

## Catalogue / *catalogue*

SAS 950 / 1050 Ø 18 - 47 mm

SAS 835 / 1035 Ø 57 - 75 mm

SAS 950 / 1050 Ø 32, 36 mm lisse / *smooth*

## SAS SYSTEMS

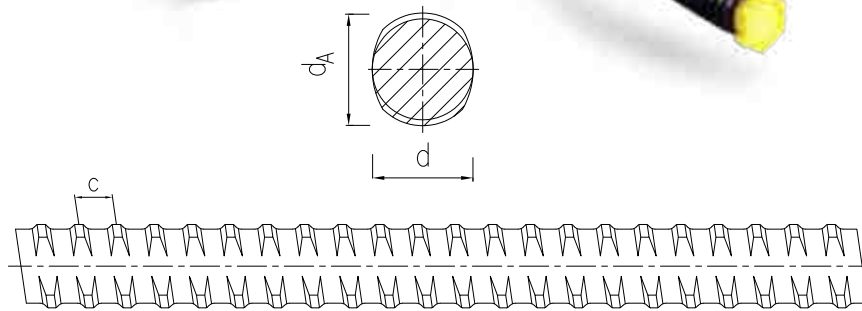


# Barre de précontrainte SAS

SAS stress bars

SAS 950 / 1050 Ø 18 - 47 mm

SAS 835 / 1035 Ø 57 - 75 mm



**Barre de précontrainte SAS**  
laminée à chaud - filetage à droite

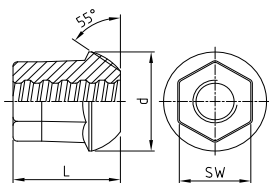
**SAS stress bar**  
hot rolled - right hand thread

d	[mm]	18	26,5	32	36	40	47	57	65	75
max d <sub>A</sub>	[mm]	21	31	37	42	46	53	64	72	82
Pas / pitch (c)	[mm]	8	13	16	18	20	21	21	21	24
Contrainte élastique / rupture / allongement yield / failure stress / elongation f <sub>p0,1k</sub> /f <sub>pk</sub> /A <sub>10</sub> <sup>1)</sup>		950 N/mm <sup>2</sup> / 1050 N/mm <sup>2</sup> / ≥ 7 %						835 N/mm <sup>2</sup> / 1035 N/mm <sup>2</sup> / ≥ 7 %		
Limite élastique / yield load (F <sub>yk</sub> = F <sub>0,1k</sub> )	[kN]	230	525	760	960	1190	1650	2155	2780	3690
Rupture (F <sub>pk</sub> ) / ultimate load	[kN]	255	580	845	1070	1320	1820	2671	3447	4572
Section / area	[mm <sup>2</sup> ]	241	551	804	1020	1257	1735	2581	3331	4418
Poids / weight	[kg/m]	1,96	4,48	6,53	8,27	10,21	14,10	20,95	27,10	35,90

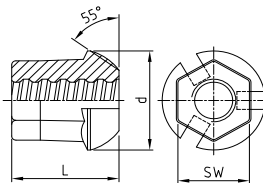
<sup>1)</sup> Allongement à la rupture sur 10 fois le diamètre de la barre / ultimate elongation in a gauge length to 10 bar diameters

### SAS SYSTEMS

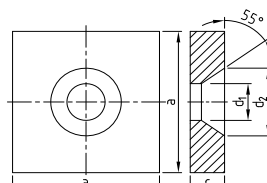
**Ecrou sphérique**  
*dome nut*



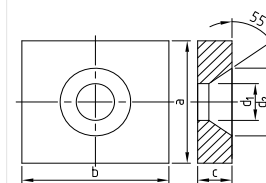
**Ecrou sphérique avec rainures d'injection**  
*domed nut with grout slots*



**Plaque carrée**  
*anchor plate square*



**Plaque rectangulaire**  
*anchor plate rectangular*

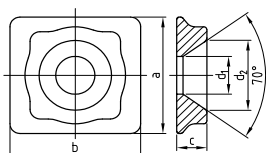


$\emptyset$  [mm]    SW x L x d [mm]    [kg]    SW x L x d [mm]    [kg]    a x c x d<sub>1</sub> x d<sub>2</sub> [mm]    [kg]    a x b x c x d<sub>1</sub> x d<sub>2</sub> [mm]    [kg]

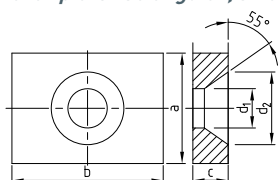
	WR 2001		WR 2099		WR 2011		WR 2012	
<b>18</b>	36 x 55 x 50	0,40	36 x 55 x 50	0,40	110 x 30 x 28 x 45	2,66	100 x 130 x 30 x 28 x 45	2,39
<b>26,5</b>	50 x 75 x 72	1,09	50 x 75 x 72	1,02	150 x 35 x 39 x 72	5,61	130 x 150 x 35 x 39 x 72	4,50
<b>32</b>	60 x 90 x 80	1,70	60 x 90 x 80	1,65	180 x 40 x 45 x 82	9,33	140 x 180 x 40 x 45 x 82	7,07
<b>36</b>	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
<b>40</b>	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
<b>47</b>	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
<b>57</b>	-	-	-	-	-	-	-	-
<b>65</b>	-	-	-	-	-	-	-	-
<b>75</b>	-	-	-	-	-	-	-	-

### SAS SYSTEMS

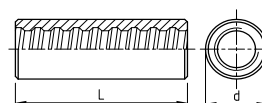
**Plaque QR**  
*QR plate*



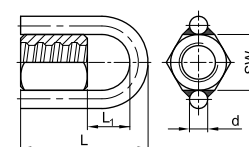
**Plaque rectangulaire, petite**  
*anchor plate rectangular, small*



**Manchon standard**  
*coupler standard*



**Ecrou à bague**  
*(charge maximum d'utilisation 60 kN)*  
*ring nut*  
*(working load of ring max. 60 kN)*



$\emptyset$  [mm]    a x b x c x d<sub>1</sub> x d<sub>2</sub> [mm]    [kg]    a x b x c x d<sub>1</sub> x d<sub>2</sub> [mm]    [kg]    d x L [mm]    [kg]    SW x L x L<sub>1</sub> [mm]    [kg]

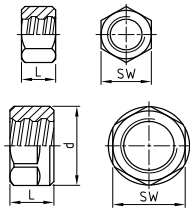
	WR 2074		WR 2076		WR 3003		WR 2927	
<b>18</b>	-	-	80 x 90 x 25 x 28 x 45	1,25	36 x 100	0,56	41 x 135 x 59	0,99
<b>26,5</b>	130 x 120 x 30 x 39 x 72	2,00	120 x 130 x 30 x 39 x 72	3,15	50 x 170	1,73	46 x 165 x 69	1,28
<b>32</b>	165 x 140 x 35 x 45 x 82	3,30	140 x 165 x 35 x 45 x 82	5,57	60 x 200	2,91	55 x 190 x 84	1,81
<b>36</b>	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	60 x 219 x 89	2,78
<b>40</b>	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 244 x 104	3,87
<b>47</b>	-	-	210 x 235 x 55 x 64 x 110	19,20	83 x 270	9,44	80 x 274 x 114	5,10
<b>57</b>	-	-	-	-	95 x 240	7,75	-	-
<b>65</b>	-	-	-	-	105 x 260	10,49	-	-
<b>75</b>	-	-	-	-	114 x 290	12,14	-	-

# Accessoires

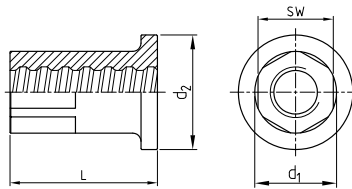
## accessories

### SAS SYSTEMS

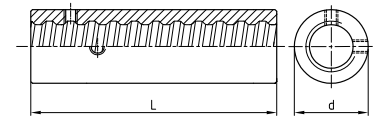
**Contre écrou**  
*fix nut*



**Écrou de mise en tension**  
*stressing anchorage*



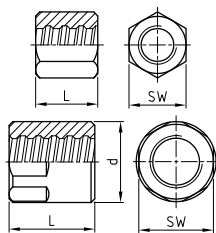
**Manchon de mise en tension**  
*stressing coupler*



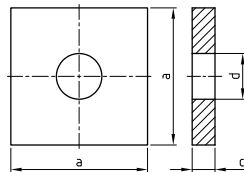
$\emptyset$ [mm]	d x L [mm]	[kg]	SW x L x d <sub>1</sub> x d <sub>2</sub> [mm]	[kg]	d <sub>1</sub> x L [mm]	[kg]
	WR 5005		WR 8002		WR 8003	
18	30 x 22	0,08	41 x 70 x 45 x 65	0,82	45 x 100	1,00
26,5	36 x 22	0,08	46 x 90 x 50 x 70	1,15	45 x 150	1,17
32	41 x 22	0,09	50 x 110 x 56 x 70	1,31	53 x 180	1,88
36	46 x 25	0,12	55 x 120 x 60 x 80	1,80	58 x 200	2,43
40	50 x 25	0,13	55 x 130 x 65 x 80	1,91	65 x 220	3,44
47	60 x 30	0,22	65 x 140 x 75 x 90	2,83	75 x 240	4,87
57	85 x 40 x 90	0,99	90 x 160 x 100 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	15,47

### SAS SYSTEMS

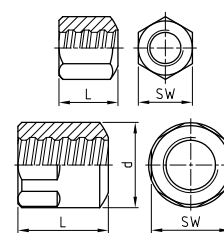
**Écrou droit**  
*anchor nut flat*



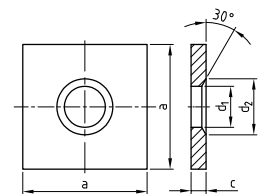
**Plaque**  
*anchor plate flat*



**Écrou sphérique, usiné 30°**  
*bull nose nut, machined 30°*



**Plaque chanfreinée, 30°**  
*anchor plate cone, 30°*



$\emptyset$ [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 <sub>1</sub> x d <sub>2</sub> [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	0,54	120 x 20 x 25 x 35	2,18
26,5	46 x 80	0,73	150 x 35 x 32	5,90	46 x 80	0,71	150 x 35 x 32 x 45	5,95
32	55 x 90	1,17	180 x 40 x 38	9,82	55 x 90	1,20	180 x 40 x 38 x 50	9,81
36	60 x 110	1,63	200 x 45 x 45	13,57	60 x 110	1,75	200 x 45 x 45 x 60	13,55
40	70 x 120	2,56	220 x 45 x 50	16,40	70 x 120	2,20	220 x 45 x 50 x 70	16,36
47	80 x 140	3,65	240 x 55 x 58	23,73	80 x 140	4,00	240 x 55 x 58 x 80	23,50
57	90 x 120 x 95	3,72	285 x 65 x 70	39,48	90 x 120 x 95	3,95	285 x 65 x 70 x 90	39,30
65	100 x 130 x 105	4,75	325 x 70 x 78	55,42	100 x 130 x 105	4,90	325 x 70 x 78 x 110	55,50
75	105 x 145 x 114	5,68	370 x 80 x 88	82,15	105 x 145 x 114	5,51	370 x 80 x 88 x 120	82,00

Les Egratz, France



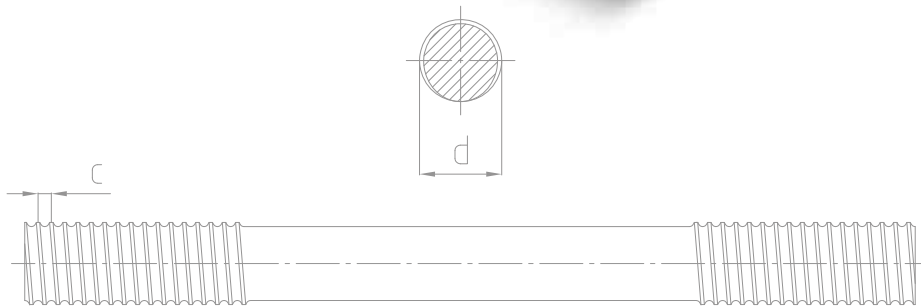
St Gratien, France



# Barre lisse SAS

*SAS smooth bar*

SAS 950 / 1050 Ø 32, 36 mm lisse / *smooth*



**Barre de précontrainte SAS**  
ronde, lisse avec filetage roulé

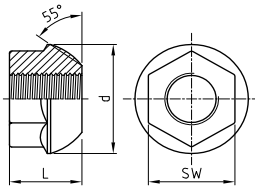
**SAS stress bar**  
round, smooth with rolled on thread

d	[mm]	32	36
Pas / pitch (c)	[mm]	3	3
Contrainte élastique / rupture / allongement yield / failure stress / elongation $f_{p0,1k}/f_{pk}/A_{10}^{11}$		950 N/mm <sup>2</sup> / 1050 N/mm <sup>2</sup> / ≥ 7 %	
Limite élastique / yield load ( $F_{yk} = F_{0,1k}$ )	[kN]	760	960
Rupture ( $F_{pk}$ ) / ultimate load	[kN]	845	1070
Section / area	[mm <sup>2</sup> ]	804	1018
Poids / weight	[kg/m]	6,31	7,99

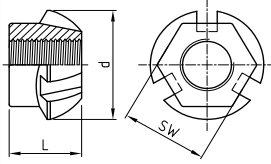
<sup>11</sup> Allongement à la rupture sur 10 fois le diamètre de la barre / *ultimate elongation in a gauge length to 10 bar diameters*

### SAS SYSTEMS

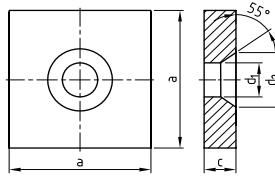
**Ecrou sphérique**  
*dome nut*



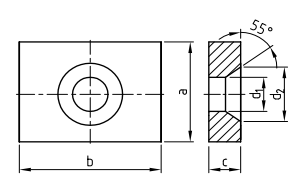
**Ecrou sphérique avec rainures d'injection**  
*domed nut with grout slots*



**Plaque carrée**  
*anchor plate square*



**Plaque rectangulaire**  
*anchor plate rectangular*



$\emptyset$  [mm]    SW x L x d [mm]    [kg]    SW x L x d [mm]    [kg]    a x c x d<sub>1</sub> x d<sub>2</sub> [mm]    [kg]    a x b x c x d<sub>1</sub> x d<sub>2</sub> [mm]    [kg]

WS 2001

WS 2099

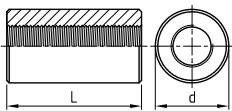
WS 2011

WS 2012

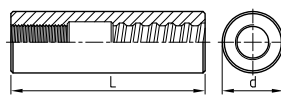
32	55 x 46 x 72	0,78	55 x 46 x 72	0,74	180 x 40 x 45 x 72	9,50	140 x 180 x 40 x 45 x 72	7,24
36	65 x 60 x 90	1,55	65 x 60 x 90	1,41	200 x 45 x 49 x 92	12,95	150 x 220 x 50 x 49 x 92	11,70

### SAS SYSTEMS

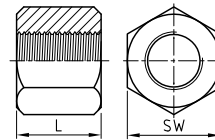
**Manchon standard**  
*coupler standard*



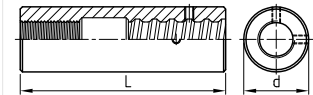
**Manchon de liaison**  
*transition coupler*



**Ecrou droit**  
*anchor nut flat*



**Manchon de mise en tension pour WS**  
*stressing coupler for WS*



$\emptyset$  [mm]    d x L [mm]    [kg]    d x L [mm]    [kg]    SW x L [mm]    [kg]    d x L [mm]    [kg]

WS 3003

WS 3004

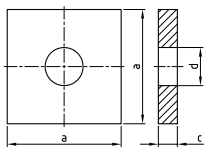
WS 2002

WS 8004

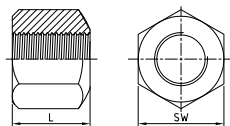
32	60 x 110	1,74	60 x 200	2,94	55 x 50	0,79	60 x 190	2,79
36	68 x 160	3,25	68 x 235	4,47	60 x 65	0,96	65 x 230	3,80

### SAS SYSTEMS

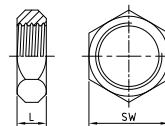
**Plaque**  
*anchor plate flat*



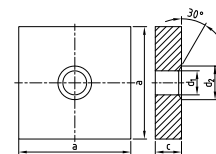
**Ecrou sphérique usiné, 30°**  
*bull nose machined, 30°*



**Contre écrou**  
*fix nut*



**Plaque chanfreinée, 30°**  
*anchor plate, 30°*



$\emptyset$  [mm]    a x c x d [mm]    [kg]    d x L [mm]    [kg]    SW x L [mm]    [kg]    a x c x d<sub>1</sub> x d<sub>2</sub> [mm]    [kg]

WS 2139

WS 2963

WS 5005

WS 1928

32	180 x 40 x 38	9,82	55 x 50	0,68	41 x 15	0,08	180 x 40 x 38 x 50	9,81
36	200 x 45 x 45	13,57	60 x 65	1,03	46 x 15	0,09	200 x 45 x 45 x 60	13,55

Contrainte Élastique / Rupture  
*yield stress / ultimate stress*  
 Applications / areas of application

Ø Nom.  
*nom. - Ø*



Limite élastique  
*yield load*

Limite de rupture  
*ultimate load*


Section  
*cross section area*


Poids  
*weight*




Allongement  
*elongation*



	[mm]	[kN]	[kN]	[mm²]	[m/to]	[kg/m]	A <sub>gt</sub> [%]	A <sub>10</sub> [%]
<b>SAS 500 / 550</b>								
 Système d'armature / <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		
 Geotechnique / <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	11,4		
	50	980	1080	1960	64,9	15,40		
	SAS 555 / 700	57,5	1441	1818	2597	49,1	20,38	5
SAS 555 / 700	63,5	1760	2215	3167	40,2	24,86	5	
SAS 500 / 550	75	2209	2430	4418	28,8	34,68	5	

*Solution alternative SAS 550 sur demande / alternative SAS 550 on request*


<b>SAS 450 / 700</b>								
 Mines / <i>mining</i>	16	93	145	207	617,3	1,62		(A <sub>5</sub> ) 15
	25	220	345	491	259,7	3,85		(A <sub>5</sub> ) 20


<b>SAS 650 / 800</b>								
 Mines / <i>mining</i>	22	247	304	380	335,6	2,98		(A <sub>5</sub> ) 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		

<b>SAS 670 / 800</b>								
 Geotechnique / <i>geotechnical systems</i>	18	170	204	254	500,0	2,00		5
	22	255	304	380	335,6	2,98		
	25	329	393	491	259,7	3,85		
	28	413	493	616	207,0	4,83		
 Tunnels & mines / <i>tunneling &amp; mining</i>	30	474	565	707	180,2	5,55		10
	35	645	770	962	132,5	7,55		
	43	973	1162	1452	87,7	11,40		
 Armatures Hautes Résistance / <i>high-strength reinforcement</i>	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		

<b>SAS 950 / 1050</b>								
 Précontrainte / <i>post-tensioning systems</i>	18	230	255	241	510,2	1,96		5
	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		
 Geotechnique / <i>geotechnical systems</i>	40	1190	1320	1257	97,9	10,21		7
	47	1650	1820	1735	70,9	14,10		

<b>SAS 835 / 1035</b>								
 Geotechnique / <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		

<b>SAS 900 / 1100 FA</b> soudable / weldable								
 Tiges de coffrage / <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		

<b>SAS 900 / 1050 FC</b>								
 Tiges de coffrage / <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	26,5	525	580	551	223,2		

<b>SAS 750 / 875 FS - roulé à froid / cold rolled</b> soudable / weldable								
 Tige de coffrage / <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		

accessoires disponibles pour toutes dimensions et toutes applications / accessories for all dimensions and applications available

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