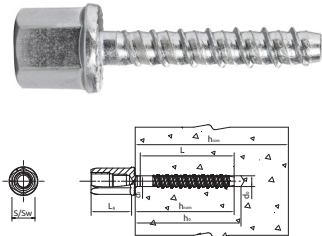


R-LX-I-ZP Zinc plated Internally Threaded Concrete Screw Anchor, Part 6

Self-tapping concrete screwbolt



Approvals and Reports

- ETA 17/0783
- UKTA-22/6346



Product information

Features and benefits

- Time-efficient installation through streamlined procedure - simply drill and drive
- Completely removable
- Unique design with patented threadform ensures high performance for relatively small hole diameter
- Non-expansion functioning ensures low risk of damage to base material and makes R-LX ideal for installation near edges and adjacent anchors
- High performance in non-cracked concrete
- Different head types for any application
- Oversize head for fixtures with elongated holes
- Excellent product for temporary fixing
- Suitable for standard and reduced embedment depth

Applications

- Through-fixing
- Temporary anchorages
- Formwork support systems
- Balustrading & handrails
- Fencing & gates manufacturing and installation
- 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 Slab C30/37-C50/60
- Reinforced concrete
- Unreinforced concrete

Also suitable for use in:

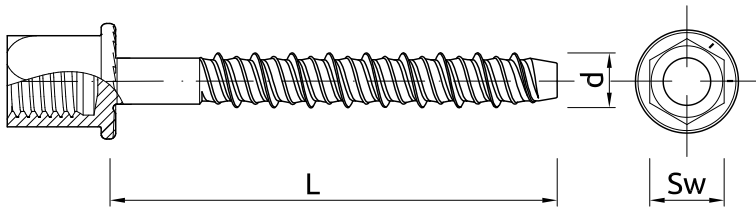
- Natural Stone (after site testing)

Installation guide



1. Drill the hole with rotary hammer drilling machine. Drill to a required depth.
2. Blow out dust at least 4 times with a hand pump.
3. Tighten the anchor to the substrate.
4. Install the fastening element.
5. After installation a further turning of the screw must not be possible. The head of the screw must be in contact with the substrate and is not damaged.

Product information



Size	Product Code	Anchor	
		Diameter	Length
		d	L
		[mm]	[mm]
5	R-LX-05X025-I06-ZP	6.2	25
6	R-LX-06X035-I06-ZP	7.5	35
	R-LX-06X035-I08-ZP	7.5	35
	R-LX-06X035-I8/10Z	7.5	35
	R-LX-06X035-I10-ZP	7.5	35
	R-LX-06X055-I08-ZP	7.5	55
	R-LX-06X055-I8/10Z	7.5	55
	R-LX-06X055-I10-ZP	7.5	55
8	R-LX-08X050-I12-ZP	10	50
10	R-LX-10X055-I16-ZP	12.4	50

Installation data

Normal concrete

Size			5	6	8	10
Thread diameter	d	[mm]	6.3	7.5	9.9	12.4
Hole diameter in substrate	d ₀	[mm]	5	6	8	10
Wrench size	Sw	[mm]	10	13	15	21
External diameter of washer		[mm]	13	16	18	24
Max. torque for impact screw driver	T _{imp,max}	[Nm]	200	400	900	950
REDUCED EMBEDMENT DEPTH						
Min. hole depth in substrate	h _{0,r}	[mm]	35	50	60	65
Real hole depth in substrate	h ₀	[mm]	L + 10	L + 10 - t _{fix}	L + 10	L + 10
Min. installation depth	h _{nom,r}	[mm]	25	43	50	55
Min. substrate thickness	h _{min,r}	[mm]	80	100	80	80
Min. spacing	s _{min,r}	[mm]	40	45	50	60
Min. edge distance	c _{min,r}	[mm]	40	45	50	60
MINIMUM EMBEDMENT DEPTH						
Min. hole depth in substrate	h _{0,min}	[mm]	-	45	-	-
Real hole depth in substrate	h ₀	[mm]	-	L + 10	-	-
Min. installation depth	h _{nom,min}	[mm]	-	35	-	-
Min. substrate thickness	h _{min,min}	[mm]	-	80	-	-
Min. spacing	s _{min,min}	[mm]	-	45	-	-
Min. edge distance	c _{min,min}	[mm]	-	45	-	-
STANDARD EMBEDMENT DEPTH						
Min. hole depth in substrate	h _{0,s}	[mm]	-	65	-	-
Real hole depth in substrate	h ₀	[mm]	-	L + 10 - t _{fix}	-	-
Min. installation depth	h _{nom,s}	[mm]	-	55	-	-
Min. substrate thickness	h _{min,s}	[mm]	-	100	-	-
Min. spacing	s _{min,s}	[mm]	-	45	-	-
Min. edge distance	c _{min,s}	[mm]	-	45	-	-

Installation data

Hollow concrete slab

Size	6		
Thread diameter	d	[mm]	7.5
Hole diameter in substrate	d ₀	[mm]	6
Wrench size	Sw	[mm]	13
External diameter of washer		[mm]	16
Max. torque for impact screw driver	T _{imp,max}	[Nm]	400
MINIMUM EMBEDMENT DEPTH			
Min. hole depth in substrate	h _{o,min}	[mm]	45
Real hole depth in substrate	h ₀	[mm]	L + 10
Min. installation depth	h _{nom,min}	[mm]	35
Minimum distance between anchor groups	a _{min,min}	[mm]	100
Min. spacing	s _{min,min}	[mm]	100
Min. edge distance	c _{min,min}	[mm]	50

Mechanical properties

Size			5	6	8	10
Nominal ultimate tensile strength - tension	f _{uk}	[N/mm ²]	1300	1250	1200	1050
Nominal yield strength - tension	f _{yk}	[N/mm ²]	1150	1100	1050	950
Cross sectional area - tension	A _s	[mm ²]	19.6	28.3	50.3	78.5
Elastic section modulus	W _{el}	[mm ³]	12.2	21.2	50.3	98.1
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	19	31.8	72.4	123.6
Design bending resistance	M	[Nm]	12.7	21.2	48.3	82.4

Basic performance data

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

Size			5	6	8	10
CRACKED AND NON-CRACKED CONCRETE						
Reduced embedment depth h _{nom}	[mm]	25.00	-	50.00	55.00	
Minimum embedment depth h _{nom}	[mm]	-	35.00	-	-	
HOLLOW CORE SLAB						
Minimum embedment depth h _{nom}	[mm]	-	35.00	-	-	
NON-CRACKED CONCRETE C20/25						
Standard embedment depth h _{nom}	[mm]	-	55.00	-	-	
Reduced embedment depth h _{nom}	[mm]	-	35.00	-	-	
CRACKED CONCRETE C20/25						
Standard embedment depth h _{nom}	[mm]	-	55.00	-	-	
Reduced embedment depth h _{nom}	[mm]	-	35.00	-	-	

Basic performance data

Size		5	6	8	10
CHARACTERISTIC LOAD					
TENSION AND SHEAR LOAD F_{Rk}					
CRACKED AND NON-CRACKED CONCRETE					
Reduced embedment depth	[kN]	3.00	-	7.50	9.00
Minimum embedment depth	[kN]	-	3.00	-	-
HOLLOW CORE SLAB					
Minimum embedment depth	[kN]	-	6.00	-	-
TENSION LOAD N_{Rk}					
NON-CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	12.00	-	-
Reduced embedment depth	[kN]	-	8.90	-	-
CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	7.00	-	-
Reduced embedment depth	[kN]	-	6.23	-	-
SHEAR LOAD V_{Rk}					
NON-CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	13.39	-	-
Reduced embedment depth	[kN]	-	8.90	-	-
CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	9.37	-	-
Reduced embedment depth	[kN]	-	6.23	-	-
DESIGN LOAD					
TENSION AND SHEAR LOAD F_{Rd}					
CRACKED AND NON-CRACKED CONCRETE					
Reduced embedment depth	[kN]	1.67	-	5.00	6.00
Minimum embedment depth	[kN]	-	2.00	-	-
HOLLOW CORE SLAB					
Minimum embedment depth	[kN]	-	4.00	-	-
TENSION LOAD N_{Rd}					
NON-CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	8.00	-	-
Reduced embedment depth	[kN]	-	5.94	-	-
CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	4.67	-	-
Reduced embedment depth	[kN]	-	4.16	-	-
SHEAR LOAD V_{Rd}					
NON-CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	8.93	-	-
Reduced embedment depth	[kN]	-	5.94	-	-
CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	6.25	-	-
Reduced embedment depth	[kN]	-	4.16	-	-
RECOMMENDED LOAD					
TENSION AND SHEAR LOAD F_{Rec}					
CRACKED AND NON-CRACKED CONCRETE					
Reduced embedment depth	[kN]	1.19	-	3.57	4.28
Minimum embedment depth	[kN]	-	1.42	-	-
HOLLOW CORE SLAB					
Minimum embedment depth	[kN]	-	2.85	-	-

Basic performance data

Size		5	6	8	10
MEAN ULTIMATE LOAD					
TENSION LOAD $N_{Ru,m}$					
NON-CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	14.80	-	-
Reduced embedment depth	[kN]	-	12.22	-	-
CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	11.10	-	-
Reduced embedment depth	[kN]	-	8.60	-	-
SHEAR LOAD $V_{Ru,m}$					
NON-CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	18.37	-	-
Reduced embedment depth	[kN]	-	12.22	-	-
CRACKED CONCRETE C20/25					
Standard embedment depth	[kN]	-	12.93	-	-
Reduced embedment depth	[kN]	-	8.60	-	-

Design performance data

Normal concrete

Size		5	6	8	10	
Min. installation depth	h_{nom} [mm]	25.00	35.00	55.00	50.00	55.00
Effective embedment depth	h_{ef} [mm]	17.50	24.70	42.00	37.00	40.00
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk} [kN]	3.00	3.00	-	7.50	9.00
Installation safety factor	γ_{inst} -	1.20	1.00	-	1.00	1.00
Increasing factors for $N_{Rd,p}$ - C30/37	ψ_c -	1.08	1.00	-	1.08	1.08
Increasing factors for $N_{Rd,p}$ - C40/50	ψ_c -	1.15	1.00	-	1.15	1.15
Increasing factors for $N_{Rd,p}$ - C50/60	ψ_c -	1.19	1.00	-	1.19	1.19
Spacing	$s_{cr,N}$ -	70.00	100.0	-	120.0	120.0
Edge distance	$c_{cr,N}$ -	35.00	50.00	-	60.00	60.00
TENSION LOAD						
STEEL FAILURE						
Characteristic resistance	$N_{Rk,s}$ [kN]	-	35.40	35.40	-	-
Partial safety factor	γ_{Ms} -	-	1.40	1.40	-	-
PULL-OUT FAILURE; NON-CRACKED CONCRETE C20/25						
Characteristic resistance	$N_{Rk,p}$ [kN]	-	-	12.00	-	-
PULL-OUT FAILURE; CRACKED CONCRETE C20/25						
Characteristic resistance	$N_{Rk,p}$ [kN]	-	-	7.00	-	-
PULL-OUT FAILURE						
Installation safety factor	γ_{inst} -	-	1.00	1.00	-	-
Increasing factors for $N_{Rd,p}$ - C30/37	ψ_c -	-	1.08	1.08	-	-
Increasing factors for $N_{Rd,p}$ - C40/50	ψ_c -	-	1.15	1.15	-	-
Increasing factors for $N_{Rd,p}$ - C50/60	ψ_c -	-	1.19	1.19	-	-
CONCRETE CONE FAILURE						
Installation safety factor	γ_{inst} -	-	1.00	1.00	-	-
Factor for cracked concrete	$k_{cr,N}$ -	-	7.70	7.70	-	-
Factor for non-cracked concrete	$k_{ucr,N}$ -	-	11.00	11.00	-	-
Spacing	$s_{cr,N}$ [mm]	-	90.00	126.0	-	-
Edge distance	$c_{cr,N}$ [mm]	-	45.00	63.00	-	-
CONCRETE SPLITTING FAILURE						
Installation safety factor	γ_{inst} -	-	1.00	1.00	-	-
Spacing	$s_{cr,sp}$ [mm]	-	90.00	126.0	-	-
Edge distance	$c_{cr,sp}$ [mm]	-	45.00	63.00	-	-

Design performance data

Size			5	6	8	10	
SHEAR LOAD							
STEEL FAILURE							
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	19.00	31.80	31.80	72.40	123.6
Partial safety factor	γ_{Ms}	-	1.50	1.50	1.50	1.50	1.50
Characteristic resistance without lever arm	$V_{Rk,s}$	[kN]	-	17.70	17.70	-	-
Ductility factor	k_γ	-	-	0.80	0.80	-	-
CONCRETE PRY-OUT FAILURE							
Factor	k	-	-	1.00	1.00	-	-
Installation safety factor	γ_{inst}	-	-	1.00	1.00	-	-
CONCRETE EDGE FAILURE							
Effective length of anchor	ℓ_f	[mm]	-	43.00	35.00	-	-
Anchor diameter	d_{nom}	[mm]	-	6.00	6.00	-	-
Installation safety factor	γ_{inst}	-	-	1.00	1.00	-	-

Design performance data

Characteristic Resistance under fire exposure in concrete C20/25 to C50/60

Size			8	10	6	
TENSION AND SHEAR LOAD						
Spacing	S_{cr}	[mm]	148.00	160.00	-	-
Edge distance	c_{cr}	[mm]	74.00	80.00	-	-
R (for EI) = 30 min						
Effective embedment depth	h_{ef}	[mm]	37.00	40.00	24.70	42.00
TENSION LOAD						
STEEL FAILURE						
Characteristic resistance	$N_{Rk,s}$	[kN]	-	-	0.28	0.28
PULL-OUT FAILURE						
Characteristic resistance	$N_{Rk,p}$	[kN]	-	-	1.38	1.75
SHEAR LOAD						
STEEL FAILURE						
Characteristic resistance without lever arm	$V_{Rk,s}$	[kN]	-	-	0.28	0.28
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	-	-	0.25	0.25
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk}	[kN]	0.75	1.57	-	-
R (for EI) = 60 min						
Effective embedment depth	h_{ef}	[mm]	37.00	40.00	24.70	42.00
TENSION LOAD						
STEEL FAILURE						
Characteristic resistance	$N_{Rk,s}$	[kN]	-	-	0.25	0.25
PULL-OUT FAILURE						
Characteristic resistance	$N_{Rk,p}$	[kN]	-	-	1.38	1.75
SHEAR LOAD						
STEEL FAILURE						
Characteristic resistance without lever arm	$V_{Rk,s}$	[kN]	-	-	0.25	0.25
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	-	-	0.23	0.23
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk}	[kN]	0.65	1.18	-	-
R (for EI) = 90 min						
Effective embedment depth	h_{ef}	[mm]	37.00	40.00	24.70	42.00
TENSION LOAD						
STEEL FAILURE						
Characteristic resistance	$N_{Rk,s}$	[kN]	-	-	0.20	0.20
PULL-OUT FAILURE						
Characteristic resistance	$N_{Rk,p}$	[kN]	-	-	1.38	1.75
SHEAR LOAD						
STEEL FAILURE						
Characteristic resistance without lever arm	$V_{Rk,s}$	[kN]	-	-	0.20	0.20
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	-	-	0.18	0.18
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk}	[kN]	0.50	1.02	-	-

Design performance data

Size			8	10	6	
R (For EI) = 120 min						
Effective embedment depth	h_{ef}	[mm]	37.00	40.00	24.70	42.00
TENSION LOAD						
STEEL FAILURE						
Characteristic resistance	$N_{Rk,s}$	[kN]	-	-	0.14	0.14
PULL-OUT FAILURE						
Characteristic resistance	$N_{Rk,p}$	[kN]	-	-	1.10	1.40
SHEAR LOAD						
STEEL FAILURE						
Characteristic resistance without lever arm	$V_{Rk,s}$	[kN]	-	-	0.14	0.14
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	-	-	0.13	0.13
TENSION AND SHEAR LOAD						
Characteristic resistance	F_{Rk}	[kN]	0.40	0.79	-	-

Hollow concrete slab

Size			6
Min. installation depth	h_{nom}	[mm]	35.00
Effective embedment depth	h_{ef}	[mm]	24.70
Min. bottom flange thickness	d_b	[mm]	35.00
TENSION AND SHEAR LOAD			
HOLLOW CONCRETE SLAB C30/37			
Characteristic resistance	F_{Rk}	[kN]	5.00
HOLLOW CONCRETE SLAB C40/50			
Characteristic resistance	F_{Rk}	[kN]	6.00
HOLLOW CONCRETE SLAB C50/60			
Characteristic resistance	F_{Rk}	[kN]	6.00
Installation safety factor	V_{inst}	-	1.00
Spacing	$s_{cr,N}$	[mm]	100.00
Edge distance	$c_{cr,N}$	[mm]	50.00
SHEAR LOAD			
STEEL FAILURE			
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	31.80
Partial safety factor	γ_{Ms}	-	1.50

Product commercial data

Product Code	Anchor	Quantity [pcs]			Weight [kg]			Bar Codes
	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-LX-05X025-I06-ZP ₁₎	25	100	100	38400	1.20	1.20	490.8	5906675460734
R-LX-06X035-I06-ZP ₁₎	35	100	100	38400	2.3	2.3	924.7	5906675430836
R-LX-06X035-I08-ZP ₁₎	35	100	100	38400	2.2	2.2	867.9	5906675416069
R-LX-06X035-I8/10Z ₁₎	35	100	100	25600	2.6	2.6	686.6	5906675468983
R-LX-06X035-I10-ZP ₁₎	35	100	100	38400	2.0	2.0	778.8	5906675416076
R-LX-06X055-I08-ZP ₁₎	55	100	100	25600	2.7	2.7	710.2	5906675416083
R-LX-06X055-I8/10Z ₁₎	55	100	100	25600	3.1	3.1	826.4	5906675468990
R-LX-06X055-I10-ZP ₁₎	55	100	100	25600	2.4	2.4	644.4	5906675416090
R-LX-08X050-I12-ZP ₁₎	50	100	100	19200	3.9	3.9	778.8	5906675460741

Product commercial data

Product Code	Anchor	Quantity [pcs]			Weight [kg]			Bar Codes
	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-LX-10X055-I16-ZP ₁₎	50	100	100		4.1	4.1		5906675468976

1) ETA 17/0783

** the remaining range of anchoring depth includes ETA-17/0806*