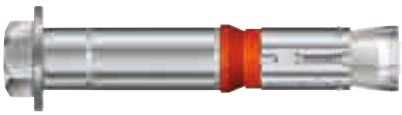
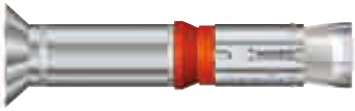
Highload Anchor SZ A4

Stainless steel A4/316



Highload Anchor SZ-S A4

Highload Anchor SZ-B A4



Highload Anchor SZ-SK A4

Loads: **4,3 kN - 52,6 kN**
Concrete quality: **C20/25 - C50/60**

ETA-02/0030

ESR - 3137
M8-M16

SEISMIC
C1+C2

R30-R120

EDELSTAHL Rost frei

Description

The SZ A4/316 is the stainless-steel version of the tried and tested Highload anchor SZ. It also posesses ETA (Option 1) approval. Highload Anchor SZ is a high-performance through fastening Anchor System with three part expansion sleeve. This allows for smaller spacings and edge distances with high loads. The plastic compression ring ensures the clamping of the mounted piece to the work surface. Three different models of The Highload Anchor SZ are available: screw/washer SZ-S, Bolthead SZ-B and for a flush surface mounting SZ-SK. All models habe been shock-tested by the federal office for population protection in Bern/Switzerland.

Applications

Medium to highload mounting in cracked and non-cracked concrete, e.g. trusses, railings, machines, scaffolding and consoles. Even in damp rooms and outdoors.

Advantages

- High tension and shear loads
- Screw/washer (SZ-S) model and flat head (SZ-SK) model for finished surfaces
- Can be dismantled with a flush surface result (only the cone and expansion sleeve remain in the drill-hole)
- smaller spacings and edge distances
- ICC Evalution Service listing, USA
- Fire protection approved
- Approved to use under seismic action according to the performance category C1+C2

Highload Anchor SZ A4


SZ-B


SZ-S

- Stainless steel A4/316
- Approval for cracked and non-cracked concrete

Description	Typ SZ-S	Typ SZ-B	Drill hole Ø x depth	Drill hole depth through fixture	Setting depth	Anchor length l		Seismic C1 / C2	Fixture thickness t_{fix}	Thread	Pkg. cont.	Weight per pkg.
						Typ S	Typ B					
	Ref. No.	Ref. No.	mm	mm	mm	mm	mm		mm		pcs.	kg
SZ 12-0 A4	14105501	16105501	12x80	80	70	75	79	✓ / ✓	0	M 8		2,93
SZ 12-10 A4	14110501	16110501	12x80	90	70	85	89	✓ / ✓	10	M 8	pcs.	3,31
SZ 12-30 A4	14125501	16125501	12x80	110	70	105	109	✓ / ✓	30	M 8	50	4,10
SZ 12-50 A4	14130501	16130501	12x80	130	70	125	129	✓ / ✓	50	M 8	25	2,47
SZ 12-100 A4	-	16145501	12x80	180	70	-	179	✓ / ✓	100	M 8	25	3,22
SZ 15-0 A4	14205501	16205501	15x95	95	85	91	95	✓ / ✓	0	M 10	25	2,85
SZ 15-15 A4	14215501	16215501	15x95	110	85	106	110	✓ / ✓	15	M 10	25	3,31
SZ 15-25 A4	14220501	16220501	15x95	120	85	116	120	✓ / ✓	25	M 10	25	3,59
SZ 15-45 A4	14225501	16225501	15x95	140	85	136	140	✓ / ✓	45	M 10	25	4,20
SZ 15-95 A4	14240501	16240501	15x95	190	85	186	190	✓ / ✓	95	M 10	25	5,60
SZ 18-0 A4	14305501	16305501	18x105	105	95	108	112	✓ / ✓	0	M 12	20	3,84
SZ 18-10 A4	14310501	16310501	18x105	115	95	118	122	✓ / ✓	10	M 12	20	4,18
SZ 18-20 A4	14315501	16315501	18x105	125	95	128	131	✓ / ✓	20	M 12	20	4,53
SZ 18-40 A4	14325501	16325501	18x105	145	95	148	151	✓ / ✓	40	M 12	20	5,21
SZ 18-70 A4	14335501	16335501	18x105	175	95	178	182	✓ / ✓	70	M 12	20	6,26
SZ 18-100 A4	-	16340501	18x105	205	95	-	212	✓ / ✓	100	M 12	10	3,55
SZ 24-0 A4	14505501	16505501	24x130	130	120	130	137	✓ / ✓	0	M 16	10	4,11
SZ 24-20 A4	14515501	16515501	24x130	150	120	150	157	✓ / ✓	20	M 16	10	4,71
SZ 24-50 A4	14525501	16525501	24x130	180	120	180	187	✓ / ✓	50	M 16	10	5,58
SZ 24-100 A4	-	16530501	24x130	230	120	-	237	✓ / ✓	100	M 16	5	3,49

Highload Anchor SZ-SK A4

- Stainless steel A4/316
- Approval for cracked and non-cracked concrete

Description	Ref. No.	Drill hole Ø x depth mm	Drill hole depth through fixture mm	Setting depth mm	Anchor length l mm	Seismic C1 / C2	Fixture thickness t_{fix} mm	Thread	Pkg. cont. pcs.	Weight per pkg. kg
SZ-SK 12-10 A4	14111531	12 x 80	90	70	80	✓ / ✓	10	M 8	50	3,01
SZ-SK 12-25 A4	14121531	12 x 80	105	70	95	✓ / ✓	25	M 8	50	3,65
SZ-SK 12-50 A4	14131531	12 x 80	130	70	120	✓ / ✓	50	M 8	25	2,33
SZ-SK 15-15 A4	14216531	15 x 95	105	85	100	✓ / ✓	15	M 10	25	3,07
SZ-SK 15-25 A4	14221531	15 x 95	120	85	110	✓ / ✓	25	M 10	25	3,29
SZ-SK 15-35 A4	14226531	15 x 95	130	85	120	✓ / ✓	35	M 10	25	3,55
SZ-SK 15-50 A4	14231531	15 x 95	145	85	135	✓ / ✓	50	M 10	25	3,96
SZ-SK 18-20 A4	14316531	18 x 105	125	95	115	✓ / ✓	20	M 12	20	3,99
SZ-SK 18-40 A4	14326531	18 x 105	145	95	135	✓ / ✓	40	M 12	20	4,62

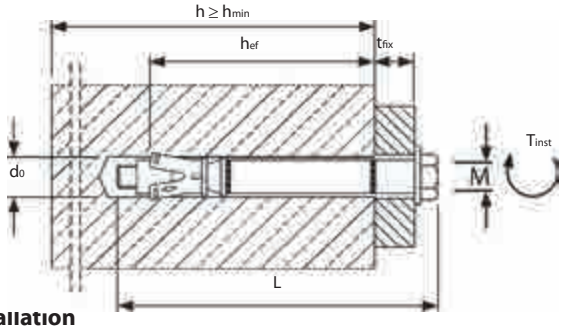
Other lengths and special assemblies on demand.

Extract from Permissible Service Conditions of European Technical Assessment ETA-02/0030

Approved loads for single anchor without influence of spacing and edge distance.
Total safety factor as per ETAG 001 included (γ_M and γ_F). Load capacities under fire exposure see page 167.

Loads and performance data	Highload Anchor SZ A4/316			SZ 12 M 8	SZ 15 M 10	SZ 18 M 12	SZ 24 M 16
					cracked concrete		
Mean ultimate loads, tension	C25/30	N_{um}	[kN]	19,8	31,6	37,2	68,8
Mean ultimate loads, shear	C25/30	V_{um}	[kN]	32,4	47,9	72,9	111,1
Approved loads, tension	C20/25	appr. N	[kN]	4,3	7,6	12,3	17,1
	C25/30	appr. N	[kN]	4,7	8,3	13,4	18,8
	C30/37	appr. N	[kN]	5,2	9,3	14,9	20,9
	C40/50	appr. N	[kN]	6,1	10,8	17,3	24,2
	C50/60	appr. N	[kN]	6,6	11,8	19,0	26,6
					non-cracked concrete		
Approved loads, tension SZ-S, SZ-SK / SZ-B	C20/25	appr N	[kN]	7,6	11,9	16,7	24,0
	C25/30	appr. N	[kN]	8,3	13,0	18,3	26,3
	C30/37	appr. N	[kN]	9,3	14,5	20,3	29,3
	C40/50	appr N	[kN]	9,9 / 10,8	15,7 / 16,8	22,9 / 23,6	34,0
	C50/60	appr. N	[kN]	9,9 / 11,8	15,7 / 18,4	22,9 / 25,8	37,3
					cracked concrete		
Approved loads, shear SZ-S, SZ-SK	C20/25	appr. V	[kN]	12,6	19,4	24,5	34,3
	≥ C25/30	appr. V	[kN]	12,6	19,4	26,9	37,6
Approved loads, shear SZ-B	C20/25	appr. V	[kN]	13,7	20,5	24,5	34,3
	≥ C25/30	appr. V	[kN]	13,7	21,1	26,9	37,6
					non-cracked concrete		
Approved loads, shear SZ-S, SZ-SK	C20/25	appr. V	[kN]	12,6	19,4	32,6	48,1
	≥ C25/30	appr V	[kN]	12,6	19,4	32,6	48,3
Approved loads, shear SZ-B	C20/25	appr. V	[kN]	13,7	21,1	34,4	48,1
	≥ C25/30	appr. V	[kN]	13,7	21,1	35,4	52,6
					cracked concrete / non-cracked concrete		
Approved bending moments SZ-S, SZ-SK / SZ-B		appr. M	[Nm]	11,9 / 14,9	23,8 / 29,7	42,1 / 52,6	106,2 / 132,6
Spacing and edge distance							
Effective anchorage depth		h_{ef}	[mm]	60	71	80	100
Characteristic spacing		$s_{cr,N}$	[mm]	180	213	240	300
Characteristic edge distance		$c_{cr,N}$	[mm]	90	106,5	120	150
					cracked concrete		
Minimum spacing / for edge distance c		s_{min} /c	[mm]	50/80	60/120	70/140	80/180
Minimum edge distance / for spacing s		c_{min} /s	[mm]	50/80	60/120	70/160	80/200
					non-cracked concrete		
Minimum spacing / for edge distance c		s_{min} /c	[mm]	50/80	60/120	70/140	80/180
Minimum edge distance / for spacing s		c_{min} /s	[mm]	50/80	85/185	70/160	180/80
Minimum thickness of concrete slab		h_{min}	[mm]	120	140	160	200
Installation parameters							
Drill hole diameter		d_o	[mm]	12	15	18	24
Diameter of clearance hole in the fixture		≤ d_f	[mm]	14	17	20	26
Depth of drill hole		h_1	[mm]	80	95	105	130
Installation torque SZ-S / SZ-SK / SZ-B		T_{inst}	[Nm]	30 / 17,5 / 35	50 / 42,5 / 55	80 / 50 / 90	170 / - / 170
Width across nut SZ-S / SZ-B		SW	[mm]	13	17	19	24
Internal hexagon size SZ-SK		SW_{Hex}	[mm]	5	6	8	-
Minimum thickness of fixture for SZ-SK		t_{fix} ≥	[mm]	10 / 5[1)]	14 / 6[1)]	18 / 7[1)]	-

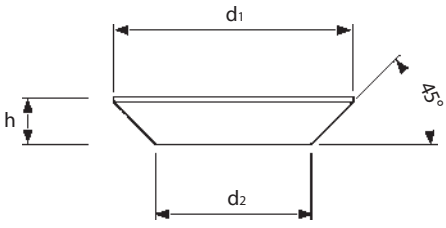
[1)] Full shear load/without shear load. For anchor designing, an easy to operate CD-ROM is available on request or can be downloaded at www.mkt.de.



Dimensions countersunk head SZ-SK A4 [mm]

	d1	d2	h
SZ-SK 12 M 8	20,5	11,5	5,0
SZ-SK 15 M 10	24,5	14,5	5,7
SZ-SK 18 M 12	29,5	17,5	6,7

Countersunk head SZ-SK A4.



Installation