

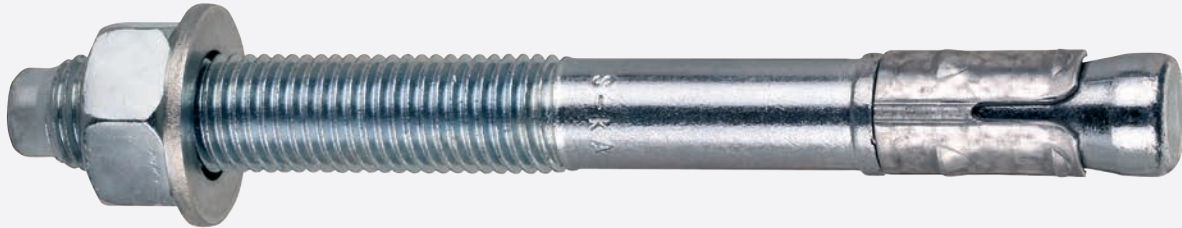
THROUGH BOLT - TYPE SKA
KEILANKER - TYPE SKA



Be wise, choose SMART.

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THROUGH BOLT WITH ETA OPTION 1 KEILANKER MIT ETA ZULASSUNG OPTION 1 TYPE S-KA



CHARACTERISTICS

- Torque-controlled expansion anchor with European technical approval for use in cracked concrete.
- Completely mounted with washer and nut.
- Available in zinc plated steel, hot dipped galvanised steel, stainless steel A4 and stainless steel HCR.

EIGENSCHAFTEN

- Drehmoment-kontrollierter Anker mit europäisch, technischer Zulassung für Verwendung in gerissenen und ungerissenen Beton.
- Komplett montiert mit Unterlegscheibe und Mutter.
- Erhältlich in verzinktem Stahl, feuerverzinktem Stahl, Edelstahl A4 und Edelstahl HCR getaucht.

APPROVALS

- European Technical Approval, Option 1 (M8 -M16).
- Fire resistance F120.

ZULASSUNG

- Europäische Technische Zulassung, Option 1 (M8 - M16).
- Feuerbeständigkeit R120.

FUNCTIONING

- Steel constructions
- Machines
- Facades
- Guard-rails

ANWENDUNGSBEREICHE

- Stahlkonstruktionen
- Maschinen
- Fassaden
- Schutzgeländer

BASE MATERIALS - UNTERGRUNDMATERIAL



Concrete
Beton



Cracked concrete
ungerissener
Beton



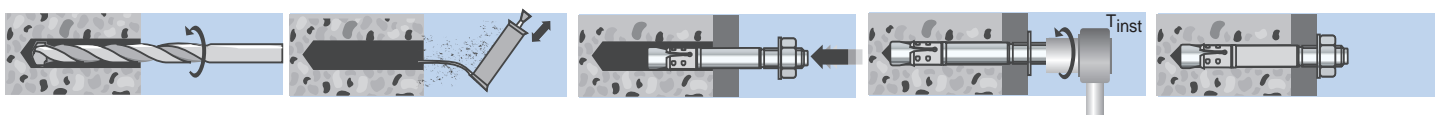
Natural stone
Naturstein

INSTALLATION EXAMPLE - INSTALLATIONSBEISPIEL



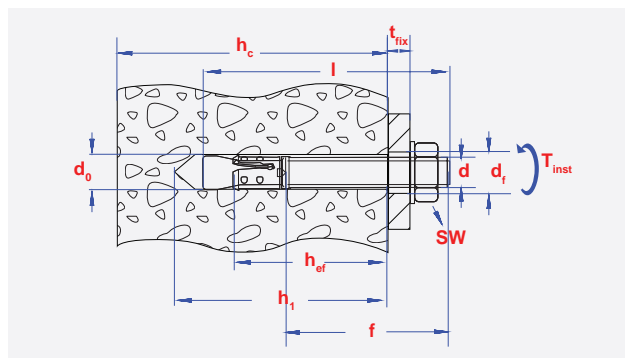
Anchor can be used in concrete, cracked concrete and natural stone.
Anker kann in Beton, gerissenen Beton und Naturstein.

INSTALLATION



INFO S-KA (ZN) - S-KAK (HDG)

d	l	d ₀	h ₁	T _{inst}	d _f	h _{ef}	t _{fix}	f	SW
[mm]	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]	[mm]	
*M 6	65	6	50	7	7	35	15	38	10
*M 6	100	6	50	7	7	35	50	60	10
M 8	72	8	60	20	9	45	10	32	13
M 8	92	8	60	20	9	45	30	52	13
M 8	112	8	60	20	9	45	50	72	13
M 8	147	8	60	20	9	45	80	107	13
M 10	92	10	75	35	12	60	10	47	17
M 10	102	10	75	35	12	60	20	57	17
M 10	112	10	75	35	12	60	30	67	17
M 10	132	10	75	35	12	60	50	87	17
M 10	162	10	75	35	12	60	80	115	17
M 12	103	12	90	50	14	70	5	53	19
M 12	118	12	90	50	14	70	20	68	19
M 12	128	12	90	50	14	70	30	78	19
M 12	148	12	90	50	14	70	50	98	19
M 12	163	12	90	50	14	70	65	113	19
M 12	178	12	90	50	14	70	80	115	19
M 16	123	16	110	120	18	85	5	65	24
M 16	138	16	110	120	18	85	20	80	24
M 16	168	16	110	120	18	85	50	110	24



¹⁾ Do not belong to ETA approval. - Nicht Bestandteil der ETA-Zulassung.

INFO S-KAH (A4) - S-KAH HCR

d	l	d ₀	h ₁	T _{inst}	d _f	h _{ef}	t _{fix}	f	SW
[mm]	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]	[mm]	
*M 6	65	6	50	7	7	35	15	28	10
*M 8	52	8	45	15	9	30	2	23	13
M 8	72	8	60	15	9	45	10	32	13
M 8	92	8	60	15	9	45	30	52	13
M 8	112	8	60	15	9	45	50	72	13
M 10	92	10	75	35	12	60	10	47	17
M 10	112	10	75	35	12	60	30	57	17
M 12	118	12	90	70	14	70	20	68	19

Stainless steel HCR is High Corrosion Resistant steel for use in aggressive environments such as swimming pools, road tunnels, ...

Edelstahl HCR aus hochkorrosionsbeständigen Stahl für den Einsatz in aggressiven Umgebungen wie Schwimmbäder, Straßentunnel, ...

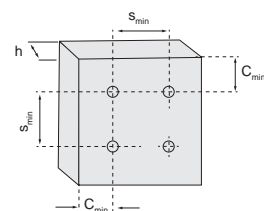
LOADS - LASTEN

1) Approved loads for a single anchor. - Zugelassene Lasten für einen einzelnen Anker.

Type S-KA (ZN) - S-KAK (HDG) - S-KAH(A4) - S-KAH HCR			M 8	M10	M12	M16
Embedment depth / Verankerungstiefe	h _{ef}	[mm]	45	60	70	85
Min. spacing / Min. Abstand	s _{min}	[mm]	50	50	60	70
Critical spacing / Kritischer Abstand	s _{cr,N}	[mm]	135	180	210	255
Min. thickness of concrete member / Min. Betondicke	h _{min}	[mm]	100	120	140	170
Min. edge distance / Min. Randabstand	C _{min}	[mm]	50	50	55	85
Critical edge distance / Kritischer Randabstand	C _{cr,N}	[mm]	68	90	105	128
Tension load / Zuglast						
Uncracked concrete / Ungerissener Beto						
Concrete / Beton	C20/25	[kN]	3,6	6,3	7,9	16,7
Concrete / Beton	C25/30	[kN]	3,7	6,6	8,3	17,3
Concrete / Beton	C30/37	[kN]	3,9	7,0	8,7	18,3
Concrete / Beton	C40/50	[kN]	4,3	7,6	9,5	20,0
Concrete / Beton	C50/60	[kN]	4,6	8,1	10,2	21,3
Cracked concrete / Gerissener Beton						
Concrete / Beton	C20/25	[kN]	2,0	3,6	4,8	9,5
Concrete / Beton	C25/30	[kN]	2,1	3,7	5,0	9,9
Concrete / Beton	C30/37	[kN]	2,2	3,9	5,2	10,5
Concrete / Beton	C40/50	[kN]	2,4	4,3	5,7	11,4
Concrete / Beton	C50/60	[kN]	2,6	4,6	6,1	12,2
Shear load / Querlast ²⁾						
Concrete / Beton	C20/25	[kN]	4,8	8,7	11	21

¹⁾ Load figures include the resistances' partial safety factors as per approvals and a partial safety factor on the action of γF= 1.4. Load figures apply for a rebar spacing s ≥ 15 cm or alternatively for a rebar spacing s ≥ 10 cm in combination with a rebar diameter of d ≤ 10 mm.

³⁾ Shear load figures are valid for cracked and non-cracked concrete C20/25-C50/60 and apply for an anchor without influence of a concrete edge. For shear loads close to an edge (c ≤ 10 x h_{ef}), concrete edge failure has to be checked as per ETAG, Annex C, Design Method A.



TENSION RESISTANCE CAPACITY UNDER FIRE EXPOSURE FOR CONCRETE C20/25-C50/60 SPANNUNGSWIDERSTANDSKAPAZITÄT UNTER BRANDBEANSPRUCHUNG IN BETON C20 / 25-C50 / 60



		M 8	M 10	M12	M16
F 30	[min]	1,3	2,3	3,0	5,0
F 60	[min]	1,3	2,3	3,0	5,0
F 90	[min]	1,3	2,3	3,0	5,0
F 120	[min]	1,0	1,8	2,4	4,0



Carton box packing - Kartonpackung



size	pgb code	EAN13	
M 8x72	SM1KA308072 Z	5902134717142	50
M 8x92	SM1KA308092 Z	5902134717159	50
M 8x112	SM1KA308112 Z	5902134717166	40
M 8x147	SM1KA308147 Z	5902134717173	40
M 10x92	SM1KA310092 Z	5902134717180	40
M 10x102	SM1KA310102 Z	5902134717197	25
M 10x112	SM1KA310112 Z	5902134717203	25
M 10x132	SM1KA310132 Z	5902134717210	25
M 10x162	SM1KA310162 Z	5902134717227	25
M12x103	SM1KA312103 Z	5902134717234	20
M12x118	SM1KA312118 Z	5902134717241	20
M12x128	SM1KA312128 Z	5902134717258	20
M12x148	SM1KA312148 Z	5902134717265	20
M12x163	SM1KA312163 Z	5902134717272	20
M12x178	SM1KA312178 Z	5902134717289	20
M16x123	SM1KA316123 Z	5902134717296	10
M16x138	SM1KA316138 Z	5902134717302	10
M16x168	SM1KA316168 Z	5902134717319	10



Window box packing - Sichtfensterpackung



size	pgb code	EAN13	
M 8x72	SM1KAE08072 Z	5902134718347	25
M 8x92	SM1KAE08092 Z	5902134718354	25
M 8x112	SM1KAE08112 Z	5902134718361	20
M 8x147	SM1KAE08147 Z	5902134718378	20
M 10x92	SM1KAE10092 Z	5902134718385	20
M 10x102	SM1KAE10102 Z	5902134718392	15
M 10x112	SM1KAE10112 Z	5902134718408	15
M 10x132	SM1KAE10132 Z	5902134718415	15
M 10x162	SM1KAE10162 Z	5902134718422	15
M12x103	SM1KAE12103 Z	5902134718439	10
M12x118	SM1KAE12118 Z	5902134718446	10
M12x128	SM1KAE12128 Z	5902134718453	10
M12x148	SM1KAE12148 Z	5902134718460	10
M12x163	SM1KAE12163 Z	5902134718477	10
M12x178	SM1KAE12178 Z	5902134718484	5
M16x123	SM1KAE16123 Z	5902134718491	5
M16x138	SM1KAE16138 Z	5902134718507	5
M16x168	SM1KAE16168 Z	5902134718514	5



Carton box packing - Kartonpackung



size	pgb code	EAN13	
M 8x72	SM1KA308072 A4	5902134724638	50
M 8x92	SM1KA308092 A4	5902134724645	50
M 8x112	SM1KA308112 A4	5902134724652	40
M 10x92	SM1KA310092 A4	5902134724669	40
M 10x102	SM1KA310102 A4	5902134724676	25
M 10x112	SM1KA310112 A4	5902134724683	25
M 10x132	SM1KA310132 A4	5902134724690	25
M12x103	SM1KA312103 A4	5902134724706	20
M12x118	SM1KA312118 A4	5902134724713	20
M12x128	SM1KA312128 A4	5902134724720	20
M12x148	SM1KA312148 A4	5902134724737	20
M12x163	SM1KA312163 A4	5902134724744	20
M16x123	SM1KA316123 A4	5902134724751	10
M16x138	SM1KA316138 A4	5902134724768	10
M16x168	SM1KA316168 A4	5902134724775	10



Carton box packing - Kartonpackung



size	pgb code	EAN13	
M 6x40	SM0KA306040 A4	5902134194127	200
M 6x65	SM0KA306065 A4	5902134194134	100
M 8x50	SM0KA308050 A4	5902134194141	100
M 8x95	SM0KA308095 A4	5902134194158	50
M 10x60	SM0KA310060 A4	5902134194165	50
M 10x80	SM0KA310080 A4	5902134194172	40
M 16x125	SM0KA316125 A4	5902134194189	10
M 16x180	SM0KA316180 A4	5902134194196	10
M 20x170	SM0KA320170 A4	5902134194202	5
M 20x220	SM0KA320220 A4	5902134194219	5



Carton box packing - Kartonpackung



size	pgb code	EAN13	
M 8x72	SM1KA308072 A4H	5902134194998	50
M 10x92	SM1KA310092 A4H	5902134195001	40
M 10x112	SM1KA310112 A4H	5902134195018	25



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