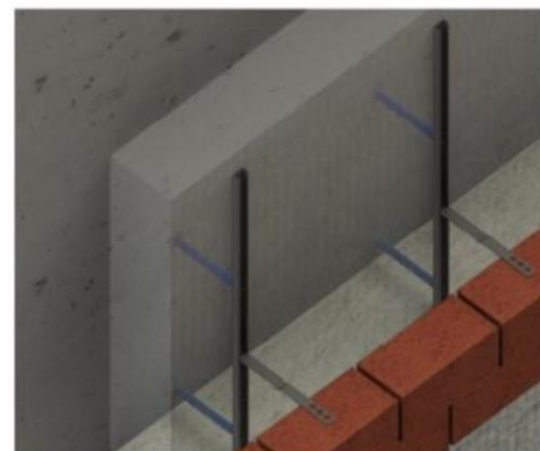


R-ACS-LX-05-A2 Concrete Screws Stainless Steel



Product Data



R-ACS-LX-05-A2 Resistance in C20/25 Concrete

Product data

Product Code	Description	Anchor Length [mm]	Fixture Thickness		Concrete or Masonry Strength [N/mm ²]			
					≥50	≥25<50	≥15<25	<15
R-ACS-LX-05X055-HF-A2	5.0 (6.3mm) x 55 Hex Flange Concrete Screw A2-304 (Box of 250)	55	t _{fix,min}	[mm]	1	1	1	1
			t _{fix,max}	[mm]	30	30	20	5
R-ACS-LX-05X100-HF-A2	5.0 (6.3mm) x 100 Hex Flange Concrete Screw A2-304 (Box of 250)	100	t _{fix,min}	[mm]	50	45	35	20
			t _{fix,max}	[mm]	75	75	65	50
R-ACS-LX-05X125-HF-A2	5.0 (6.3mm) x 125 Hex Flange Concrete Screw A2-304 (Box of 250)	125	t _{fix,min}	[mm]	75	70	60	45
			t _{fix,max}	[mm]	100	100	90	75
R-ACS-LX-05X150-HF-A2	5.0 (6.3mm) x 150 Hex Flange Concrete Screw A2-304 (Box of 250)	150	t _{fix,min}	[mm]	100	95	85	70
			t _{fix,max}	[mm]	125	125	115	100
R-ACS-LX-05X175-HF-A2	5.0 (6.3mm) x 175 Hex Flange Concrete Screw A2-304 (Box of 250)	175	t _{fix,min}	[mm]	125	120	110	95
			t _{fix,max}	[mm]	150	150	140	125
R-ACS-LX-05X200-HF-A2	5.0 (6.3mm) x 200 Hex Flange Concrete Screw A2-304 (Box of 100)	200	t _{fix,min}	[mm]	150	145	135	120
			t _{fix,max}	[mm]	175	175	165	150
R-ACS-LX-05X230-HF-A2	5.0 (6.3mm) x 230 Hex Flange Concrete Screw A2-304 (Box of 100)	230	t _{fix,min}	[mm]	180	175	165	150
			t _{fix,max}	[mm]	205	205	195	180
R-ACS-LX-05X250-HF-A2	5.0 (6.3mm) x 250 Hex Flange Concrete Screw A2-304 (Box of 100)	250	t _{fix,min}	[mm]	200	195	185	170
			t _{fix,max}	[mm]	225	225	215	195
R-ACS-LX-05X270-HF-A2	5.0 (6.3mm) x 270 Hex Flange Concrete Screw A2-304 (Box of 100)	270	t _{fix,min}	[mm]	220	215	205	190
			t _{fix,max}	[mm]	245	245	235	220
R-ACS-LX-05X300-HF-A2	5.0 (6.3mm) x 300 Hex Flange Concrete Screw A2-304 (Box of 100)	300	t _{fix,min}	[mm]	250	245	235	220
			t _{fix,max}	[mm]	275	275	265	250

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Installation Data

Installation data

Embedment Depth			Standard	Reduced	Minimum	
Installation depth	h_{nom}	[mm]	50	35	25	
Min hole depth in substrate	$h_{0,s}$	[mm]	60	45	35	
Real hole depth in substrate	h_0	[mm]	$L + 10 - t_{fix}$	$L + 10 - t_{fix}$	$L + 10 - t_{fix}$	
Min. substrate thickness	$h_{min,s}$	[mm]	100	80	80	
Maximum torque	T_{max}	[Nm]	5			
Min. spacing	$s_{min,s}$	[mm]	40			
Min. edge distance	$c_{min,s}$	[mm]	40			
Screw Lengths: 55,100; 125; 150; 175; 200; 250mm						
Thread diameter	d	[mm]	6.1			
Hole diameter in all substrates	d_0	[mm]	5.0			
A/F Socket Size	S_w	[mm]	8.0			
Diameter of flange		[mm]	10.6			
Screw Lengths: 230; 270; 300mm						
Thread diameter	d	[mm]	6.5			
Hole diameter in concrete and masonry $\geq 15N/mm^2$	d_0	[mm]	5.5			
Hole diameter in masonry $< 15N/mm^2$	d_0	[mm]	5.0			
A/F Socket Size	S_w	[mm]	10.0			
Diameter of flange		[mm]	12.6			
Embedment Depths for Concrete & Masonry			≥ 50 N/mm ²	$\geq 25 < 50$ N/mm ²	$\geq 15 < 25$ N/mm ²	< 15 N/mm ²
Minimum installation depth	$h_{nom,min}$	[mm]	25	25	35	50
Standard embedment depth	$h_{nom,std}$	[mm]	50	50	50	50
Maximum installation depth	$h_{nom,max}$	[mm]	50	55	65	80

R-ACS-LX-05-A2 Concrete Screws Stainless Steel



Mechanical Properties

Nominal ultimate tensile strength - tension	f_{uk}	[N/mm ²]	570
Nominal yield strength - tension	f_{yk}	[N/mm ²]	400
Cross-sectional area - tension	A_s	[mm ²]	15.9
Elastic section modulus	W_{el}	[mm ³]	8.95
Characteristic bending resistance	$M^0_{Rk,s}$	[Nm]	6.12
Design bending resistance	$M_{Rd,s}$	[Nm]	4.08

Basic Performance Data Uncracked Concrete ≥C20/25

Embedment depth			Standard	Minimum
Installation depth	h_{nom}	[mm]	50	25
Tension	N_{Rk}	[kN]	6.18	2.84
Shear	V_{Rk}	[kN]	6.18	2.84
Design Resistance				
Tension	N_{Rd}	[kN]	2.47	1.14
Shear	V_{Rd}	[kN]	2.47	1.14
Recommended Load				
Tension	N_{rec}	[kN]	1.77	0.81
Shear	V_{rec}	[kN]	1.77	0.81

R-ACS-LX-05-A2 Concrete Screws Stainless Steel



Design Performance Data

Embedment depth			Standard	Minimum
Installation depth	h_{nom}	[mm]	50	25
Effective embedment depth	h_{ef}	[mm]	34.0	12.8
TENSION RESISTANCE				
STEEL FAILURE				
Characteristic resistance	$N_{Rk,s}$	[kN]	9.06	9.06
Partial safety factor	γ_{Ms}	-	1.4	1.4
PULL-OUT FAILURE; UNCRACKED CONCRETE C20/25				
Characteristic resistance	$N_{Rk,p}$	[kN]	6.18	2.84
PULL-OUT FAILURE				
Installation safety factor	γ_2	-	1.2	1.2
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_2	-	1.2	1.2
Factor for uncracked concrete	$k_{ucr,N}$	-	11.0	11.0
Spacing	$s_{cr,N}$	[mm]	150	75
Edge distance	$c_{cr,N}$	[mm]	75	40
CONCRETE SPLITTING FAILURE				
Installation safety factor	γ_2	-	1.2	1.2
Spacing	$s_{cr,sp}$	[mm]	150	75
Edge distance	$c_{cr,sp}$	[mm]	75	40

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Shear Resistance

SHEAR RESISTANCE

STEEL FAILURE

Characteristic resistance without lever arm	$V_{Rk,s}$	[kN]	4.53	4.53
Ductility factor	k_7	-	1.0	1.0
Characteristic resistance with lever arm	$M_{Rk,s}$	[Nm]	6.12	6.12
Partial safety factor	γ_{Ms}	-	1.5	1.5

CONCRETE PRY-OUT FAILURE

Factor	k	-	1.0	1.0
Partial safety factor	γ_2	-	1.0	1.0

CONCRETE EDGE FAILURE

Installation safety factor	l_f	[mm]	34.0	12.8
Anchor diameter	d_{nom}	[mm]	5.0	5.0
Installation safety factor	γ_2	-	1.0	1.0

R-ACS-LX-05-A2 Concrete Screws Stainless Steel



Basic Performance Data Solid Brick $\geq 15\text{N/mm}^2$



Embedment depth			Standard	Reduced
Installation depth	h_{nom}	[mm]	50	35
Characteristic Resistance				
Tension	N_{Rk}	[kN]	4.78	3.22
Shear	V_{Rk}	[kN]	4.78	3.22
Design Resistance				
Tension	N_{Rd}	[kN]	1.91	1.29
Shear	V_{Rd}	[kN]	1.91	1.29
Recommended Load				
Tension	N_{rec}	[kN]	1.37	0.92
Shear	V_{rec}	[kN]	1.37	0.92

R-ACS-LX-05-A2 Concrete Screws Stainless Steel



Basic Performance Data Dense Concrete Block $\geq 7\text{N/mm}^2$



Embedment depth	Standard			-
Installation depth	h_{nom}	[mm]	50	-
Characteristic Resistance				
Tension	N_{Rk}	[kN]	3.27	-
Shear	V_{Rk}	[kN]	3.27	-
Design Resistance				
Tension	N_{Rd}	[kN]	1.31	-
Shear	V_{Rd}	[kN]	1.31	-
Recommended Load				
Tension	N_{rec}	[kN]	0.93	-
Shear	V_{rec}	[kN]	0.93	-