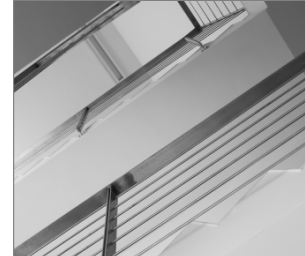


## R-LX-CS-ZP Zinc Plated Countersunk Concrete Screw Anchor

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 with possibility of reuse
- 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

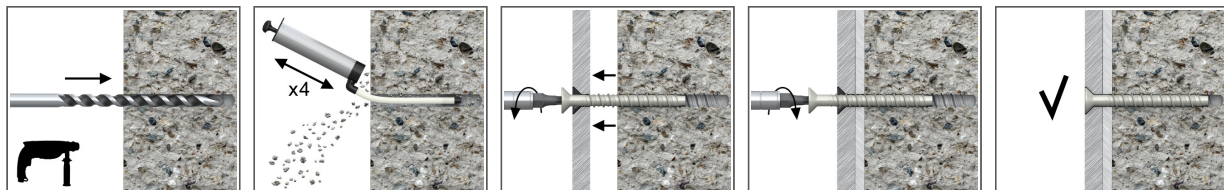
- Through-fixing
- Temporary anchorages
- Formwork support systems
- Balustrading & handrails
- Fencing & gates manufacturing and installation
- Racking systems
- Public seating
- Scaffolding

#### Base materials

##### Approved for use in:

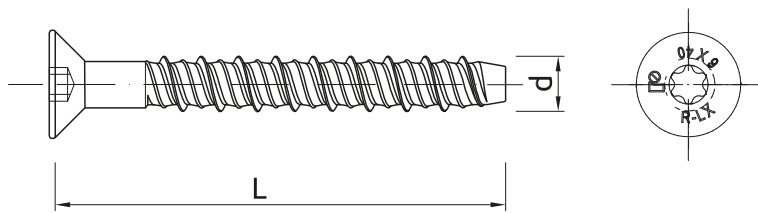
- Cracked concrete C20/25-C50/60
- Non-cracked concrete C20/25-C50/60
- Reinforced concrete
- Unreinforced concrete

### Installation guide



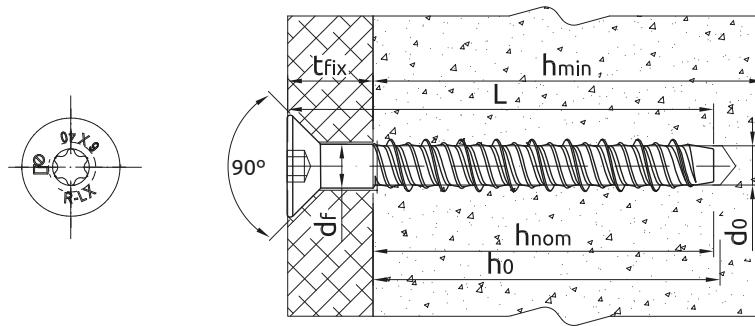
1. Drill the hole with rotary hammer drilling machine. Drill to a required depth.
2. Blow out dust at least 4 times with a hand pump.
3. Possibility of unscrewing and re-screwing.
4. Tighten to the recommended torque.
5. After installation.

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]
5	R-LX-05X050-CS-ZP	6.2	50	-	7	7
	R-LX-05X075-CS-ZP	6.2	75	-	32	7
6	R-LX-06X050-CS-ZP	7.5	50	7	-	9
	R-LX-06X060-CS-ZP	7.5	60	17	5	9
	R-LX-06X075-CS-ZP	7.5	75	32	20	9
	R-LX-06X090-CS-ZP	7.5	90	47	35	9
	R-LX-06X100-CS-ZP	7.5	100	57	45	9
	R-LX-06X120-CS-ZP	7.5	120	77	65	9
	R-LX-06X130-CS-ZP	7.5	130	87	75	9
	R-LX-06X140-CS-ZP	7.5	140	97	85	9
	R-LX-06X150-CS-ZP	7.5	150	107	95	9
	R-LX-06X160-CS-ZP	7.5	160	117	105	9
8	R-LX-08X060-CS-ZP	9.9	60	10	-	12
	R-LX-08X075-CS-ZP	9.9	75	25	5	12
	R-LX-08X090-CS-ZP	9.9	90	40	20	12
	R-LX-08X100-CS-ZP	9.9	100	50	30	12
	R-LX-08X120-CS-ZP	9.9	120	70	50	12
	R-LX-08X130-CS-ZP	9.9	130	80	60	12
10	R-LX-10X060-CS-ZP	12.4	60	5	-	14
	R-LX-10X065-CS-ZP	12.4	65	10	-	14
	R-LX-10X075-CS-ZP	12.4	75	20	-	14
	R-LX-10X085-CS-ZP	12.4	85	30	-	14
	R-LX-10X090-CS-ZP	12.4	90	35	5	14
	R-LX-10X100-CS-ZP	12.4	100	45	15	14
	R-LX-10X110-CS-ZP	12.4	110	55	25	14
	R-LX-10X120-CS-ZP	12.4	120	65	35	14
	R-LX-10X130-CS-ZP	12.4	130	75	45	14
	R-LX-10X140-CS-ZP	12.4	140	85	55	14
R-LX-10X150-CS-ZP	12.4	150	95	65	14	
R-LX-10X160-CS-ZP	12.4	160	105	75	14	

## Installation data



### Normal concrete

Size			5	6	8	10
Hole diameter in substrate	$d_0$	[mm]	5	6	8	10
Hole diameter in fixture	$d_f$	[mm]	7	9	12	14
Screw drive	-	[-]	T25	T40	T50	T50
Head diameter		[mm]	10.9	15.9	21.3	21.3
Max. torque for impact screw driver	$T_{imp,max}$	[Nm]	200	400	900	950
<b>MINIMUM EMBEDMENT DEPTH</b>						
Min. hole depth in substrate	$h_{0,min}$	[mm]	-	45	-	-
Real hole depth in substrate	$h_0$	[mm]	-	$L + 10 - t_{fix}$	-	-
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	-	-
<b>REDUCED EMBEDMENT DEPTH</b>						
Min. hole depth in substrate	$h_{0,r}$	[mm]	35	50	60	65
Real hole depth in substrate	$h_0$	[mm]	$L + 10 - t_{fix}$	$L + 10 - t_{fix}$	$L + 10 - t_{fix}$	$L + 10$
Min. installation depth	$h_{nom,r}$	[mm]	25	39	50	55
Min. substrate thickness	$h_{min,r}$	[mm]	80	80	80	80
Min. spacing	$s_{min,r}$	[mm]	40	45	50	60
Min. edge distance	$c_{min,r}$	[mm]	40	45	50	60
<b>STANDARD EMBEDMENT DEPTH</b>						
Min. hole depth in substrate	$h_{0,s}$	[mm]	50	65	80	95
Real hole depth in substrate	$h_0$	[mm]	$L + 10 - t_{fix}$	$L + 10 - t_{fix}$	$L + 10 - t_{fix}$	$L + 10 - t_{fix}$
Min. installation depth	$h_{nom,s}$	[mm]	40	55	70	85
Min. substrate thickness	$h_{min,s}$	[mm]	80	84	110	130
Min. spacing	$s_{min,s}$	[mm]	40	45	50	60
Min. edge distance	$c_{min,s}$	[mm]	40	45	50	60

### Hollow concrete slab

Size			6
Thread diameter	$d$	[mm]	7.5
Hole diameter in substrate	$d_0$	[mm]	6
Screw drive	-	[-]	T25
Head diameter		[mm]	10.9
Max. torque for impact screw driver	$T_{imp,max}$	[Nm]	400
<b>MINIMUM EMBEDMENT DEPTH</b>			
Min. hole depth in substrate	$h_{0,min}$	[mm]	45
Real hole depth in substrate	$h_0$	[mm]	$L + 10 - t_{fix}$
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]	100

## Mechanical properties

Size			5	6	8	10
Nominal ultimate tensile strength - tension	$f_{uk}$	[N/mm <sup>2</sup> ]	1300	1250	1200	1050
Nominal yield strength - tension	$f_{yk}$	[N/mm <sup>2</sup> ]	1150	1100	1050	950
Cross sectional area - tension	$A_s$	[mm <sup>2</sup> ]	19.6	28.3	50.3	78.5
Elastic section modulus	$W_{el}$	[mm <sup>3</sup> ]	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
<b>CRACKED AND NON-CRACKED CONCRETE</b>						
Reduced embedment depth $h_{nom}$	[mm]		25.00	39.00	50.00	55.00
Standard embedment depth $h_{nom}$	[mm]		40.00	55.00	70.00	85.00
Minimum embedment depth $h_{nom}$	[mm]		-	35.00	-	-
<b>HOLLOW CORE SLAB</b>						
Minimum embedment depth $h_{nom}$	[mm]		-	35.00	-	-
<b>CHARACTERISTIC LOAD</b>						
<b>TENSION AND SHEAR LOAD <math>F_{Rk}</math></b>						
<b>CRACKED AND NON-CRACKED CONCRETE</b>						
Reduced embedment depth	[kN]		3.00	6.00	7.50	9.00
Standard embedment depth	[kN]		5.00	9.00	12.00	20.00
Minimum embedment depth	[kN]		-	3.00	-	-
<b>HOLLOW CORE SLAB</b>						
Minimum embedment depth	[kN]		-	6.00	-	-
<b>DESIGN LOAD</b>						
<b>TENSION AND SHEAR LOAD <math>F_{Rd}</math></b>						
<b>CRACKED AND NON-CRACKED CONCRETE</b>						
Reduced embedment depth	[kN]		1.67	4.00	5.00	6.00
Standard embedment depth	[kN]		2.77	6.00	8.00	13.30
Minimum embedment depth	[kN]		-	2.00	-	-
<b>HOLLOW CORE SLAB</b>						
Minimum embedment depth	[kN]		-	4.00	-	-
<b>RECOMMENDED LOAD</b>						
<b>TENSION AND SHEAR LOAD <math>F_{rec}</math></b>						
<b>CRACKED AND NON-CRACKED CONCRETE</b>						
Reduced embedment depth	[kN]		1.19	2.85	3.57	4.28
Standard embedment depth	[kN]		1.98	4.29	5.71	9.52
Minimum embedment depth	[kN]		-	1.42	-	-
<b>HOLLOW CORE SLAB</b>						
Minimum embedment depth	[kN]		-	2.85	-	-

## Design performance data

Normal concrete

Size			5		6			8		10	
Min. installation depth	$h_{nom}$	[mm]	25.00	40.00	35.00	39.00	55.00	50.00	70.00	55.00	80.00
Effective embedment depth	$h_{ef}$	[mm]	17.50	30.00	24.70	30.00	42.00	37.00	53.00	40.00	65.00
<b>TENSION AND SHEAR LOAD</b>											
Characteristic resistance	$F_{Rk}$	[kN]	3.00	5.00	3.00	6.00	9.00	7.50	12.00	9.00	20.00
Installation safety factor	$\gamma_{inst}$	-	1.20	1.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Increasing factors for $N_{Rd,p}$ - C30/37	$\psi_c$	-	1.08	1.08	1.00	1.08	1.08	1.08	1.08	1.08	1.08
Increasing factors for $N_{Rd,p}$ - C40/50	$\psi_c$	-	1.15	1.15	1.00	1.15	1.15	1.15	1.15	1.15	1.15
Increasing factors for $N_{Rd,p}$ - C50/60	$\psi_c$	-	1.19	1.19	1.00	1.19	1.19	1.19	1.19	1.19	1.19
Spacing	$s_{cr,N}$	-	70.00	90.00	100.0	90.00	126.0	120.0	160.0	120.0	196.0
Edge distance	$c_{cr,N}$	-	35.00	45.00	50.00	45.00	63.00	60.00	80.00	60.00	98.00
<b>SHEAR LOAD</b>											
<b>STEEL FAILURE</b>											
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	19.00	19.00	31.80	31.80	31.80	72.40	72.40	123.6	123.6
Partial safety factor	$\gamma_{Ms}$	-	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

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

Size			5		6			8		10	
<b>TENSION AND SHEAR LOAD</b>											
Spacing	$s_{cr}$	[mm]	120.00	120.00	168.00	148.00	212.00	160.00	260.00		
Edge distance	$c_{cr}$	[mm]	60.00	60.00	84.00	74.00	106.00	80.00	130.00		
<b>R (for EI) = 30 min</b>											
Effective embedment depth	$h_{ef}$	[mm]	30.00	30.00	42.00	37.00	53.00	40.00	65.00		
<b>TENSION AND SHEAR LOAD</b>											
Characteristic resistance	$F_{Rk}$	[kN]	0.20	0.28	0.28	0.75	0.75	1.57	1.57		
<b>R (for EI) = 60 min</b>											
Effective embedment depth	$h_{ef}$	[mm]	30.00	30.00	42.00	37.00	53.00	40.00	65.00		
<b>TENSION AND SHEAR LOAD</b>											
Characteristic resistance	$F_{Rk}$	[kN]	0.18	0.25	0.25	0.65	0.75	1.18	1.18		
<b>R (for EI) = 90 min</b>											
Effective embedment depth	$h_{ef}$	[mm]	30.00	30.00	42.00	37.00	53.00	40.00	65.00		
<b>TENSION AND SHEAR LOAD</b>											
Characteristic resistance	$F_{Rk}$	[kN]	0.14	0.20	0.20	0.50	0.75	1.02	1.02		
<b>R (for EI) = 120 min</b>											
Effective embedment depth	$h_{ef}$	[mm]	30.00	30.00	42.00	37.00	53.00	40.00	65.00		
<b>TENSION AND SHEAR LOAD</b>											
Characteristic resistance	$F_{Rk}$	[kN]	0.10	0.14	0.14	0.40	0.75	0.79	0.79		

## Design performance data

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	$V_{Ms}$	-	1.50

## Product commercial data

Product Code	Anchor	Quantity [pcs]			Weight [kg]			Bar Codes
	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-LX-05X050-CS-ZP <sub>1)</sub>	50	100	100	38400	0.91	0.91	379.4	5906675127859
R-LX-05X075-CS-ZP <sub>1)</sub>	75	100	100	38400	1.29	1.29	526.9	5906675128054
R-LX-06X050-CS-ZP <sub>1)</sub>	50	100	100	38400	1.59	1.59	640.6	5906675128801
R-LX-06X060-CS-ZP <sub>1)</sub>	60	100	100	38400	1.52	1.52	611.8	5906675442488
R-LX-06X075-CS-ZP <sub>1)</sub>	75	100	100	38400	1.76	1.76	705.8	5906675129280
R-LX-06X090-CS-ZP <sub>1)</sub>	90	100	100	38400	2.2	2.2	856.8	5906675442495
R-LX-06X100-CS-ZP <sub>1)</sub>	100	100	100	25600	2.3	2.3	618.8	5906675129297
R-LX-06X120-CS-ZP <sub>1)</sub>	120	100	100	25600	2.9	2.9	759.6	5906675478173
R-LX-06X130-CS-ZP <sub>1)</sub>	130	100	100	25600	3.0	3.0	785.2	5906675129303
R-LX-06X140-CS-ZP <sub>1)</sub>	140	100	100	25600	3.3	3.3	862.0	5906675478197
R-LX-06X150-CS-ZP <sub>1)</sub>	150	100	100	25600	3.5	3.5	919.9	5906675129310
R-LX-06X160-CS-ZP <sub>1)</sub>	160	100	100	25600	3.6	3.6	938.8	5906675478210
R-LX-08X060-CS-ZP <sub>1)</sub>	60	100	100	25600	2.7	2.7	728.9	5906675129327
R-LX-08X075-CS-ZP <sub>1)</sub>	75	100	100	25600	3.2	3.2	849.2	5906675129334
R-LX-08X090-CS-ZP <sub>1)</sub>	90	100	100	19200	3.8	3.8	757.7	5906675129341
R-LX-08X100-CS-ZP <sub>1)</sub>	100	100	100	19200	4.2	4.2	830.6	5906675129358
R-LX-08X120-CS-ZP <sub>1)</sub>	120	50	50	12800	2.5	2.5	662.3	5906675442471
R-LX-08X130-CS-ZP <sub>1)</sub>	130	50	50	12800	2.7	2.7	712.2	5906675129365
R-LX-08X150-CS-ZP <sub>1)</sub>	150	50	50	12800	3.1	3.1	812.1	5906675129372

## Product commercial data

Product Code	Anchor	Quantity [pcs]			Weight [kg]			Bar Codes
	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-LX-10X060-CS-ZP <sub>1)</sub>	60	50	50	14400	2.1	2.1	647.5	5906675442426
R-LX-10X065-CS-ZP <sub>1)</sub>	65	50	50	14400	2.2	2.2	672.2	5906675129389
R-LX-10X075-CS-ZP <sub>1)</sub>	75	50	50	12800	2.6	2.6	690.2	5906675129396
R-LX-10X085-CS-ZP <sub>1)</sub>	85	50	50	12800	2.8	2.8	757.0	5906675129402
R-LX-10X090-CS-ZP <sub>1)</sub>	90	50	50	12800	3.1	3.1	813.1	5906675442433
R-LX-10X100-CS-ZP <sub>1)</sub>	100	50	50	12800	3.4	3.4	892.5	5906675129419
R-LX-10X110-CS-ZP <sub>1)</sub>	110	50	50	12800	3.6	3.6	947.8	5906675442440
R-LX-10X120-CS-ZP <sub>1)</sub>	120	25	25	6400	2.0	2.0	551.2	5906675129426
R-LX-10X130-CS-ZP <sub>1)</sub>	130	25	25	9600	2.1	2.1	842.2	5906675442457
R-LX-10X140-CS-ZP <sub>1)</sub>	140	25	25	9600	2.3	2.3	896.9	5906675129433
R-LX-10X150-CS-ZP <sub>1)</sub>	150	20	20	7680	2.0	2.0	778.0	5906675442464
R-LX-10X160-CS-ZP <sub>1)</sub>	160	20	20	7680	2.1	2.1	838.7	5906675129440

1) ETA 17/0783