



Y 1050 / Y 1035
catalogue



SAS SYSTEMS

Y 1050

Ø 18 - 47 mm

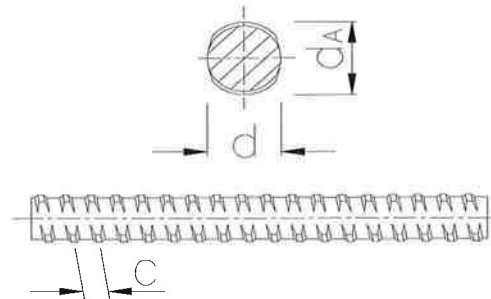
Y 1035

Ø 57 - 75 mm

SAS stress bar

hot rolled, ribbed - right hand thread

Ø [mm]	item number
18	180WR
26,5	265WR
32	320WR
36	360WR
40	400WR
47	470WR
57	570WR
65	650WR
75	750WR



d Ø [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 ¹⁾	950 N/mm ² /1050 N/mm ² / ≥ 7 %						835 N/mm ² /1035 N/mm ² / ≥ 7 %		
F _{yk} (F _{p0,1k}) [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

1) ultimate elongation in a gauge length to 10 bar diameters (ASTM A 722/ASTM 722M - 98)

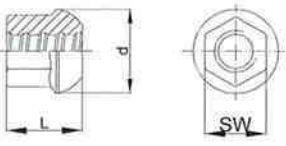
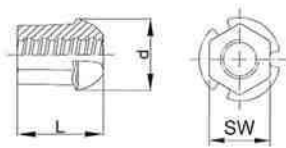
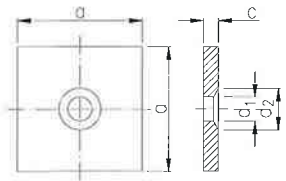
item number	specification	page	Ø [mm]								
			18	27	32	36	40	47	57	65	75
Y 1050	SAS stress bar, hot rolled	1	●	■ ●	■ ●	■ ●	■ ●	○	○	○	○
WR 1928 - Ø	anchor plate, cone, 30°	8	○	○	○	○	○	○	○	○	○
WR 2001 - Ø	dome nut, 55°	4	—	■	■	■	■	○	—	—	—
WR 2002 - Ø	anchor nut, flat	5	○	○	○	○	○	○	○	○	○
WR 2002 - Ø EP	anchor nut EP, flat	5	○	○	○	○	○	○	—	—	—
WR 2011 - Ø	anchor plate, square, 55°	4	—	■	■	■	■	○	—	—	—
WR 2012 - Ø	anchor plate, rectangular, 55°	5	—	■	■	■	■	—	—	—	—
WR 2099 - Ø	dome nut, 55° with grout slots	4	—	■	■	■	■	○	—	—	—
WR 2139 - Ø	anchor plate, flat	6	○	○	○	○	○	○	○	○	○
WR 2801 - Ø	DYN-nut, 30°	6	●	●	●	●	●	○	—	—	—
WR 2811 - Ø	anchor plate, square, 30°	7	●	●	●	●	●	○	—	—	—
WR 2812 - Ø	anchor plate, rectangular, 30°	7	●	●	●	●	●	○	—	—	—
WR 2899 - Ø	DYN-injection nut, 30°	6	●	●	●	●	●	○	—	—	—
WR 2963 - Ø	bull nose nut, 30°	7	○	○	○	○	○	○	○	○	○

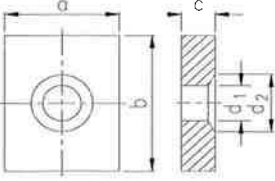
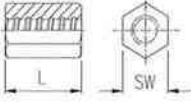
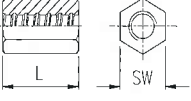
■ available - according to ETA (European Technical Approval) 05/122

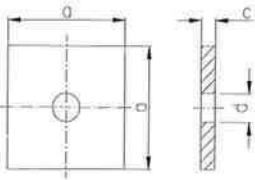
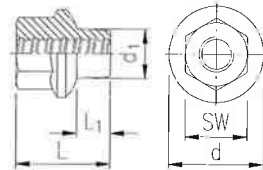
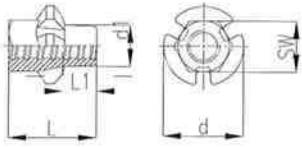
● available - approved by DIBt (German institute for construction engineering)

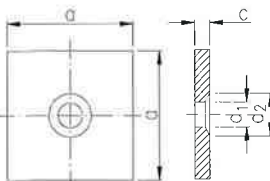
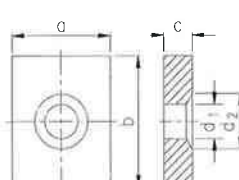
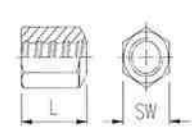
○ available

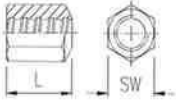
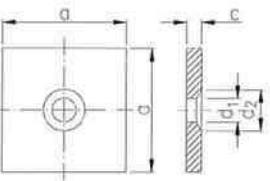
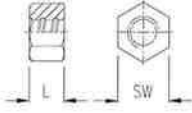
item number	specification	page	Ø [mm]								
			18	26,5	32	36	40	47	57	65	75
WR 2963 - Ø EP	<i>bull nose nut EP, 30°</i>	8	o	o	o	o	o	o	—	—	—
WR 3003 - Ø	<i>coupler, standard</i>	9	o	■	■	■	■	o	o	o	o
WR 3003 - Ø EP	<i>coupler EP, standard</i>	9	o	o	o	o	o	o	—	—	—
WR 3009 - Ø EP	<i>hexagonal coupler EP</i>	9	o	o	o	o	o	o	—	—	—
WR 3803 - Ø	<i>DYN-coupler</i>	10	●	●	●	●	●	o	—	—	—
WR 5005 - Ø	<i>fix nut</i>	8	o	o	o	o	o	o	o	o	o
WR 5005 - Ø EP	<i>fix nut EP</i>	9	o	o	o	o	o	o	—	—	—
WR 8002 - Ø	<i>stressing-anchorage</i>	10	o	o	o	o	o	o	o	o	o
WR 8003 - Ø	<i>stressing-coupler</i>	10	o	o	o	o	o	o	o	o	o
<p>■ available - according to ETA (European Technical Approval) 05/122</p> <p>● available - approved by DIBt (German institute for construction engineering)</p> <p>o available</p>											

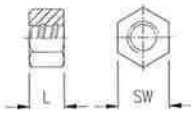
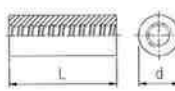
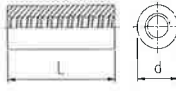
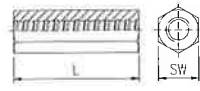
accessories	Ø mm	18	26,5	32	36	40	47	57	65	75
WR 2001 - Ø dome nut, 55°  material S 355J2 1) G34CrMo4	SW [mm]	—	50	60	65	70 ¹⁾	80 ¹⁾	—	—	—
	L [mm]	—	75	90	100	115	135	—	—	—
	d [mm]	—	72	80	90	100	110	—	—	—
	G [kg]	—	1,13	1,70	2,00	3,00	4,00	—	—	—
WR 2099 - Ø dome nut, 55° with grout slots  material S 355J2 1) G34CrMo4	SW [mm]	—	50	60	65	70 ¹⁾	80 ¹⁾	—	—	—
	L [mm]	—	75	90	100	115	135	—	—	—
	d [mm]	—	72	80	90	100	110	—	—	—
	G [kg]	—	1,05	1,50	2,10	2,70	3,60	—	—	—
WR 2011 - Ø anchor plate, square, 55°  material S 235JR	a [mm]	—	150	180	200	220	—	—	—	—
	c [mm]	—	35	40	45	45	—	—	—	—
	d ₁ [mm]	—	39	45	49	54	—	—	—	—
	d ₂ [mm]	—	72	82	92	100	—	—	—	—
	G [kg]	—	5,60	9,30	12,95	15,60	—	—	—	—

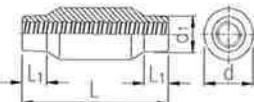
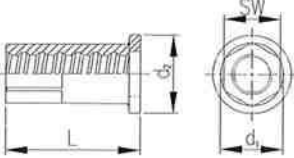
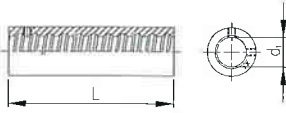
accessories	Ø mm	18	26,5	32	36	40	47	57	65	75	
WR 2012 - Ø anchor plate, rectangular, 55°  material S 235JR	a [mm]	—	130	140	150	160	—	—	—	—	
	b [mm]	—	150	180	220	250	—	—	—	—	
	c [mm]	—	35	40	50	60	—	—	—	—	
	d₁ [mm]	—	39	45	49	54	—	—	—	—	
	d₂ [mm]	—	72	82	92	100	—	—	—	—	
	G [kg]	—	4,50	7,07	11,70	17,10	—	—	—	—	
WR 2002 - Ø anchor nut, flat  material S 355J2 1) 42CrMo4+QT	SW [mm]	41	46	55	60	70	80	90 ¹⁾	100 ¹⁾	105 ¹⁾	
	L [mm]	60	80	90	110	120	140	120	130	145	
	d [mm]	—	—	—	—	—	—	—	95	105	114
	G [kg]	0,56	0,75	1,20	1,65	2,65	3,80	4,00	5,30	5,70	
WR 2002 - Ø EP anchor nut EP, flat  material S 355J2	SW [mm]	41	46	55	60	70	80	—	—	—	
	L [mm]	70	90	100	120	130	150	—	—	—	
	G [kg]	0,64	0,83	1,30	1,80	3,00	4,48	—	—	—	

accessories	Ø mm	18	26,5	32	36	40	47	57	65	75
WR 2139 - Ø anchor plate, flat  <i>material</i> S 235JR	a [mm]	120	150	180	200	220	240	285	325	370
	c [mm]	20	35	40	45	45	55	65	70	80
	d [mm]	25	32	38	45	50	58	70	78	88
	G [kg]	2,20	5,70	9,40	13,05	15,70	23,50	39,50	55,50	82,00
WR 2801 - Ø DYN-nut, 30°  <i>material</i> S 355J2	SW [mm]	32	46	55	60	70	80	—	—	—
	L [mm]	55	80	98	108	125	145	—	—	—
	d [mm]	50	70	86	90	100	120	—	—	—
	d ₁ [mm]	26	38	47	52	58	68	—	—	—
	L ₁ [mm]	20	30	40	45	50	58	—	—	—
	G [kg]	0,40	0,77	1,40	1,60	2,55	4,05	—	—	—
WR 2899 - Ø DYN-injection nut, 30°  <i>material</i> S 355J2	SW [mm]	32	46	55	60	70	80	—	—	—
	L [mm]	55	80	98	108	125	145	—	—	—
	d [mm]	50	70	86	90	100	120	—	—	—
	d ₁ [mm]	26	38	47	52	58	68	—	—	—
	L ₁ [mm]	20	30	40	45	50	58	—	—	—
	G [kg]	0,35	0,75	1,30	1,50	2,45	3,90	—	—	—

accessories	Ø mm	18	26,5	32	36	40	47	57	65	75
WR 2811 - Ø anchor plate, square, 30° 	a [mm]	120	140	180	200	220	260	—	—	—
	c [mm]	20	30	35	40	45	50	—	—	—
	d₁ [mm]	37	47	56	61	66	75	—	—	—
	d₂ [mm]	50	70	86	90	100	120	—	—	—
	G [kg]	2,10	4,20	8,10	11,70	15,40	24,45	—	—	—
material S 235JR										
WR 2812 - Ø anchor plate, rectangular, 30° 	a [mm]	100	120	120	150	150	200	—	—	—
	b [mm]	130	150	220	240	290	326	—	—	—
	c [mm]	20	35	50	55	65	50	—	—	—
	d₁ [mm]	37	47	56	61	66	75	—	—	—
	d₂ [mm]	50	70	86	90	100	120	—	—	—
material S 235JR										
WR 2963 - Ø bull nose nut, 30° 	SW [mm]	41	46	55	60	70	80	90 ¹⁾	100 ¹⁾	105 ¹⁾
	L [mm]	60	80	90	110	120	140	120	130	145
	d [mm]	—	—	—	—	—	—	95	105	114
	G [kg]	0,53	0,72	1,15	1,60	2,58	3,70	3,95	4,90	5,30
material S 355J2 1) 42CrMo4+QT										

accessories	Ø mm	18	26,5	32	36	40	47	57	65	75
WR 2963 - Ø EP bull nose nut EP, 30°  <i>material</i> S 355J2	SW [mm]	41	46	55	60	70	80	—	—	—
	L [mm]	70	90	100	120	130	150	—	—	—
	d [mm]	—	—	—	—	—	—	—	—	—
	G [kg]	0,61	0,80	1,25	1,75	2,93	4,38	—	—	—
WR 1928 - Ø anchor plate cone 30°  <i>material</i> S 235JR	a [mm]	120	150	180	200	220	240	285	325	370
	c [mm]	20	35	40	45	45	55	65	70	80
	d₁ [mm]	25	32	38	45	50	58	70	78	88
	d₂ [mm]	35	45	50	60	70	80	90	110	120
	G [kg]	2,18	5,95	9,81	13,55	16,36	23,50	39,30	55,25	82,00
WR 5005 - Ø fix nut  <i>material</i> S 355J2	SW [mm]	30	36	41	46	50	60	90	90	105
	L [mm]	22	22	22	25	25	30	35	40	50
	d [mm]	—	—	—	—	—	—	—	102	114
	G [kg]	0,09	0,10	0,11	0,15	0,16	0,30	1,10	1,25	2,10

accessories	Ø mm	18	26,5	32	36	40	47	57	65	75
WR 5005 - Ø EP fix nut EP  material S 355J2	SW [mm]	30	36	41	46	50	60	—	—	—
	L [mm]	22	22	22	25	25	30	—	—	—
	d [mm]	—	—	—	—	—	—	—	—	—
	G [kg]	0,09	0,10	0,11	0,15	0,16	0,30	—	—	—
WR 3003 - Ø Coupler, standard  material S 355J2 1) C45 / 2) 20MnV6 / 3) 42CrMo4+QT	d [mm]	36	50 ¹⁾	60 ¹⁾	68 ¹⁾	70 ²⁾	89 ¹⁾	95 ³⁾	105 ³⁾	114 ³⁾
	L [mm]	100	170	200	210	245	280	240	260	290
	G [kg]	0,80	1,80	3,40	4,40	5,35	7,35	8,20	10,60	12,20
WR 3003 - Ø EP coupler EP, standard  material S 355J2	SW [mm]	36	52	65	70	76	89	—	—	—
	L [mm]	120	185	220	240	265	310	—	—	—
	G [kg]	0,72	2,28	4,34	5,33	6,85	10,88	—	—	—
WR 3009 - Ø EP hexagonal coupler EP  material S 355J2	SW [mm]	41	55	65	70	70	—	—	—	—
	L [mm]	120	185	220	240	265	—	—	—	—
	G [kg]	1,10	2,83	4,65	5,65	7,29	—	—	—	—

accessories	Ø mm	18	26,5	32	36	40	47	57	65	75
WR 3803 - Ø DYN-coupler  <i>material</i> 20MnV6+U	d [mm]	40	56	60	65	71	85	—	—	—
	d₁ [mm]	28	38	47	52	58	68	—	—	—
	L [mm]	110	160	200	215	250	265	—	—	—
	L₁ [mm]	22	30	40	45	45	50	—	—	—
	G [kg]	0,55	1,45	2,05	2,48	3,65	5,15	—	—	—
WR 8002 - Ø stressing-anchorage  <i>material</i> 42CrMo4+QT (V)	SW [mm]	41	46	50	55	55	65	90	100	105
	L [mm]	80	100	120	140	150	170	185	180	200
	d₁ [mm]	45	50	56	60	65	75	95	120	133
	d₂ [mm]	65	70	70	80	80	90	110	—	—
	G [kg]	0,92	1,15	1,55	2,20	2,55	3,85	6,83	10,10	13,20
WR 8003 - Ø stressing-coupler  <i>material</i> 42CrMo4+QT (V)	d₁ [mm]	45	45	53	58	65	75	95	108	120
	L [mm]	100	150	180	200	220	240	270	290	320
	G [kg]	1,00	1,10	1,85	2,40	3,35	4,75	9,50	13,00	18,10



SAS Thread-Bars

yield stress / ultimate stress areas of application	nom.-Ø	yield load	ultimate load	cross section area	weight	elongation		
[N/mm ²]	[mm]	[kN]	[kN]	[mm ²]	[m/to]	A _{gt} [%]	A ₁₀ [%]	
SAS 500 (BSt 500 S) / grade 75								
B 500 / 550 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		
geotechnical systems	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		
	40	630	690	1260	101,3	9,87		
	50	980	1080	1960	64,9	15,40		
S 555 / 700 / grade 80	63,5	1760	2215	3167	40,2	24,86		
<i>alternative SAS 550 (BSI 550 S) grade 75 available</i>								
SAS 450 / grade 60								
S 450 / 700 mining	16	93	145	207	617,3	1,62	15	(A ₅)
	25	220	345	491	259,7	3,85		
SAS 650 / grade 90								
S 650 / 800 mining	22	247	304	380	335,6	2,98	18	(A ₅)
	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 / grade 97								
S 670 / 800 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		
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		
	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								
Y 950 / 1050 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		
	40	1190	1320	1257	97,9	10,21		
Y 950 / 1050	47	1650	1820	1735	70,9	14,10	5	7
Y 835 / 1035	57	2155	2671	2581	47,7	20,95	4	7
	65	2780	3447	3331	36,9	27,10		
	75	3690	4572	4418	27,9	35,90		
SAS 900 / 1100 – Type FA / grade 160								
Y 900 / 1100 – Type FA formwork ties <i>weldable</i>	15	159	195	177	694,4	1,44	3	7
	20	283	345	314	390,6	2,56		
Type E	26,5	461	568	551	223,2	4,48	4	7
SAS 850 / cold rolled grade 120								
S 850 – Type FS formwork ties <i>weldable</i>	15	140	170	191	666,7	1,50	10	(A ₅)
	20	245	280	331	384,6	2,60		
	26,5	385	490	586	217,4	4,60		

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