



SAH
Stahlwerk Annahütte

Katalog SAS 670 / 800 Ø 18 - 75 mm

Catalogue SAS 670 / 800 Ø 18 - 75 mm

SAS SYSTEMS



MAX AICHER
UNTERNEHMENSGRUPPE

SAS Gewindestäbe | SAS thread bars

SAS 670 / 800 Ø 18 - 75 mm



SAS SYSTEMS



SAS Gewindestab

warmgewalzt, Rippenstahl - rechtsgängig

SAS thread bar

hot rolled, ribbed - right hand thread

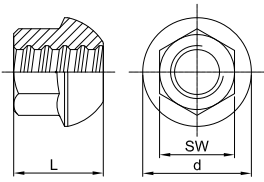
		18	22	25	28	30	35	43	50	57,5	63,5	75
d	[mm]	18	22	25	28	30	35	43	50	57,5	63,5	75
max d_A	[mm]	21	25	28	32	34	40	48	55	63	70	82
c	[mm]	8	8	10	11	11	14	17	18	20	21	24
f_{yk} (f_{0,2k}) / f_{tk} / A_{gt}¹⁾		670 N/mm ² / 800 N/mm ² / ≥ 5 %										
F_{yk} (F_{0,2k})	[kN]	170	255	329	413	474	645	973	1315	1740	2122	2960
F_{tk}	[kN]	204	304	393	493	565	770	1162	1570	2077	2534	3535
A	[mm ²]	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 auf Grund von Fertigungstoleranzen abweichen.
Weight specifications are average values. The actual values may deviate due to fabrication tolerances.

SAS SYSTEMS

Kugelbundmutter 55° dome nut 55°

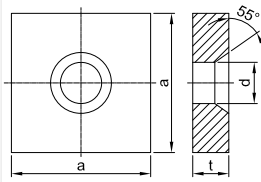


∅ [mm]

SW x L x d [mm]

[kg]

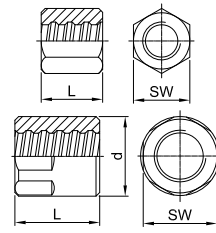
Ankerplatte Konus 55° anchor plate cone 55°



a x t x d [mm]

[kg]

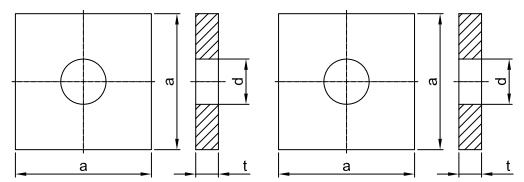
Ankermutter anchor nut



SW x L x d [mm]

[kg]

Ankerplatte gerade anchor plate flat



a x t x d [mm]

[kg]

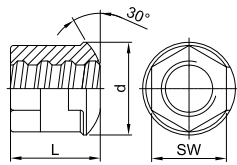
a x t x d [mm]

[kg]

	TR 2001		TR 2011		TR 2002		TR 2138		TR 2139	
18	32 x 35 x 43	0,18	100 x 25 x 27	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	2,62	41 x 50	0,40	110 x 25 x 27	2,26	110 x 30 x 27	2,72
25	41 x 50 x 60	0,39	125 x 30 x 35	3,40	46 x 55	0,55	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	4,59	50 x 60	0,69	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	5,32	55 x 65	0,92	130 x 30 x 36	3,74	130 x 35 x 36	4,36
35	60 x 70 x 83	1,10	170 x 40 x 47	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	15,96	80 x 90	2,76	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	22,59	80 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	4,90	275 x 60 x 75	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	7,26	300 x 65 x 82	42,19	100 x 145 x 114	6,98	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	51,89	100 x 130 x 108	4,00	320 x 70 x 86	53,10	325 x 70 x 86	54,85

SAS SYSTEMS

Kalottenmutter 30° dome nut 30°

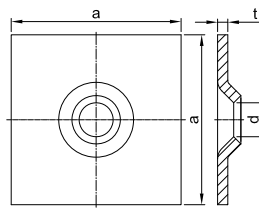


∅ [mm]

SW x L x d [mm]

[kg]

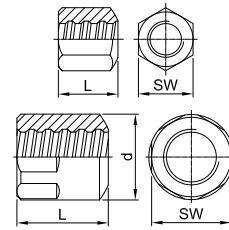
Ankerplatte ballig 30° domed washer 30°



a x t x d [mm]

[kg]

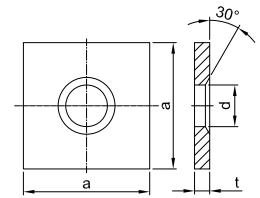
Ankermutter ballig 30° bull nose nut 30°



SW x L x d [mm]

[kg]

Ankerplatte Konus 30° anchor plate cone 30°



a x t x d [mm]

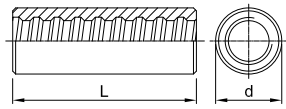
[kg]

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

Zubehör | accessories

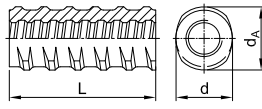
SAS SYSTEMS

Muffe standard
coupler standard



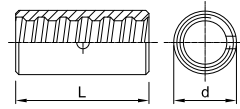
Ø [mm] d x L [mm] [kg]

Gewindestahlmuffe
thread bar coupler



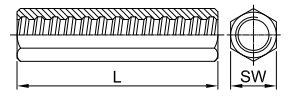
d x d_A x L [mm] [kg]

Kontaktmuffe
contact coupler



d x L [mm] [kg]

Sechskantmuffe lang
hexagonal coupler long

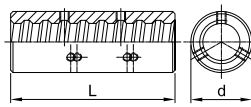


SW x L [mm] [kg]

	TR 3003		TR 3087		TR 3006		TR 3010	
18	36 x 100	0,57	32 x 37 x 100	0,44	27 x 70	0,16	36 x 120	0,78
22	40 x 110	0,71	36 x 42 x 110	0,57	32 x 75	0,22	41 x 135	1,08
25	45 x 120	0,95	47 x 53 x 120	1,18	40 x 80	0,43	46 x 150	1,49
28	50 x 140	1,36	47 x 53 x 140	1,23	45 x 90	0,67	50 x 170	1,96
30	55 x 150	1,84	57 x 64 x 150	2,19	45 x 90	0,60	55 x 185	2,63
35	65 x 170	2,95	65 x 72 x 170	3,11	50 x 120	0,82	60 x 210	3,36
43	80 x 200	5,42	75 x 82 x 200	4,77	65 x 160	2,08	80 x 245	7,27
50	90 x 210	6,92	-	-	70 x 170	2,23	-	-
57,5	102 x 250	10,31	-	-	83 x 180	3,55	-	-
63,5	114 x 300	15,89	-	-	90 x 200	4,24	-	-
75	108 x 260	8,98	-	-	102 x 230	5,85	-	-

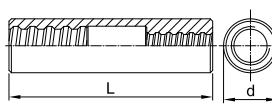
SAS SYSTEMS

Muffe mit Drehsicherung
coupler with set screws



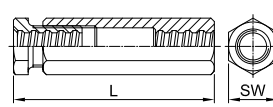
Ø [mm] d x L [mm] [kg]

Reduziermuffe
reducing coupler



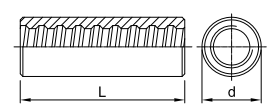
Ø x d x L [mm] [kg]

Spannschloss
turnbuckle



SW x L [mm] [kg]

Muffe vergütet
coupler tempered

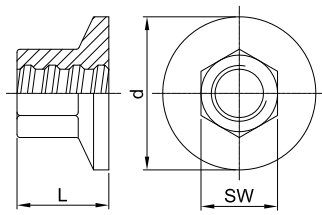


d x L [mm] [kg]

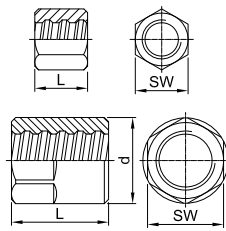
	TR 3020		TR 3102		TR 3105		TR 3927	
18	36 x 100	0,57	-	-	41 x 175	1,23	-	-
22	40 x 110	0,71	22/18 x 40 x 145	1,00	46 x 190	1,65	36 x 90	0,40
25	45 x 120	0,95	25/22 x 45 x 160	1,40	55 x 205	2,67	38 x 100	0,45
28	50 x 140	1,36	28/25 x 50 x 180	2,00	60 x 225	3,31	42 x 120	0,65
30	55 x 150	1,84	30/28 x 55 x 195	2,50	65 x 260	4,45	50 x 130	1,18
35	65 x 170	2,95	35/30 x 60 x 215	3,00	80 x 275	7,50	56 x 150	1,51
43	80 x 200	5,42	43/35 x 80 x 250	5,50	90 x 330	13,70	65 x 170	2,01
50	90 x 210	6,92	50/43 x 85 x 270	7,68	100 x 350	16,97	75 x 180	2,76
57,5	102 x 250	10,31	57,5/50 x 100 x 295	11,94	100 x 405	21,25	85 x 220	4,45
63,5	114 x 300	15,89	63,5/57,5 x 108 x 305	14,07	100 x 425	19,02	95 x 240	6,11
75	108 x 260	8,98	75/63,5 x 110 x 335	13,24	110 x 460	21,28	-	-

SAS SYSTEMS

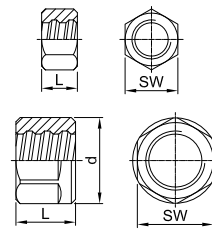
Ankerstück
anchor piece



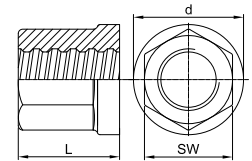
Kontermutter lang
lock nut long



Kontermutter kurz
lock nut short



Ankermutter mit Bund
anchornut with flange

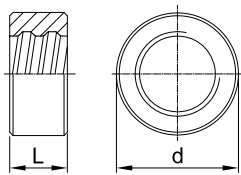


Ø [mm] SW x L x d [mm] [kg] SW x L x d [mm] [kg] SW x L x d [mm] [kg] SW x L x d [mm] [kg]

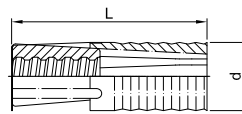
	TR 2073		TR 2003		TR 2040		TR 2163	
18	32 x 35 x 55	0,30	30 x 40	0,16	30 x 22	0,10	36 x 45 x 42	0,32
22	36 x 45 x 65	0,42	36 x 45	0,25	36 x 22	0,12	41 x 50 x 47	0,43
25	41 x 50 x 75	0,60	41 x 50	0,37	41 x 22	0,16	46 x 55 x 53	0,50
28	46 x 55 x 85	0,79	46 x 55	0,50	46 x 30	0,26	50 x 65 x 58	0,80
30	50 x 60 x 90	1,00	50 x 60	0,67	50 x 30	0,31	55 x 65 x 64	0,85
35	60 x 70 x 105	1,54	55 x 65	0,78	55 x 40	0,47	65 x 70 x 75	1,51
43	70 x 85 x 130	2,51	70 x 80	1,60	70 x 50	1,00	80 x 90 x 92	3,01
50	80 x 100 x 150	4,38	80 x 90	2,27	80 x 50	1,26	80 x 100 x 92	2,84
57,5	90 x 115 x 175	6,67	90 x 100 x 102	3,56	90 x 60 x 102	1,93	90 x 120 x 102	4,20
63,5	100 x 125 x 190	8,66	100 x 115 x 114	5,26	100 x 70 x 114	2,98	100 x 145 x 114	6,22
75	120 x 150 x 230	14,73	100 x 120 x 108	3,67	100 x 80 x 108	2,70	120 x 150 x 139	9,59

SAS SYSTEMS

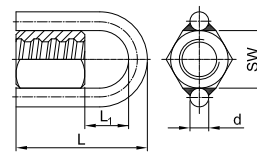
Haltering
fix ring



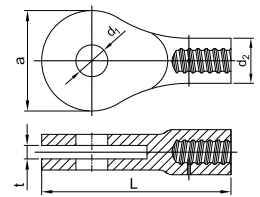
Spreizdübel
expansion shell



Ringmutter
ring nut



Gabelstück
fork piece



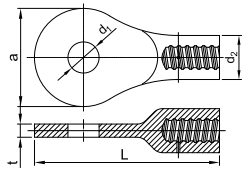
Ø [mm] d x L [mm] [kg] d x L [mm] [kg] SW x L x d x L₁ [mm] [kg] a x L x t x d₁ x d₂ [mm] [kg]

	TR 5003		TR 2136		TR 2927		TR 2090 EP	
18	-	-	39 x 110	0,44	36 x 115 x 16 x 54	0,68	-	-
22	20 x 31	0,06	49 x 120	0,60	41 x 125 x 16 x 59	0,81	-	-
25	-	-	49 x 120	0,60	46 x 145 x 16 x 74	1,02	-	-
28	20 x 45	0,14	59 x 150	1,00	50 x 155 x 16 x 79	1,19	-	-
30	20 x 45	0,12	59 x 150	1,00	55 x 165 x 16 x 84	1,46	-	-
35	20 x 50	0,13	-	-	65 x 184 x 20 x 94	2,36	167 x 315 x 27 x 53 x 75	7,40
43	25 x 65	0,33	-	-	-	-	197 x 384 x 29 x 63 x 92	12,80
50	30 x 70	0,39	-	-	-	-	221 x 406 x 35 x 75 x 94	17,99
57,5	35 x 81	0,60	-	-	-	-	248 x 454 x 42 x 88 x 96	20,40
63,5	40 x 89	0,85	-	-	-	-	298 x 553 x 42 x 98 x 114	34,50
75	40 x 102	1,01	-	-	-	-	328 x 627 x 54 x 108 x 116	44,40

Zubehör | accessories

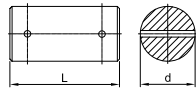
SAS SYSTEMS

Augenstück
eye piece



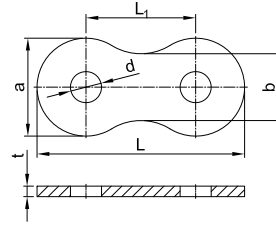
Ø [mm] a x L x t x d₁ x d₂ [kg]

Bolzen Augenstück
bolt eye piece



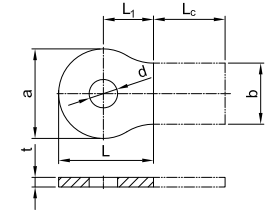
d x L [mm] [kg]

Verbindungsflasche Augenstück
strap connection eye piece



a x L x t x d x L₁ x b [mm] [kg]

Anschweißflasche Augenstück
welding plate eye piece

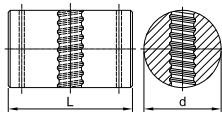


a x L x L₁ x t x d x b x Lc [mm]

	TR 2080		TR 2081		TR 3080		TR 3081	
18	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
35	167 x 315 x 23 x 53 x 75	7,40	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	
43	197 x 384 x 25 x 63 x 92	12,80	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	
50	221 x 406 x 31 x 75 x 94	17,99	72 x 105	3,31	221 x 456 x 25 x 75 x 235 x 150	14,37	221 x 228 x 118 x 25 x 75 x 150 x Lc	
57,5	248 x 454 x 38 x 88 x 96	20,40	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	
63,5	298 x 553 x 38 x 98 x 114	34,50	95 x 145	9,02	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	
75	328 x 587 x 50 x 108 x 116	44,40	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	

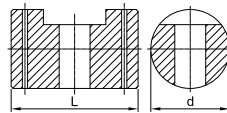
SAS SYSTEMS

Gelenkmutter
joint nut



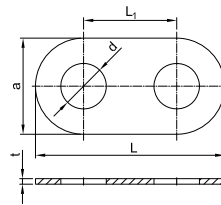
Ø [mm] d x L [mm] [kg]

Gelenkbolzen
joint bolt



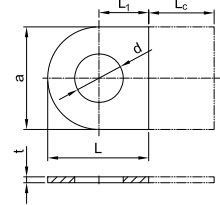
d x L [mm] [kg]

Verbindungsflasche Gelenkmutter und Gelenkbolzen
strap connection joint bolt & nut



a x L x t x d x L₁ [mm] [kg]

Anschweißflasche Gelenkmutter und Gelenkbolzen
welding plate joint bolt & nut

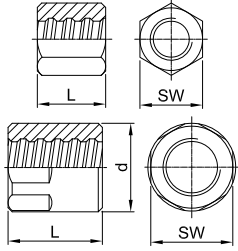


a x L x L₁ x t x d x Lc [mm]

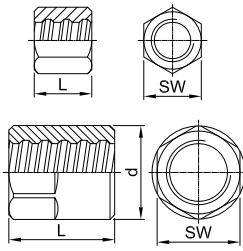
	TR 2020		TR 2021		TR 2022		TR 2023	
18	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
35	120 x 193	16,00	120 x 193	14,60	260 x 512 x 15 x 123 x 252	11,00	260 x 256 x 15 x 123 x 126 x Lc	
43	140 x 212	23,80	140 x 212	21,20	320 x 626 x 15 x 145 x 306	16,60	320 x 313 x 15 x 145 x 153 x Lc	
50	auf Anfrage / on request							
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	
63,5	190 x 265	53,40	190 x 265	50,20	640 x 894 x 25 x 195 x 434	59,60	640 x 447 x 25 x 195 x 217 x 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	

SAS SYSTEMS

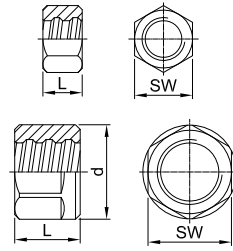
Ankermutter EP gerade
anchor nut EP flat



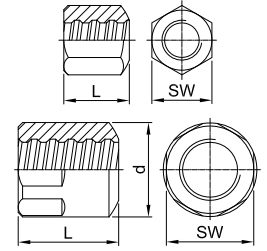
Kontermutter EP lang
lock nut EP long



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]

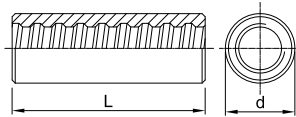
SW x L x d [mm] [kg]

SW x L x d [mm] [kg]

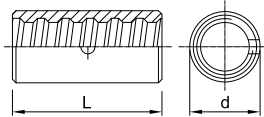
	TR 2002 EP		TR 2003 EP		TR 2040 EP		TR 2963 EP	
18	36 x 55	0,40	30 x 50	0,20	30 x 40	0,15	36 x 55	0,38
22	41 x 60	0,45	36 x 60	0,33	36 x 45	0,24	41 x 60	0,43
25	46 x 70	0,65	41 x 65	0,44	41 x 50	0,36	46 x 70	0,64
28	50 x 75	0,90	46 x 70	0,59	46 x 55	0,50	50 x 75	0,67
30	55 x 80	1,00	50 x 75	0,77	50 x 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	80 x 105	3,30	70 x 100	2,00	70 x 80	1,65	80 x 105	3,20
50	80 X 115	2,91	80 x 110	2,78	80 x 90	2,26	80 x 115	2,83
57,5	90 x 140 x 102	5,60	90 x 120 x 102	4,34	90 x 100 x 102	3,54	90 x 140 x 102	5,50
63,5	100 x 170 x 114	8,60	100 x 140 x 114	6,73	100 x 115 x 114	5,20	100 x 170 x 114	8,50
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

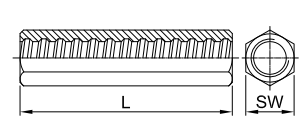
Muffe EP standard
coupler EP standard



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 EP		TR 3006 EP		TR 3010 EP	
18	36 x 115	0,65	27 x 70	0,16	36 x 140	0,91
22	40 x 125	0,81	32 x 75	0,25	41 x 155	1,48
25	45 x 150	1,24	40 x 80	0,47	46 x 180	1,79
28	50 x 160	1,56	45 x 90	0,67	50 x 200	2,29
30	55 x 165	2,02	45 x 90	0,60	55 x 215	3,04
35	65 x 190	3,30	50 x 120	0,82	60 x 240	3,82
43	80 x 225	6,10	65 x 160	2,08	80 x 275	8,13
50	90 X 235	7,72	70 X 170	2,21	-	-
57,5	102 x 275	11,90	80 x 180	3,46	-	-
63,5	108 x 285	12,71	90 x 200	4,24	-	-
75	108 x 290	9,70	102 x 230	5,85	-	-

Streckgrenze / Zugfestigkeit <i>yield stress / ultimate stress</i> Anwendungsbereiche / <i>areas of application</i>		Nenn- \varnothing <i>nom. -\varnothing</i>	Strecklast <i>yield load</i>	Bruchlast <i>ultimate load</i>	Fläche <i>cross section area</i>	Gewicht <i>weight</i>	Dehnung <i>elongation</i>				
		[mm]	[kN]	[kN]	[mm ²]	[m/to]	[kg/m]	A _{gt} [%]	A ₁₀ [%]		
SAS 500 / 550 - grade 75											
 Bewehrungstechnik / <i>reinforcing systems</i>		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				
 Geotechnik / <i>geotechnical systems</i>		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	10		
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	---		
<i>Alternativ SAS 550 erhältlich / alternative SAS 550 grade 75 available</i>											
SAS 450 / 700 - grade 60											
 Bergbau / <i>mining</i>		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 / <i>mining</i>		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 / <i>geotechnical systems</i>		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				
 Ankertechnik / <i>tunneling & mining</i>		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				
 Hochfeste Bewehrung / <i>high-strength reinforcement</i>		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 / <i>post-tensioning systems</i>		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				
 Geotechnik / <i>geotechnical systems</i>		40	1190	1320	1257	97,9	10,21				
		47	1650	1820	1735	70,9	14,10				
SAS 835 / 1035 - grade 150											
 Geotechnik / <i>geotechnical systems</i>		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 schweißbar / weldable											
 Schalungstechnik / <i>formwork ties</i>		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				
SAS 900 / 1050 FC - grade 150 FC											
 Schalungstechnik / <i>formwork ties</i>		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 schweißbar / weldable											
 Schalungstechnik / <i>formwork ties</i>		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*