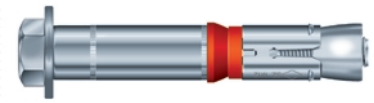
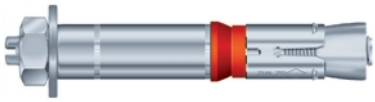
Highload Anchor SZ

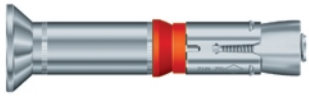
Steel, zinc plated



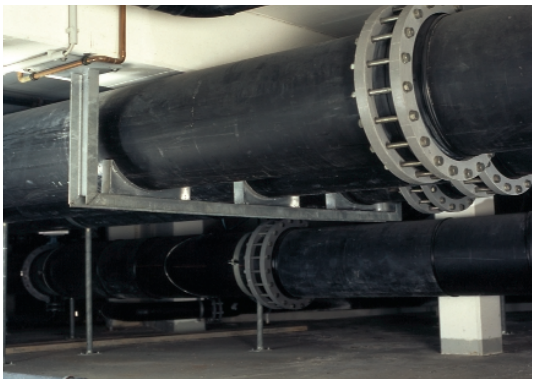
Highload Anchor SZ-S



Highload Anchor SZ-B



Highload Anchor SZ-SK



Description

The Highload Anchor SZ is a torque controlled expansion anchor system, designed for fast through fastening in cracked and non-cracked concrete, available in three versions. The SZ is shock approved.

Applications

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

Range of concrete quality: C20/25 - C50/60

ETA-02/0030

Swiss shock approval

G 4030004
M6 - M16

Fire Resistance

Software available

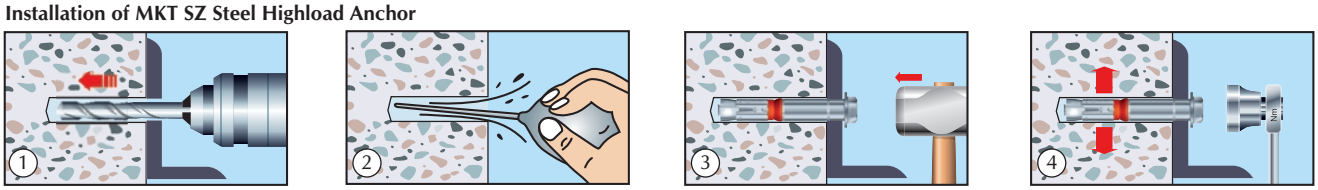
Loads and performance data			SZ 10 M6	SZ 12 M8	SZ 15 M10	SZ 18 M12	SZ 24 M16
			cracked concrete C25/30				
Recommended loads, tension	rec. N	[kN]	2.20	5.30	7.10	11.00	15.40
Recommended loads, shear	rec. V	[kN]	5.70	8.96	15.13	20.83	34.36
Recommended bending moments	rec. M	[Nm]	7.00	17.10	34.30	60.00	152.00

Loads and performance data			SZ 10 M6	SZ 12 M8	SZ 15 M10	SZ 18 M12	SZ 24 M16
			non-cracked concrete C25/30				
Recommended loads, tension	rec. N	[kN]	7.11	8.77	13.22	15.44	22.11
Recommended loads, shear	rec. V	[kN]	5.70	8.96	15.13	20.83	34.36
Recommended bending moments	rec. M	[Nm]	7.00	17.10	34.30	60.00	152.00

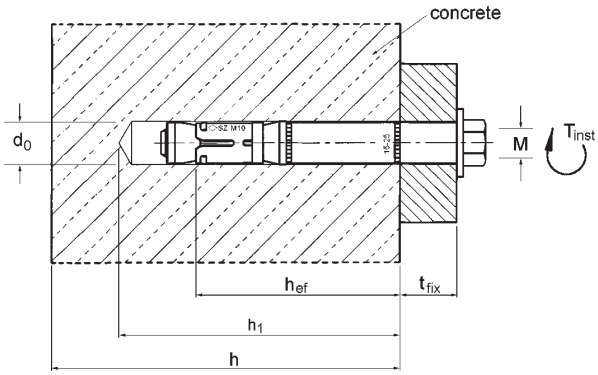
Installation parameters							
Drill hole diameter	d_o	[mm]	10	12	15	18	24
Diameter of clearance hole in the fixture	d_f	[mm]	12	14	17	20	26
Depth of drill hole	h_1	[mm]	65	80	95	105	130
Effective anchorage depth	h_{ef}	[mm]	50	60	71	80	100
Minimum thickness of concrete slab	h	[mm]	100	120	140	160	200
Installation torque	T_{inst}	[Nm]	12	30/35*)	50/65*)	80/100*)	120
Width across nut	SW	[mm]	10	13	17	19	24

*) Tightening torque for type SZ-SK (with countersunk head)

Installation of MKT SZ Steel Highload Anchor



1. Drill to specified diameter and depth.
2. Clean the hole with blow-out bulb.
3. Using a hammer, tap the anchor through the fixture into the hole until the bolt head is firmly seated against the fixture.
4. Tighten the anchor to the specified torque. Refer to approval and listing for design and building code compliance.



ETA-02/0030, Option 1

Recommended tension loads for single anchor without influence of spacing and edge distance, total safety factor 3.

Tension [kN]	Cracked concrete				
Concrete strength	SZ 10 / M6	SZ 12 / M8	SZ 15 / M10	SZ 18 / M12	SZ 24 / M16
C20/25	1.98	4.77	6.39	9.90	13.86
C25/30	2.20	5.30	7.10	11.00	15.40
C30/37	2.42	5.83	7.81	12.10	16.94
C40/50	2.79	6.73	9.01	13.97	19.55
C50/60	3.08	7.42	9.94	15.40	21.56

Tension [kN]	Non-cracked concrete				
Concrete strength	SZ 10 / M6	SZ 12 / M8	SZ 15 / M10	SZ 18 / M12	SZ 24 / M16
C20/25	6.40	7.90	11.90	13.90	19.90
C25/30	7.11	8.77	13.22	15.44	22.11
C30/37	7.70	9.64	14.54	16.98	24.32
C40/50	7.70	11.13	16.78	19.60	28.07
C50/60	7.70	12.27	18.50	21.61	30.95

Recommended shear loads for single anchor without influence of spacing and edge distance, total safety factor 3. C20/25 up to C50/60 in cracked and non-cracked concrete

Shear [kN]	Cracked and non-cracked concrete				
Concrete strength	SZ 10 / M6	SZ 12 / M8	SZ 15 / M10	SZ 18 / M12	SZ 24 / M16
≥ C20/25	5.70	8.96	15.13	20.83	34.36

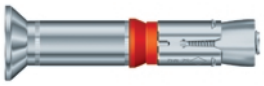
Highload Anchor SZ

SZ-B SZ-S

- Steel, zinc plated
- ETA approval for cracked and non-cracked concrete

Item No Type SZ-S	Item No Type SZ-B	Description	Drill hole Ø x depth	Setting depth	Anchor length l Type S	Anchor length l Type B	Fixture thickness t_{fix}	Thread	Pkg. cont.	Weight per pkg.
			mm	mm	mm	mm	mm		pcs.	kg
2021810000	2021910000	SZ 10/0	10 x 65	60	60	69	0	M6	100	3.30
2021810010	2021910010	SZ 10/10	10 x 65	60	70	79	10	M6	50	2.00
2021810030	2021910030	SZ 10/30	10 x 65	60	90	99	30	M6	50	2.40
2021810050	2021910050	SZ 10/50	10 x 65	60	110	119	50	M6	50	3.30
-	2021910100	SZ 10/100	10 x 65	60	-	169	100	M6	25	2.25
2021812000	2021912000	SZ 12/0	12 x 80	70	70	82	0	M8	50	3.00
2021812010	2021912010	SZ 12/10	12 x 80	70	80	92	10	M8	50	3.30
2021812030	2021912030	SZ 12/30	12 x 80	70	100	112	30	M8	50	4.00
2021812050	2021912050	SZ 12/50	12 x 80	70	120	132	50	M8	25	2.50
-	2021912100	SZ 12/100	12 x 80	70	-	182	100	M8	25	3.45
2021815000	2021915000	SZ 15/0	15 x 95	85	85	98	0	M10	25	2.80
2021815015	2021915015	SZ 15/15	15 x 95	85	100	113	15	M10	25	3.20
2021815025	2021915025	SZ 15/25	15 x 95	85	110	123	25	M10	25	3.50
2021815045	2021915045	SZ 15/45	15 x 95	85	130	143	45	M10	25	4.00
2021815095	2021915095	SZ 15/95	15 x 95	85	180	193	95	M10	25	5.40
2021818000	2021918000	SZ 18/0	18 x 105	95	100	115	0	M12	20	3.80
2021818010	2021918010	SZ 18/10	18 x 105	95	110	125	10	M12	20	4.10
2021818020	2021918020	SZ 18/20	18 x 105	95	120	135	20	M12	20	4.40
2021818040	2021918040	SZ 18/40	18 x 105	95	140	155	40	M12	20	5.10
2021818070	2021918070	SZ 18/70	18 x 105	95	170	185	70	M12	20	6.10
-	2021918100	SZ 18/100	18 x 105	95	-	215	100	M12	10	3.55
2021824000	2021924000	SZ 24/0	24 x 130	120	120	141	0	M16	10	4.10
2021824020	2021924020	SZ 24/20	24 x 130	120	140	161	20	M16	10	4.70
2021824050	2021924050	SZ 24/50	24 x 130	120	170	191	50	M16	10	5.50
-	2021924100	SZ 24/100	24 x 130	120	-	241	100	M16	5	3.50

Highload Anchor SZ-SK

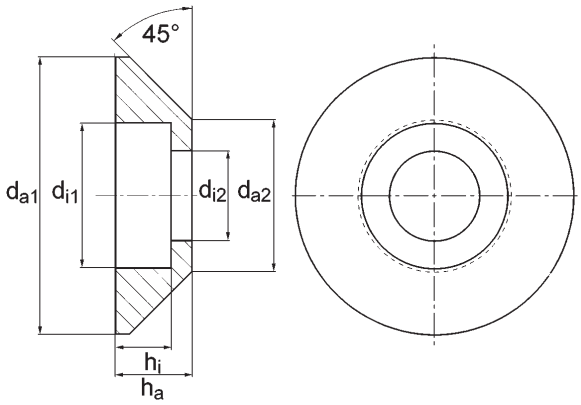


- Steel, zinc plated; with countersunk head
- ETA approval for cracked and non-cracked concrete

Item No	Description	Drill hole Ø x depth	Setting depth	Anchor length l	Fixture thickness t_{fix}	Thread	Pkg. cont.	Weight per pkg.
		mm	mm	mm	mm		pcs.	kg
2022010010	SZ-SK 10/10	10 x 65	60	65	10	M6	50	1.97
2022010025	SZ-SK 10/25	10 x 65	60	80	25	M6	50	2.36
2022010045	SZ-SK 10/45	10 x 65	60	100	45	M6	50	2.89
2022012010	SZ-SK 12/10	12 x 80	70	75	10	M8	50	3.41
2022012025	SZ-SK 12/25	12 x 80	70	90	25	M8	50	3.98
2022012050	SZ-SK 12/50	12 x 80	70	115	50	M8	25	2.41
2022015010	SZ-SK 15/10	15 x 95	85	85	10	M10	25	3.16
2022015025	SZ-SK 15/25	15 x 95	85	100	25	M10	25	3.71
2022015035	SZ-SK 15/35	15 x 95	85	110	35	M10	25	4.08
2022015050	SZ-SK 15/50	15 x 95	85	125	50	M10	25	4.53
2022018020	SZ-SK 18/20	18 x 105	95	110	20	M12	20	4.49
2022018040	SZ-SK 18/40	18 x 105	95	130	40	M12	20	5.20

Other lengths and special assemblies on demand.

Dimensions countersunk head [mm]						
	da1	di1	da2	di2	ha	hi
SK 10 M6	20.0	10.5	11.0	6.5	6.0	4.0
SK 12 M8	24.0	13.5	14.0	8.5	7.5	5.0
SK 15 M10	30.0	16.5	17.0	10.5	10.5	6.5
SK 18 M12	32.0	18.5	19.0	12.5	12.0	7.5



Countersunk head