA-65/160	6.5	160	100	1	0.046	5906675422961
RT-SDSA-65/210	6.5	210	150	1	0.0578	5906675114842
RT-SDSA-65/260	6.5	260	200	1	0.061	5906675114859
RT-SDSA-65/310	6.5	310	250	1	0.071	5906675114866
RT-SDSA-7/110	7	110	50	1	0.039	5906675026572
RT-SDSA-7/160	7	160	100	1	0.049	5906675026565
RT-SDSA-8/1000	8	1000	940	1	0.268	5906675335261
RT-SDSA-8/110	8	110	50	1	0.043	5906675026558
RT-SDSA-8/160	8	160	100	1	0.056	5906675027951
RT-SDSA-8/160B12	8	160	100	12	0.679	5906675063546
RT-SDSA-8/210	8	210	150	1	0.068	5906675027968
RT-SDSA-8/210B12	8	210	150	12	0.069	5906675335612
RT-SDSA-8/260	8	260	200	1	0.068	5906675027937
RT-SDSA-8/260B12	8	260	200	1	0.082	5906675335636
RT-SDSA-8/310	8	310	250	1	0.077	5906675027975
RT-SDSA-8/310B12	8	310	250	12	0.970	5906675063508
RT-SDSA-8/360	8	360	300	1	0.1073	5906675387109
RT-SDSA-8/410	8	410	350	1	0.300	5906675114873
RT-SDSA-8/460	8	460	400	1	0.1497	5906675114880
RT-SDSA-9/160	9	160	100	1	0.0711	5906675114897
RT-SDSA-95/410	9.5	410	350	1	0.300	5906675045993
RT-SDSA-10/110	10	110	50	1	0.051	5906675026596
RT-SDSA-10/160	10	160	100	1	0.069	5906675026602
RT-SDSA-10/160B12	10	160	100	12	1.000	5906675063553
RT-SDSA-10/210	10	210	150	1	0.09	5906675026619
RT-SDSA-10/210B12	10	210	150	12	0.087	5906675335612
RT-SDSA-10/260	10	260	200	1	0.077	5906675026626
RT-SDSA-10/260B12	10	260	200	12	1.000	5906675335636
RT-SDSA-10/310	10	310	250	1	0.077	5906675028002
RT-SDSA-10/310B12	10	310	250	12	1.000	5906675063515
RT-SDSA-10/360	10	360	300	1	0.1400	5906675387116
RT-SDSA-10/410	10	410	350	1	0.1570	5906675335285

Product Commercial Data

Product Code	Description			Logistic data		Bar Code
	Diameter	Length				
	Ø	L	L1	Quantity	Weight	
	[mm]			[szt.]	[kg]	
RT-SDSA-10/460	10	460	400	1	0.1996	5906675114910
RT-SDSA-10/610	10	610	550	1	0.2614	5906675114927
RT-SDSA-10/1000	10	1000	940	1	0.4549	5906675114934
RT-SDSA-11/260	11	260	200	1	0.123	5906675086156
RT-SDSA-11/310	11	310	250	1	0.147	5906675086163
RT-SDSA-11/410	11	410	350	1	0.191	5906675086811
RT-SDSA-12/160	12	160	100	1	0.089	5906675026633
RT-SDSA-12/210	12	210	150	1	0.112	5906675026640
RT-SDSA-12/260	12	260	200	1	0.077	5906675028019
RT-SDSA-12/310	12	310	250	1	0.168	5906675026657
RT-SDSA-12/410	12	410	350	1	0.228	5906675335292
RT-SDSA-12/460	12	460	400	1	0.408	5906675086149
RT-SDSA-12/610	12	610	550	1	0.3312	5906675114958
RT-SDSA-12/1000	12	1000	940	1	0.540	5906675114965
RT-SDSA-13/210	13	210	150	1	0.138	5906675389806
RT-SDSA-13/260	13	260	200	1	0.172	5906675389813
RT-SDSA-14/160	14	160	100	1	0.1096	5906675114972
RT-SDSA-14/210	14	210	150	1	0.131	5906675026664
RT-SDSA-14/260	14	260	200	1	0.167	5906675026671
RT-SDSA-14/310	14	310	250	1	0.199	5906675026688
RT-SDSA-14/460	14	460	400	1	0.250	5906675026695
RT-SDSA-14/610	14	610	550	1	0.3804	5906675115009
RT-SDSA-14/1000	14	1000	940	1	0.624	5906675115047
RT-SDSA-15/160	15	160	100	1	0.1371	5906675115054
RT-SDSA-15/210	15	210	150	1	0.173	5906675086828
RT-SDSA-16/160	16	160	100	1	0.1379	5906675115054
RT-SDSA-16/210	16	210	150	1	0.1771	5906675115078
RT-SDSA-16/260	16	260	200	1	0.207	5906675026701
RT-SDSA-16/310	16	310	250	1	0.255	5906675026718
RT-SDSA-16/460	16	460	400	1	0.302	5906675026725
RT-SDSA-16/610	16	610	550	1	0.4996	5906675115085
RT-SDSA-16/1000	16	1000	940	1	0.880	5906675115092
RT-SDSA-18/210	18	210	150	1	0.217	5906675115108
RT-SDSA-18/260	18	260	200	1	0.2833	5906675115115
RT-SDSA-18/310	18	310	250	1	0.315	5906675026732
RT-SDSA-18/460	18	460	400	1	0.413	5906675026749
RT-SDSA-18/610	18	610	550	1	0.679	5906675115139
RT-SDSA-18/1000	18	1000	940	1	1.105	5906675115146
RT-SDSA-20/210	20	210	150	1	0.280	5906675422978
RT-SDSA-20/310	20	310	250	1	0.399	5906675026756
RT-SDSA-20/460	20	460	400	1	0.529	5906675026763
RT-SDSA-20/610	20	610	550	1	0.793	5906675115153
RT-SDSA-20/1000	20	1000	940	1	1.200	5906675423005
RT-SDSA-22/310	22	310	250	1	0.440	5906675335308
RT-SDSA-22/460	22	460	400	1	0.640	5906675026770
RT-SDSA-24/310	24	310	250	1	0.490	5906675335315
RT-SDSA-24/460	24	460	400	1	0.735	5906675026787
RT-SDSA-25/310	25	310	250	1	0.9567	5906675115238
RT-SDSA-25/460	25	460	400	1	0.9567	5906675115245
RT-SDSA-26/460	26	460	400	1	0.866	5906675026794
RT-SDSA-30/460	30	460	400	1	1.100	5906675115252

RT-SDSR Rebardrill SDS plus

High quality drill bits for reinforced concrete REBARDRILL SDS plus

Certificate

Product overview

Features and benefits

- The monolithic carbide plate greatly increases the life of the drill
- Self-aligning drill bit tip enables quick and easy start drilling at the marked spot
- 3 symemetrical points of contact of the drill bit with the substrate allows drilling perfectly straight and cylindical holes
- Suitable Approach angle Plate 135° allows for drilling in reinforced concrete
- Very deep seating of carbide plate significantly increases the durability of the connection to the core drill which improves the quality of the drill
- 3 areas of dust extractionl and special shape make it easy to remove the dust
- Steel on the specification of 34CrNiMo6 provides high resistance and durability
- Subjected to a heat treatment by which the hardness of the steel increases to 52 HRC for optimal resistance during drilling
- Drilling without damage the substrate even near edges

Applications

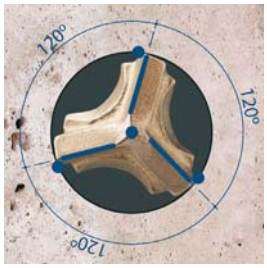
- Drilling in reinforced concrete and hard brick
- Suitable for use with SDS plus Rotary Hammer

Base materials

For use in:

- Reinforced concrete
- Concrete
- Natural Stone
- Solid Concrete Block
- Solid Brick

Packaging

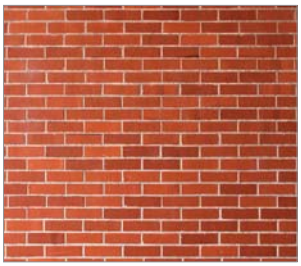


Product Commercial Data

Product Code	Description			Logistic data		Bar Code
	Diameter	Length				
	Ø	L	L1	Quantity	Weight	
	[mm]			[szt.]	[kg]	
RT-SDSR-5/110	5	110	50	1	0.0395	5906675115269
RT-SDSR-5/160	5	160	100	1	0.041	5906675046006
RT-SDSR-5/160B12	5	160	100	12	0.040	5906675335322
RT-SDSR-5/210	5	210	150	1	0.047	5906675115276
RT-SDSR-5/360	5	360	300	1	0.070	5906675387123
RT-SDSR-6/110	6	110	50	1	0.042	5906675047713
RT-SDSR-6/160	6	160	100	1	0.049	5906675046013
RT-SDSR-6/160B12	6	160	100	12	0.570	5906675063560
RT-SDSR-6/210	6	210	150	1	0.056	5906675046020
RT-SDSR-6/260	6	260	200	1	0.065	5906675046037
RT-SDSR-6/310	6	310	250	1	0.063	5906675335346
RT-SDSR-6/310B12	6	310	250	12	0.884	5906675063591
RT-SDSR-6/360	6	360	300	1	0.080	5906675387130
RT-SDSR-7/160	7	160	100	1	0.051	5906675047737
RT-SDSR-8/110	8	110	50	1	0.047	5906675047720
RT-SDSR-8/160	8	160	100	1	0.059	5906675046044
RT-SDSR-8/160B12	8	160	100	12	0.679	5906675063577
RT-SDSR-8/210	8	210	150	1	0.07	5906675046051
RT-SDSR-8/260	8	260	200	1	0.082	5906675046068
RT-SDSR-8/310	8	310	250	1	0.095	5906675046075
RT-SDSR-8/310B12	8	310	250	12	11.64	5906675063607
RT-SDSR-8/360	8	360	300	1	0.1073	5906675387147
RT-SDSR-8/460	8	460	400	1	0.130	5906675046082
RT-SDSR-10/110	10	110	50	1	0.051	5906675335353
RT-SDSR-10/160	10	160	100	1	0.076	5906675046099
RT-SDSR-10/160B12	10	160	100	12	1.000	5906675063584
RT-SDSR-10/210	10	210	150	1	0.094	5906675046105
RT-SDSR-10/260	10	260	200	1	0.113	5906675046112
RT-SDSR-10/260B12	10	260	200	12	0.110	5906675335414
RT-SDSR-10/310	10	310	250	1	0.132	5906675046136
RT-SDSR-10/310B12	10	310	250	12	12.00	5906675063614
RT-SDSR-10/360	10	360	300	1	0.140	5906675387154
RT-SDSR-10/460	10	460	400	1	0.300	5906675046143
RT-SDSR-12/160	12	160	100	1	0.093	5906675046150
RT-SDSR-12/210	12	210	150	1	0.117	5906675046167
RT-SDSR-12/260	12	260	200	1	0.139	5906675046174
RT-SDSR-12/310	12	310	250	1	0.162	5906675046181
RT-SDSR-12/460	12	460	400	1	0.234	5906675046198
RT-SDSR-14/210	14	210	150	1	0.135	5906675046204
RT-SDSR-14/260	14	260	200	1	0.161	5906675046211
RT-SDSR-14/310	14	310	250	1	0.188	5906675046228
RT-SDSR-14/460	14	460	400	1	0.277	5906675046235
RT-SDSR-15/160	15	160	100	1	0.129	5906675335360
RT-SDSR-15/210	15	210	150	1	0.162	5906675335377
RT-SDSR-16/160	16	160	100	1	0.13	5906675335391
RT-SDSR-16/210	16	210	150	1	0.154	5906675046242
RT-SDSR-16/260	16	260	200	1	0.184	5906675046259
RT-SDSR-16/310	16	310	250	1	0.211	5906675046266
RT-SDSR-16/460	16	460	400	1	0.313	5906675046273
RT-SDSR-18/210	18	210	150	1	0.223	5906675335407
RT-SDSR-18/310	18	310	250	1	0.264	5906675046280
RT-SDSR-20/310	20	310	250	1	0.324	5906675046297
RT-SDSR-20/460	20	460	400	1	0.547	5906675071183

RT-SDSB Brickdrill SDS plus

Drill bits for fast drilling in ceramic materials without damage BRICKDRILL SDS plus



Certificate

Product overview

Features and benefits

- Tip angle 120° allows for fast drilling of holes in ceramic material without damage
- Short drill bit flute accelerates dust extraction between the slots of ceramic brick
- Drilling without hammering
- Perfect straight hole without damaging the ceramic brick
- Steel on the specification of 34CrNiMo6 provides high resistance and durability
- Subjected to a heat treatment by which the hardness of the steel increases to 52 HRC for optimal resistance during drilling
- Also suitable for aerated concrete
- Long drill bit shank allows to drill deep holes also by insulation
- Extremely high durability confirmed by the international certificate SicherSafe

Applications

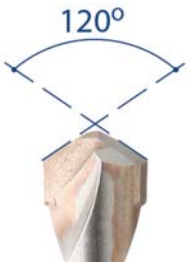
- Drilling in ceramic hollow bricks
- Suitable for use with SDS plus Rotary Hammer

Base materials

For use in:

- Hollow Brick
- Aerated Concrete Block

Packaging

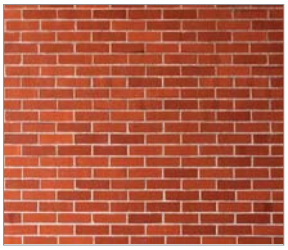


Product Commercial Data

Product Code	Description			Logistic data		Bar Code
	Diameter	Length				
	Ø	L	L1	Quantity	Weight	
	[mm]			[szt.]	[kg]	
RT-SDSB-6/260	8	260	200	1	0.070	5906675046303
RT-SDSB-8/260	8	260	200	1	0.095	5906675046310
RT-SDSB-8/310	8	310	250	1	0.113	5906675047553
RT-SDSB-8/460	8	460	400	1	0.200	5906675048918
RT-SDSB-10/260	10	260	200	1	0.291	5906675046334
RT-SDSB-10/310	10	310	250	1	0.156	5906675047560
RT-SDSB-10/460	10	460	400	1	0.200	5906675048604
RT-SDSB-12/260	12	260	200	1	0.167	5906675046341
RT-SDSB-15/260	15	260	200	1	0.248	5906675046358
RT-SDSB-16/260	16	260	200	1	0.247	5906675046365

RT-SDSH Hollow drill bits Dustlessdrill SDS plus

Hollow drill bits SDS plus for dust-free drilling in concrete



Certificate

Product overview

Features and benefits

- Two holes in the tip of the drill bit allows you to drill and extract dust simultaneously (due to the possibility of fastening a vacuum cleaner)
- Drilling, along with dust extraction, make the hole smooth and clean
- Quick removal of dust increases drilling speed and enhances drill bit durability (reduces friction)
- Drilled holes do not require cleaning before fastening, which greatly reduces assembly time
- Centring point for quick commencement of drilling without the drill slipping
- Very deep seating of carbide plate significantly improves connection with the drill core, which affects quality

Applications

- Drilling holes in reinforced concrete, concrete, stone and hard brick

Base materials

- Concrete
- Solid Brick
- Solid Concrete Block

Packaging

Commercial product data

NEW

Index	Drill diameter [mm]	Length [mm]	Working length [mm]	Quantity [pcs]	Box weight kg	Outer weight kg	EAN
RT-SDSH-8/270	8	270	150	1	0.22	1.10	5906675397184
RT-SDSH-10/270	10	270	150	1	0.25	1.25	5906675397191
RT-SDSH-12/320	12	320	200	1	0.31	1.56	5906675397207
RT-SDSH-14/370	14	370	250	1	0.39	1.95	5906675397214
RT-SDSH-15/370	15	370	250	1	0.50	2.48	5906675397221
RT-SDSH-16/370	16	370	250	1	0.43	2.17	5906675397238
RT-SDSH-18/370	18	370	250	1	0.53	2.63	5906675397245
RT-SDSH-20/370	20	370	250	1	0.62	3.11	5906675397252
RT-SDSH-24/370	24	370	250	1	1.00	5.00	5906675397269

RT-MAXH Hollow drill bits Dustlessdrill SDS max

Hollow drill bits SDS max for dust-free drilling in reinforced concrete

Certificate

Product overview

Features and benefits

- Two holes in the tip of the drill bit allows you to drill and extract dust simultaneously (due to the possibility of fastening a vacuum cleaner)
- Drilling, along with dust extraction, make the hole smooth and clean
- Quick removal of dust increases drilling speed and enhances drill bit durability (reduces friction)
- Drilled holes do not require cleaning before fastening, which greatly reduces assembly time
- Rubber adapter, which is built-in the bit, enables you to fasten a vacuum cleaner hose and to drill holes without dust

Applications

- Drilling holes in reinforced concrete, concrete, stone and hard brick

Base materials

- Reinforced concrete
- Concrete
- Solid Brick
- Solid Concrete Block

Packaging

Commercial product data

Index	Drill diameter	Length	Working length	Quantity	Box weight	Outer weight	EAN
	[mm]	[mm]	[mm]	[pcs]	kg	kg	
RT-MAXH-14/600	14	600	400	1	0.82	4.11	5906675397085
RT-MAXH-16/600	16	600	400	1	0.92	4.59	5906675397092
RT-MAXH-18/600	18	600	400	1	0.99	4.97	5906675397108
RT-MAXH-20/600	20	600	400	1	1.13	5.64	5906675397115
RT-MAXH-22/600	22	600	400	1	1.13	5.64	5906675397122
RT-MAXH-25/600	25	600	400	1	1.12	5.62	5906675397139
RT-MAXH-28/600	28	600	400	1	1.29	6.44	5906675397146
RT-MAXH-30/600	30	600	400	1	1.44	7.18	5906675397153
RT-MAXH-32/600	32	600	400	1	1.48	7.40	5906675397160
RT-MAXH-35/600	35	600	400	1	1.59	7.93	5906675397177

RT-MAXA Aggressor SDS max

High quality AGGRESSOR SDS MAX drill bits for reinforced concrete

Certificate

Product overview

Features and benefits

- 3 deep seeting cabide plates greatly increase the life of the drill
- 6 cutting edges increase the drilling efficiency and accelerates the execution of holes
- 3 self-aligning points allow drilling in reinforced concrete even when it hits the side of the rebar
- Optimized geometry of drill bit body allows to make axial and cylindrical holes ideal for fixing
- Steel on the specification of 34CrNiMo6 provides high resistance and durability
- Subjected to a heat treatment by which the hardness of the steel increases to 52 HRC for optimal resistance during drilling
- Drill bit core subjected to special thermal treatment which increases flexibility, resistance to twisting and the possibility of breaking
- Extremely high durability confirmed by the international certificate SicherSafe

Applications

- Drilling in reinforced concrete and hard brick
- Suitable for use with SDS max Rotary Hammer

Base materials

For use in:

- Reinforced concrete
- Concrete
- Natural Stone
- Solid Brick
- Solid Concrete Block

Packaging

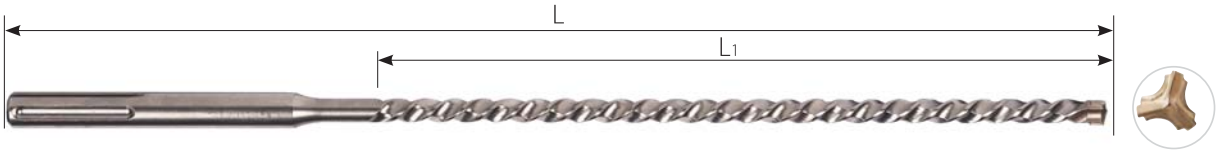
Product Commercial Data

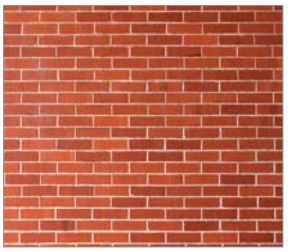
Product Code	Description			Logistic data		Bar Code
	Diameter	Length				
	Ø	L	L1	Quantity	Weight	
	[mm]			[szt.]	[kg]	
RT-MAXA-12/340	12	340	200	1	0.382	5906675115283
RT-MAXA-12/540	12	540	400	1	0.477	5906675115573
RT-MAXA-14/340	14	340	200	1	0.403	5906675116228
RT-MAXA-14/540	14	540	400	1	0.593	5906675116235
RT-MAXA-15/340	15	340	200	1	0.441	5906675335438
RT-MAXA-15/540	15	540	400	1	0.593	5906675335445
RT-MAXA-16/340	16	340	200	1	0.441	5906675025933
RT-MAXA-16/540	16	540	400	1	0.593	5906675026367
RT-MAXA-18/340	16	340	200	1	0.501	5906675026374
RT-MAXA-18/540	18	540	400	1	0.718	5906675026381
RT-MAXA-20/340	20	340	200	1	0.548	5906675026398
RT-MAXA-20/540	20	540	400	1	0.819	5906675026404
RT-MAXA-20/690	20	690	550	1	1.038	5906675335476
RT-MAXA-20/920	20	920	780	1	1.113	5906675116242
RT-MAXA-22/340	22	340	200	1	0.600	5906675026411
RT-MAXA-22/540	22	540	400	1	0.934	5906675026428
RT-MAXA-22/920	22	920	780	1	1.603	5906675116341
RT-MAXA-24/340	24	340	200	1	0.669	5906675026435
RT-MAXA-24/540	24	540	400	1	1.05	5906675026442
RT-MAXA-24/690	24	690	550	1	1.312	5906675335506
RT-MAXA-24/920	24	920	780	1	1.872	5906675335513
RT-MAXA-25/340	25	340	200	1	0.735	5906675116358
RT-MAXA-25/540	25	340	400	1	1.144	5906675026459
RT-MAXA-25/690	25	690	550	1	1.495	5906675335537
RT-MAXA-25/920	25	920	780	1	1.786	5906675116365
RT-MAXA-26/340	26	340	200	1	0.735	5906675116372
RT-MAXA-26/540	26	540	400	1	1.176	5906675116389
RT-MAXA-26/690	26	690	550	1	1.333	5906675335544
RT-MAXA-26/920	26	920	780	1	2.205	5906675335551
RT-MAXA-28/340	28	340	200	1	0.829	5906675116396
RT-MAXA-28/540	28	540	400	1	1.334	5906675026466
RT-MAXA-28/690	28	690	550	1	1.692	5906675116402
RT-MAXA-28/920	28	920	780	1	2.436	5906675335568
RT-MAXA-30/340	30	340	200	1	0.873	5906675116419
RT-MAXA-30/540	30	540	400	1	1.472	5906675026473
RT-MAXA-30/690	30	690	550	1	1.890	5906675335575
RT-MAXA-30/920	30	920	780	1	2.616	5906675116457
RT-MAXA-32/340	32	340	200	1	0.880	5906675116440
RT-MAXA-32/540	32	540	400	1	1.480	5906675026480
RT-MAXA-32/920	32	920	780	1	2.768	5906675116457
RT-MAXA-35/340	35	340	200	1	0.965	5906675116501
RT-MAXA-35/540	35	540	400	1	1.550	5906675071190
RT-MAXA-35/690	35	690	550	1	2.100	5906675116518
RT-MAXA-36/540	36	540	400	1	1.945	5906675116525
RT-MAXA-38/340	38	340	200	1	1.100	5906675116532
RT-MAXA-38/540	38	540	400	1	1.742	5906675116549
RT-MAXA-38/690	38	690	550	1	2.330	5906675116563
RT-MAXA-40/540	40	540	400	1	2.008	5906675071206
RT-MAXA-40/920	40	920	780	1	3.806	5906675116624
RT-MAXA-42/540	42	540	400	1	2.018	5906675071213
RT-MAXA-45/540	45	540	400	1	2.284	5906675116648

RT-MAXR Rebardrill SDS max

NEW

System of extensions and connector SDS max allows drilling deep holes





Certificate

Product overview

Features and benefits

- Monolithic carbide tip increases the life of the drill bit
- Centring point for quick commencement of drilling without the drill slipping
- 3 symmetrically arranged cutting edges allow for perfectly straight and axial drilling
- Angle tip 135° allows drilling in reinforced concrete
- Very deep seating of carbide plate significantly improves connection with the drill core, which affects quality
- 3 material extraction surfaces and special shape of the drill facilitate the removal of dust
- Steel with specification 34CrNiMo6 provides high strength and durability
- Heat treated, which increases the hardness of the steel to 52 HRC for optimal resistance during operation
- Extremely high quality, cylindricity and axial alignment of drilled holes, confirmed by international Sicher Safe certificate

Applications

- Drilling holes in reinforced concrete, concrete, stone and hard brick
- Suitable for operation with SDS plus hammer drill

Base materials

- Reinforced concrete
- Concrete
- Natural Stone
- Solid Concrete Block
- Solid Brick

Packaging

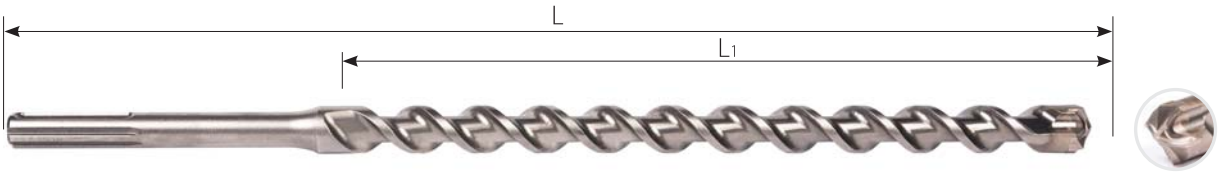
Product Commercial Data

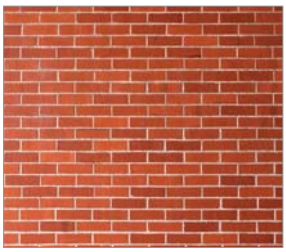
Product Code	Drill diameter	Length	Working length	Quantity	Box weight	Outer weight	Bar Code
	[mm]			[pcs]	[kg]	[kg]	
RT-MAXR-12/340	12	340	200	1	0.38	19.10	5906675416762
RT-MAXR-12/540	12	540	400	1	0.48	19.08	5906675416779
RT-MAXR-14/540	14	540	400	1	0.40	20.15	5906675416793
RT-MAXR-15/340	15	340	200	1	0.44	22.05	5906675416809
RT-MAXR-15/540	15	540	400	1	0.59	17.79	5906675416816
RT-MAXR-16/340	16	340	200	1	0.44	22.05	5906675416823
RT-MAXR-16/540	16	540	400	1	0.59	17.79	5906675416830
RT-MAXR-18/340	18	340	200	1	0.50	20.04	5906675416847
RT-MAXR-18/540	18	540	400	1	0.72	21.54	5906675416854
RT-MAXR-20/340	12	340	200	1	0.55	21.92	5906675416861
RT-MAXR-20/540	20	540	400	1	0.82	20.48	5906675416878

RT-MAXT Turbodrill SDS max

NEW

SDS max drill for drilling deep holes in reinforced concrete, concrete, stone and hard brick





Certificate

Product overview

Features and benefits

- 3 deep-seted carbide plates significantly increase the service life and efficiency of the drill
- Steel with specification 34CrNiMo6 provides high strength and durability
- Extremely high quality, cylindricity and axial alignment of drilled holes, confirmed by international SicherSafe certificate
- Optimized drill geometry allows making axial and cylindrical holes, perfect for mounting
- Heat treated, which increases the hardness of the steel to 52 HRC for optimal resistance during operation
- The drill core is subjected to special heat treatment, which increases its flexibility, resistance to twisting and prevents breaking

Applications

- Drilling holes in reinforced concrete, concrete, stone and hard brick

Base materials

- Reinforced concrete
- Concrete
- Natural Stone
- Solid Concrete Block
- Solid Brick

Packaging

Product Commercial Data

Product Code	Drill diameter	Length	Working length	Quantity	Box weight	Outer weight	Bar Code
	[mm]			[pcs]	[kg]	[kg]	
RT-MAXT-12/340	12	340	200	1	0.38	19.10	5906675416168
RT-MAXT-12/540	12	540	400	1	0.48	19.08	5906675416175
RT-MAXT-14/340	14	340	200	1	0.40	12.09	5906675416182
RT-MAXT-14/540	14	540	400	1	0.59	29.65	5906675416199
RT-MAXT-15/340	15	340	200	1	0.44	17.64	5906675416205
RT-MAXT-15/540	15	540	400	1	0.59	17.79	5906675416212
RT-MAXT-16/340	16	340	200	1	0.44	13.23	5906675416229
RT-MAXT-16/540	16	540	400	1	0.59	29.65	5906675416236
RT-MAXT-16/690	16	690	550	1	0.70	21.03	5906675416243
RT-MAXT-18/340	18	340	200	1	0.50	10.04	5906675416250
RT-MAXT-18/540	8	540	400	1	0.72	28.72	5906675416267
RT-MAXT-18/690	18	690	550	1	0.89	26.58	5906675416274
RT-MAXT-20/340	20	340	200	1	0.55	21.92	5906675416298
RT-MAXT-20/540	20	540	400	1	0.82	20.48	5906675416304
RT-MAXT-20/690	20	690	550	1	1.04	31.14	5906675416311
RT-MAXT-22/540	22	540	400	1	0.93	23.35	5906675416359
RT-MAXT-22/690	22	690	550	1	1.17	23.40	5906675416366
RT-MAXT-24/340	24	340	200	1	0.67	20.10	5906675416380
RT-MAXT-24/540	24	540	400	1	1.05	21.00	5906675416397
RT-MAXT-24/690	24	690	550	1	1.31	26.24	5906675416403
RT-MAXT-25/340	25	340	200	1	0.74	22.05	5906675416434
RT-MAXT-25/540	25	540	400	1	1.14	22.88	5906675416441
RT-MAXT-25/690	25	690	550	1	1.50	29.90	5906675416458
RT-MAXT-26/340	26	340	200	1	0.74	22.05	5906675416472
RT-MAXT-26/540	26	540	400	1	1.18	23.52	5906675416489
RT-MAXT-26/690	26	690	550	1	1.33	13.33	5906675416496
RT-MAXT-28/340	28	340	200	1	0.83	20.73	5906675416519
RT-MAXT-28/540	28	540	400	1	1.20	17.93	5906675416533
RT-MAXT-28/690	28	690	550	1	1.69	16.92	5906675416540
RT-MAXT-30/340	30	340	200	1	0.87	21.83	5906675416564
RT-MAXT-30/540	30	540	400	1	1.34	20.03	5906675416571
RT-MAXT-30/690	30	690	550	1	1.89	18.90	5906675416588
RT-MAXT-32/340	32	340	200	1	0.88	22.00	5906675416601
RT-MAXT-32/540	32	540	400	1	1.47	21.98	5906675416618
RT-MAXT-35/340	35	340	200	1	0.97	19.30	5906675416649
RT-MAXT-35/540	35	540	400	1	1.96	29.34	5906675416656
RT-MAXT-35/690	35	690	550	1	2.10	21.00	5906675416663
RT-MAXT-36/540	36	540	400	1	1.95	19.45	5906675416670
RT-MAXT-38/340	38	340	200	1	1.10	22.00	5906675416687
RT-MAXT-38/540	38	540	400	1	1.74	17.42	5906675416694
RT-MAXT-38/690	38	690	550	1	2.33	23.30	5906675416700
RT-MAXT-40/540	40	540	400	1	2.00	11.97	5906675416731
RT-MAXT-42/540	42	540	400	1	2.28	22.83	5906675416755
RT-MAXT-45/540	45	540	400	1	2.28	22.84	5906675424613

RT-BIT-PH Phillips screwdriver bits

Phillips screwdriver bits with precision milled head

Product overview

Features and benefits

- Special steel S2 affects the life of the product
- Specially heat treated in the hardening process to increase the hardness of the tip to 60 HRC
- Precision milled head tip allows for precise fitting into the screw socket
- The special shape of the tip increases its resistance to twisting under the so-called torsion effect
- Anticorrosion coating, blue colour, prevents rust

Applications

- Screwdriving of Phillips screws for wood and drywall

Packaging

Commercial product data

Index	Size	Length	Quantity	Box weight	Outer weight	Bar Code
		[mm]	[pcs]	kg	kg	
RT-BIT-PH1/25	PH1	25	20	0.30	3.00	5906675034942
RT-BIT-PH2/25	PH2	25	20	0.30	3.00	5906675034959
RT-BIT-PH2/50	PH2	50	10	0.30	3.00	5906675035031
RT-BIT-PH3/25	PH3	25	20	0.30	3.00	5906675034966
RT-BIT-PH1X3	PH1	25	3	0.024	0.24	5906675072289
RT-BIT-PH2X3	PH2	25	3	0.024	0.24	5906675072296
RT-BIT-PH3X3	PH3	25	3	0.024	0.24	5906675072302
RT-BIT-PH123	PH1 PH2 PH3	25	3	0.024	0.24	5906675072395

RT-BIT-PZ Pozidriv screwdriver bits

Pozidriv screwdriver bits with precision milled head

Product overview

Features and benefits

- Special steel S2 affects the life of the product
- Specially heat treated in the hardening process to increase the hardness of the tip to 60 HRC
- Precision milled head tip allows for precise fitting into the screw socket
- The special shape of the tip increases its resistance to twisting under the so-called torsion effect
- Anticorrosion coating, blue colour, prevents rust

Applications

- Screwdriving of Pozidriv screws, a wide range of applications in wood and light mountings

Packaging

Commercial product data

Index	Size	Length	Quantity	Box weight	Outer weight	Bar Code
		[mm]	[pcs]	kg	kg	
RT-BIT-PZ1/25	PZ1	25	20	0.30	3.00	5906675034973
RT-BIT-PZ2/25	PZ2	25	20	0.30	3.00	5906675034980
RT-BIT-PZ2/50	PZ2	50	10	0.30	3.00	5906675035048
RT-BIT-PZ3/25	PZ3	25	20	0.30	3.00	5906675038018
RT-BIT-PZ1X3	PZ1	25	3	0.024	0.24	5906675072319
RT-BIT-PZ2X3	PZ2	25	3	0.024	0.24	5906675072333
RT-BIT-PZ3X3	PH3	25	3	0.024	0.24	5906675072340
RT-BIT-PZ123	PZ1 PZ2 PZ3	25	3	0.024	0.24	5906675072401

RT-BIT-TORX T type screwdriver bits

T type screwdriver bits with precision milled head

Product overview

Features and benefits

- Special steel S2 affects the life of the product
- Specially heat treated in the hardening process to increase the hardness of the tip to 60 HRC
- Precision milled head tip allows for precise fitting into the screw socket
- The special shape of the tip increases its resistance to twisting under the so-called torsion effect
- Anticorrosion coating, blue colour, prevents rust

Applications

- Screwdriving of T type screws for wood, metal and concrete

Packaging

Commercial product data

Index	Size	Length	Quantity	Box weight	Outer weight	Bar Code
		[mm]	[pcs]	kg	kg	
RT-BIT-TORX10/25	T10	25	20	0.3	3.00	5906675335858
RT-BIT-TORX10X3	T10	25	3	0.24	0.24	5906675406176
RT-BIT-TORX15/25	T15	25	20	0.3	3.00	5906675335865
RT-BIT-TORX15X3	T15	25	3	0.024	0.24	5906675406183
RT-BIT-TORX20/25	T20	25	20	0.3	3.00	5906675335872
RT-BIT-TORX20X3	T20	25	3	0.024	0.24	5906675406190
RT-BIT-TORX25/25	T25	25	20	0.30	3.00	5906675035000
RT-BIT-TORX25X3	T25	25	3	0.024	0.24	5906675072357
RT-BIT-TORX30/25	T30	25	20	0.30	3.00	5906675035017
RT-BIT-TORX30X3	T30	25	3	0.024	0.24	5906675072364
RT-BIT-TORX40/25	T40	25	20	0.30	3.00	5906675035024
RT-BIT-TORX40X3	T40	25	3	0.024	0.24	5906675072371
RT-BIT-TORX50/25	T50	25	20	0.30	3.00	5906675335889
RT-BIT-TORX50X3	T50	25	3	0.024	0.24	5906675406206
RT-BIT-T253040	T25 T30 T40	25	3	0.30	3.00	5906675072418

RT-TBIT-PH2 Screwdriver bits Phillips 2 with thread M6

NEW

Screwdriver bits Phillips 2 with thread, designed for roof fixings applications.

Product overview

Features and benefits

- Special steel S2 affects the life of the product
- Head tip subjected to additional heat treatment, increasing hardness to 63 HRC
- Precision milled head tip allows for precise fitting into the screw socket
- Anticorrosion coating with a satin finish enhances resistance to rust

Applications

- Installations of flat roof fixings

Packaging

Commercial product data

Index	Size	Length	Working length	Quantity	Box weight	Outer weight	Bar Code
		[mm]	[mm]	[pcs]	kg	kg	
RT-TBIT-PH2/M6	PH2	45	35	10	0.12	1.17	5906675057767

RT-TBIT-TORX25 T25 screwdriver bits with thread M6

NEW

Product overview

Features and benefits

- Special steel S2 affects the life of the product
- Head tip subjected to additional heat treatment, increasing hardness to 63 HRC
- Precision milled head tip allows for precise fitting into the screw socket
- Anticorrosion coating with a satin finish enhances resistance to rust

Applications

- Installations of flat roof fixings

Packaging

Commercial product data

Index	Size	Length	Working length	Quantity	Box weight	Outer weight	Bar Code
		[mm]	[mm]	[pcs]	kg	kg	
RT-TBIT-T25/M6	T25	45	35	10	0.12	1.17	5906675423531

RT-TBIT-ADAP Adapters with M6 thread

Holder for bits with thread M6

Product overview

Features and benefits

- Stainless steel adapter for increased fault tolerance
- 1/4” (6.35mm) grip allows using most screwdrivers and cordless drills on the market

Applications

- Designed for use with bits for screwing screws and other fastening applications

Packaging

Commercial product data

Index	Length	Quantity	Box weight	Outer weight	Bar Code
	[mm]	[pcs]	kg	kg	
RT-TBIT-ADAP-250	250	1	0.14	2.70	5906675421773
RT-TBIT-ADAP-350	350	1	0.20	3.92	5906675421766
RT-TBIT-ADAP-450	450	1	0.26	5.24	5906675421759
RT-TBIT-ADAP-650	650	1	0.38	7.68	5906675421742
RT-TBIT-ADAP-750	750	1	0.45	9.06	5906675421735

RT-IS Long impact sockets 1/2”

NEW

Impact sockets designed to overcome the high torsional forces

Product overview

Features and benefits

- Special steel S2 with specification 65SiMoCr4 and high hardness extends the life of the product
- Ideally milled slot allows good lateral hold of screws and bolts when screwdriving
- Longer socket enables you to screw in fastenings in hard-to-reach places
- An additional black manganese-phosphorus coating protects the product against corrosion
- 1/2’’ socket allows you to work with most impact wrenches available on the market

Applications

- Screwdriving in concrete, connecting screws, threaded rods and roof fasteners
- Designed to work with impact wrenches 1/2”

Packaging

Product Commercial Data

Index	Dimensions	External diameter	Length	Quantity	Box weight	Outer weight	Bar Code
	[mm]	[mm]	[mm]	[pcs]	kg	kg	
RT-IS-10-1/2L	10	30	78	1	1.68	10.08	5906675403045
RT-IS-12-1/2L	12	30	78	1	1.94	11.66	5906675403052
RT-IS-13-1/2L	13	30	78	1	1.99	11.95	5906675403069
RT-IS-15-1/2L	15	30	78	1	2.82	16.92	5906675403076
RT-IS-17-1/2L	17	30	78	1	3.10	18.58	5906675403083
RT-IS-19-1/2L	19	30	78	1	3.11	18.65	5906675403090
RT-IS-22-1/2L	22	30	78	1	3.83	22.97	5906675403106