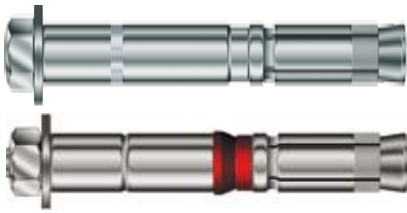


Highload Anchor SL

Steel, zinc plated / Stainless steel A4/316



Highload Anchor SL

Highload Anchor SL A4

Description

The Highload Anchor SL is a torque controlled sleeve anchor for through fastenings in non-cracked concrete. Three versions are available: SL-S with hexagon head screw, SL-B with hexagon nut and SL-SK with countersunk head screw. New: European technical approval, Option 7 for anchor size M10 steel galvanized. German approval in concrete strength class C12/15.

Applications

Medium to heavy duty anchorings of base plates, supports, pallet racks, brackets, railings in non-cracked concrete.

Range of loading: 5,4 kN - 66,8 kN

Range of concrete quality: C12/15 - C50/60

Highload Anchor SL



- Steel, zinc plated
- For non-cracked concrete

Description	Type		Drill hole Øxdepth	Setting- depth	Anchor- length			Fixture- thickness	Thread	Pkg. cont.	Weight per pkg.
	SL-S	SL-B			Typ S mm	Typ B mm	t _{fix} mm				
	Ref. No.	Ref. No.	mm	mm						pcs.	kg
SL 14-0	10205101	12205101	14x85	73	84	86	0	M10	25	2,50	
SL 14-10	10210101	12210101	14x85	73	94	96	10	M10	25	2,75	
SL 14-25	10220101	12220101	14x85	73	109	111	25	M10	25	3,15	
SL 14-50	10225101	12225101	14x85	73	134	136	50	M10	25	3,90	
SL 14-75	10230101	12230101	14x85	73	159	161	75	M10	25	4,30	
SL 14-100	10235101	12235101	14x85	73	179	181	100	M10	25	5,40	
SL 14-125	-	12240101	14x85	73	-	210	125	M10	25	5,42	
SL 14-160	-	12245101	14x85	73	-	245	160	M10	20	5,18	

Other length and special assemblies on demand.



Highload Anchor SL A4¹⁾



- Stainless steel A4/316
- For non-cracked concrete

Description	Type		Drill hole Øxdepth	Set- ting- depth	Anchor- length			Fixture- thickness	Thread	Pkg. cont.	Weight per pkg.
	SL-S	SL-B			Typ S mm	Typ B mm	t _{fix} mm				
	Ref. No.	Ref. No.	mm	mm						pcs	kg
SL 10-10 A4	10010501	12010501	10x60	53	69	69	10	M 6	50	1,85	
SL 10-25 A4	10020501	12020501	10x60	53	84	84	25	M 6	50	2,25	
SL 10-50 A4	10025501	12025501	10x60	53	104	106	50	M 6	50	3,10	
SL 12-10 A4	10110501	12110501	12x70	63	80	82	10	M 8	50	3,20	
SL 12-25 A4	10120501	12120501	12x70	63	95	97	25	M 8	50	3,85	
SL 12-50 A4	10125501	12125501	12x70	63	120	122	50	M 8	25	2,40	
SL 14-10 A4	10210501	12210501	14x85	73	94	96	10	M 10	25	2,75	
SL 14-25 A4	10220501	12220501	14x85	73	109	111	25	M 10	25	3,15	
SL 14-50 A4	10225501	12225501	14x85	73	134	136	50	M 10	25	3,90	
SL 18-15 A4	10310501	12310501	18x100	93	112	117	15	M 12	20	4,20	
SL 18-25 A4	10315501	12315501	18x100	93	122	127	25	M 12	20	4,53	
SL 18-40 A4	10320501	12320501	18x100	93	137	142	40	M 12	20	5,00	
SL 24-25 A4	10510501	12510501	24x125	107	150	155	25	M 16	10	4,75	
SL 24-50 A4	10515501	12515501	24x125	107	170	176	50	M 16	10	5,50	
SL 28-30 A4	10610501	12610501	28x150	135	182	188	30	M 20	5	4,30	
SL 28-60 A4	10615501	12615501	28x150	135	212	218	60	M 20	5	5,05	

Other length and special assemblies on demand.

¹⁾ Not part of approvals.

Highload Anchor SL-SK A4¹⁾

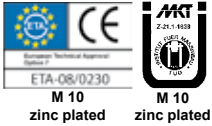


- Stainless steel A4/316
- For non-cracked concrete

Description	Type	Drill hole Øxdepth	Setting- depth	Anchor- length	Fixture- thickness	Thread	Pkg. cont.	Weight per pkg.
	SL-SK							
	Ref. No.	mm	mm	mm	t _{fix} mm	pcs.	kg	
SL 10-25 A4	10020531	10x60	53	80	25	M 6	50	2,32
SL 12-25 A4	10120531	10x70	63	90	25	M 8	50	4,00

Other length and special assemblies on demand.

¹⁾ Not part of approvals.



Extract from Permissible Service Conditions of ETA-08/0230 and Z-21.1-1638.

Approved loads for single anchor without influence of spacing and edge distance.
Total safety factor as per ETAG 001 included (γ_M and γ_p).

Recommended loads for single anchor without influence of spacing and edge distance.
Total safety factor as per ETAG 001 included (γ_M and γ_p).

Loads and performance data	Highload Anchor SL SL	SL 14 M 10
		steel, zinc pltd.
approved values - non-cracked concrete		
Mean ultimate loads, tension	C25/30 N_{um} [kN]	43,3
	C25/30 N_{um} [kN]	35,6
Loads, tension	C12/15 N [kN]	7,6
	C20/25 N [kN]	9,5
	C30/37 N [kN]	11,6
	C40/50 N [kN]	13,4
	C50/60 N [kN]	14,8
Loads, shear	C12/15 V [kN]	13,3
	\geq C20/25 V [kN]	13,3
Bending moments	M [Nm]	34,3

Spacing and edge distance

Effective anchorage depth	h_{ef} [mm]	65
Characteristic spacing	$s_{cr,N}$ [mm]	195
Characteristic edge distance	$c_{cr,N}$ [mm]	97,5
Minimum spacing	s_{min} [mm]	60
Minimum edge distance	c_{min} [mm]	120
Minimum thickness of concrete slab	h_{min} [mm]	130

Installation parameters

Drill hole diameter	d_o [mm]	14
Diameter of clearance hole in the fixture	d_f [mm]	16
Depth of drill hole	h_1 [mm]	85
Installation torque	T_{inst} [Nm]	50
Width across nut	SW [mm]	17

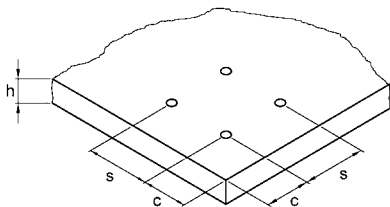
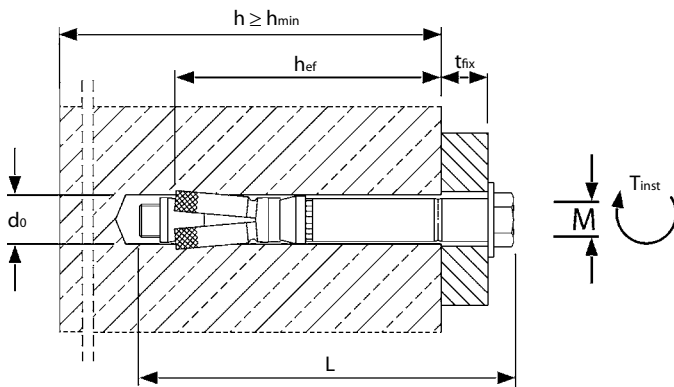
For anchor designing an easy to operate CD-ROM is available on request or can be downloaded at www.mkt-duebel.de.

SL 10 ¹⁾ M 6	SL 12 ¹⁾ M 8	SL 14 ¹⁾ M 10	SL 18 ¹⁾ M 12	SL 24 ¹⁾ M 16	SL 28 ¹⁾ M 20
A4-70	A4-70	A4-70	A4-70	A4-70	A4-70
recommended values - non-cracked concrete					
15,9	26,1	40,8	53,9	86,3	160,8
20,8	31,8	45,3	79,4	142,4	208,7
-	-	-	-	-	-
5,4	9,8	12,6	17,2	24,0	33,5
5,4	9,8	13,8	18,9	26,4	36,9
5,4	9,8	15,5	22,5	33,8	47,3
5,4	9,8	15,5	22,5	37,2	52,0
-	-	-	-	-	-
6,7	10,2	14,5	25,4	45,6	66,8
4,9	12,0	23,9	41,9	106,5	208,1

45	55	65	80	100	125
135	165	195	240	300	375
67,5	82,5	97,5	120	150	187,5
70	80	100	120	150	190
90	110	130	160	200	250
130	160	200	240	300	350

10	12	14	18	24	28
12	14	16	20	26	31
60	70	85	100	125	150
10	25	50	80	200	400
10	13	17	19	24	30

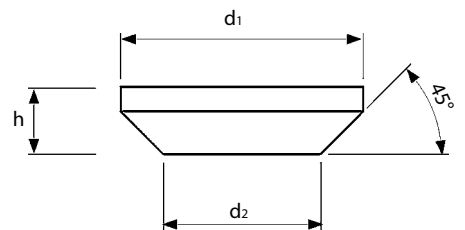
¹⁾ Not part of approvals.



Dimensions countersunk head SL-SK [mm]

	d1	d2	h
SL-SK 10 M 6	20,0	11,0	6,0
SL-SK 12 M 8	24,0	14,0	7,5
SL-SK 15 M 10	30,0	17,0	10,5
SL-SK 18 M 12	32,0	19,0	12,0

Countersunk head version SL-SK.



Installation

