METAL ANCHORS

THROUGH BOLT

SORMAT
TRUSTED FIXINGS SINCE 1970

ETA
European Technical Approval - Option 4 for cracked concrete

S-KA	Steel, zinc plated
S-KAK	Steel, hot dip galvanized
S-KAH	Stainless steel (grade 316)

Through bolt is designed for medium heavy and heavy fixings in hard embedments like concrete, solid brick (max. M 8) and natural stone. A ready to install anchor specially suitable for through fixings. A wide selection of sizes and corrosion protections. More technical information on technical pages 105-108.

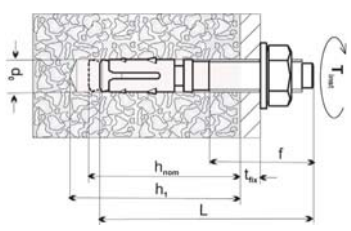
RANGE AND PACKAGES

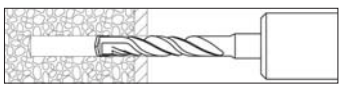
SIZE	L	t_{fix}	CODE			PACKAGES	WEIGHT
			S-KA	S-KAK	S-KAH	BOX/OUTER BOX/PALLET	KG/1000 PCS
6x40	40	2	00100	02100	04100	200/1000/56000	10,4
6/15	65	15	00102	02102	04102	150/750/42000	15,4
6/50	100	50	00104	02104		100/500/28000	22,7
8x50	50	2	00110	02110	04110	100/500/28000	22,2
8/10	75	10	00112	02112	04112	50/250/14000	29,5
8/30	95	30	00114	02114	04114	50/250/14000	36,1
8/55	120	55	00116	02116	04116	50/250/14000	43,5
8/85	150	85	00118	02118		50/250/14000	52,8
10x60	60	3	00130	02130	04130	50/250/14000	44,4
10/10	80	10	00132	02132	04132	50/250/14000	53,2
10/30	100	30	00136	02136	04136	25/125/7000	62,8
10/55	125	55	00137	02137	04138	25/125/7000	75,9
10/80	150	80	00139	02139		25/125/7000	88,3
12/5	85	5	00150	02150	04150	25/125/7000	81,7
12/20	100	20	00152	02152	04152	25/125/7000	92,3
12/35	115	35	00153	02153	04154	25/125/7000	103,8
12/65	145	65	00155	02155	04156	25/125/7000	124,7
12/100	180	100	00157	02157		25/125/3500	150,1
12/155	235	155				10/50/2800	219,5
16x90	90	3	00169			10/50/2800	159,4
16/5	110	5	00170	02170	04170	10/50/2800	185,7
16/20	125	20	00171	02171	04171	10/50/2800	204,6
16/45	150	45	00173	02173	04172	10/50/2800	239,0
16/70	175	70	00175	02175		10/50/2800	296,2
16/95	200	95	00176	02176		10/50/2800	328,2
20/20	170	20	00180	02180	04180	5/25/1400	448,3
20/70	220	70	00182	02182	04182	5/25/1400	570,2
20/130	280	130	00184	02184		5/25/1050	717,8

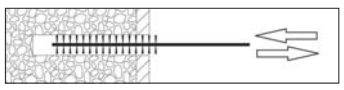
METAL ANCHORS
THROUGH BOLT

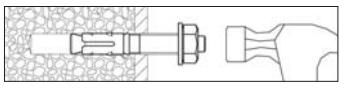
INSTALLATION PARAMETERS

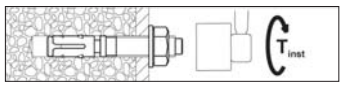
ANCHOR SIZE	L	f	d_0	h_1	t_{fix}
	mm	mm	mm	mm	mm
6x40	40	18	6	35	2
6/15	65	28	6	50	15
6/50	100	28	6	50	50
8x50	50	25	8	45	2
8/10	75	32	8	65	10
8/30	95	41	8	65	30
8/55	120	66	8	65	55
8/85	150	92	8	65	85
10x60	60	28	10	50	3
10/10	80	34	10	70	10
10/30	100	54	10	70	30
10/55	125	67	10	70	55
10/80	150	92	10	70	80
12/5	85	35	12	80	5
12/20	100	50	12	80	20
12/35	115	52	12	80	35
12/65	145	82	12	80	65
12/100	180	90	12	80	100
12/155	235	46	12	80	155
16x90	90	45	16	80	3
16/5	110	53	16	105	5
16/20	125	65	16	105	20
16/45	150	76	16	105	45
16/70	175	89	16	105	70
16/95	200	55	16	105	95
20/20	170	55	20	130	20
20/70	220	55	20	130	70
20/130	280	55	20	130	130




Drill a hole according to instructions above.


Clean the hole using the brush.


Hammer in the anchor.



Tighten the anchor using the correct installation torque.

t_{fix} max. fixture thickness
L anchor length
f thread length
h_{nom} min. embedment depth
h_{min} min. concrete thickness
h_1 min. depth of drill hole
d_0 drill hole diameter
T_{inst} installation torque

CAPACITIES

ANCHOR SIZE	h_{nom}	T_{inst}	PERMISSIBLE LOADS IN kN	
			Non-cracked concrete C20/25	Cracked concrete C20/25
	mm	Nm		
6 x 40 *	30	7	1,4	
M 6 *	40	7	1,8	
8 x 50 *	40	18	1,6	
M 8	55	18	2,4	2,0
10 x 60 *	40	30	2,1	
M 10	60	30	3,6	3,0
M 12	70	54	6,4	4,8
16 x 90 *	70	100	7,5	
M 16	95	120	10,0	6,4
M 20 *	120	240	13,9	

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

* Do not belong to ETA

METAL ANCHORS

DROP IN ANCHOR

LA Zinc plated
LAC Zinc plated (PRC)
LAH Stainless steel grade 316 (A4)

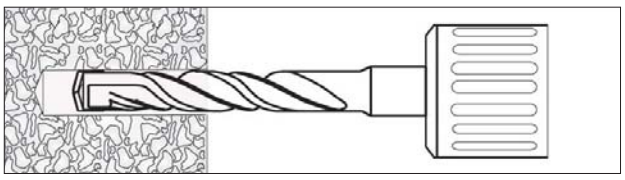
Drop in anchor is designed for medium heavy and heavy loads. The anchor is suitable for fixings in hard materials like concrete, solid brick (max. M 8) and natural stone. The anchor has a female thread. Suitable bolt length is 1-1,5x the nominal size of anchor + fixture thickness. It must be taken into consideration that the anchor can not be expanded with a screw!

RANGE AND PACKAGES

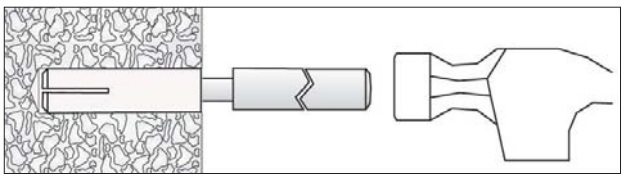
CODE	PRODUCT	PACKAGES BOX/OUTER BOX/PALLET	WEIGHT KG/1000 PCS
70006	LA 6	100/1000/56000	6,8
70008	LA 8	100/1000/56000	12,2
70010	LA 10	50/500/28000	22,8
70012	LA 12	50/250/14000	46,3
70016	LA 16	25/125/7000	96,8
70020	LA 20	20/100/5600	192,0
74006	LAH 6	100/1000/56000	6,8
74008	LAH 8	100/1000/56000	12,2
74010	LAH 10	50/500/28000	22,8
74012	LAH 12	50/250/14000	46,3
74016	LAH 16	25/125/7000	96,8
74020	LAH 20	20/100/5600	192,0
70050	LAC 6	100/2000	6,8
70051	LAC 8	100/1200	12,2
70052	LAC 10	50/600	22,8
70053	LAC 12	50/300	46,3
70054	LAC 16	25/125	96,8

METAL ANCHORS

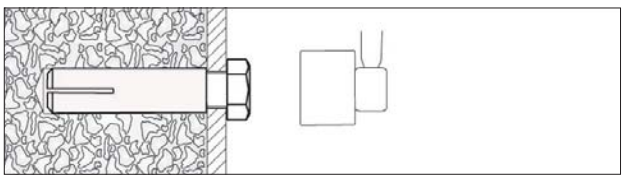
DROP IN ANCHOR



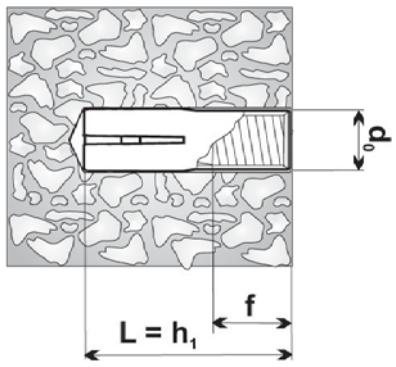
Drill a hole according to instructions below.



Expand the anchor with a setting tool.



Tighten the fixture with a suitable element.



t_{fix}	max. fixture thickness
L	anchor length
f	thread length
h_{nom}	min. embedment depth
h_{min}	min. concrete thickness
h_1	min. depth of drill hole
d_0	drill hole diameter

INSTALLATION PARAMETERS AND CAPACITIES

SIZE	THREAD	L	d_0	h_1	f	PERMISSIBLE LOADS IN kN TENSION / SHEAR Concrete C20/25	Concrete C32/40	SETTING TOOL
		mm	mm	mm	mm			
LA(H) 6	M 6	25	8	25	11	1,0/1,1	1,5/1,1	LT 6
LA(H) 8	M 8	30	10	30	13	1,6/1,3	1,9/1,5	LT 8
LA(H) 10	M 10	40	12	40	15	2,2/1,5	2,4/1,8	LT 10
LA(H) 12	M 12	50	15	50	19	3,4/2,6	3,9/2,8	LT 12
LA(H) 16	M 16	60	20	60	25	5,6/4,6	6,8/4,7	LT 16
LA(H) 20	M 20	80	25	80	33	7,9/6,6	9,8/6,6	LT 20

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

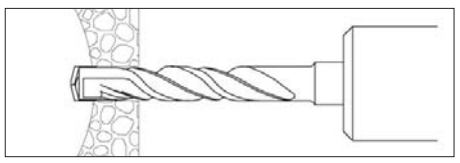
METAL ANCHORS

MTA

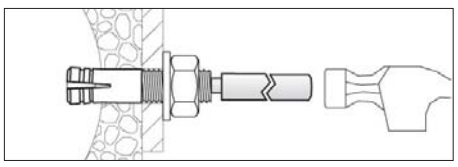
Multifunction anchor MTA is designed for medium heavy and heavy loads. MTA can be installed in hard materials like concrete, brick and natural stone. The anchor has both male- and female thread. Using the nut and the washer MTA can be installed also in thin or hollow constructions. In such situation the anchor acts like an undercut anchor! It must be taken into consideration that the anchor can not be expanded with a screw!

RANGE AND PACKAGES

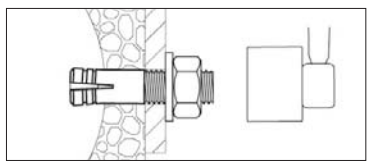
CODE	PRODUCT	PACKAGES BOX/OUTER BOX	WEIGHT KG/1000 PCS
70030	MTA 8/12	25 / 250	48,4
70031	MTA 10/16	25 / 250	103,5



Drill a hole according to the table below.



Expand the anchor with a setting tool.



Tighten the fixture with the nut.

t_{fix} max. fixture thickness
L anchor length
f thread length
h_{nom} min. embedment depth
h_{min} min. concrete thickness
h_1 min. depth of drill hole
d_0 drill hole diameter

INSTALLATION PARAMETERS AND CAPACITIES

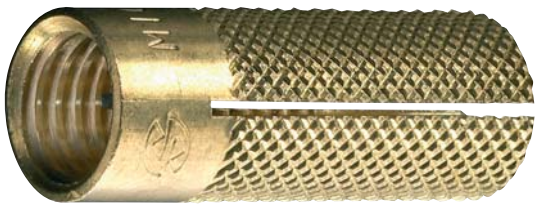
SIZE	THREAD FEMALE/MALE	L mm	d_0 mm	h_{nom} mm	f FEMALE/MALE mm	PERMISSIBLE LOADS IN kN* TENSION / SHEAR Concrete C42/50 emb.dpth 25 mm	Concrete C42/50 maximum emb. dpth**	SETTING TOOL
MTA 8/12	M 8/12	50	12	25	10/22	2,0 / 2,6	3,0 / 2,6	LT MTA 8/12
MTA 10/16	M 10/16	60	16	25	12/30	4,4 / 4,6	6,0 / 4,6	LT MTA 10/16

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

* includes safety factor 5
** 8/12=35 mm, 10/16=45 mm

METAL ANCHORS

MSA



An anchor made of brass, designed for light and medium heavy fixings in hard materials like concrete, brick, and natural stone. MSA is expanded with the threaded element that is going to be used for attaching the fixture.

RANGE AND PACKAGES

CODE	PRODUCT	PACKAGES	WEIGHT
		BOX/OUTER BOX	KG/1000 PCS
72204	MSA 4	200 / 2000	1,1
72205	MSA 5	200 / 2000	2,7
72206	MSA 6	100 / 1000	4,7
72208	MSA 8	100 / 1000	8,1
72210	MSA 10	50 / 500	13,3
72212	MSA 12	50 / 500	24,0
72216	MSA 16	25 / 250	53,7

t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
d_0 drill hole diameter

INSTALLATION PARAMETERS AND CAPACITIES

SIZE	THREAD	L	d_0	h_{nom}	SCREW LENGTH	PERMISSIBLE LOADS IN kN* TENSION
						Concrete C20/25
		mm	mm	mm	mm	
MSA 4	M 4	16	5	16	16 + t_{fix}	0,6
MSA 5	M 5	20	6	20	20 + t_{fix}	0,7
MSA 6	M 6	24	8	24	24 + t_{fix}	1,0
MSA 8	M 8	30	10	30	30 + t_{fix}	1,5
MSA 10	M 10	34	12	34	34 + t_{fix}	2,1
MSA 12	M 12	40	16	40	40 + t_{fix}	3,2
MSA 16	M 16	44	20	44	44 + t_{fix}	4,1

Restrictions of use (embedment depth, spacings and edge distances) on page 105. Materials and coatings on page 106.

* includes safety factor 4


“GOOD ON PAPER, EVEN BETTER IN USE.”
Evert van Boeschoten, Holland

SORMAT
TRUSTED FIXINGS SINCE 1970

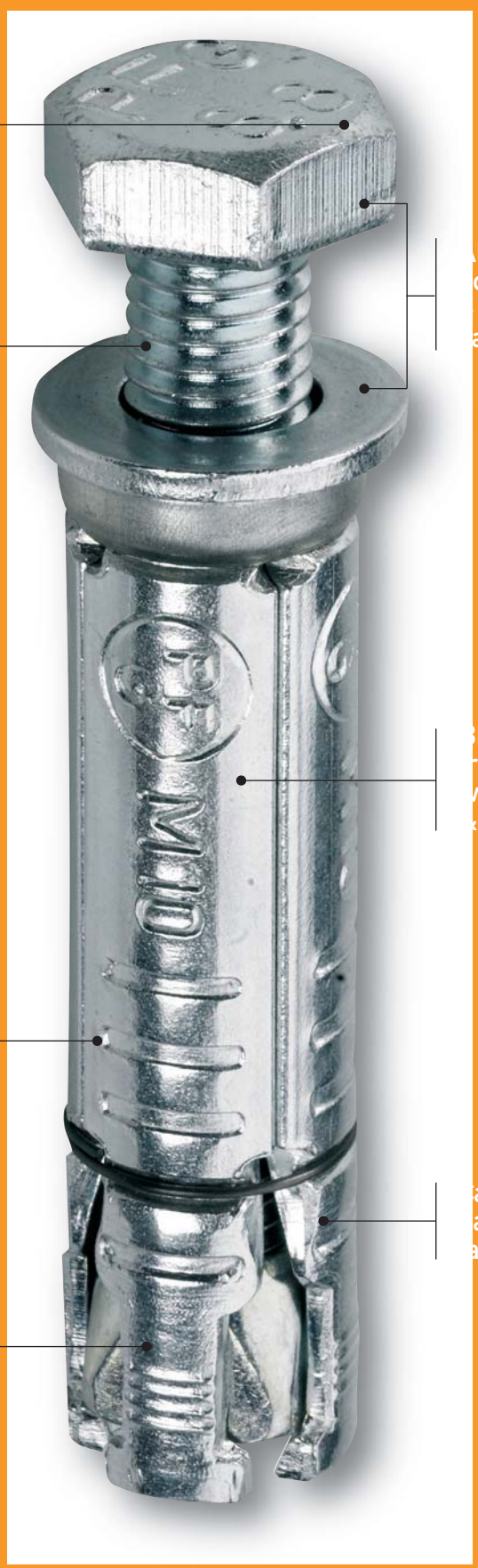
Steel quality of the loose bolt is 8.8 – higher pullout loads.

Lengths of the loose bolts are optimized – one length covers several applications.

ETA approval for sizes M8-M12 – products can reliably and safely be used in different adequate applications.

Lengths for the LB-shields are standardized – one drilling depth per shield size.

4-segmented shields are used for all PFG-anchors – the conical cone inside the segments will give you reliable functioning during each installation.



ll nuts and washers are
ccording to DIN standard
standard wrench sizes
an be used for installation.

Bright passivated surface
reatment which is compliant
ith the EU directives RoHS
WEEE.

an be used in various
ase materials due to
arge expansion on shield.

METAL ANCHORS

PFG ANCHORS / SB, SBS

SB Studbolt, zinc plated
SBS Studbolt, sherardized

PFG anchor is for medium heavy and heavy fixings in solid and hard materials like concrete, solid brick (max. M 8) and natural stone. Due to PFG's large expansion, it is suitable also in materials of slightly worse and porous quality like in many old constructions.

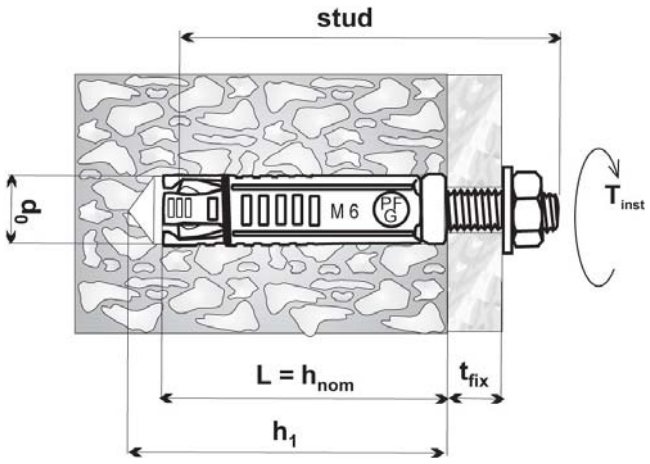
RANGE AND PACKAGES

SIZE	CODES		PACKAGES	WEIGHT
	SB	SBS	BOX/OUTER BOX	KG/1000 PCS
6-15	77001	77051	50 / 500	24,8
6-30	77002	77052	50 / 500	27,5
8-20	77004	77054	50 / 250	62,7
8-30	77005	77055	50 / 250	66,3
8-45	77006	77056	50 / 250	69,9
8-85	77007	77057	25 / 125	82,7
10-10	77009	77059	25 / 125	96,2
10-20	77010	77060	25 / 125	101,2
10-30	77011	77061	25 / 125	106,1
10-40	77012	77062	25 / 125	111,6
10-50	77013	77063	25 / 125	117,1
10-70	77014	77064	25 / 125	126,3
12-20	77016	77066	10 / 100	190,6
12-30	77017	77067	10 / 100	200,3
12-50	77018	77068	10 / 50	212,6
12-65	77019	77069	10 / 50	230,8
16-25	77021	77071	10 / 50	399,1
16-45	77022	77072	10 / 50	426,0

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

METAL ANCHORS

PFG ANCHORS / SB, SBS



t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter
T_{inst} installation torque

INSTALLATION PARAMETERS AND CAPACITIES

SIZE	THREAD	$L = h_{nom}$	stud length	d_0	h_1	t_{fix}	T_{inst}	PERMISSIBLE LOADS IN kN* TENSION/SHEAR concrete ≥ C20/25	
		mm	mm	mm	mm	mm	Nm		
6-15	M 6	40	60	10	45	15	10	2,8	4,6
6-30	M 6	40	75	10	45	30	10	2,8	4,6
8-20	M 8	50	75	14	55	20	25	5,0	8,3
8-30	M 8	50	85	14	55	30	25	5,0	8,3
8-45	M 8	50	100	14	55	45	25	5,0	8,3
8-85	M 8	50	140	14	55	85	25	5,0	8,3
10-10	M 10	60	80	16	65	10	50	6,7	13,2
10-20	M 10	60	90	16	65	20	50	6,7	13,2
10-30	M 10	60	100	16	65	30	50	6,7	13,2
10-40	M 10	60	110	16	65	40	50	6,7	13,2
10-50	M 10	60	120	16	65	50	50	6,7	13,2
10-70	M 10	60	140	16	65	70	50	6,7	13,2
12-20	M 12	80	110	20	85	20	85	8,9	19,2
12-30	M 12	80	120	20	85	30	85	8,9	19,2
12-50	M 12	80	140	20	85	50	85	8,9	19,2
12-65	M 12	80	155	20	85	65	85	8,9	19,2
16-25	M 16	100	140	25	105	25	120	13,4	22,8
16-45	M 16	100	160	25	105	45	120	13,4	22,8

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

* Includes safety factor >3

METAL ANCHORS

PFG ANCHORS / LB, LBS

SORMAT
TRUSTED FIXINGS SINCE 1970

ETA 01/0012
European Technical Approval - Option 8 for non cracked concrete

LB Loose bolt, zinc plated
LBS Loose bolt, sherardized

PFG shield anchor is designed for medium heavy and heavy loads. PFG can be installed in hard materials like concrete, brick (max. M 8), and natural stone. Due to PFG's powerful and large expansion, it can also well be used in more porous materials like in old constructions, often of slightly worse quality.

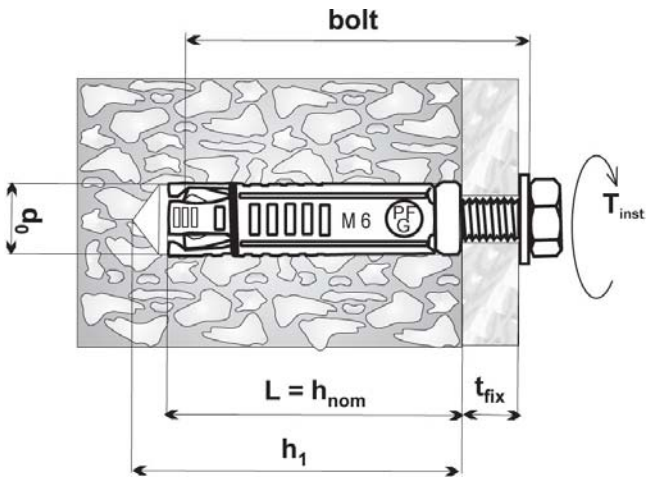
RANGE AND PACKAGES

SIZE	CODES		PACKAGES	WEIGHT
	LB	LBS	BOX/OUTER BOX	KG/1000 PCS
6-15	77025	77075	50 / 500	23,4
6-35	77026	77076	50 / 500	27,2
8-25	77028	77078	50 / 250	60,0
8-35	77029	77079	50 / 250	63,0
8-45	77030	77080	50 / 250	65,9
10-15	77032	77082	25 / 125	92,4
10-35	77033	77083	25 / 125	102,3
10-55	77034	77084	25 / 125	116,8
10-85	77035	77085	25 / 125	131,3
12-20	77037	77087	25 / 125	175,3
12-50	77038	77088	25 / 125	193,6
12-70	77039	77089	10 / 50	212,8
16-30	77041	77091	10 / 50	364,0
16-60	77042	77092	10 / 50	424,0

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

METAL ANCHORS

PFG ANCHORS / LB, LBS



t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter
T_{inst} installation torque

INSTALLATION PARAMETERS AND CAPACITIES

SIZE	THREAD	$L = h_{nom}$	bolt length	d_0	h_1	t_{fix}	T_{inst}	PERMISSIBLE LOADS IN kN* TENSION/SHEAR concrete ≥ C20/25	
		mm	mm	mm	mm	mm	Nm		
6-15	M 6	40	50	10	45	15	10	2,8	4,6
6-35	M 6	40	70	10	45	35	10	2,8	4,6
8-25	M 8	50	70	14	55	25	25	5,0	8,3
8-35	M 8	50	80	14	55	35	25	5,0	8,3
8-45	M 8	50	90	14	55	45	25	5,0	8,3
10-15	M 10	60	70	16	65	15	50	6,7	13,2
10-35	M 10	60	90	16	65	35	50	6,7	13,2
10-55	M 10	60	110	16	65	55	50	6,7	13,2
10-85	M 10	60	140	16	65	85	50	6,7	13,2
12-20	M 12	80	90	20	85	20	85	8,9	19,2
12-50	M 12	80	120	20	85	50	85	8,9	19,2
12-70	M 12	80	140	20	85	70	85	8,9	19,2
16-30	M 16	100	120	25	105	30	120	13,4**	22,8**
16-60	M 16	100	150	25	105	60	120	13,4**	22,8**

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

* ETA 01/0012
** Do not belong to ETA

METAL ANCHORS

PFG ANCHORS / ES, ESS, ESSH, EBF, HBF

SORMAT
TRUSTED FIXINGS SINCE 1970

ES

HBF

EBF

ETA 01/0012
European Technical Approval - Option 8 for non cracked concrete

ES	Anchorshield, zinc plated
ESS	Anchorshield, stainless steel AISI 316 (A4)
ESSH	Anchorshield, sherardized
EBF	Zinc plated anchor with forged eyebolt
HBF	Zinc plated anchor with forged hookbolt

PFG anchor is for medium heavy and heavy fixings in solid and hard materials like concrete, brick (max. M 8) and natural stone. Due to PFG's large expansion, it is suitable also in materials of slightly worse and porous quality like in many old constructions.

RANGE AND PACKAGES

CODE	PRODUCT	PACKAGES BOX/OUTER BOX	WEIGHT KG/1000 PCS
77501	ES 6	50 / 500	11,6
77502	ES 8	50 / 500	31,3
77503	ES 10	50 / 250	44,0
77504	ES 12	25 / 125	92,3
77505	ES 16	10 / 100	156,8
77601	ESS 6	50 / 500	11,7
77602	ESS 8	50 / 500	31,8
77603	ESS 10	25 / 250	44,7
77604	ESS 12	10 / 100	94,4
77521	ESSH 6	50 / 500	11,6
77522	ESSH 8	50 / 500	31,3
77523	ESSH 10	50 / 250	44,0
77524	ESSH 12	25 / 125	92,3
77525	ESSH 16	10 / 100	156,8

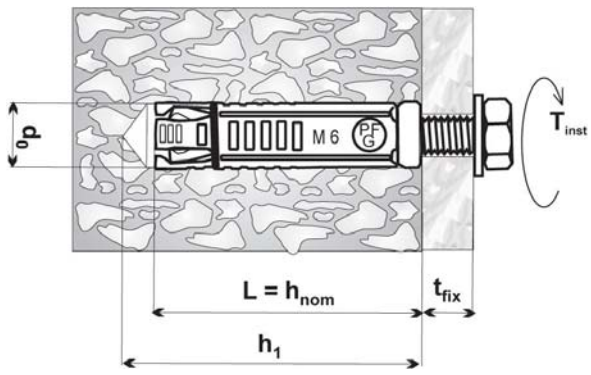
RANGE AND PACKAGES

TYPE	SIZES AND CODES					PACKAGES BOX/OUTER BOX				
	M6	M8	M10	M12	M16	M6	M8	M10	M12	M16
EBF	77430	77431	77432	77433	77434	25 / 250	25 / 125	10 / 50	10 / 50	5 / 25
HBF	77330	77331	77332	77333	77334	25 / 250	25 / 125	10 / 50	10 / 50	5 / 25

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

METAL ANCHORS

PFG ANCHORS / ES, ESS, ESSH, EBF, HBF

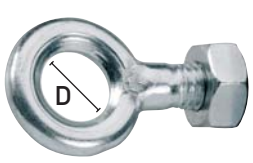


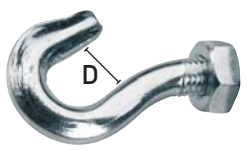
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter
T_{inst} installation torque

INSTALLATION PARAMETERS AND CAPACITIES

SIZE	THREAD	L = h_{nom}	d_0	h_1	T_{inst}	PERMISSIBLE LOADS IN kN* TENSION/SHEAR Concrete C20/25	
		mm	mm	mm	mm		
ES... 6	M 6	40	10	45	10	2,8	4,6
ES... 8	M 8	50	14	55	25	5,0	8,3
ES... 10	M 10	60	16	65	50	6,7	13,2
ES... 12	M 12	80	20	85	85	8,9	19,2
ES... 16	M 16	100	25	105	120	13,4**	22,8**

* ETA 01/0012
** Do not belong to ETA





INSTALLATION PARAMETERS AND CAPACITIES

SIZE	THREAD	L = h_{nom}	d_0	h_1	T_{inst}	D	PERMISSIBLE LOADS IN kN TENSION
		mm	mm	mm	Nm	mm	
HBF	M 6	40	10	45	6	8,0	2,7
HBF	M 8	50	14	55	14	10,0	4,8
HBF	M 10	60	16	65	27	12,5	6,7
HBF	M 12	80	20	85	46	16,0	8,9
HBF	M 16	100	25	105	100	19,0	12,0
EBF	M 6	40	10	45	6	10,0	2,8
EBF	M 8	50	14	55	14	11,8	5,0
EBF	M 10	60	16	65	27	14,5	6,7
EBF	M 12	80	20	85	46	17,0	8,9
EBF	M 16	100	25	105	100	23,0	13,4

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

METAL ANCHORS

S-VAM

S-VAM S

S-VAM B

S-VAM S Heavy duty anchor with hexagonal bolt
S-VAM B Heavy duty anchor with stud and nut

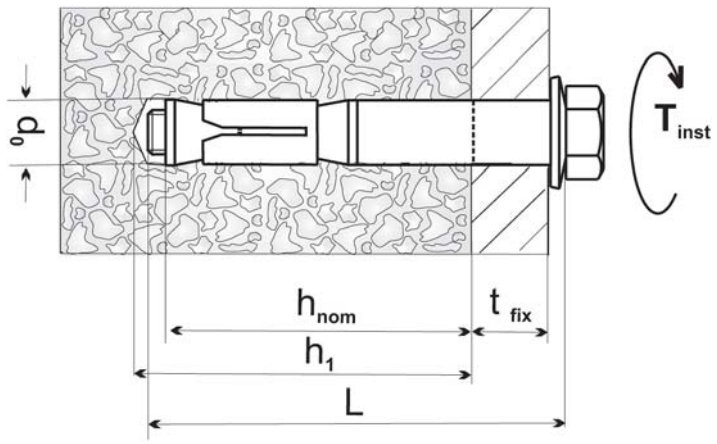
Heavy duty anchor is available in two versions, S-VAM S with hexagonal bolt and S-VAM B with stud, nut, and washer. These anchors are suitable for medium heavy and heavy fixings in solid and hard materials like concrete, also cracked concrete, brick (max. M 8), and natural stone. Due to it's powerful and controlled expansion it is suitable for heavy loads. Because of the new twin cone system and domed washer a successfull and strongly attached fixture to the base is guaranteed.

RANGE AND PACKAGES

S-VAM S				S-VAM B			
CODE	TYPE	PACKAGES BOX/OUTER BOX	WEIGHT KG/1000 PCS	CODE	TYPE	PACKAGES BOX/OUTER BOX	WEIGHT KG/1000 PCS
77701	S-VAM 10/0 S	50 / 250	27,0	77730	S-VAM 10/0 B	50 / 250	27,0
77702	S-VAM 10/15 S	50 / 250	34,0	77731	S-VAM 10/15 B	50 / 250	34,0
77703	S-VAM 10/40 S	50 / 250	46,0	77732	S-VAM 10/40 B	50 / 250	46,0
77704	S-VAM 12/0 S	50 / 250	58,0	77733	S-VAM 12/0 B	50 / 250	58,0
77705	S-VAM 12/15 S	25 / 125	70,0	77734	S-VAM 12/15 B	25 / 125	70,0
77706	S-VAM 12/40 S	25 / 125	90,0	77735	S-VAM 12/40 B	25 / 125	90,0
77708	S-VAM 15/0 S	25 / 125	110,0	77736	S-VAM 12/65 B	25 / 125	106,0
77709	S-VAM 15/15 S	20 / 100	128,0	77737	S-VAM 15/0 B	25 / 125	110,0
77710	S-VAM 15/40 S	10 / 50	160,0	77738	S-VAM 15/15 B	20 / 100	128,0
77712	S-VAM 20/0 S	10 / 50	208,0	77739	S-VAM 15/40 B	10 / 50	160,0
77713	S-VAM 20/15 S	10 / 50	248,0	77740	S-VAM 15/65 B	10 / 50	185,0
77714	S-VAM 20/40 S	10 / 50	290,0	77741	S-VAM 20/0 B	10 / 50	208,0
77716	S-VAM 25/15 S	5 / 25	484,0	77742	S-VAM 20/15 B	10 / 50	248,0
77717	S-VAM 25/40 S	5 / 25	567,0	77743	S-VAM 20/40 B	10 / 50	290,0
				77744	S-VAM 20/65 B	5 / 25	335,0
				77745	S-VAM 25/15 B	5 / 25	484,0
				77746	S-VAM 25/40 B	5 / 25	567,0
				77747	S-VAM 25/65 B	4 / 20	636,0
				77750	S-VAM 30/40 B	3 / 15	967,0

METAL ANCHORS

S-VAM



t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter
T_{inst} installation torque

INSTALLATION PARAMETERS AND CAPACITIES

PRODUCT	THREAD	L	d_0	h_{nom}	h_1	t_{fix}	T_{inst}	PERMISSIBLE LOADS IN kN* TENSION / SHEAR	
								concrete ≥ C20/25	
		mm	mm	mm	mm	mm	Nm		
S-VAM 10/0	M 6	54	10	45	60	-	10	3,8	3,8
S-VAM 10/15	M 6	69	10	45	60	15	10	3,8	3,8
S-VAM 10/40	M 6	94	10	45	60	40	10	3,8	3,8
S-VAM 12/0	M 8	64	12	55	70	-	25	5,2	5,2
S-VAM 12/15	M 8	79	12	55	70	15	25	5,2	5,2
S-VAM 12/40	M 8	104	12	55	70	40	25	5,2	5,2
S-VAM 12/65	M 8	129	12	55	70	65	25	5,2	5,2
S-VAM 15/0	M 10	78	15	65	85	-	50	8,5	8,5
S-VAM 15/15	M 10	93	15	65	85	15	50	8,5	8,5
S-VAM 15/40	M 10	118	15	65	85	40	50	8,5	8,5
S-VAM 15/65	M 10	143	15	65	85	65	50	8,5	8,5
S-VAM 20/0	M 12	93	20	80	95	-	80	12,1	19,3
S-VAM 20/15	M 12	108	20	80	95	15	80	12,1	19,3
S-VAM 20/40	M 12	133	20	80	95	40	80	12,1	19,3
S-VAM 20/65	M 12	158	20	80	95	65	80	12,1	19,3
S-VAM 25/15	M 16	138	25	100	125	15	180	18,2	35,9
S-VAM 25/40	M 16	163	25	100	125	40	180	18,2	35,9
S-VAM 25/65	M 16	188	25	100	125	65	180	18,2	35,9
S-VAM 30/40	M 20	192	30	125	150	40	300	26,3	55,9

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

*According to the manufacturers recommendation

METAL ANCHORS

SCREW ANCHORS / RA, RAR, RAH

SORMAT
TRUSTED FIXINGS SINCE 1970

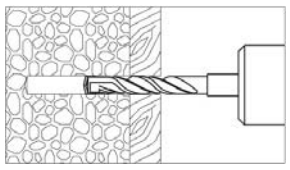
RA	Zinc plated
RAR	Stainless steel A2
RAH	Stainless steel A4

Screw anchors are developed from through bolts by equipping them with a female thread. Screw anchors are designed for “inattentive” installations due to their countersunk screw. These anchors can be installed in hard and solid embedments like concrete, solid brick, and natural stone. Stainless steel anchors, RAR, and RAH are delivered without screw. Screw anchors are often used in fixing doorsteps, window frames, and structures for balcony glazing.

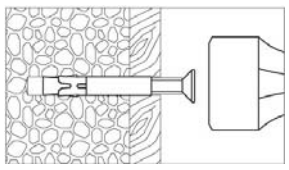
RANGE AND PACKAGES

CODE	PRODUCT	PACKAGES BOX/OUTER BOX	WEIGHT KG/1000 PCS
72001	RA 6 X 50	100 / 1000	10,3
72002	RA 6 X 75	50 / 500	16,0
72003	RA 6 X 90	50 / 500	19,0
72005	RAR 6 X 40*	100 / 1000	6,0
72011	RAH 10 X 55*	50 / 500	30,0

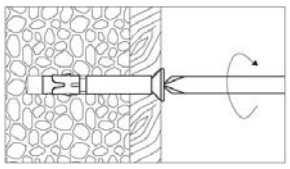
* Attn. Delivery without a screw



Drill a hole through the fixture.



Turn the screw few rounds into the anchor and install it into the drillhole so that the head of the screw meets the fixture.



Expand the anchor by tightening the screw.

t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
d_0 drill hole diameter

INSTALLATION PARAMETERS AND CAPACITIES

PRODUCT	THREAD	L mm	d_0 mm	h_{nom} mm	t_{fix*} mm	PERMISSIBLE LOADS IN kN** TENSION/SHEAR Concrete C20/25	
RA 6 X 50	M 5	40	6	30	30	0,5	0,75
RA 6 X 75	M 5	65	6	30	55	0,5	0,75
RA 6 X 90	M 5	80	6	30	70	0,5	0,75
RAR 6 X 40	M 5	40	6	30	Screw length - 3 mm	0,5	0,75
RAH 10 X 55	M 8	55	10	40	Screw length - 3 mm	1,7	2,0

Restrictions of use (embedment depth, spacings and edge distances) on page 105.
Materials and coatings on page 106.

* With minimum embedment depth and standard screw
** Includes a safety factor >3

METAL ANCHORS

PKN

PKN Zinc plated

Express nail PKN is designed for light fixings in hard materials like concrete and brick. This anchor is quick and easy to install. Drill a hole through the fixture and hit the anchor with a hammer into the hole. Because of a fully metallic construction this fixing is suitable for situations where fire resistance is required.

RANGE AND PACKAGES

CODE	PRODUCT	PACKAGES	WEIGHT
		BOX/OUTER BOX	KG/1000 PCS
72502	6 x 30	200 / 2000 / 66000	2,9
72506	6 x 60	200 / 2000 / 42000	5,7
72503	6 x 80	200 / 2000 / 48000	7,5
72504	8 x 70	100 / 1000 / 21000	10,9
72505	8 x 90	100 / 1000 / 21000	14,2
72507	8 x 110	100 / 1000 / 24000	17,5
72508	8 x 130	100 / 1000 / 24000	20,2
72509	8 x 150	100 / 1000 / 24000	23,4

t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter

INSTALLATION PARAMETERS AND CAPACITIES

PRODUCT	L	d_0	h_1	h_{nom}	t_{fix}	PERMISSIBLE LOADS IN kN* TENSION/SHEAR
	mm	mm	mm	mm	mm	Concrete C20/25
6 x 30	30	6	35	27	3	0,5 / 0,3
6 x 60	60	6	40	30	30	0,5 / 0,3
6 x 80	80	6	40	30	50	0,5 / 0,3
8 x 70	70	8	50	40	30	0,7 / 0,6
8 x 90	90	8	50	40	50	0,7 / 0,6
8 x 110	110	8	50	40	70	0,7 / 0,6
8 x 130	130	8	50	40	90	0,7 / 0,6
8 x 150	150	8	50	40	110	0,7 / 0,6

Restrictions of use (embedment depth, spacings and edge distances) on page 105. Materials and coatings on page 106.

* Includes a safety factor >4

METAL ANCHORS
CONFIX

CONFIX Hot dip galvanized
CONFIX Stainless steel A2

"Concrete nail" Confix is designed for light fixings in hard materials like concrete and brick. This anchor is quick and easy to install. Drill a hole through the fixture and hit the nail with a hammer into the hole. Because of a fully metallic construction this fixing is suitable for situations where fire resistance is required. The stainless steel Confix is suitable also for outdoor use and for use in moderately heavy corrosive athmosphere.

RANGE AND PACKAGES

CODE	PRODUCT	PACKAGES BOX/OUTER BOX	WEIGHT KG/1000 PCS
32231	45 x 4,5	100 / 1200	6,8
32232	55 x 4,5	100 / 1200	8,2
32233	65 x 4,5	100 / 1200	9,7
32234	75 x 4,5	100 / 1200	11,0
32235	85 x 4,5	100 / 800	12,6
32236	100 x 4,5	100 / 800	15,4
32239	35 x 5 A2	100 / 1000	7,8
32240	45 x 5 A2	100 / 1000	8,1
32241	55 x 5 A2	100 / 1000	9,7
32242	65 x 5 A2	100 / 1000	11,1
32243	75 x 5 A2	100 / 1000	12,7
32244	85 x 5 A2	100 / 1000	14,1
32245	100 x 5 A2	100 / 1000	17,1

METAL ANCHORS

CONFIX

t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter

INSTALLATION PARAMETERS AND CAPACITIES

PRODUCT	L	d_0	h_1	h_{nom}	t_{fix}	PERMISSIBLE LOADS IN kN* TENSION/SHEAR	
						Concrete C20/25	Concrete C32/40
	mm	mm	mm	mm	mm		
32231	45	5	40	30	15	0,4 / 1,7	1,0 / 2,1
32232	55	5	40	30	25	0,4 / 1,7	1,0 / 2,1
32233	65	5	40	30	35	0,4 / 1,7	1,0 / 2,1
32234	75	5	40	30	45	0,4 / 1,7	1,0 / 2,1
32235	85	5	40	30	55	0,4 / 1,7	1,0 / 2,1
32236	100	5	40	30	70	0,4 / 1,7	1,0 / 2,1
32239	35	5	40	30	5	0,4 / 1,7	1,0 / 2,1
32240	45	5	40	30	15	0,4 / 1,7	1,0 / 2,1
32241	55	5	40	30	25	0,4 / 1,7	1,0 / 2,1
32242	65	5	40	30	35	0,4 / 1,7	1,0 / 2,1
32243	75	5	40	30	45	0,4 / 1,7	1,0 / 2,1
32244	85	5	40	30	55	0,4 / 1,7	1,0 / 2,1
32245	100	5	40	30	70	0,4 / 1,7	1,0 / 2,1

Restrictions of use (embedment depth, spacings and edge distances) on page 105. Materials and coatings on page 106.

* SITAC 2629/93

METAL ANCHORS

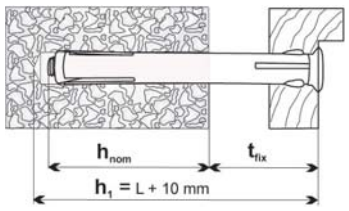
FRAME ANCHORS

KRH Zinc plated

The frame anchor KRH is designed for fixing wooden and metallic window and door frames. Suitable fixing bases are hard materials like concrete, solid- and hollow brick. Due to KRH's fully metallic construction, it is very usable e.g. in fire proof applications like fixing fire doors with metallic frames.

RANGE AND PACKAGES

CODE	PRODUCT	PACKAGES BOX/OUTER BOX/PALLET	WEIGHT KG/1000 PCS
75860	10 X 72	100 / 500 / 14000	30,6
75861	10 X 92	100 / 500 / 14000	37,1
75862	10 X 112	100 / 500 / 14000	43,9
75862	10 X 132	100 / 500 / 14000	51,3
75864	10 X 152	50 / 250 / 7000	58,7
75865	10 X 182	25 / 250 / 10500	66,7
75866	10 X 202	25 / 250 / 10500	71,4



t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter

INSTALLATION PARAMETERS AND CAPACITIES

PRODUCT	L mm	d_0 mm	h_{nom} mm	t_{fix} mm
10 X 72	72	10	30	42
10 X 92	92	10	30	62
10 X 112	112	10	30	82
10 X 132	132	10	30	102
10 X 152	152	10	30	122
10 X 182	182	10	30	152
10 X 202	202	10	30	172

Restrictions of use (spacings and edge distances) on page 105. Materials and coatings on page 106.

METAL ANCHORS

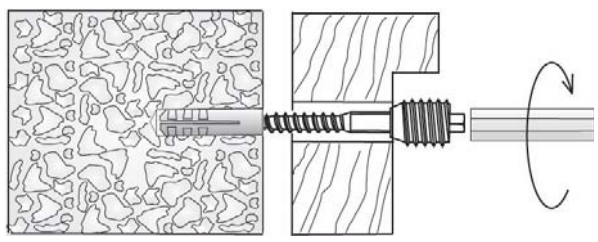
FRAME ANCHORS

SKRH Zinc plated

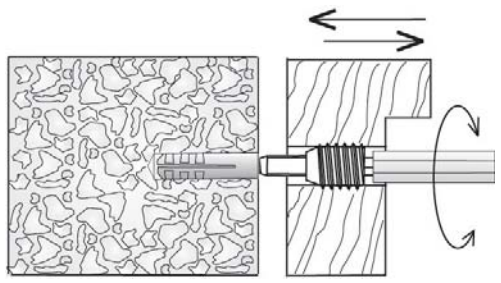
The adjustable frame screw SKRH is designed for fixing wooden window and door frames. SKRH consists of two elements, the body, a twin screw, and the adjusting element. SKRH is installed as an assembly through the predrilled hole of the frame, with a suitable fastener into the structure by using a setting tool. After installing the screw, the frame can be adjusted by using the other end of the setting tool. The predrilled hole diameter shall be 13 mm in soft wood and 14 mm in hard wood.

RANGE AND PACKAGES

CODE	PRODUCT	PACKAGES BOX	WEIGHT KG/1000 PCS
75850	SKRH 7 X 70	200	25,4
75851	SKRH 7 X 90	200	30,0
75852	SKRH 7 X 120	100	39,5
75855	SKRH SETTING TOOL	10	16,7



Install the adjustable frame screw into the structure with a suitable fastener through the predrilled hole in the frame by using the setting tool.



The frame can be adjusted in and out from the structure by using the other end of the setting tool.


“SAVING TIME, MONEY, AND NERVES. THAT´S WHAT TRUSTED FIXINGS IS ALL ABOUT.”
Håkan Yngve, Sweden

SORMAT
TRUSTED FIXINGS SINCE 1970

First screw anchor with ETA approval.

Installation without any prescribed tightening torques.

Fastening which is free of expansion pressure.

Quick and easy installation. The screw anchors is set without a plug.

Chiseld tip design creates a clear thread into the base material. The thread startes immediately without breakout of the concrete surface.

Removable and reusable. The anchor can be completely removed and reused two times if needed.

The anchor will bear loads immediately.

Available in stainless steel.

No protrudings threads, neat head finish.

METAL ANCHORS

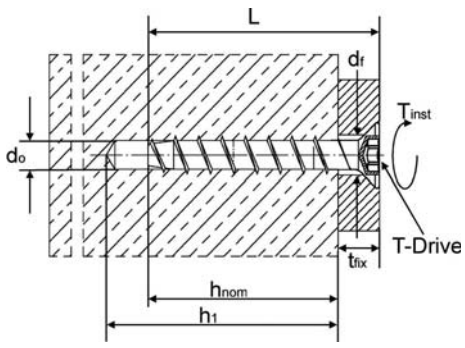
SORMAT MULTI-MONTI®

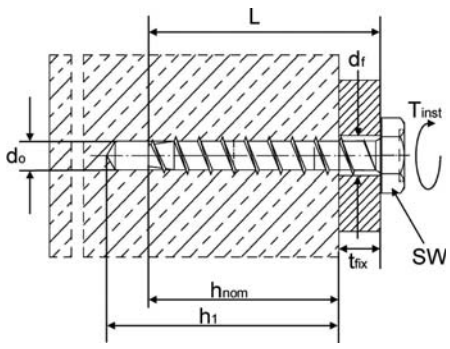
MMS-F / HMS-F Countersunk head, T-Drive, zinc plated

RANGE, PACKAGING, AND INSTALLATION PARAMETERS

TYPE	d_0	h_{nom}	SPANNER SIZE	ARTICLE NUMBER	PACKAGES	WEIGHT
					BOX/OUTER BOX	KG/1000 PCS
ø x t_{fix} x L	mm	mm				
HMS-F 6 x 10 x 40	5	30	T-30	71045	200/2000	7,0
MMS-F 6 x 5 x 50	5	45	T-30	71046	100/1000	7,9
MMS-F 6 x 35 x 80	5	45	T-30	71048	50/500	12,0
MMS-F 6 x 55 x 100	5	45	T-30	71049	50/500	14,8
MMS-F 7,5 x 5 x 50	6	45	T-40	71053	100/1000	12,3
MMS-F 7,5 x 25 x 80	6	55	T-40	71055	100/1000	18,3
MMS-F 7,5 x 45 x 100	6	55	T-40	71056	50/500	22,5

t_{fix} max. fixture thickness
L anchor length
h_{nom} min. embedment depth
h_1 min. depth of drill hole
d_0 drill hole diameter





APPROVALS AND CAPACITIES

TYPE	Head type	Suspended ceilings	Feuerwider-standsklasse F120	RECOMMENDED* LOAD IN kN		ADMISSIBLE** LOAD IN kN	
				non-cracked concrete C20/25	cracked concrete C20/25	non-cracked concrete C20/25	cracked concrete C20/25
ø x t_{fix} x L							
HMS-F 6 x 10 x 40	HMS-F	-	F120	1,9	-	-	-
MMS-F 6 x 5 x 50	MMS-F	Z-21.1-1503	F120	3,8	2,7	1,5	0,3
MMS-F 6 x 35 x 80	MMS-F	Z-21.1-1503	F120	3,8	2,7	1,5	0,3
MMS-F 6 x 55 x 100	MMS-F	Z-21.1-1503	F120	3,8	2,7	1,5	0,3
MMS-F 7,5 x 5 x 50	MMS-F	Z-21.1-1503	F120	3,7	-	2,0	0,5
MMS-F 7,5 x 25 x 80	MMS-F	Z-21.1-1503	F120	5,3	3,8	3,0	0,8
MMS-F 7,5 x 45 x 100	MMS-F	Z-21.1-1503	F120	5,3	3,8	3,0	0,8

* Recommendation given by manufacturer
** Loads according to approvals

METAL ANCHORS

SORMAT MULTI-MONTI®

MMS-S / HMS-S Hexagon head, zinc plated

European Technical Approval - Option 1 for cracked concrete

RANGE, PACKAGING, AND INSTALLATION PARAMETERS

TYPE	d_0	h_{nom}	SPANNER SIZE	ARTICLE NUMBER	PACKAGES	WEIGHT
					BOX/OUTER BOX	KG/1000 PCS
ø x t_{fix} x L	mm	mm				
HMS-S 6 x 5 x 40	5	35	SW 10	71001	200/2000	7,4
MMS-S 6 x 5 x 50	5	45	SW 10	71002	100/1000	9,2
HMS-S 7,5 x 1 x 35	6	34	SW 13	71006	100/1000	11,9
MMS-S 7,5 x 5 x 50	6	45	SW 13	71009	100/1000	15,3
MMS-S 7,5 x 5 x 60	6	55	SW 13	71010	100/1000	17,3
MMS-S 7,5 x 25 x 80	6	55	SW 13	71011	50/500	21,6
MMS-S 10 x 5 x 60	8	55	SW 16	71015	50/500	31,7
MMS-S 10 x 5 x 70	8	65	SW 16	71016	50/500	35,4
MMS-S 10 x 15 x 80	8	65	SW 16	71017	50/500	39,1
MMS-S 10 x 35 x 100	8	65	SW 16	71018	25/250	47,1
MMS-S 10 x 55 x 120	8	65	SW 16	71019	25/250	54,4
MMS-S 12 x 5 x 80	10	75	SW 18	71023	25/250	61,0
MMS-S 12 x 15 x 90	10	75	SW 18	71024	25/250	67,2
MMS-S 12 x 25 x 100	10	75	SW 18	71025	25/250	73,1
MMS-S 12 x 45 x 120	10	75	SW 18	71026	25/250	85,2
MMS-S 12 x 65 x 140	10	75	SW 18	71027	25/250	97,1
MMS-S 12 x 85 x 160	10	75	SW 18	71028	25/250	109,2
MMS-S 16 x 15 x 130	14	115	SW 24	71035	10/-	191,0

APPROVALS AND CAPACITIES

TYPE	European Technical Approval - Option 1 for cracked concrete	Suspended ceilings	Feuerwiderstandsklasse F120	RECOMMENDED* LOAD IN kN		ADMISSIBLE** LOAD IN kN	
				non-cracked concrete C20/25	cracked concrete C20/25	non-cracked concrete C20/25	cracked concrete C20/25
HMS-S 6 x 5 x 40	-	-	F120	2,4	-	-	-
MMS-S 6 x 5 x 50	-	Z-21.1-1503	F120	3,8	2,7	1,5	0,3
HMS-S 7,5 x 1 x 35	-	-	-	2,2	-	-	-
MMS-S 7,5 x 5 x 50	-	Z-21.1-1503	F120	3,7	-	2,0	0,5
MMS-S 7,5 x 5 x 60	-	Z-21.1-1503	F120	5,3	3,8	3,0	0,8
MMS-S 7,5 x 25 x 80	-	Z-21.1-1503	F120	5,3	3,8	3,0	0,8
MMS-S 10 x 5 x 60	-	Z-21.1-1503	F120	5,0	-	-	0,8
MMS-S 10 x 5 x 70	ETA-05/0010	Z-21.1-1503	F120	6,8	4,9	4,9	3,7
MMS-S 10 x 15 x 80	ETA-05/0010	Z-21.1-1503	F120	6,8	4,9	4,9	3,7
MMS-S 10 x 35 x 100	ETA-05/0010	Z-21.1-1503	F120	6,8	4,9	4,9	3,7
MMS-S 10 x 55 x 120	ETA-05/0010	Z-21.1-1503	F120	6,8	4,9	4,9	3,7
MMS-S 12 x 5 x 80	ETA-05/0010	-	F120	8,3	6,0	6,5	4,9
MMS-S 12 x 15 x 90	ETA-05/0010	-	F120	8,3	6,0	6,5	4,9
MMS-S 12 x 25 x 100	ETA-05/0010	-	F120	8,3	6,0	6,5	4,9
MMS-S 12 x 45 x 120	ETA-05/0010	-	F120	8,3	6,0	6,5	4,9
MMS-S 12 x 65 x 140	ETA-05/0010	-	F120	8,3	6,0	6,5	4,9
MMS-S 12 x 85 x 160	ETA-05/0010	-	F120	8,3	6,0	6,5	4,9
MMS-S 16 x 15 x 130	ETA-05/0010	-	-	17,0	12,1	16,4	12,1

* Recommendation given by manufacturer
** Loads according to approvals


“INNOVATIVITY AND APPROVED QUALITY. A COMBINATION VALUED BY ME AND MY CLIENTS.”
Francis Houze, France

SORMAT
TRUSTED FIXINGS SINCE 1970

Re-usable. There is no need to use up the whole cartridge in one go.

Is suitable for applications where high loads are needed.

Small edge and space distances.

Low dispensing force and excellent handling.

Styrene free.

Can be used in damp holes and under water.

Can be used in a big variety of base materials.