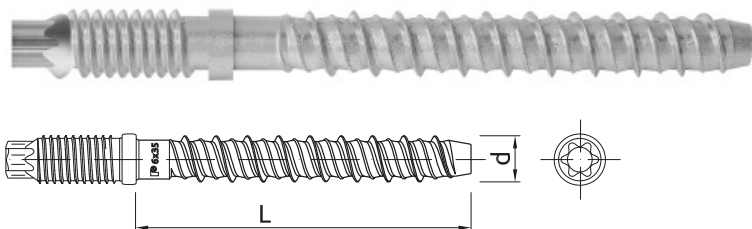


R-LX-E-ZP Zinc plated Externally Threaded Concrete Screw Anchor, Part 6

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
- 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
- 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 to the recommended torque.
4. After installation.

Product information

Size	Product Code	Anchor	
		Diameter	Length
		d	L
		[mm]	[mm]
6	R-LX-06X035-E8-ZP	7.5	35
	R-LX-06X055-E8-ZP	7.5	55

Installation data

Size	6		
Thread diameter	d	[mm]	7.5
Hole diameter in substrate	d ₀	[mm]	6
Max. torque for impact screw driver	T _{imp,max}	[Nm]	400
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]	84
Min. spacing	s _{min,s}	[mm]	45
Min. edge distance	c _{min,s}	[mm]	45
REDUCED EMBEDMENT DEPTH			
Min. hole depth in substrate	h _{0,r}	[mm]	45
Real hole depth in substrate	h ₀	[mm]	L + 10 - t _{fix}
Min. installation depth	h _{nom,r}	[mm]	35
Min. substrate thickness	h _{min,r}	[mm]	80
Min. spacing	s _{min,r}	[mm]	45
Min. edge distance	c _{min,r}	[mm]	45

Mechanical properties

Size	6		
Nominal ultimate tensile strength - tension	F _{uk}	[N/mm ²]	1250
Nominal yield strength - tension	F _{yk}	[N/mm ²]	1100
Cross sectional area - tension	A _s	[mm ²]	28.3
Elastic section modulus	W _{el}	[mm ³]	21.2
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	31.8
Design bending resistance	M	[Nm]	21.2

Basic performance data

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

Size	6		
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		6
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
CHARACTERISTIC LOAD		
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 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

Design performance data

(-) failure is not decisive

Size			6	
Min. installation depth	h_{nom}	[mm]	35.00	55.00
Effective embedment depth	h_{ef}	[mm]	24.70	42.00
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
SHEAR LOAD				
STEEL FAILURE				
Characteristic resistance without lever arm	$V_{Rk,s}$	[kN]	17.70	17.70
Ductility factor	k_γ	-	0.80	0.80
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	31.80	31.80
Partial safety factor	γ_{Ms}	-	1.50	1.50
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			6	
R (for EI) = 30 min				
Effective embedment depth	h_{ef}	[mm]	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
R (for EI) = 60 min				
Effective embedment depth	h_{ef}	[mm]	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
R (for EI) = 90 min				
Effective embedment depth	h_{ef}	[mm]	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
R (for EI) = 120 min				
Effective embedment depth	h_{ef}	[mm]	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

Product commercial data

Product Code	Anchor	Quantity [pcs]			Weight [kg]			Bar Codes
	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-LX-06X035-E8-ZP 1)	35	100	100	25600	1.57	1.57	431.9	5906675492322
R-LX-06X055-E8-ZP 1)	55	100	100		1.64	1.64		5906675470368

1) ETA 17/0783