



SAH
Stahlwerk Annahütte

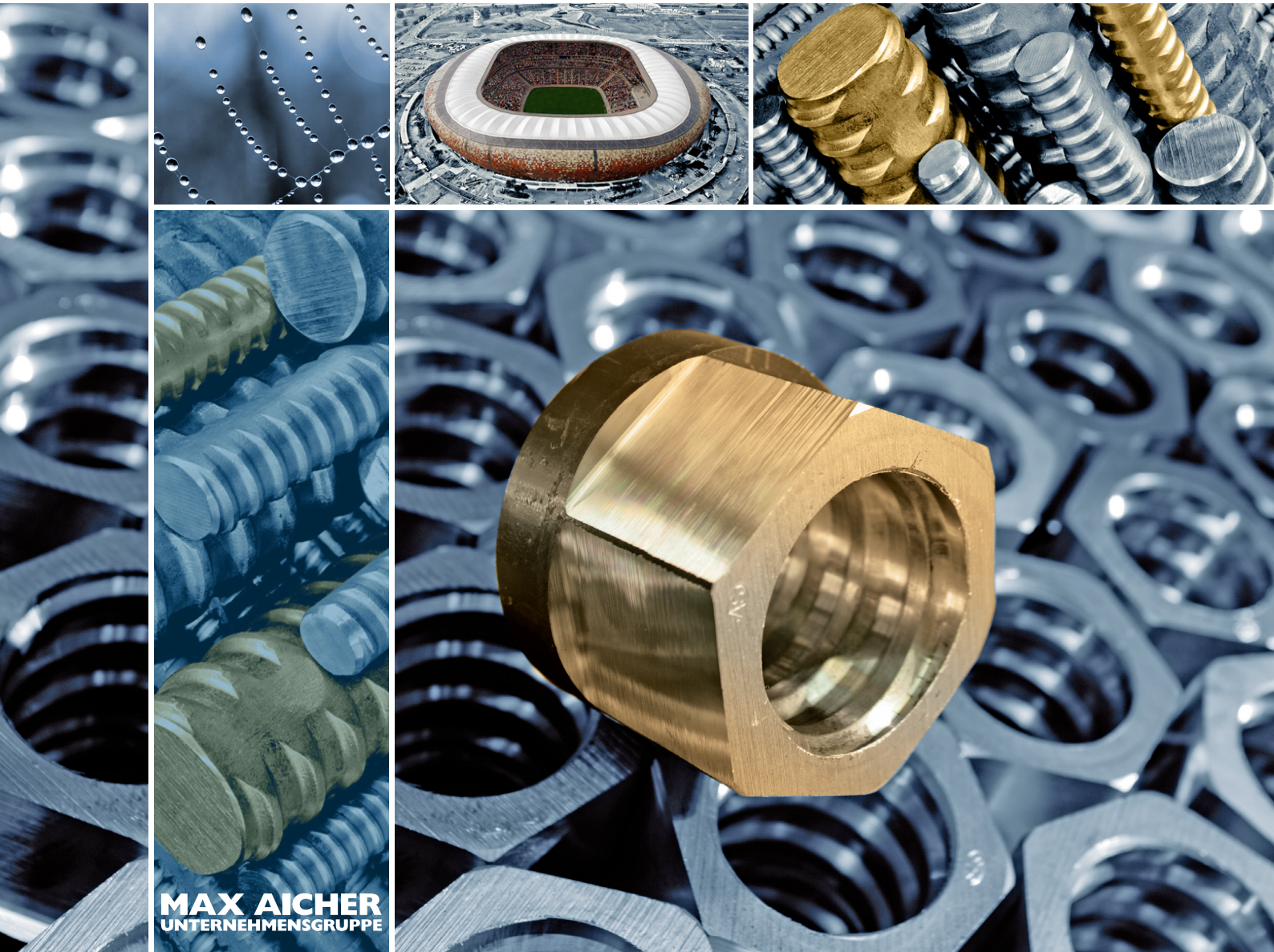
Katalog / catalogue

SAS 950 / 1050 Ø 18 - 47 mm

SAS 835 / 1035 Ø 57 - 75 mm

SAS 950 / 1050 Ø 32, 36 mm glatt / smooth

SAS SYSTEMS



MAX AICHER
UNTERNEHMENSGRUPPE

Artikel WR item WR	Bezeichnung specification	Ø [mm]									
		18	26,5	32	36	40	47	57	65	75	
SAS 950/1050 SAS 835/1035	SAS Spannstab, warm gewalzt, rechtsgängig SAS stress bar, hot rolled, right hand thread	EU	EU	EU	EU	EU	EU	○	○	○	○
WR 1928	Ankerplatte Konus 30° anchor plate cone 30°	○	○	○	○	○	○	○	○	○	○
WR 2001	Kugelbundmutter 55° domed nut 55°	EU	EU	EU	EU	EU	EU	-	-	-	
WR 2002	Ankermutter gerade anchor nut flat	○	○	○	○	○	○	○	○	○	
WR 2002 EP	Ankermutter gerade EP anchor nut flat EP	○	○	○	○	○	○	○	○	○	
WR 2011	Ankerplatte quadratisch 55° anchor plate square 55°	EU	EU	EU	EU	EU	EU	-	-	-	
WR 2012	Ankerplatte rechteckig 55° anchor plate rectangular 55°	EU	EU	EU	EU	EU	EU	-	-	-	
WR 2074	QR Platte QR plate	-	EU	EU	EU	EU	-	-	-	-	
WR 2076	Ankerplatte rechteckig 55°, klein anchor plate rectangular 55°, small	EU	EU	EU	EU	EU	EU	-	-	-	
WR 2099	Kugelbundmutter 55° mit Verpressnuten domed nut 55° with grout slots	EU	EU	EU	EU	EU	EU	-	-	-	
WR 2139	Ankerplatte gerade anchor plate flat	○	○	○	○	○	○	○	○	○	
WR 2927	Ringmutter ring nut	○	○	○	○	○	○	-	-	-	
WR 2963	Ankermutter ballig 30° bull nose nut 30°	○	○	○	○	○	○	○	○	○	
WR 2963 EP	Ankermutter EP, ballig 30° bull nose nut EP 30°	○	○	○	○	○	○	○	○	○	
WR 3003	Muffe standard coupler standard	EU	EU	EU	EU	EU	EU	○	○	○	
WR 3003 EP	Muffe standard EP coupler standard EP	○	○	○	○	○	○	○	○	○	
WR 3009	Sechskantmuffe hexagonal coupler	○	○	○	○	○	-	-	-	-	
WR 3009 EP	Sechskantmuffe EP hexagonal coupler EP	○	○	○	○	○	-	-	-	-	
WR 3303	Muffe lang coupler long	EU	EU	EU	EU	EU	EU	-	-	-	
WR 5005	Haltemutter fix nut	○	○	○	○	○	○	○	○	○	
WR 5005 EP	Haltemutter EP fix nut EP	○	○	○	○	○	○	○	○	○	
WR 8002	Spannverankerung stressing anchorage	○	○	○	○	○	○	○	○	○	
WR 8003	Spannmuffe stressing coupler	○	○	○	○	○	○	○	○	○	

Artikel WS item WS	Bezeichnung specification	Ø [mm]									
		18	26,5	32	36	40	47	57	65		
SAS 950/1050 SAS 835/1035	SAS Spannstab, warm gewalzt, rechtsgängig SAS stress bar, hot rolled, right hand thread	-	-	●	●	-	-	-	-	-	
WS 1928	Ankerplatte Konus 30° anchor plate cone 30°	-	-	○	○	-	-	-	-	-	
WS 2001	Kugelbundmutter 55° domed nut 55°	-	-	EU	EU	-	-	-	-	-	
WS 2002	Ankermutter gerade anchor nut flat	-	-	○	○	-	-	-	-	-	
WS 2011	Ankerplatte quadratisch 55° anchor plate square 55°	-	-	EU	EU	-	-	-	-	-	
WS 2012	Ankerplatte rechteckig 55° anchor plate rectangular 55°	-	-	EU	EU	-	-	-	-	-	
WS 2076	Ankerplatte rechteckig 55°, klein anchor plate rectangular 55°, small	-	-	EU	EU	-	-	-	-	-	
WS 2099	Kugelbundmutter 55° mit Verpressnuten domed nut 55° with grout slots	-	-	EU	EU	-	-	-	-	-	
WS 2927	Ringmutter ring nut	-	-	○	○	-	-	-	-	-	
WS 2963	Ankermutter ballig 30° bull nose nut 30°	-	-	○	○	-	-	-	-	-	
WS 3003	Muffe standard coupler standard	-	-	EU	EU	-	-	-	-	-	
WS 3004	Übergangsmuffe transition coupler	-	-	EU	EU	-	-	-	-	-	
WS 5005	Haltemutter fix nut	-	-	○	○	-	-	-	-	-	
WS 8004	Spannmuffe stressing coupler	-	-	○	○	-	-	-	-	-	

EU

erhältlich - entsprechend ETA 05/122 / available - acc. to ETA 05/122

●

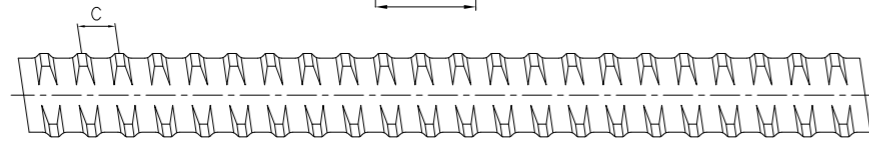
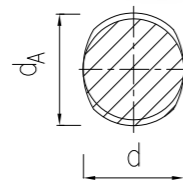
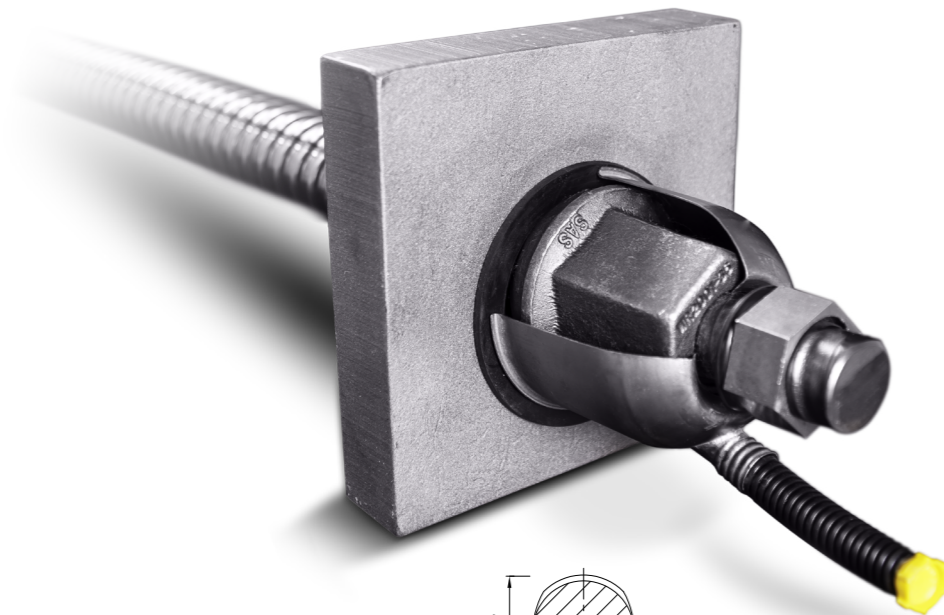
erhältlich - Spannstahl zugelassen durch DIBt, für das Spannverfahren ist das deutsche Anwendungsdokument anzuwenden / available - prestressing steel approved by DIBt, for PT system please refer to German application document

○

disponible / available

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



SAS Spannstahlstab
warmgewalzt - rechtsgängig

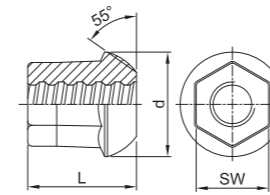
SAS stress bar
hot rolled - right hand thread

d	[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 ₁₀ ¹¹		950 N/mm ² / 1050 N/mm ² / ≥ 7 %						835 N/mm ² / 1035 N/mm ² / ≥ 7 %		
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	[mm ²]	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

¹¹ Bruchdehnung bezogen auf den 10-fachen Stabdurchmesser / ultimate elongation in a gauge length to 10 bar diameters

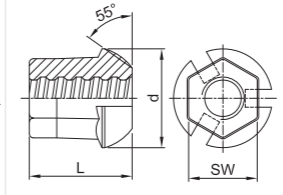
SAS SYSTEMS

Kugelbundmutter 55°
dome nut 55°



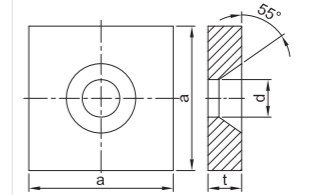
Ø [mm] SW x L x d [mm] [kg]

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



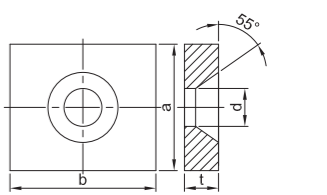
SW x L x d [mm] [kg]

Ankerplatte quadratisch 55°
anchor plate square 55°



a x t x d [mm] [kg]

Ankerplatte rechteckig 55°
anchor plate rectangular 55°

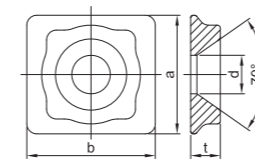


a x b x t x d [mm] [kg]

	WR 2001		WR 2099		WR 2011		WR 2012	
18	36 x 55 x 50	0,43	36 x 55 x 50	0,40	110 x 30 x 28	2,66	100 x 130 x 30 x 28	2,39
26,5	50 x 75 x 72	1,09	50 x 75 x 72	1,02	150 x 35 x 39	5,61	130 x 150 x 35 x 39	4,50
32	60 x 90 x 80	1,70	60 x 90 x 80	1,65	180 x 40 x 45	9,33	140 x 180 x 40 x 45	7,07
36	65 x 100 x 90	2,24	65 x 100 x 90	2,13	200 x 45 x 49	12,95	150 x 220 x 50 x 49	11,70
40	70 x 115 x 100	2,91	70 x 115 x 100	2,71	220 x 45 x 54	15,64	160 x 250 x 60 x 54	17,10
47	80 x 135 x 110	4,09	80 x 135 x 110	3,79	260 x 50 x 64	24,49	200 x 280 x 60 x 64	24,12
57	-	-	-	-	285 x 65 x 76	38,43	-	-
65	-	-	-	-	-	-	-	-
75	-	-	-	-	370 x 80 x 98	79,56	-	-

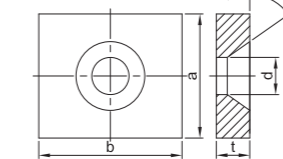
SAS SYSTEMS

QR Platte
QR plate



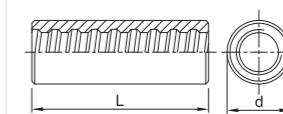
Ø [mm] b x a x t x d [mm] [kg]

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



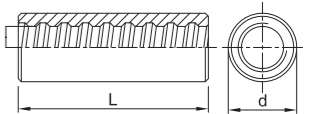
a x b x t x d₁ x d₂ [mm] [kg]

Muffe standard
coupler standard



d x L [mm] [kg]

Muffe lang
coupler long

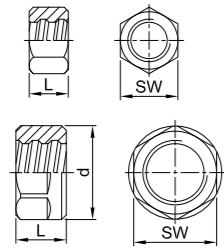


d x L [mm] [kg]

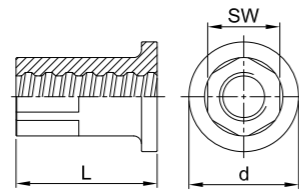
	WR 2074		WR 2076		WR 3003		WR 3303	
18	-	-	80 x 90 x 25 x 28	1,25	36 x 100	0,56	36 x 115	0,64
26,5	130 x 120 x 30 x 39	2,00	120 x 130 x 30 x 39	3,15	50 x 170	1,73	50 x 195	2,00
32	165 x 140 x 35 x 45	3,30	140 x 165 x 35 x 45	5,57	60 x 200	2,91	60 x 230	3,40
36	180 x 160 x 40 x 49	4,90	160 x 180 x 40 x 49	7,94	68 x 210	3,98	68 x 245	4,68
40	195 x 180 x 45 x 54	7,20	180 x 195 x 45 x 54	10,95	70 x 245	4,59	70 x 285	5,38
47	-	-	210 x 235 x 55 x 64	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	-	-

SAS SYSTEMS

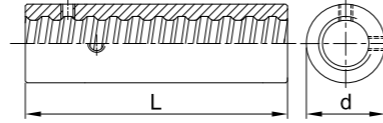
fixier Mutter
fix nut



Spannverankerung
stressing anchorage



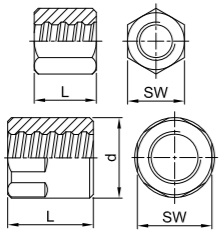
Spannmuffe
stressing-coupler



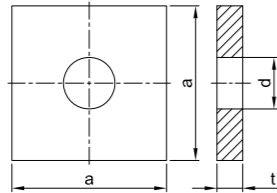
Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	d ₁ x L [mm]	[kg]
	WR 5005		WR 8002		WR 8003	
18	30 x 22	0,08	41 x 70 x 65	0,82	45 x 100	1,00
26,5	36 x 22	0,08	46 x 90 x 70	1,15	45 x 150	1,17
32	41 x 22	0,09	50 x 110 x 70	1,31	53 x 180	1,88
36	46 x 25	0,12	55 x 120 x 80	1,80	58 x 200	2,43
40	50 x 25	0,13	55 x 130 x 80	1,91	65 x 220	3,44
47	60 x 30	0,22	65 x 140 x 90	2,83	75 x 240	4,87
57	85 x 40 x 90	0,99	90 x 160 x 110	6,75	95 x 270	9,40
65	90 x 40 x 102	1,25	100 x 180 x 120	9,53	108 x 290	12,39
75	105 x 50 x 114	1,92	105 x 200 x 135	12,96	120 x 320	15,45

SAS SYSTEMS

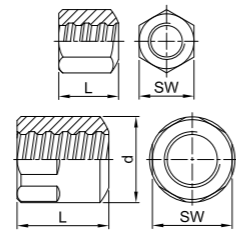
Anker Mutter gerade
anchor nut flat



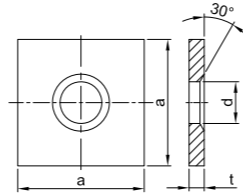
Ankerplatte gerade
anchor plate flat



Anker Mutter ballig 30°
bull nose nut 30°



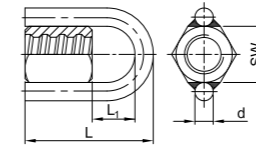
Anker Mutter Konus 30°
anchor plate cone 30°



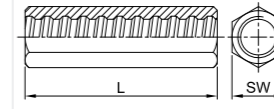
Ø [mm]	SW x L x d [mm]	[kg]	a x c x d [mm]	[kg]	SW x L x d [mm]	[kg]	a x c x d [mm]	[kg]
	WR 2002		WR 2139		WR 2963		WR 1928	
18	41 x 60	0,54	120 x 20 x 25	2,20	41 x 60	0,52	120 x 20 x 25	2,18
26,5	46 x 80	0,73	150 x 35 x 32	5,90	46 x 80	0,70	150 x 35 x 32	5,95
32	55 x 90	1,17	180 x 40 x 38	9,82	55 x 90	1,14	180 x 40 x 38	9,81
36	60 x 110	1,63	200 x 45 x 45	13,57	60 x 110	1,59	200 x 45 x 45	13,55
40	70 x 120	2,56	220 x 45 x 50	16,40	70 x 120	2,49	220 x 45 x 50	16,36
47	80 x 140	3,65	240 x 55 x 58	23,73	80 x 140	3,54	240 x 55 x 58	23,50
57	90 x 120 x 95	3,72	285 x 65 x 70	39,48	90 x 120 x 95	3,59	285 x 65 x 70	39,30
65	100 x 130 x 106	4,99	325 x 70 x 78	55,42	100 x 130 x 105	4,83	325 x 70 x 78	55,50
75	105 x 145 x 114	5,68	370 x 80 x 88	82,15	105 x 145 x 114	5,59	370 x 80 x 88	82,00

SAS SYSTEMS

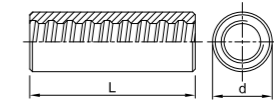
Ringmutter
(Gebrauchslast des Rings max.
60 kN)
ring nut
(working load of ring max.
60 kN)



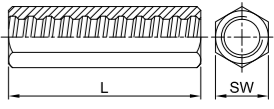
Sechskantmuffe
hexagonal coupler



Muffe EP standard
coupler EP standard



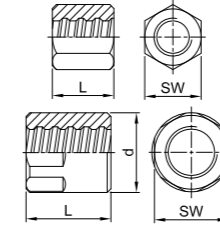
Sechskantmuffe EP
hexagonal coupler EP



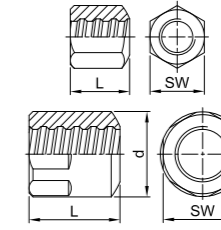
Ø [mm]	SW x L x L ₁ x d [mm]	[kg]	SW x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
	WR 2927		WR 3009		WR 3003 EP		WR 3009 EP	
18	41 x 135 x 59 x 16	0,99	36 x 100	0,67	36 x 120	0,68	36 x 120	0,78
26,5	46 x 165 x 69 x 16	1,28	50 x 170	2,09	50 x 185	1,94	50 x 185	2,24
32	55 x 190 x 84 x 16	1,81	60 x 200	3,54	60 x 220	3,33	60 x 220	3,83
36	60 x 219 x 89 x 20	2,78	70 x 210	5,03	68 x 240	4,72	70 x 240	5,87
40	70 x 244 x 104 x 20	3,87	70 x 245	5,37	70 x 270	5,26	70 x 270	5,99
47	80 x 274 x 114 x 20	5,10	80 x 280	7,78	83 x 310	8,65	80 x 310	8,97
57	-	-	-	-	95 x 270	9,32	-	-
65	-	-	-	-	106 x 290	12,01	-	-
75	-	-	-	-	114 x 320	14,15	-	-

SAS SYSTEMS

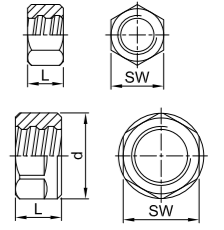
Anker Mutter EP gerade
anchor nut EP flat



Anker Mutter EP ballig 30°
bull nose nut EP 30°



Haltemutter EP
fix nut EP

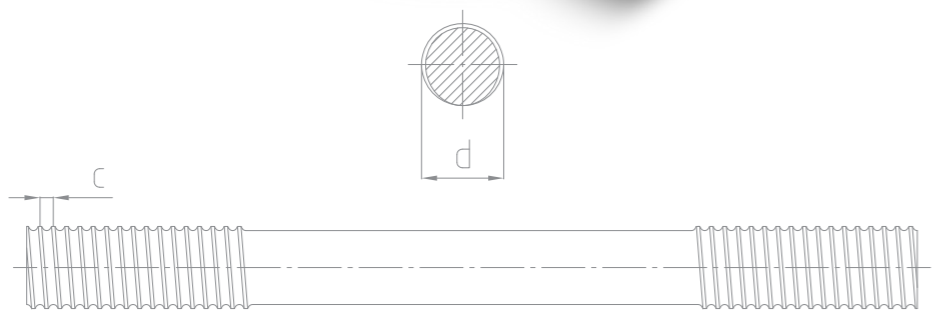


Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]
	WR 2002 EP		WR 2963 EP		WR 5005 EP	
18	41 x 70	0,62	41 x 70	0,60	30 x 22	0,08
26,5	46 x 90	0,81	46 x 90	0,79	36 x 22	0,08
32	55 x 100	1,30	55 x 100	1,27	41 x 22	0,09
36	60 x 120	1,75	60 x 120	1,71	46 x 25	0,12
40	70 x 130	2,77	70 x 130	2,70	50 x 25	0,13
47	80 x 150	3,92	80 x 150	3,81	60 x 30	0,22
57	90 x 145 x 95	4,59	90 x 145 x 95	4,46	85 x 40 x 90	1,01
65	100 x 155 x 106	5,82	100 x 155 x 106	5,66	90 x 40 x 102	1,13
75	105 x 180 x 7,05	7,60	105 x 180 x 114	6,96	105 x 50 x 114	1,92

SAS Glattstahlstäbe

SAS smooth bar

SAS 950 / 1050 Ø 32, 36 mm glatt / smooth



SAS Spannstahlstab
rund, glatt mit aufgerolltem Gewinde

SAS stress bar
round, smooth with rolled on thread

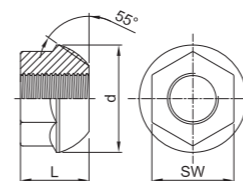
d	[mm]	32	36	40	47
c	[mm]	3	3	3	3
$f_{p0,1k}/f_{pk}/A_{10}^{-1}$		950 N/mm ² / 1050 N/mm ² / ≥ 7 %			
F_{yk} ($F_{0,1k}$)	[kN]	760	960	1190	1650
F_{pk}	[kN]	845	1070	1320	1820
A	[mm ²]	804	1018	1257	1735
G	[kg/m]	6,31	7,99	9,86	13,62

Zubehör

accessories

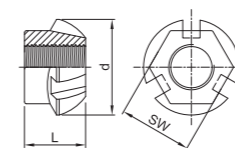
SAS SYSTEMS

Kugelbundmutter 55°
dome nut 55°



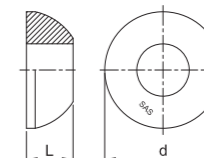
∅ [mm] SW x L x d [mm] [kg]

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



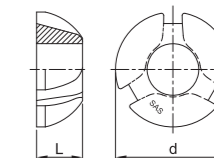
SW x L x d [mm] [kg]

Kugelbund 55°
dome washer 55°



d x L [mm] [kg]

Kugelbund 55° mit Verpressnuten
dome washer 55° with grout slots

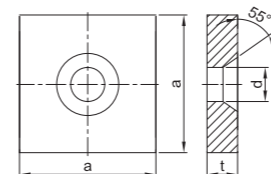


d x L [mm]

	WS 2001		WS 2099		WS 0037		WS 2099	
32	55 x 46 x 72	0,78	55 x 46 x 72	0,74	---	---	---	---
36	65 x 60 x 90	1,55	65 x 60 x 90	1,41	---	---	---	---
40	---	---	---	---	100 x 40	100 x 40	---	100 x 40
47	---	---	---	---	110 x 40	110 x 40	---	110 x 40

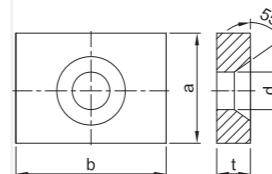
SAS SYSTEMS

Ankerplatte quadratisch 55°
anchor plate square 55°



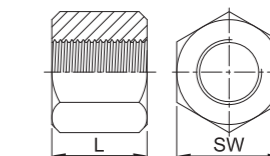
∅ [mm] SW x L x d [mm] [kg]

Ankerplatte rechteckig 55°
anchor plate rectangular 55°



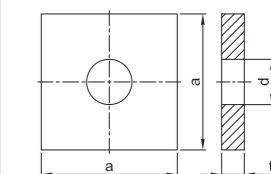
a x b x t x d [mm] [kg]

Ankermutter gerade
anchor nut flat



SW x L x d [mm] [kg]

Ankerplatte gerade
anchor plate flat

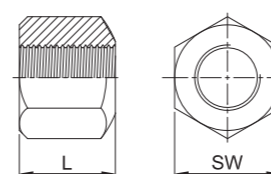


a x t x d [mm] [kg]

	WS 2011		WS 2012		WS 2002		WS 2139	
32	180 x 40 x 45	9,50	140 x 180 x 40 x 45	7,24	55 x 50	0,79	180 x 40 x 38	9,82
36	200 x 45 x 49	12,95	150 x 220 x 50 x 49	11,70	60 x 65	0,96	200 x 45 x 45	13,57
40	220 x 45 x 54	15,64	160 x 250 x 60 x 54	17,12	70 x 50 x 75	1,17	220 x 45 x 45	16,40
47	260 x 50 x 64	24,40	200 x 280 x 60 x 64	19,98	80 x 65 x 90	2,05	260 x 50 x 52	25,60

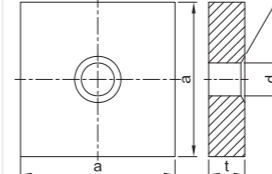
SAS SYSTEMS

Ankermutter ballig 30°
bull nose 30°



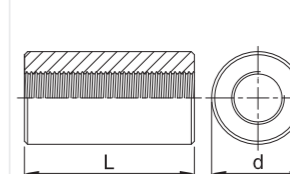
∅ [mm] SW x L [mm] [kg]

Ankerplatte Konus 30°
anchor plate rectangular 30°



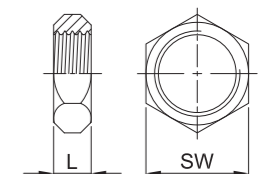
a x t x d [mm] [kg]

Muffe standard
coupler standard



d x L [mm] [kg]

Haltemutter
fix nut



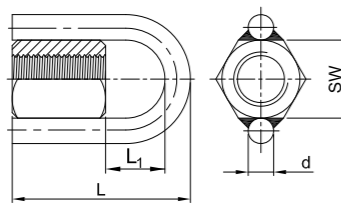
SW x L [mm] [kg]

	WS 2963		WS 1928		WS 3003		WS 5005	
32	55 x 50	0,68	180 x 40 x 38	9,81	60 x 110	1,74	41 x 15	0,08
36	60 x 65	0,88	200 x 45 x 45	13,55	68 x 160	3,25	46 x 15	0,09
40	70 x 50	1,09	220 x 45 x 45	16,50	70 x 180	3,65	50 x 20	0,14
47	80 x 65	1,89	260 x 50 x 52	25,65	83 x 200	5,75	60 x 25	0,20

Zubehör accessories

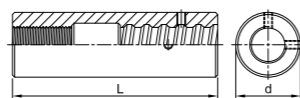
SAS SYSTEMS

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



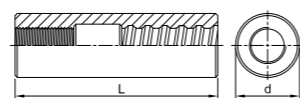
Ø [mm] SW x L x L₁ [mm] [kg]

Spannmuffe für WS
stressing coupler for WS



d x L [mm] [kg]

Übergangsmuffe
transition coupler



d x L [mm] [kg]














	WS 2927		WS 8004		WS 3004	
32	55 x 125 x 59	1,22	60 x 190	2,74	60 x 200	2,94
36	60 x 149 x 64	1,86	65 x 230	3,80	68 x 235	4,47
40	---	---	68 x 250	4,59	75 x 260	5,94
47	---	---	75 x 275	5,27	80 x 285	6,83



Projekt: Nationalstadion, Warschau, Polen
project: National stadium, Warsaw, Poland



SAS Vorspanntechnik
SAS post-tensioning system

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				
		28	310	340	616	207,0	4,83				
 Geotechnik / <i>geotechnical systems</i>		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	5	(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*