SAH
Stahlwerk Annahütte

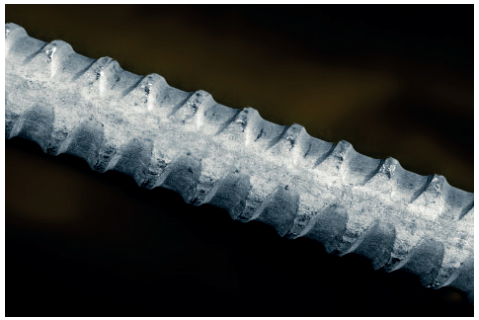
Katalog | *catalogue*

SAS 500 / 550 | SAS 550 / 620 | *grade 75*
SAS 555 / 700 | *grade 80*
SAS 670 / 800 | *grade 97*
SAS 950 / 1050 | SAS 835 / 1035 | *grade 150*

SAS SYSTEMS

MAX AICHER

SAS Gewindestäbe | *SAS thread bars*



SAS Gewindestab warmgewalzt, Rippenstahl - linksgängig | *SAS thread bar hot rolled, ribbed - left hand thread*

SAS 500 / 550 Ø 12 - 50 mm + 75 mm | *grade 75*
SAS 555 / 700 Ø 57,5 mm + 63,5 mm | *grade 80*

$Ø_{NENN}$ / $Ø_{NOM}$	[mm]	12	14	16	20	25	28	32	36	40	43	50	57,5	63,5	75
max d_A	[mm]	14	16	19	23	29	32	36	41	45	48	56	63	70	82
c	[mm]	7	7,5	8	10	12,5	14	16	18	20	21,5	26	20	21	24
f_{yk} ($f_{0,2k}$) / f_{tk} / A_{gt} [1]		500 N/mm² / 550 N/mm² / ≥ 6 %											555 N/mm² 700 N/mm² ≥ 5 %		500 N/mm² 550 N/mm² ≥ 5 %
F_{yk} ($F_{0,2k}$)	[kN]	57	77	100	160	245	310	405	510	630	726	980	1441	1760	2209
F_{tk}	[kN]	62	85	110	175	270	340	440	560	690	799	1080	1818	2215	2430
A	[mm²]	113	154	201	314	491	616	804	1020	1260	1452	1960	2597	3167	4418
G	[kg/m]	0,89	1,21	1,58	2,47	3,85	4,83	6,31	7,99	9,87	11,40	15,40	20,38	24,86	34,68

SAS 550 / 620 Ø 12 - 50 mm | *grade 75*

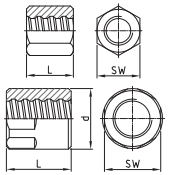
$Ø_{NENN}$ / $Ø_{NOM}$	[mm]	12	14	16	20	25	26	28	30	32	36	40	43	50
max d_A	[mm]	14	16	19	23	29	30	32	34	36	41	45	48	56
c	[mm]	7	7,5	8	10	12,5	13	14	15	16	18	20	21,5	26
f_{yk} ($f_{0,2k}$) / A_{gt} [1]		550 N/mm² / 620 N/mm² ≥ 6 %												
F_{yk} ($F_{0,2k}$)	[kN]	62	85	110	175	270	290	340	390	440	560	690	799	1080
F_{tk} = 1,08 x F_{yk}	[kN]	67	92	119	189	292	313	367	421	475	605	745	862	1166
A	[mm²]	113	154	201	314	491	531	616	707	804	1020	1260	1452	1960
G	[kg/m]	0,89	1,21	1,58	2,47	3,85	4,17	4,83	5,55	6,31	7,99	9,87	11,40	15,40

[1] Prozentuale Gesamtdehnung bei Höchstlast | *Percentage total elongation at maximum force*
Die Gewichtsangaben von Stab und Zubehör sind Mittelwerte. Die tatsächlichen Gewichte können aufgrund von Fertigungstoleranzen abweichen.
Weight specifications of bar and accessories are average values. The actual values may deviate due to fabrication tolerances.

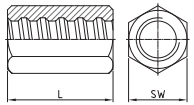
Zubehör | *accessories*

SAS SYSTEMS

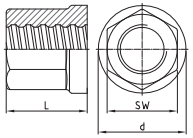
Ankermutter *anchor nut*



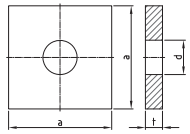
Ankermutter lang *anchor nut long*



Ankermutter mit Bund *anchor nut with flange*



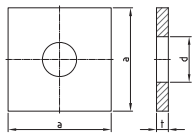
Ankerplatte gerade *anchor plate flat*



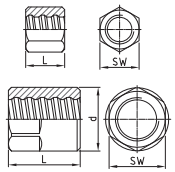
Ø [mm]	SW x L x d [mm]	[kg]	SW x L [mm]	[kg]	SW x L x d [mm]	[kg]	a x t x d [mm]	[kg]
	T 2002 - Ø		T 2024 - Ø		T 2163 - Ø		T 2139 - Ø **	
12	22 x 25	0,10	22 x 35	0,08	-	-	50 x 8 x 16	0,14
14	27 x 35	0,12	27 x 45	0,16	-	-	50 x 8 x 18	0,14
16	32 x 40	0,20	32 x 50	0,25	-	-	50 x 8 x 20	0,15
20	36 x 45	0,27	32 x 65	0,25	-	-	70 x 12 x 25	0,42
25	41 x 50	0,34	41 x 75	0,52	-	-	90 x 15 x 30	0,87
26	46 x 50	0,45	41 x 80	0,56	-	-	100 x 15 x 33	1,08
28	46 x 55	0,48	41 x 85	0,48	-	-	100 x 15 x 33	1,08
30	50 x 60	0,65	46 x 90	0,77	-	-	120 x 20 x 36	2,10
32	55 x 60	0,78	50 x 90	0,90	-	-	120 x 20 x 40	2,06
36	60 x 65	1,00	55 x 95	1,17	-	-	150 x 30 x 44	4,94
40	65 x 70	1,19	60 x 100	1,30	65 x 70 x 85	1,20	150 x 30 x 47	4,89
43	70 x 75	1,51	-	-	70 x 80 x 90	1,81	160 x 40 x 50	7,42
50	79 x 90	2,17	79 x 120	3,00	80 x 85 x 100	2,35	190 x 45 x 58	11,82
57,5	90 x 110 x 102	4,13	-	-	90 x 100 x 110	3,50	220 x 50 x 67	17,61
63,5	100 x 115 x 108	4,72	-	-	100 x 115 x 125	4,90	245 x 50 x 70	22,05
75	100 x 100 x 108	2,99	-	-	100 x 120 x 115	4,15	275 x 65 x 88	35,48

SAS SYSTEMS

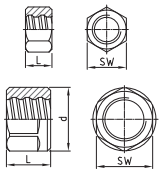
Ankerplatte gerade klein *anchor plate flat small*



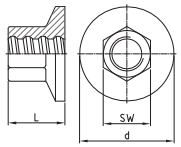
Kontermutter lang *lock nut long*



Kontermutter kurz *lock nut short*



Ankerstück *anchor piece*

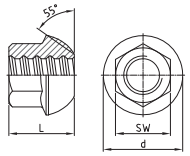


Ø [mm]	a x t x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]
	T 2008 - Ø **		T 2003 - Ø		T 2040 - Ø		T 2073 - Ø	
12	40 x 6 x 16	0,06	19 x 20	0,04	19 x 13	0,03	-	-
14	-	-	27 x 25	0,09	27 x 15	0,06	-	-
16	50 x 8 x 20	0,10	32 x 30	0,15	32 x 20	0,10	30 x 33 x 50	0,25
20	60 x 10 x 25	0,16	32 x 40	0,16	32 x 20	0,09	36 x 40 x 70	0,43
25	70 x 12 x 30	0,40	41 x 40	0,25	41 x 20	0,14	41 x 45 x 70	0,50
26	-	-	41 x 45	0,35	41 x 25	0,20	41 x 50 x 90	0,70
28	85 x 14 x 33	0,70	41 x 45	0,26	41 x 25	0,15	46 x 50 x 90	0,77
30	-	-	50 x 50	0,55	50 x 30	0,35	50 x 55 x 95	1,00
32	100 x 15 x 38	1,00	50 x 50	0,47	50 x 30	0,30	50 x 60 x 100	1,40
36	-	-	55 x 55	0,85	55 x 30	0,40	60 x 65 x 110	1,64
40	120 x 17 x 47	1,69	60 x 65	0,85	60 x 35	0,45	65 x 70 x 120	2,10
43	-	-	70 x 65	1,31	70 x 40	0,80	70 x 80 x 130	2,43
50	150 x 20 x 58	3,12	79 x 80	2,10	79 x 50	1,30	80 x 85 x 150	3,88
57,5	-	-	90 x 80 x 102	2,87	90 x 60 x 102	2,08	90 x 100 x 175	6,09
63,5	-	-	90 x 115 x 102	3,74	90 x 75 x 102	2,28	100 x 115 x 190	7,38
75	-	-	100 x 80 x 108	2,37	100 x 80 x 108	2,37	-	-

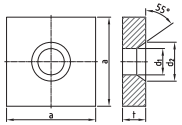
** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS SYSTEMS

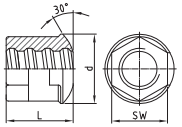
Kugelbundmutter 55°
domed nut 55°



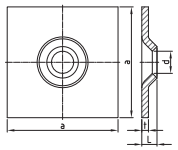
Ankerplatte Konus 55°
anchor plate cone 55°



Kalottenmutter 30°
dome nut 30°



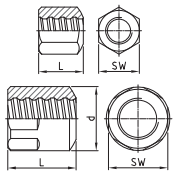
Ankerplatte ballig 30°/55°
domed washer 30°/55°



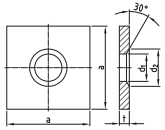
Ø [mm]	SW x L x d [mm]	[kg]	a x t x d_1 x d_2 [mm]	[kg]	SW x L x d [mm]	[kg]	a x L x t x d [mm]	[kg]
	T 2044 - Ø		**T 2011 - Ø ****		**T 2944 - Ø**		**T 2132 - Ø ****	
12	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
16	27 x 33 x 35	0,11	60 x 10 x 25 x 33	0,24	-	-	150 x 25 x 10 x 22	1,77
20	36 x 42 x 49	0,30	70 x 12 x 30 x 44	0,37	36 x 40 x 51	0,30	150 x 25 x 10 x 26	1,76
25	41 x 45 x 55	0,35	90 x 15 x 35 x 49	0,81	41 x 45 x 54	0,32	150 x 25 x 10 x 34	1,74
26	-	-	-	-	-	-	-	-
28	41 x 54 x 62	0,45	100 x 15 x 40 x 54	0,99	41 x 50 x 58	0,38	200 x 25 x 10 x 34	3,11
30	-	-	-	-	-	-	-	-
32	46 x 57 x 70	0,60	120 x 20 x 52 x 60	1,91	50 x 60 x 62	0,70	200 x 27 x 12 x 40	3,70
36	-	-	-	-	-	-	-	-
40	60 x 70 x 88	1,50	150 x 30 x 65 x 76	4,48	65 x 70 x 85	1,79	200 x 42 x 20 x 53	5,90
43	70 x 80 x 100	2,12	160 x 40 x 75 x 93	6,54	-	-	-	-
50	80 x 85 x 107	2,57	190 x 45 x 83 x 96	10,78	80 x 85 x 100	2,96	-	-
57,5	90 x 100 x 120	3,79	220 x 50 x 92 x 110	16,25	-	-	-	-
63,5	100 x 115 x 144	5,51	245 x 50 x 104 x 121	20,09	-	-	-	-
75	100 x 120 x 160	6,62	275 x 65 x 118 x 145	32,60	-	-	-	-

SAS SYSTEMS

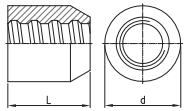
Ankermutter ballig 30°
bull nose nut 30°



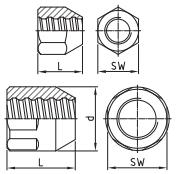
Ankerplatte Konus 30°
anchor plate cone 30°



Anschweißstück
welding bolt



Anschweißstück SW
welding bolt hexagonal



Ø [mm]	SW x L x d [mm]	[kg]	a x t x d_1 x d_2 [mm]	[kg]	d x L [mm]	[kg]	SW x L x d [mm]	[kg]
	T 2963 - Ø		**T 1928 - Ø ****		**T 3022 - Ø**		**T 3026 - Ø**	
12	22 x 25	0,05	50 x 8 x 16 x 26	0,14	30 x 30	0,12	32 x 40	0,21
14	27 x 35	0,12	50 x 8 x 18 x 28	0,14	36 x 40	0,24	36 x 50	0,34
16	32 x 40	0,18	60 x 8 x 20 x 30	0,20	40 x 45	0,33	41 x 55	0,48
20	36 x 45	0,25	70 x 12 x 25 x 35	0,41	45 x 50	0,44	46 x 65	0,70
25	41 x 50	0,33	90 x 15 x 30 x 40	0,87	50 x 55	0,55	50 x 75	0,89
26	46 x 50	0,42	100 x 15 x 33 x 45	1,07	50 x 55	0,53	50 x 75	0,89
28	46 x 55	0,47	100 x 15 x 33 x 45	1,07	55 x 60	0,73	55 x 85	1,21
30	50 x 60	0,61	120 x 20 x 36 x 46	2,09	60 x 65	1,02	60 x 90	1,20
32	55 x 60	0,75	120 x 20 x 40 x 50	2,06	60 x 65	0,91	60 x 90	1,20
36	60 x 65	0,94	150 x 30 x 44 x 59	4,92	70 x 70	1,45	70 x 95	1,20
40	65 x 70	1,15	150 x 30 x 47 x 60	4,88	80 x 80	2,11	79 x 100	2,66
43	70 x 75	1,47	160 x 40 x 58 x 78	7,16	90 x 90	3,07	80 x 100 x 90	3,11
50	79 x 90	2,15	190 x 45 x 58 x 75	11,79	90 x 90	2,77	90 x 120 x 100	4,51
57,5	90 x 110 x 102	3,92	220 x 50 x 67 x 87	17,56	110 x 110	5,29	100 x 120 x 110	5,44
63,5	100 x 115 x 108	4,65	245 x 50 x 70 x 100	21,92	114 x 120	5,88	100 x 120 x 114	5,25
75	100 x 100 x 108	2,90	275 x 65 x 88 x 110	35,40	-	-	-	-

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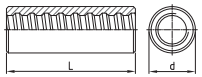
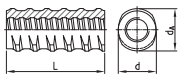
SAS SYSTEMS

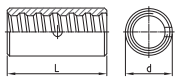
Muffe standard
coupler standard



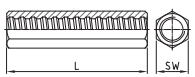
Gewindemuffe
thread coupler



Kontaktmuffe
contact coupler



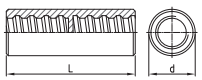
Sechskantmuffe lang
hexagonal coupler long



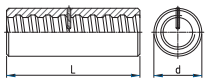
Ø [mm]	d x L [mm]	[kg]	d x d_A x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
	T 3003 - Ø		**T 3087 - Ø**		**T 3006 - Ø**		**T 3010 - Ø**	
12	22 x 60	0,11	-	-	-	-	22 x 80	0,20
14	27 x 75	0,22	-	-	-	-	27 x 100	0,34
16	32 x 90	0,37	26,5 x 31 x 90	0,27	27 x 65	0,17	32 x 120	0,60
20	36 x 105	0,52	32 x 37 x 105	0,40	32 x 70	0,25	32 x 140	0,55
25	40 x 115	0,62	40 x 46 x 115	0,68	36 x 80	0,30	41 x 160	1,10
26	45 x 120	0,80	47 x 53 x 120	1,13	36 x 80	0,30	41 x 170	1,10
28	45 x 125	0,85	47 x 53 x 125	1,09	40 x 85	0,40	41 x 180	1,05
30	50 x 135	1,37	47 x 53 x 135	1,10	45 x 90	0,60	50 x 180	1,75
32	52 x 140	1,32	57 x 64 x 140	1,93	45 x 90	0,50	50 x 180	1,76
36	60 x 150	2,10	57 x 64 x 150	1,78	50 x 120	1,25	60 x 190	2,75
40	65 x 160	2,34	65 x 72 x 160	2,52	54 x 120	0,82	65 x 210	3,67
43	80 x 170	4,49	75 x 82 x 170	3,79	60 x 130	1,19	70 x 220	4,46
50	80 x 200	4,49	-	-	63 x 160	1,09	79 x 240	5,97
57,5	102 x 230	9,54	-	-	83 x 170	3,36	-	-
63,5	102 x 260	9,45	-	-	90 x 200	4,28	-	-
75	108 x 240	8,01	-	-	102 x 210	5,33	-	-

SAS SYSTEMS

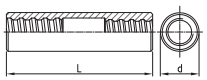
Muffe standard mit Mittelstop
coupler standard with center stop



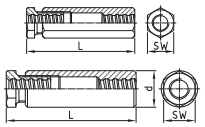
Muffe standard mit Kerbstift
coupler standard with grooved pin



Reduziermuffe
reducing coupler



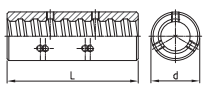
Spannschloss
turnbuckle



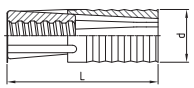
Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	Ø x d x L [mm]	[kg]	SW x L x d [mm]	[kg]
	T 3002 - Ø		**T 3043 - Ø**		**T 3102 - Ø**		**T 3105 - Ø**	
12	22 x 60	0,12	-	-	-	-	32 x 126	0,65
14	27 x 75	0,23	-	-	-	-	32 x 138	0,66
16	32 x 90	0,38	32 x 90	0,40	16/14 x 32 x 120	0,55	36 x 150	0,92
20	36 x 105	0,54	36 x 105	0,53	20/16 x 36 x 130	0,65	41 x 175	1,28
25	40 x 115	0,65	40 x 115	0,62	25/20 x 40 x 150	0,84	46 x 190	1,64
26	45 x 120	0,83	45 x 120	0,91	26/20 x 40 x 155	0,88	50 x 205	2,17
28	45 x 125	0,89	45 x 125	0,86	28/26 x 45 x 170	1,20	50 x 205	2,04
30	50 x 135	1,41	50 x 135	1,21	30/28 x 50 x 180	1,62	60 x 225	3,58
32	52 x 140	1,37	52 x 140	1,32	32/30 x 52 x 185	1,72	60 x 225	3,41
36	-	-	60 x 150	1,96	36/32 x 60 x 205	2,61	70 x 250	5,39
40	-	-	65 x 160	2,38	40/36 x 65 x 215	3,26	79 x 270	7,31
43	-	-	80 x 170	4,49	43/40 x 80 x 225	5,93	90 x 290 x 105	13,46
50	-	-	80 x 200	4,55	50/40 x 80 x 240	6,00	100 x 310 x 115	16,89
57,5	-	-	102 x 230	9,54	57,5/50 x 90 x 280	7,99	100 x 340 x 125	20,37
63,5	-	-	102 x 260	9,45	63,5/57,5 x 102 x 310	11,56	100 x 395 x 130	24,11
75	-	-	108 x 240	8,08	75/63,5 x 110 x 290	11,63	110 x 370 x 130	19,67

SAS SYSTEMS

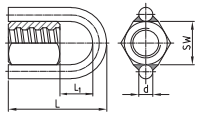
Muffe mit Drehsicherung
coupler with set screws



Spreizdübel
expansion shell



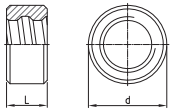
Ringmutter
ring nut



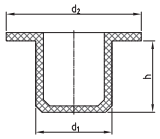
Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	SW x L x L_1 x d [mm]	[kg]
	T 3020 - Ø		T 2136 - Ø *		T 2927 - Ø *	
12	-	-	-	-	-	-
14	-	-	-	-	32 x 110 x 54 x 16	0,58
16	-	-	32 x 92	0,22	32 x 110 x 54 x 16	0,57
20	-	-	39 x 109	0,44	36 x 120 x 59 x 16	0,67
25	-	-	49 x 121	0,60	41 x 135 x 69 x 16	0,78
26	-	-	-	-	-	-
28	45 x 125	0,82	49 x 121	0,60	46 x 145 x 74 x 16	0,97
30	-	-	-	-	-	-
32	52 x 140	1,35	59 x 149	1,00	55 x 165 x 89 x 16	1,34
36	60 x 150	1,94	-	-	-	-
40	65 x 160	2,35	-	-	65 x 193 x 103 x 20	2,10
43	80 x 170	4,41	-	-	70 x 200 x 105 x 20	2,56
50	80 x 200	4,50	-	-	79 x 220 x 110 x 20	3,33
57,5	102 x 230	9,45	-	-	90 x 270 x 140 x 20	5,57
63,5	102 x 260	9,41	-	-	100 x 279 x 144 x 20	6,07
75	108 x 240	8,02	-	-	100 x 279 x 159 x 20	4,43

SAS SYSTEMS

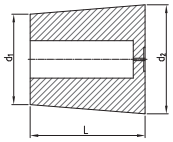
Haltering
fix ring



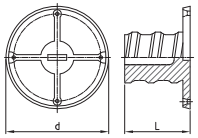
Verschlussstöpsel
inner cap



Aussparungskegel
recess cone



Nagelplatte
nail plate

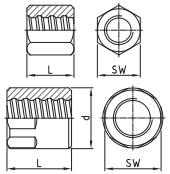


Ø [mm]	d x L [mm]	[kg]	d_1 x d_2 x h [mm]	[kg]	d_1 x d_2 x L [mm]	[kg]	d x L [mm]	[kg]
	T 5003 - Ø		T 5025 - Ø		T 5050 - Ø		T 5979 - Ø	
12	-	-	12 x 19 x 7	0,01	36 x 42 x 40	0,02	36 x 20	0,01
14	-	-	14 x 19 x 7	0,01	41 x 49 x 49	0,03	42 x 20	0,01
16	-	-	16 x 25 x 9	0,01	48 x 58 x 64	0,05	48 x 25	0,01
20	-	-	20 x 25 x 9	0,01	50 x 62 x 74	0,07	48 x 30	0,01
25	-	-	25 x 30 x 9	0,01	63 x 76 x 78	0,10	58 x 35	0,02
26	-	-	26 x 31 x 9	0,01	-	-	58 x 35	0,02
28	-	-	28 x 35 x 9	0,01	74 x 89 x 89	0,14	58 x 40	0,02
30	-	-	30 x 35 x 9	0,01	-	-	68 x 45	0,03
32	-	-	32 x 37 x 9	0,01	77 x 93 x 98	0,14	68 x 45	0,03
36	50 x 25	0,15	36 x 42 x 9	0,01	-	-	-	-
40	55 x 25	0,18	40 x 48 x 10	0,01	-	-	-	-
43	65 x 25	0,33			-	-	-	-
50	65 x 30	0,25	50 x 58 x 10	0,01	-	-	-	-
57,5	81 x 35	0,60			-	-	-	-
63,5	89 x 40	0,85	64 x 74 x 10	0,01	-	-	-	-
75	102 x 40	1,01	-	-	-	-	-	-

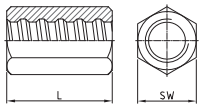
* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | *with regard to load capacity and installation, please note data sheet available on the homepage*

SAS SYSTEMS

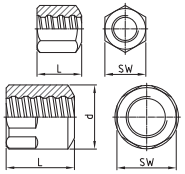
Ankermutter EP gerade
anchor nut EP flat



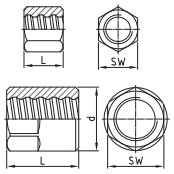
Ankermutter EP lang
anchor nut EP long



Ankermutter EP ballig 30°
bull nose nut EP 30°



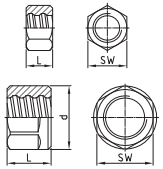
Kontermutter EP lang
lock nut EP long



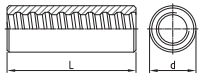
Ø [mm]	SW x L x d [mm]	[kg]	SW x L [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]
	T 2002 - Ø EP		T 2024 - Ø EP		T 2963 - Ø EP		T 2003 - Ø EP	
12	22 x 30	0,06	22 x 35	0,08	22 x 30	0,06	19 x 25	0,05
14	27 x 40	0,14	27 x 45	0,16	27 x 40	0,14	27 x 30	0,12
16	32 x 50	0,25	32 x 50	0,25	32 x 50	0,24	32 x 35	0,18
20	36 x 55	0,31	32 x 65	0,26	36 x 55	0,31	32 x 45	0,19
25	41 x 60	0,40	41 x 75	0,51	41 x 60	0,40	41 x 50	0,35
26	46 x 60	0,57	41 x 80	0,52	-	-	41 x 55	0,36
28	46 x 65	0,55	41 x 85	0,49	46 x 65	0,55	41 x 55	0,31
30	50 x 75	0,79	46 x 90	0,71	-	-	50 x 60	0,63
32	55 x 75	0,97	50 x 90	0,87	55 x 75	0,96	50 x 60	0,57
36	60 x 80	1,22	55 x 95	1,08	60 x 80	1,18	55 x 65	1,01
40	65 x 85	1,43	60 x 100	1,31	65 x 85	1,43	60 x 75	1,00
43	70 x 90	1,81	-	-	70 x 90	1,77	70 x 75	1,51
50	79 x 105	2,71	79 x 120	2,97	79 x 105	2,62	79 x 95	2,50
57,5	90 x 125 x 102	4,72	-	-	90 x 125 x 102	4,53	90 x 100 x 102	3,68
63,5	100 x 130 x 108	5,53	-	-	100 x 130 x 108	5,30	90 x 130 x 102	4,26
75	100 x 115 x 108	3,48	-	-	100 x 115 x 108	3,38	100 x 100 x 108	2,97

SAS SYSTEMS

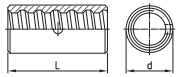
Kontermutter EP kurz
lock nut EP short



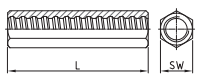
Muffe EP standard
coupler EP standard



Kontaktmuffe EP
contact coupler EP



Sechskantmuffe EP lang
hexagonal coupler EP long



Ø [mm]	SW x L x d [mm]	[kg]	d x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
	T 2040 - Ø EP		T 3003 - Ø EP		T 3006 - Ø EP		T 3010 - Ø EP	
12	19 x 20	0,03	22 x 75	0,15	-	-	22 x 80	0,17
14	27 x 25	0,09	27 x 90	0,32	-	-	27 x 100	0,34
16	32 x 30	0,15	32 x 105	0,46	-	-	32 x 120	0,60
20	32 x 40	0,17	36 x 120	0,59	32 x 70	0,25	32 x 140	0,56
25	41 x 40	0,28	40 x 135	0,71	36 x 80	0,30	41 x 160	1,10
26	41 x 45	0,29	45 x 140	1,06	36 x 80	0,24	41 x 170	1,11
28	41 x 45	0,41	45 x 145	0,97	40 x 85	0,40	41 x 200	1,22
30	50 x 50	0,52	50 x 155	1,38	45 x 90	0,53	50 x 180	1,89
32	50 x 50	0,50	52 x 160	1,49	45 x 90	0,50	50 x 180	1,75
36	55 x 55	0,73	60 x 170	2,30	50 x 120	0,74	60 x 190	2,90
40	60 x 65	0,85	65 x 190	3,07	54 x 120	0,90	65 x 210	3,66
43	70 x 65	1,30	80 x 200	5,28	60 x 130	1,18	70 x 220	4,44
50	79 x 80	2,10	80 x 235	5,60	64 x 160	1,35	79 x 240	5,95
57,5	90 x 80 x 102	2,85	102 x 260	10,75	80 x 170	2,90	-	-
63,5	90 x 85 x 102	2,62	102 x 300	10,87	90 x 200	4,25	-	-
75	100 x 80 x 108	2,36	108 x 270	9,00	102 x 210	5,30	-	-

SAS Gewindestab warmgewalzt, Rippenstahl - rechtsgängig | *SAS thread bar hot rolled, ribbed - right hand thread*

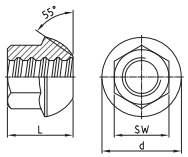
SAS 670 / 800 Ø 18 - 75mm | *grade 97*

$Ø_{NENN}$ / $Ø_{NOM}$	[mm]	18	22	25	28	30	35	43	50	57,5	63,5	75
max d_A	[mm]	21	25	28	32	34	40	48	55	63	70	82
c	[mm]	8	8	10	11	11	14	17	18	20	21	24
f_{yk} ($f_{0,2k}$) / f_{tk} / A_{gt} [1]		670 N/mm² / 800 N/mm² / ≥ 5 %										
F_{yk} ($F_{0,2k}$)	[kN]	170	255	329	413	474	645	973	1315	1740	2122	2960
F_{tk}	[kN]	204	304	393	493	565	770	1162	1570	2077	2534	3535
A	[mm²]	254	380	491	616	707	962	1452	1963	2597	3167	4418
G	[kg/m]	2,00	2,98	3,85	4,83	5,55	7,55	11,40	15,40	20,38	24,86	34,68

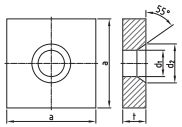
[1] Prozentuale Gesamtdehnung bei Höchstlast | *Percentage total elongation at maximum force*
Die Gewichtsangaben sind Mittelwerte. Die tatsächlichen Gewichte können aufgrund von Fertigungstoleranzen abweichen.
Weight specifications are average values. The actual values may deviate due to fabrication tolerances.

SAS SYSTEMS

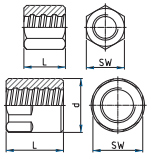
Kugelbundmutter 55° *dome nut 55°*



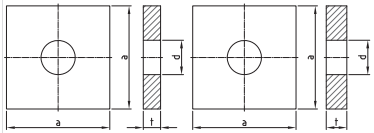
Ankerplatte Konus 55° *anchor plate cone 55°*



Ankermutter *anchor nut*



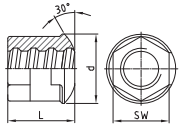
Ankerplatte gerade *anchor plate flat*



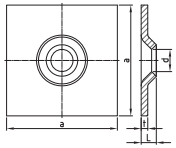
Ø [mm]	SW x L x d [mm]	[kg]	a x t x d_1 x d_2 [mm]	[kg]	SW x L x d [mm]	[kg]	a x t x d [mm]	[kg]	a x t x d [mm]	[kg]
	TR 2001 - Ø		TR 2011 - Ø **		TR 2002 - Ø		TR 2138 - Ø **		TR 2139 - Ø **	
18	32 x 35 x 43	0,18	100 x 25 x 27 x 39	1,83	36 x 45	0,29	100 x 20 x 23	1,51	100 x 25 x 23	1,88
22	36 x 45 x 53	0,27	110 x 30 x 32 x 47	2,62	41 x 50	0,39	110 x 25 x 27	2,26	110 x 30 x 27	2,72
25	41 x 50 x 60	0,47	125 x 30 x 35 x 53	3,40	46 x 55	0,53	110 x 25 x 30	2,20	115 x 30 x 30	2,95
28	46 x 55 x 67	0,62	135 x 35 x 40 x 59	4,59	50 x 60	0,67	115 x 30 x 34	2,90	120 x 30 x 34	3,18
30	50 x 60 x 71	0,66	145 x 35 x 40 x 63	5,32	55 x 65	0,90	130 x 30 x 36	3,74	130 x 35 x 36	4,36
35	60 x 70 x 83	1,40	170 x 40 x 47 x 73	8,36	65 x 70	1,41	150 x 35 x 42	5,80	150 x 40 x 42	6,63
43	70 x 85 x 102	2,22	210 x 50 x 58 x 90	15,96	79 x 90	2,62	185 x 45 x 50	11,40	185 x 55 x 50	13,93
50	80 x 100 x 116	3,44	240 x 55 x 70 x 110	22,59	79 x 100	2,53	215 x 50 x 60	17,03	215 x 60 x 60	20,44
57,5	90 x 115 x 137	5,69	275 x 60 x 75 x 119	32,77	90 x 120 x 102	4,53	250 x 55 x 67	25,46	245 x 65 x 67	28,83
63,5	100 x 125 x 151	7,52	300 x 65 x 82 x 131	42,19	100 x 145 x 114	6,97	265 x 60 x 74	31,05	270 x 70 x 74	37,70
75	120 x 150 x 178	12,94	325 x 70 x 100 x 159	51,89	100 x 130 x 108	3,86	320 x 70 x 86	53,10	325 x 70 x 86	54,85

SAS SYSTEMS

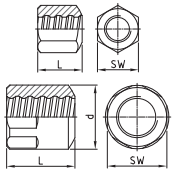
Kalottenmutter 30° *dome nut 30°*



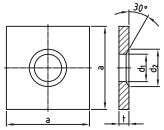
Ankerplatte ballig 30° *domed washer 30°*



Ankermutter ballig 30° *bull nose nut 30°*



Ankerplatte Konus 30° *anchor plate cone 30°*

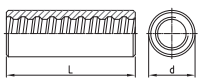


Ø [mm]	SW x L x d [mm]	[kg]	a x L x t x d [mm]	[kg]	SW x L x d [mm]	[kg]	a x t x d_1 x d_2 [mm]	[kg]
	TR 2944 - Ø		TR 2132 - Ø **		TR 2963 - Ø		TR 1928 - Ø **	
18	30 x 35 x 46	0,20	150 x 25 x 10 x 26	1,76	36 x 45	0,28	70 x 10 x 25 x 35	0,34
22	36 x 40 x 51	0,29	150 x 25 x 10 x 34	1,74	41 x 50	0,39	90 x 12 x 30 x 40	0,69
25	41 x 50 x 58	0,45	200 x 25 x 10 x 34	3,11	46 x 55	0,53	100 x 12 x 33 x 45	0,85
28	46 x 60 x 62	0,67	200 x 27 x 12 x 40	3,70	50 x 60	0,66	120 x 20 x 40 x 50	2,06
30	46 x 60 x 62	0,65	200 x 27 x 12 x 40	3,70	55 x 65	0,82	120 x 20 x 40 x 50	2,06
35	-	-	-	-	65 x 70	1,35	150 x 30 x 47 x 60	4,88
43	-	-	-	-	79 x 90	2,50	190 x 45 x 58 x 75	11,79
50	-	-	-	-	79 x 100	2,46	215 x 50 x 60 x 80	16,99
57,5	-	-	-	-	90 x 120 x 102	4,32	245 x 50 x 70 x 90	22,00
63,5	-	-	-	-	100 x 145 x 114	6,67	280 x 60 x 78 x 100	34,60
75	-	-	-	-	100 x 130 x 108	3,93	325 x 70 x 88 x 120	54,52

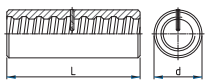
** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS SYSTEMS

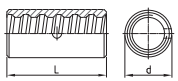
Muffe standard
coupler standard



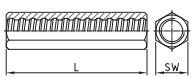
Muffe standard mit Kerbstift
coupler standard with grooved pin



Kontaktmuffe
contact coupler



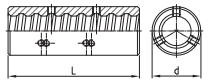
Sechskantmuffe lang
hexagonal coupler long



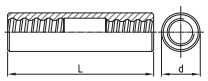
Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
	TR 3003 - Ø		TR 3043 - Ø		TR 3006 - Ø		TR 3010 - Ø	
18	36 x 100	0,57	36 x 100	0,57	27 x 70	0,16	36 x 120	0,78
22	40 x 110	0,55	40 x 110	0,71	32 x 75	0,22	41 x 135	1,08
25	45 x 130	1,05	45 x 130	1,05	40 x 80	0,43	46 x 150	1,49
28	50 x 140	1,36	50 x 140	1,39	45 x 90	0,67	50 x 170	1,96
30	55 x 150	1,84	55 x 150	1,85	45 x 90	0,60	55 x 185	2,63
35	65 x 180	3,16	65 x 180	3,17	50 x 120	0,82	60 x 210	3,36
43	80 x 200	5,42	80 x 200	5,35	65 x 160	2,08	79 x 245	7,27
50	90 x 210	6,92	90 x 210	6,92	70 x 170	2,23	-	-
57,5	102 x 250	10,37	102 x 250	10,38	83 x 180	3,55	-	-
63,5	114 x 300	15,85	114 x 300	15,86	90 x 200	4,24	-	-
75	108 x 260	8,98	108 x 260	8,76	102 x 230	5,83	-	-

SAS SYSTEMS

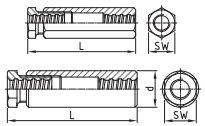
Muffe mit Drehsicherung
coupler with set screws



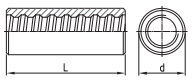
Reduziermuffe
reducing coupler



Spannschloss
turnbuckle



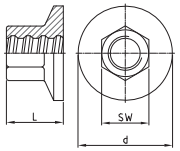
Muffe vergütet
coupler tempered



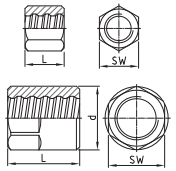
Ø [mm]	d x L [mm]	[kg]	Ø x d x L [mm]	[kg]	SW x L x d [mm]	[kg]	d x L [mm]	[kg]
	TR 3020 - Ø		TR 3102 - Ø		TR 3105 - Ø		TR 3927 - Ø	
18	36 x 100	0,56	-	-	41 x 175	1,34	-	-
22	40 x 110	0,70	22/18 x 40 x 145	1,00	46 x 190	1,78	36 x 90	0,41
25	45 x 130	1,03	25/22 x 45 x 160	1,40	55 x 205	2,94	38 x 100	0,45
28	50 x 140	1,37	28/25 x 50 x 180	2,00	60 x 225	3,74	42 x 120	0,64
30	55 x 150	1,85	30/28 x 55 x 195	2,50	65 x 260	5,11	50 x 130	1,18
35	65 x 180	3,13	35/30 x 60 x 215	3,00	79 x 275	8,27	55 x 150	1,52
43	80 x 200	5,40	43/35 x 80 x 250	5,50	90 x 330 x 105	15,14	65 x 170	2,26
50	90 x 210	6,82	50/43 x 85 x 270	7,68	100 x 350 x 115	19,04	75 x 180	3,17
57,5	102 x 250	10,00	57,5/50 x 100 x 295	11,94	100 x 405 x 125	24,46	85 x 220	4,92
63,5	114 x 300	14,70	63,5/57,5 x 110 x 305	14,89	100 x 425 x 120	21,56	95 x 240	6,81
75	108 x 260	8,90	75/63,5 x 110 x 335	13,24	110 x 460 x 130	25,20	-	-

SAS SYSTEMS

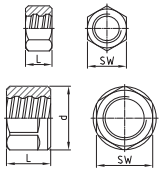
Ankerstück
anchor piece



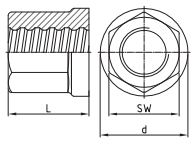
Kontermutter lang
lock nut long



Kontermutter kurz
lock nut short



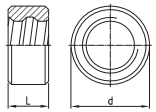
Ankermutter mit Bund
anchornut with flange



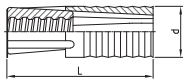
Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]
	TR 2073 - Ø		TR 2003 - Ø		TR 2040 - Ø		TR 2163 - Ø	
18	32 x 35 x 55	0,28	30 x 40	0,16	30 x 22	0,10	36 x 45 x 42	0,31
22	36 x 45 x 65	0,43	36 x 45	0,25	36 x 22	0,12	41 x 50 x 47	0,43
25	41 x 50 x 75	0,62	41 x 50	0,37	41 x 22	0,16	46 x 55 x 53	0,59
28	46 x 55 x 85	0,85	46 x 55	0,50	46 x 30	0,26	50 x 65 x 58	0,80
30	50 x 60 x 90	1,03	50 x 60	0,67	50 x 30	0,31	55 x 65 x 64	0,98
35	60 x 70 x 105	1,66	55 x 65	0,78	55 x 40	0,47	65 x 70 x 75	1,51
43	70 x 85 x 130	2,74	70 x 80	1,60	70 x 50	1,00	80 x 90 x 92	2,99
50	80 x 100 x 150	3,63	79 x 90	2,27	79 x 50	1,26	80 x 100 x 92	2,84
57,5	90 x 115 x 175	6,96	90 x 100 x 102	3,71	90 x 60 x 102	2,04	90 x 120 x 102	4,15
63,5	100 x 125 x 190	8,78	100 x 115 x 114	5,45	100 x 70 x 114	3,07	100 x 145 x 114	6,23
75	120 x 150 x 230	15,03	100 x 120 x 108	4,20	100 x 80 x 108	2,70	-	-

SAS SYSTEMS

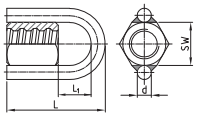
Haltering
fix ring



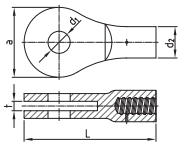
Spreizdübel
expansion shell



Ringmutter
ring nut



Gabelstück
fork piece

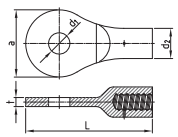


Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	SW x L x d x L_1 [mm]	[kg]	a x L x t x d_1 x d_2 [mm]	[kg]
	TR 5003 - Ø		TR 2136 - Ø *		TR 2927 - Ø *		TR 2090 - Ø EP	
18	-	-	39 x 109	0,44	36 x 120 x 16 x 59	0,68	-	-
22	31 x 20	0,06	49 x 121	0,60	41 x 135 x 16 x 69	0,83	-	-
25	-	-	49 x 121	0,60	46 x 145 x 16 x 74	1,02	-	-
28	45 x 20	0,14	59 x 149	1,00	50 x 155 x 16 x 79	1,19	-	-
30	45 x 20	0,06	59 x 149	1,00	55 x 165 x 16 x 84	1,46	-	-
35	50 x 20	0,13	-	-	65 x 193 x 20 x 103	2,42	167 x 315 x 27 x 53 x 75	7,40
43	65 x 25	0,33	-	-	79 x 220 x 20 x 110	3,78	197 x 384 x 29 x 63 x 92	12,80
50	70 x 30	0,39	-	-	79 x 220 x 20 x 100	3,69	221 x 406 x 35 x 75 x 94	14,75
57,5	81 x 35	0,60	-	-	90 x 270 x 20 x 130	5,97	248 x 454 x 42 x 88 x 96	20,40
63,5	89 x 40	0,85	-	-	100 x 305 x 20 x 140	8,60	298 x 553 x 42 x 98 x 114	34,50
75	102 x 40	1,01	-	-	100 x 279 x 20 x 129	5,30	328 x 627 x 54 x 108 x 116	44,40

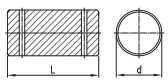
* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | *with regard to load capacity and installation, please note data sheet available on the homepage*

SAS SYSTEMS

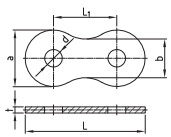
Augenstück
eye piece



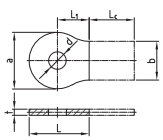
Bolzen Augenstück
bolt eye piece



Verbindungslasche Augenstück
strap connection eye piece



Anschweißlasche Augenstück
welding plate eye piece

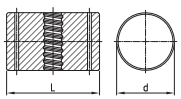


Ø [mm]	a x L x t x d_1 x d_2 [mm]	[kg]	d x L [mm]	[kg]	a x L x t x d x L_1 x b [mm]	[kg]	a x L x L_1 x t x d x b [mm]	[kg+Lc]
	TR 2080 - Ø EP **		TR 2081 - Ø		TR 3080 - Ø **		TR 3081 - Ø **	
18	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
35	167 x 315 x 23 x 53 x 75	7,18	50 x 100	1,52	167 x 354 x 18 x 53 x 187 x 114	7,00	167 x 177 x 94 x 18 x 53 x 114 x Lc	3,10 + Lc
43	197 x 384 x 25 x 63 x 92	12,54	60 x 110	2,40	197 x 414 x 20 x 63 x 217 x 134	9,60	197 x 207 x 109 x 20 x 63 x 134 x Lc	4,72 + Lc
50	221 x 406 x 31 x 75 x 92	17,99	72 x 105	3,31	-	-	-	-
57,5	248 x 469 x 38 x 88 x 96	21,57	85 x 145	6,45	248 x 526 x 30 x 88 x 278 x 160	22,00	248 x 263 x 139 x 30 x 88 x 160 x Lc	10,95 + Lc
63,5	298 x 558 x 38 x 98 x 114	33,45	95 x 145	8,02	298 x 626 x 30 x 98 x 328 x 200	31,80	298 x 313 x 164 x 30 x 98 x 200 x Lc	17,95 + Lc
75	328 x 627 x 50 x 108 x 116	46,13	105 x 165	11,21	328 x 691 x 35 x 108 x 363 x 220	45,80	328 x 346 x 182 x 35 x 108 x 220 x Lc	22,75 + Lc

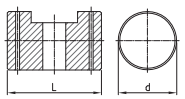
Lc nach Kundenwunsch / *Lc on customer request*

SAS SYSTEMS

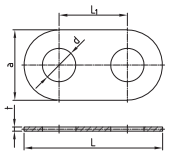
Gelenkmutter
joint nut



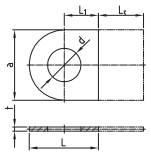
Gelenkbolzen
joint bolt



Verbindungslasche Gelenkmutter und Gelenkbolzen
strap connection joint bolt & nut



Anschweißlasche Gelenkmutter und Gelenkbolzen
welding plate joint bolt & nut



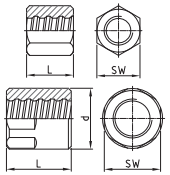
Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	a x L x t x d x L_1 [mm]	[kg]	a x L x t x d x L_1 x Lc [mm]	[kg+Lc]
	TR 2020 - Ø		TR 2021 - Ø		TR 2022 - Ø **		TR 2023 - Ø **	
18	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
35	120 x 193	16,00	120 x 193	14,60	260 x 512 x 15 x 123 x 252	11,00	260 x 256 x 15 x 123 x 126 x Lc	5,60 + Lc
43	140 x 212	23,80	140 x 212	21,20	320 x 626 x 15 x 145 x 306	16,60	320 x 313 x 15 x 145 x 153 x Lc	8,55 + Lc
50	-	-	-	-	-	-	-	-
57,5	150 x 222	27,00	150 x 222	24,60	420 x 780 x 20 x 155 x 360	40,20	420 x 390 x 20 x 155 x 180 x Lc	19,80 + Lc
63,5	190 x 265	53,40	190 x 265	51,06	460 x 894 x 25 x 195 x 434	59,60	460 x 447 x 25 x 195 x 217 x Lc	30,05 + Lc
75	190 x 279	55,00	190 x 279	52,00	470 x 912 x 35 x 195 x 442	88,40	470 x 456 x 35 x 195 x 221 x Lc	44,20 + Lc

Lc nach Kundenwunsch / *Lc on customer request*

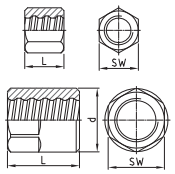
** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS SYSTEMS

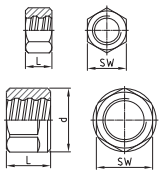
Ankermutter EP gerade
anchor nut EP flat



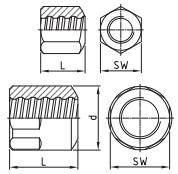
Kontermutter EP lang
lock nut EP long



Kontermutter EP kurz
lock nut EP short



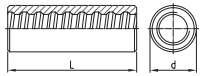
Ankermutter EP ballig 30°
bull nose EP 30°



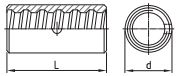
Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]
	TR 2002 - Ø EP		TR 2003 - Ø EP		TR 2040 - Ø EP		TR 2963 - Ø EP	
18	36 x 55	0,40	30 x 50	0,20	30 x 40	0,15	36 x 55	0,38
22	41 x 60	0,45	36 x 60	0,33	36 x 45	0,24	41 x 60	0,43
25	46 x 70	0,65	41 x 65	0,44	41 x 50	0,36	46 x 70	0,64
28	50 x 75	0,90	46 x 70	0,59	46 x 55	0,50	50 x 75	0,67
30	55 x 80	1,00	50 x 75	0,77	50 x 60	0,66	55 x 80	0,98
35	65 x 85	1,75	55 x 80	0,94	55 x 65	0,76	65 x 85	1,70
43	79 x 105	3,30	70 x 100	2,00	70 x 80	1,65	79 x 105	3,20
50	79 x 115	2,91	79 x 110	2,78	79 x 90	2,26	79 x 115	2,83
57,5	90 x 140 x 102	5,34	90 x 120 x 102	4,51	90 x 100 x 102	3,54	90 x 140 x 102	5,14
63,5	100 x 170 x 114	8,27	100 x 140 x 114	6,73	100 x 115 x 114	5,44	100 x 170 x 114	7,79
75	100 x 150 x 108	4,67	100 x 140 x 108	4,32	100 x 120 x 108	3,65	100 x 150 x 108	4,60

SAS SYSTEMS

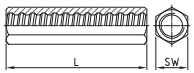
Muffe EP standard
coupler EP standard



Kontaktmuffe EP
contact coupler EP

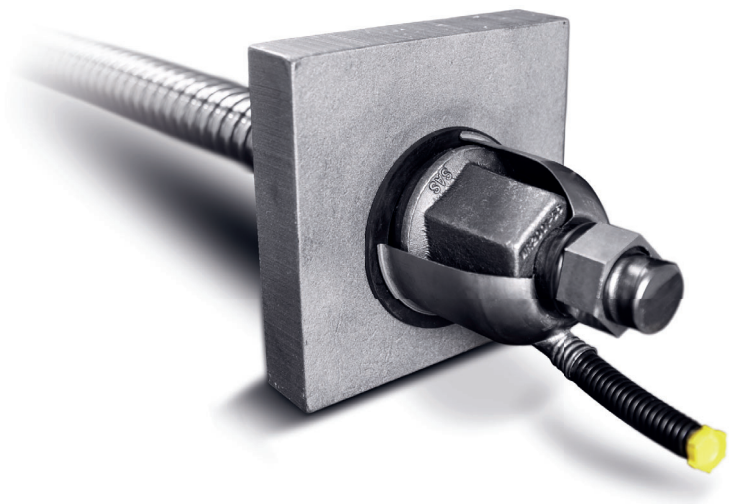


Sechskantmuffe EP lang
hexagonal coupler EP long



Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
	TR 3003 - Ø EP		TR 3006 - Ø EP		TR 3010 - Ø EP	
18	36 x 120	0,69	27 x 70	0,16	36 x 120	0,77
22	40 x 125	0,81	32 x 75	0,25	41 x 135	1,08
25	45 x 150	1,24	40 x 80	0,47	46 x 150	1,49
28	50 x 160	1,56	45 x 90	0,67	50 x 170	1,94
30	55 x 165	2,02	45 x 90	0,60	55 x 185	2,62
35	65 x 190	3,30	50 x 120	0,82	60 x 210	3,34
43	80 x 225	6,10	65 x 160	2,08	79 x 245	7,24
50	90 x 235	7,72	70 x 170	2,21	-	-
57,5	102 x 275	11,36	83 x 180	3,53	-	-
63,5	108 x 285	12,71	90 x 200	4,24	-	-
75	108 x 290	9,70	102 x 230	5,79	-	-

SAS Spannstahlstäbe | *SAS stress bars*



SAS Gewindestab warmgewalzt, Rippenstahl - rechtsgängig | *SAS thread bar hot rolled, ribbed - right hand thread*

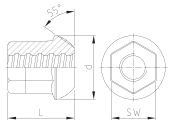
SAS 950 / 1050 Ø 18 - 47 mm | SAS 835 / 1035 Ø 57 - 75 mm | *grade150*

$Ø_{NENN}$ / $Ø_{NOM}$	[mm]	18	26,5	32	36	40	47	57	65	75
max d_A	[mm]	21	31	37	42	46	53	64	72	82
c	[mm]	8	13	16	18	20	21	21	21	24
$f_{p0,1k}/f_{pk}/A_{gt}$ [1]		950 N/mm² / 1050 N/mm² / ≥ 5 %						835 N/mm² / 1035 N/mm² / ≥ 4 %		
F_{yk} ($F_{0,1k}$)	[kN]	230	525	760	960	1190	1650	2155	2780	3690
F_{pk}	[kN]	255	580	845	1070	1320	1820	2671	3447	4572
A	[mm²]	241	551	804	1020	1257	1735	2581	3331	4418
G	[kg/m]	1,96	4,48	6,53	8,27	10,21	14,10	20,95	27,10	35,90

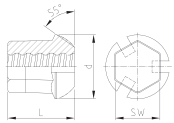
[1] Prozentuale Gesamtdehnung bei Höchstlast | *Percentage total elongation at maximum force*
Die Gewichtsangaben sind Mittelwerte. Die tatsächlichen Gewichte können aufgrund von Fertigungstoleranzen abweichen.
Weight specifications are average values. The actual values may deviate due to fabrication tolerances.

SAS SYSTEMS

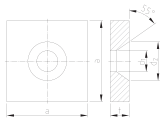
Kugelbundmutter 55° *dome nut 55°*



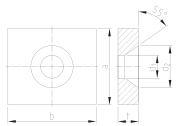
Kugelbundmutter 55° mit Verpressnuten *domed nut 55° with grout slots*



Ankerplatte quadratisch 55° *anchor plate square 55°*



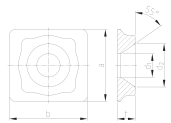
Ankerplatte rechteckig 55° *anchor plate rectangular 55°*



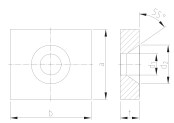
Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	a x t x d_1 x d_2 [mm]	[kg]	a x b x t x d_1 x d_2 [mm]	[kg]
	WR 2001 - Ø		WR 2099 - Ø		WR 2011 - Ø **		WR 2012 - Ø **	
18	36 x 55 x 50	0,43	36 x 55 x 50	0,40	110 x 30 x 28 x 45	2,66	100 x 130 x 30 x 28 x 45	2,39
26,5	50 x 75 x 72	1,09	50 x 75 x 72	1,02	150 x 35 x 39 x 72	5,61	130 x 150 x 35 x 39 x 72	4,50
32	60 x 90 x 80	1,70	60 x 90 x 80	1,65	180 x 40 x 45 x 82	9,33	140 x 180 x 40 x 45 x 82	7,07
36	65 x 100 x 90	2,24	65 x 100 x 90	2,13	200 x 45 x 49 x 92	12,95	150 x 220 x 50 x 49 x 92	11,70
40	70 x 115 x 100	2,91	70 x 115 x 100	2,71	220 x 45 x 54 x 100	15,64	160 x 250 x 60 x 54 x 100	17,10
47	80 x 135 x 110	4,09	80 x 135 x 110	3,79	260 x 50 x 64 x 110	24,49	200 x 280 x 60 x 64 x 110	24,12
57	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-

SAS SYSTEMS

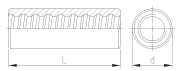
QR Platte *QR plate*



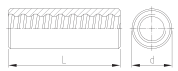
Ankerplatte 55° rechteckig klein *anchor plate rectangular 55°, small*



Muffe standard *coupler standard*



Muffe lang *coupler long*

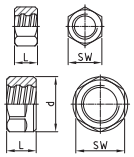


Ø [mm]	b x a x t x d_1 x d_2 [mm]	[kg]	a x b x t x d_1 x d_2 [mm]	[kg]	d x L [mm]	[kg]	d x L [mm]	[kg]
	WR 2074 - Ø **		WR 2076 - Ø **		WR 3003 - Ø		WR 3303 - Ø	
18	-	-	80 x 90 x 25 x 28 x 45	1,25	36 x 100	0,56	36 x 115	0,64
26,5	130 x 120 x 30 x 39 x 72	2,00	120 x 130 x 30 x 39 x 72	3,15	50 x 170	1,73	50 x 195	2,00
32	165 x 140 x 35 x 45 x 82	3,30	140 x 165 x 35 x 45 x 82	5,57	60 x 200	2,91	60 x 230	3,40
36	180 x 160 x 40 x 49 x 93	4,90	160 x 180 x 40 x 49 x 92	7,94	68 x 210	3,98	68 x 245	4,68
40	195 x 180 x 45 x 54 x 100	7,20	180 x 195 x 45 x 54 x 100	10,95	70 x 245	4,59	70 x 285	5,38
47	-	-	210 x 235 x 55 x 64 x 110	19,20	83 x 270	7,23	-	-
57	-	-	-	-	95 x 240	7,75	-	-
65	-	-	-	-	106 x 260	10,37	-	-
75	-	-	-	-	114 x 290	12,14	-	-

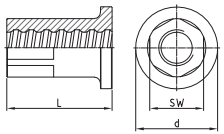
** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS SYSTEMS

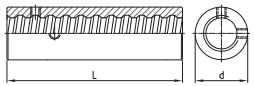
Haltemutter
fix nut



Spannverankerung
stressing anchorage



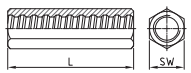
Spannmuffe
stressing-coupler



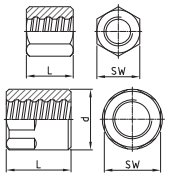
Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	d x L [mm]	[kg]
	WR 5005 - Ø		**WR 8002 - Ø**		**WR 8003 - Ø**	
18	30 x 22	0,08	41 x 70 x 65	0,82	45 x 100	1,00
26,5	36 x 22	0,08	46 x 90 x 70	1,03	45 x 150	1,17
32	41 x 22	0,09	50 x 110 x 70	1,30	55 x 180	2,02
36	46 x 25	0,12	55 x 120 x 80	1,78	60 x 200	2,55
40	50 x 25	0,13	55 x 130 x 80	1,90	65 x 220	3,44
47	60 x 30	0,24	65 x 140 x 90	2,81	75 x 240	4,87
57	85 x 40 x 90	1,02	90 x 160 x 110	7,28	95 x 270	9,40
65	90 x 40 x 102	1,15	100 x 180 x 120	9,66	110 x 290	13,13
75	105 x 50 x 114	1,90	105 x 200 x 135	12,85	120 x 320	15,45

SAS SYSTEMS

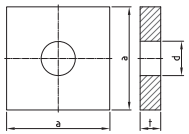
Sechskantmuffe
hexagonal coupler



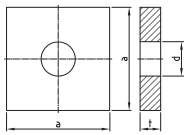
Ankermutter gerade
anchor nut flat



Ankerplatte gerade
anchor plate flat



Ankerplatte gerade
anchor plate flat

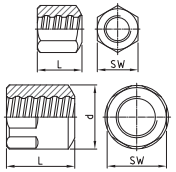


Ø [mm]	SW x L [mm]	[kg]	SW x L x d [mm]	[kg]	a x t x d [mm]	[kg]	a x t x d [mm]	[kg]
	WR 3009 - Ø		**WR 2002 - Ø**		**WR 2139 - Ø****		**WR 2140 - Ø ****	
18	36 x 100	0,67	41 x 60	0,55	120 x 20 x 25	2,20	-	-
26,5	50 x 170	2,09	46 x 80	0,73	150 x 35 x 32	5,90	-	-
32	60 x 200	3,54	55 x 90	1,18	180 x 40 x 38	9,82	-	-
36	70 x 210	5,01	60 x 110	1,63	200 x 45 x 45	13,57	-	-
40	70 x 245	5,61	70 x 120	2,63	220 x 45 x 50	16,40	-	-
47	79 x 270	7,49	79 x 140	3,72	240 x 55 x 58	23,73	-	-
57	-	-	90 x 120 x 95	3,79	285 x 65 x 70	39,48	220 x 50 x 70	17,49
65	-	-	100 x 130 x 106	4,99	325 x 70 x 78	55,42	245 x 60 x 78	26,02
75	-	-	105 x 145 x 114	5,68	370 x 80 x 88	82,15	275 x 70 x 88	38,21

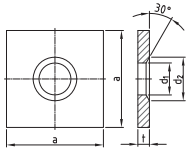
** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS SYSTEMS

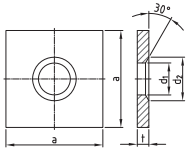
Ankermutter ballig 30°
bull nose nut 30°



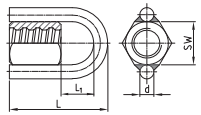
Ankerplatte Konus 30°
anchor plate cone 30°



Ankerplatte Konus 30°
anchor plate cone 30°



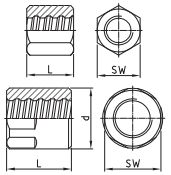
Ringmutter
(Gebrauchslast des Rings max. 60 kN)
ring nut
(working load of ring max. 60 kN)



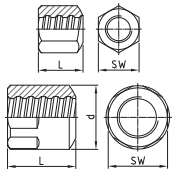
Ø [mm]	SW x L x L_1x d [mm]	[kg]	SW x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
	WR 2963 - Ø *		**WR 1928 - Ø ****		**WR 1929 - Ø ****		**WR 2027- Ø**	
18	41 x 60	0,52	120 x 20 x 25 x 35	2,18	-	-	41 x 135 x 59 x 16	0,99
26,5	46 x 80	0,71	150 x 35 x 32 x 45	5,95	-	-	46 x 165 x 69 x 16	1,28
32	55 x 90	1,14	180 x 40 x 38 x 50	9,81	-	-	55 x 190 x 84 x 16	1,81
36	60 x 110	1,57	200 x 45 x 45 x 60	13,55	-	-	60 x 219 x 89 x 20	2,78
40	70 x 120	2,53	220 x 45 x 50 x 70	16,36	-	-	70 x 244 x 104 x 20	3,87
47	79 x 140	3,60	240 x 55 x 58 x 80	23,50	-	-	79 x 274 x 114 x 20	5,10
57	90 x 120 x 95	3,67	285 x 65 x 70 x 90	39,30	220 x 50 x 70 x 90	17,43	90 x 255 x 115 x 20	5,08
65	100 x 130 x 106	4,90	325 x 70 x 78 x 110	55,50	245 x 60 x 78 x 110	25,86	100 x 280 x 130 x 20	6,48
75	105 x 145 x 114	5,51	370 x 80 x 88 x 120	82,00	275 x 70 x 88 x 120	38,03	105 x 305 x 140 x 20	7,31

SAS SYSTEMS

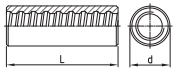
Ankermutter EP gerade
anchor nut EP flat



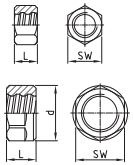
Ankermutter EP ballig 30°
bull nose nut EP 30°



Muffe EP standard
coupler EP standard



Haltemutter EP
fix nut EP



Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	d x L [mm]	[kg]	SW x L x d [mm]	[kg]
	WR 2002 - Ø EP		**WR 2963 - Ø EP**		**WR 3003 - Ø EP**		**WR 5005 - Ø EP**	
18	41 x 70	0,62	41 x 70	0,60	36 x 120	0,69	30 x 22	0,08
26,5	46 x 90	0,81	46 x 90	0,79	50 x 185	1,94	36 x 22	0,08
32	55 x 100	1,30	55 x 100	1,27	60 x 220	3,33	41 x 22	0,09
36	60 x 120	1,75	60 x 120	1,71	68 x 240	4,72	46 x 25	0,11
40	70 x 130	2,77	70 x 130	2,70	70 x 270	5,26	50 x 25	0,12
47	79 x 150	3,92	79 x 150	3,81	83 x 310	8,65	60 x 30	0,23
57	90 x 145 x 95	4,59	90 x 145 x 95	4,46	95 x 270	9,32	85 x 40 x 90	1,01
65	100 x 155 x 106	5,82	100 x 155 x 106	5,66	106 x 290	12,01	90 x 40 x 102	1,13
75	105 x 180 x 114	7,60	105 x 180 x 114	6,96	114 x 320	14,15	105 x 50 x 114	1,92

* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | *with regard to load capacity and installation, please note data sheet available on the homepage*
** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS Glattstahlstäbe | *SAS smooth bar*

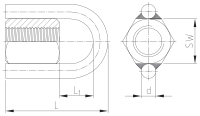
SAS Glattstahl mit kalt aufgerolltem Gewinde - rechtsgängig | *SAS smooth bar with cold rolled thread - right hand thread*

SAS 950 / 1050 Ø 32 - 36 mm | *grade 150* | glatt | *smooth*

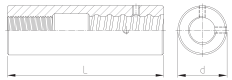
$Ø_{NENN}$ / $Ø_{NOM}$	[mm]	32	36
c	[mm]	3	3
$f_{p0,1k}/f_{pk}/A_{gt}$		950 N/mm² / 1050 N/mm² / ≥ 7 %	
F_{yk} ($F_{0,1k}$)	[kN]	760	960
F_{pk}	[kN]	845	1070
A	[mm²]	804	1018
G	[kg/m]	6,31	7,99

SAS SYSTEMS

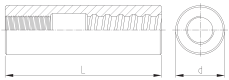
Ringmutter (Gebrauchslast des Rings max. 60 kN)
ring nut (working load of ring max. 60 kN)



Spannmuffe für WS
stressing coupler for WS



Übergangsmuffe
transition coupler



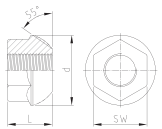
Ø [mm]	SW x L x L_1 x d [mm]	[kg]	d x L [mm]	[kg]	d x L [mm]	[kg]
	WS 2927 - Ø *		WS 8004 - Ø		WS 3004 - Ø	
32	55 x 125 x 59 x 16	1,22	60 x 190	2,74	60 x 200	2,94
36	60 x 149 x 64 x 20	1,86	65 x 230	3,80	68 x 235	4,47

* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | *with regard to load capacity and installation, please note data sheet available on the homepage*

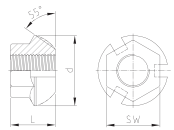
Zubehör | *accessories*

SAS SYSTEMS

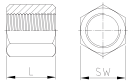
Kugelbundmutter 55°
dome nut 55°



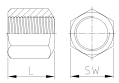
Kugelbundmutter 55° mit Verpressnuten
domed nut 55° with grout slots



Ankermutter gerade
anchor nut flat



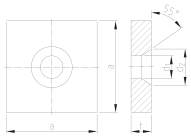
Ankermutter ballig 30°
bull nose 30°



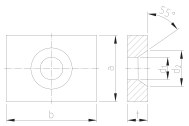
Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L [mm]	[kg]	SW x L [mm]	[kg]
	WS 2001 - Ø		WS 2099 - Ø		WS 2002 - Ø		WS 2963 - Ø	
32	55 x 46 x 72	0,78	55 x 46 x 72	0,74	55 x 50	0,79	55 x 50	0,68
36	65 x 60 x 90	1,55	65 x 60 x 90	1,41	60 x 65	1,06	60 x 65	1,03

SAS SYSTEMS

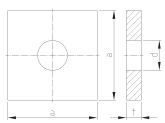
Ankerplatte quadratisch 55°
anchor plate square 55°



Ankerplatte rechteckig 55°
anchor plate rectangular 55°



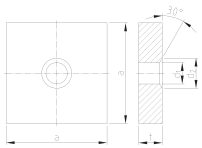
Ankerplatte gerade
anchor plate flat



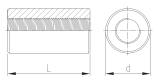
Ø [mm]	a x t x d_1 x d_2 [mm]	[kg]	a x b x t x d_1 x d_2 [mm]	[kg]	a x t x d [mm]	[kg]
	WS 2011 - Ø **		WS 2012 - Ø **		WS 2139 - Ø **	
32	180 x 40 x 45 x 72	9,50	140 x 180 x 40 x 45 x 72	7,24	180 x 40 x 38	9,82
36	200 x 45 x 49 x 92	12,95	150 x 220 x 50 x 49 x 92	11,70	200 x 45 x 45	13,57

SAS SYSTEMS

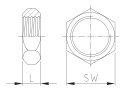
Ankerplatte Konus 30°
anchor plate rectangular 30°



Muffe standard
coupler standard



Haltemutter
fix nut



Ø [mm]	a x t x d_1 x d_2 [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
	WS 1928 - Ø **		WS 3003 - Ø		WS 5005 - Ø	
32	180 x 40 x 38 x 50	9,81	60 x 110	1,74	41 x 15	0,08
36	200 x 45 x 45 x 60	13,55	68 x 160	3,25	46 x 15	0,09

SAS Gewindestäbe | *SAS thread bar*

Streckgrenze / Zugfestigkeit | *yield stress / ultimate stress* Anwendungsbereiche | *areas of application*	Nenn-ø *nom.-ø*	Streckklast *yield load*	Bruchlast *ultimate load*	Fläche *cross section area*	Gewicht *weight*		Dehnung *elongation*	
	[mm]	[kN]	[kN]	[mm²]	[m/to]	[kg/m]	A_{gt} [%]	A_{10} [%]
SAS 500 / 550 – *grade 75*								
Bewehrungstechnik | *reinforcing systems* Geotechnik | *geotechnical systems*	**12**	57	62	113	1123,6	0,89	6	10
	14	77	85	154	826,4	1,21		
	16	100	110	201	632,9	1,58		
	20	160	175	314	404,9	2,47		
	25	245	270	491	259,7	3,85		
	28	310	340	616	207,0	4,83		
	32	405	440	804	158,5	6,31		
	36	510	560	1020	125,2	7,99		
	40	630	690	1260	101,3	9,87		
	43	726	799	1452	87,7	11,40		
	50	980	1080	1960	64,9	15,40		
SAS 555 / 700 – grade 80	**57,5**	1441	1818	2597	49,1	20,38	5	---
SAS 555 / 700 – grade 80	**63,5**	1760	2215	3167	40,2	24,86	5	---
SAS 500 / 550 – grade 75	**75**	2209	2430	4418	28,8	34,68	5	---
	Alternativ SAS 550 / 620 erhältlich | alternative SAS 550 / 620 available							
SAS 450 / 700 – *grade 60*								
Bergbau | *mining*	**16**	93	145	207	617,3	1,62		(A_5) 15
	25	220	345	491	259,7	3,85		(A_5) 20
SAS 650 / 800 – *grade 90*								
Bergbau | *mining*	**22**	247	304	380	335,6	2,98		(A_5) 18
	25	319	393	491	259,7	3,85		
	28	400	493	616	207,0	4,83		
	30	460	565	707	180,2	5,55		
SAS 670 / 800 – *grade 97*								
Geotechnik | *geotechnical systems* Ankertechnik | *tunneling & mining* Hochfeste Bewehrung | *high-strength reinforcement*	**18**	170	204	254	500,0	2,00	5	10
	22	255	304	380	335,6	2,98		
	25	329	393	491	259,7	3,85		
	28	413	493	616	207,0	4,83		
	30	474	565	707	180,2	5,55		
	35	645	770	962	132,5	7,55		
	43	973	1162	1452	87,7	11,40		
	50	1315	1570	1963	64,9	15,40		
	57,5	1740	2077	2597	49,1	20,38		---
	63,5	2122	2534	3167	40,2	24,86		---
	75	2960	3535	4418	28,8	34,68		---
SAS 950 / 1050 – *grade 150*								
Spanntechnik | *post-tensioning systems* Geotechnik | *geotechnical systems*	**18**	230	255	241	510,2	1,96	5	7
	26,5	525	580	551	223,2	4,48		
	32	760	845	804	153,1	6,53		
	36	960	1070	1020	120,9	8,27		
	40	1190	1320	1257	97,9	10,21		
	47	1650	1820	1735	70,9	14,10		
SAS 835 / 1035 – *grade 150*								
Geotechnik | *geotechnical systems*	**57**	2155	2671	2581	47,7	20,95	4	---
	65	2780	3447	3331	36,9	27,10		---
	75	3690	4572	4418	27,9	35,90		---
SAS 900 / 1100 FA – *grade 160 FA*								
Schalungstechnik | *formwork ties*	**15**	159	195	177	694,4	1,44	3	7
	20	283	345	314	390,6	2,56		
	26,5	495	606	551	223,2	4,48	2	
SAS 900 / 1050 FC – *grade 150 FC*								
Schalungstechnik | *formwork ties*	**15**	159	186	177	694,4	1,44	3	7
	20	283	330	314	390,6	2,56		
SAS 950 / 1050 E - grade 150	**26,5**	525	580	551	223,2	4,48	5	7
SAS 750 / 875 FS – kaltgerollt | *cold rolled – grade 120 FS*								
Schalungstechnik | *formwork ties*	**12,5**	90	120	132,5	961,5	1,04	2	5,5
	15	142	165	189	675,7	1,48		
	20	245	285	326	390,6	2,56		

Zubehör für alle Abmessungen und Anwendungen lieferbar \| *accessories for all dimensions and applications available*

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