



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

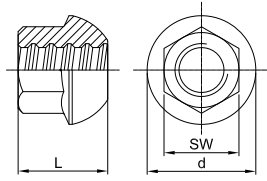
hot rolled, ribbed - right hand thread

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.

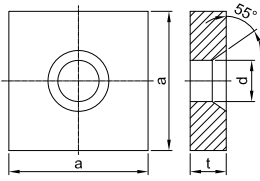
SAS SYSTEMS

Kugelbundmutter 55°
dome nut 55°


Ø [mm]

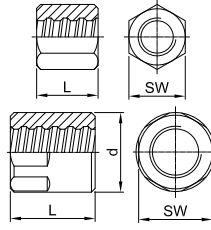
SW x L x d [mm]

[kg]

Ankerplatte Konus 55°
anchor plate cone 55°


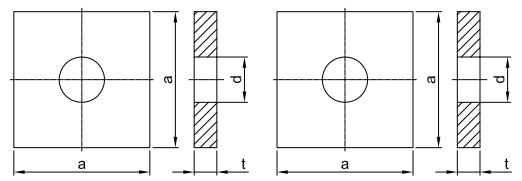
a x t x d [mm]

[kg]

Ankermutter
anchor nut


SW x L x d [mm]

[kg]

Ankerplatte gerade
anchor plate flat


a x t x d [mm]

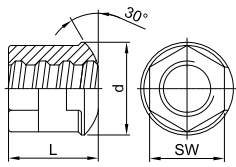
[kg]

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	0,39	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	0,53	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	4,59	50 x 60	0,67	115 x 30 x 34	2,90	115 x 30 x 34	3,18
30	50 x 60 x 71	0,66	145 x 35 x 40	5,32	55 x 65	0,90	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	1,38	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	2,62	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	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	5,69	275 x 60 x 75	32,77	90 x 120 x 102	4,42	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	42,19	100 x 145 x 114	6,90	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	3,86	320 x 70 x 86	53,10	325 x 70 x 86	54,85

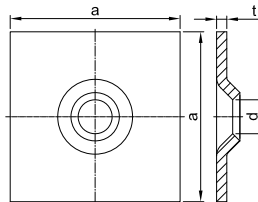
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Kalottenmutter 30°
dome nut 30°


Ø [mm]

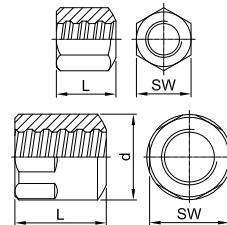
SW x L x d [mm]

[kg]

Ankerplatte ballig 30°
domed washer 30°


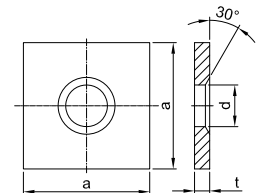
a x t x d [mm]

[kg]

Ankermutter ballig 30°
bull nose nut 30°


SW x L x d [mm]

[kg]

Ankerplatte Konus 30°
anchor plate cone 30°


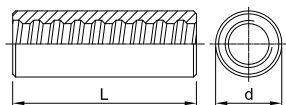
a x t x d [mm]

[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	0,27	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	0,66	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	0,82	120 x 20 x 40	2,06
35	-	-	-	-	65 x 70	1,35	150 x 30 x 47	4,88
43	-	-	-	-	80 x 90	2,50	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	4,32	245 x 50 x 70	22,00
63,5	-	-	-	-	100 x 145 x 114	6,90	280 x 60 x 78	34,60
75	-	-	-	-	100 x 130 x 108	3,93	325 x 70 x 88	54,52

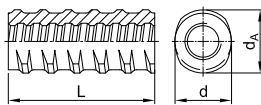
SAS SYSTEMS

Muffe standard coupler standard



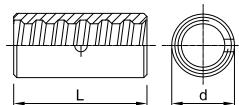
Ø [mm] d x L [mm] [kg]

Gewindestahlmuffe thread bar coupler



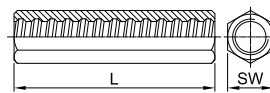
d x d_A x L [mm] [kg]

Kontaktmuffe contact coupler



d x L [mm] [kg]

Sechskantmuffe lang hexagonal coupler long

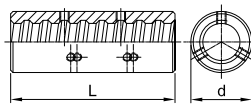


SW x L [mm] [kg]

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	0,55	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	-	-

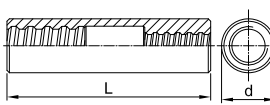
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Muffe mit Drehsicherung coupler with set screws



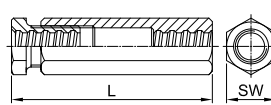
Ø [mm] d x L [mm] [kg]

Reduziermuffe reducing coupler



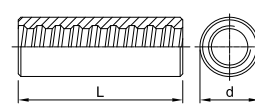
Ø x d x L [mm] [kg]

Spannschloss turnbuckle



SW x L [mm] [kg]

Muffe vergütet coupler tempered

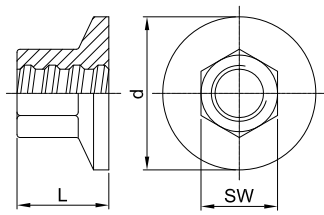


d x L [mm] [kg]

TR 3020			TR 3102		TR 3105		TR 3927	
18	36 x 100	0,45	-	-	41 x 175	1,23	-	-
22	40 x 110	0,70	22/18 x 40 x 145	1,00	46 x 190	1,65	36 x 90	0,41
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	1,37	28/25 x 50 x 180	1,79	60 x 225	3,31	42 x 120	0,64
30	55 x 150	1,85	30/28 x 55 x 195	2,50	65 x 260	4,45	50 x 130	1,18
35	65 x 170	2,94	35/30 x 60 x 215	3,00	80 x 275	7,50	56 x 150	1,63
43	80 x 200	5,40	43/35 x 80 x 250	5,50	90 x 330	13,70	65 x 170	2,26
50	90 x 210	6,82	50/43 x 85 x 270	7,68	100 x 350	16,97	75 x 180	3,17
57,5	102 x 250	10,00	57,5/50 x 100 x 295	11,94	100 x 405	21,25	85 x 220	4,92
63,5	114 x 300	14,70	63,5/57,5 x 108 x 305	14,07	100 x 425	19,02	95 x 240	6,81
75	108 x 260	8,90	75/63,5 x 110 x 335	13,24	110 x 460	21,28	-	-

SAS SYSTEMS

Ankerstück
anchor piece

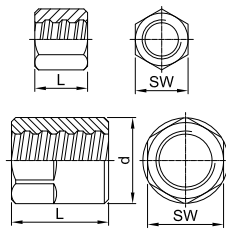


Ø [mm]

SW x L x d [mm]

[kg]

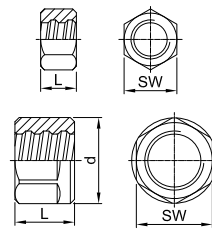
Kontermutter lang
lock nut long



SW x L x d [mm]

[kg]

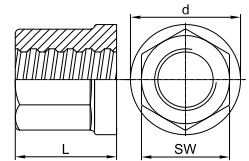
Kontermutter kurz
lock nut short



SW x L x d [mm]

[kg]

Ankermutter mit Bund
anchornut with flange



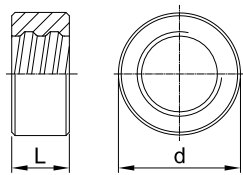
SW x L x d [mm]

[kg]

TR 2073			TR 2003		TR 2040		TR 2163	
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 48	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	80 x 90	2,27	80 x 50	1,26	80 x 100 x 92	2,84
57,5	90 x 115 x 175	6,96	90 x 100 x 102	3,56	90 x 60 x 102	1,93	90 x 120 x 102	4,15
63,5	100 x 125 x 190	8,78	100 x 115 x 114	5,26	100 x 70 x 114	2,98	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

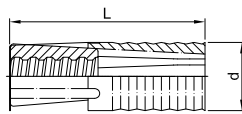


Ø [mm]

d x L [mm]

[kg]

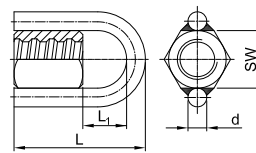
Spreizdübel
expansion shell



d x L [mm]

[kg]

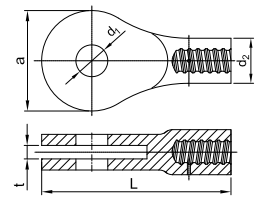
Ringmutter
ring nut



SW x L x d x L₁ [mm]

[kg]

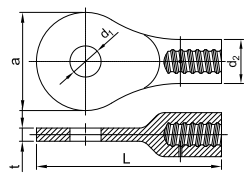
Gabelstück
fork piece

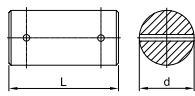


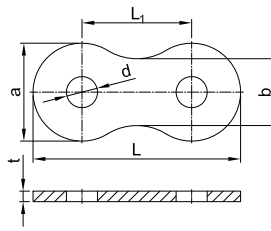
a x L x t x d₁ x d₂ [mm]

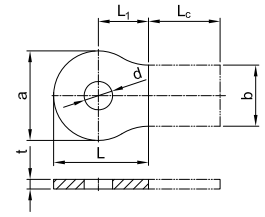
[kg]

TR 5003			TR 2136		TR 2927		TR 2090 EP	
18	-	-	39 x 109	0,44	36 x 115 x 16 x 54	0,68	-	-
22	31 x 20	0,06	49 x 121	0,60	41 x 125 x 16 x 59	0,81	-	-
25	-	-	49 x 121	0,60	46 x 142 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 184 x 20 x 94	2,36	27 x 167 x 315 x 56 x 75	7,40
43	65 x 25	0,33	-	-	-	-	29 x 197 x 384 x 63 x 92	12,80
50	70 x 30	0,39	-	-	-	-	-	-
57,5	81 x 35	0,60	-	-	-	-	42 x 248 x 453,5 x 88 x 96	20,40
63,5	89 x 40	0,85	-	-	-	-	42 x 298 x 553 x 98 x 114	34,50
75	102 x 40	1,01	-	-	-	-	54 x 328 x 627 x 108 x 116	44,40

Augenstück
eye piece

 $\emptyset$ [mm] $a \times L \times t \times d_1 \times d_2$ [kg]

Bolzen Augenstück
bolt eye piece

 $d \times L$ [mm] [kg]

Verbindungsflasche Augenstück
strap connection eye piece

 $a \times L \times t \times d \times L_1 \times b$ [mm] [kg]

Anschweißflasche Augenstück
welding plate eye piece

 $a \times L \times L_1 \times t \times d \times b \times L_c$ [mm]

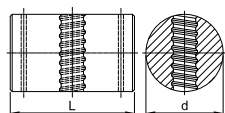
TR 2080

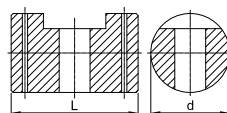
TR 2081

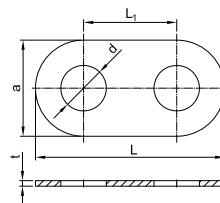
TR 3080

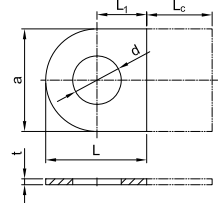
TR 3081

18	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-
35	167 x 315 x 22,5 x 53 x 75	7,4	50 x 100	1,50	167 x 18 x 114 x 53 x 354 x 187	7,00	167 x 114 x 18 x 53 x 177 x 93,5 x Lc
43	197 x 384 x 25 x 63 x 92	12,8	60 x 110	2,40	197 x 20 x 134 x 63 x 414 x 217	9,60	197 x 134 x 20 x 63 x 207 x 108,5 x Lc
50	-	-	-	-	-	-	-
57,5	248 x 453,5 x 38 x 88 x 96	20,4	85 x 145	6,40	248 x 30 x 160 x 88 x 526 x 278	21,90	248 x 160 x 30 x 88 x 263 x 139 x Lc
63,5	298 x 553 x 38 x 98 x 114	34,5	95 x 145	8,02	298 x 30 x 200 x 98 x 626 x 328	31,80	298 x 200 x 30 x 98 x 313 x 164 x Lc
75	328 x 587 x 50 x 108 x 116	44,4	105 x 165	11,20	328 x 35 x 220 x 108 x 691 x 363	45,80	328 x 220 x 35 x 108 x 345,5 x 181,5 x Lc

Gelenkmutter
joint nut

 $\emptyset$ [mm] $d \times L$ [mm] [kg]

Gelenkbolzen
joint bolt

 $d \times L$ [mm] [kg]

Verbindungsflasche Gelenkmutter und Gelenkbolzen
strap connection joint bolt & nut

 $a \times L \times t \times d \times L_1$ [mm] [kg]

Anschweißflasche Gelenkmutter und Gelenkbolzen
welding plate joint bolt & nut

 $a \times L \times L_1 \times t \times d \times L_c$ [mm]

TR 2020

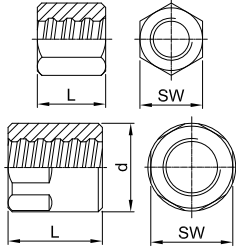
TR 2021

TR 2022

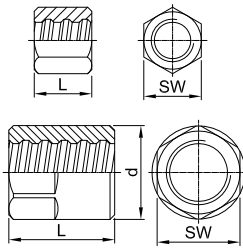
TR 2023

18	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-
35	120 x 193	16,00	120 x 193	14,60	260 x 15 x 123 x 512 x 252	11,00	260 x 15 x 123 x 256 x 126 x Lc
43	140 x 212	23,80	140 x 212	21,20	320 x 15 x 145 x 626 x 306	16,60	320 x 15 x 145 x 313 x 153 x Lc
50	auf Anfrage / on request						
57,5	150 x 222	27,00	150 x 222	24,60	420 x 20 x 155 x 780 x 360	40,20	420 x 20 x 155 x 390 x 180 x Lc
63,5	190 x 265	53,40	190 x 265	50,20	460 x 25 x 195 x 894 x 434	59,60	460 x 25 x 195 x 447 x 217 x Lc
75	190 x 279	55,00	190 x 279	52,00	470 x 35 x 195 x 912 x 442	88,40	470 x 35 x 195 x 456 x 221 x Lc

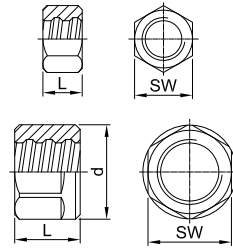
SAS SYSTEMS

Ankermutter EP gerade
anchor nut EP flat

 $\emptyset$ [mm]

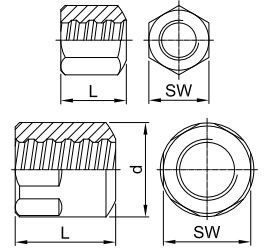
SW x L x d [mm] [kg]

Kontermutter EP lang
lock nut EP long


SW x L x d [mm] [kg]

Kontermutter EP kurz
lock nut EP short


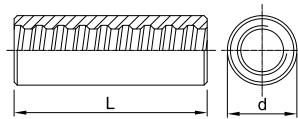
SW x L x d [mm] [kg]

Ankermutter EP ballig 30°
bull nose EP 30°


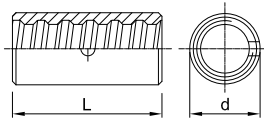
SW x L x d [mm] [kg]

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	0,48	41 x 50	0,36	46 x 70	0,64
28	50 x 75	0,90	46 x 70	0,64	46 x 55	0,50	50 x 75	0,67
30	55 x 80	1,00	50 x 75	0,84	50 x 60	0,66	55 x 80	0,98
35	65 x 85	1,75	55 x 80	1,00	55 x 65	0,76	65 x 85	1,70
43	80 x 105	3,30	70 x 100	2,12	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	4,70	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	4,07	100 x 120 x 108	4,19	100 x 150 x 108	4,60

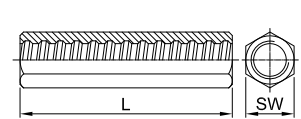
SAS SYSTEMS

Muffe EP standard
coupler EP standard

 $\emptyset$ [mm]

d x L [mm] [kg]

Kontaktmuffe EP
contact coupler EP


d x L [mm] [kg]

Sechskantmuffe EP lang
hexagonal coupler EP long


SW x L [mm] [kg]

TR 3003 EP			TR 3006 EP		TR 3010 EP	
18	36 x 115	0,64	27 x 70	0,16	36 x 140	0,91
22	40 x 125	0,78	32 x 75	0,25	41 x 155	1,48
25	45 x 150	1,24	36 x 80	0,47	46 x 180	1,79
28	50 x 160	1,56	45 x 90	0,52	50 x 200	2,29
30	55 x 165	2,02	45 x 90	0,61	55 x 215	3,04
35	60 x 190	2,67	50 x 120	0,82	60 x 240	3,82
43	80 x 225	6,16	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	11,14	80 x 180	3,46	-	-
63,5	108 x 285	11,90	90 x 200	4,24	-	-
75	108 x 290	9,70	102 x 230	5,85	-	-

Streckgrenze / Zugfestigkeit yield stress / ultimate stress Anwendungsbereiche / areas of application		Nenn- $\varnothing$ nom.- $\varnothing$	Strecklast yield load	Bruchlast ultimate load	Fläche cross section area	Gewicht weight	Dehnung elongation				
		[mm]	[kN]	[kN]	[mm ²]	[m/to]	[kg/m]	A _{gt} [%]	A ₁₀ [%]		
SAS 500 / 550 - grade 75											
	Bewehrungstechnik / reinforcing 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				
	Geotechnik / geotechnical systems	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	---		
Alternativ SAS 550 erhältlich / alternative SAS 550 grade 75 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	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				
	Ankerteknik / tunneling & mining	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 / high-strength reinforcement	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	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 / geotechnical systems	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 schweißbar / weldable											
	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 schweißbar / weldable											
	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