

## Description

SBS A 300 is an austenitic corrosion resistant stainless, chromium-nickel-molybdenum steel with Ti-stabilization. This steel grade is characterized by:

- Good resistance against general corrosion.
- High resistance against intergranular corrosion.
- Good weldability.

### Chemical composition (Typical) %

C	Si	Mn	Cr	Ni	Mo	Ti
0.06	0.5	1.7	17.0	12.0	2.2	≥ 5 x% C

### Standards and specifications for seamless pipes and tubes

DIN	ASTM	ASME	GOST
DIN 17456, 17458 W.Nr. 1.4571/X6 CrNiMoTi 17 12 2	~316 Ti ~UNS S 31635	~316 Ti ~UNS S 31635	~10Ch17N13M2T

### Heat treatment

Solution annealing: 1050-1100°C/water, air (up to 2 mm thickness)  
Structure as solution annealed: austenite

### Surface condition

For optimum corrosion resistance: pickled, heat treated free from scale or machined.

### Welding

Weldability is good.  
Argon arc process for thickness from 0.7 to 4 mm, electric arc process for thickness from 1.5 mm upwards.  
No post-weld heat treatment is required.

### Filler metals

Electric arc welding: Böhler Fox SAS4  
Böhler Fox SAS4-A  
TIG-welding: Böhler SAS4 IG  
MAG-welding: Böhler SAS4IG (Si)  
Sub arc welding: Böhler SAS4 UP  
flux BB202

### Applications

SBS A 300 is successfully used for corrosion resistant components, e.g. in the chemical industry, for pulp and paper production, synthetic resin processing plant and oil and natural gas production.

### Mechanical properties at room temperature

condition	hardness <sup>1)</sup> HB	0.2 % yield strength N/mm <sup>2</sup> min.	1 % yield strength N/mm <sup>2</sup> min	tensile strength N/mm <sup>2</sup>	elongation (Lo=5d0) % min.	impact <sup>2)</sup> strength J min.
solution annealed	120-190	190	225	490-690	35	85 <sup>3)</sup>
	120-190	210	245	500-730	35	85 <sup>4)</sup>
	120-190	205		min. 515	35	85 <sup>5)</sup>

### Mechanical properties at elevated temperatures

Temperature °C	100	200	300	400	500	550
0.2 % yield strength N/mm <sup>2</sup> , min.	166	137	118	108	110	98 <sup>3)</sup>
	185	165	145	135	129	127 <sup>4)</sup>
1 % yield strength N/mm <sup>2</sup> , min.	199	167	145	135	128	127 <sup>3)</sup>
	220	192	175	164	158	157 <sup>4)</sup>

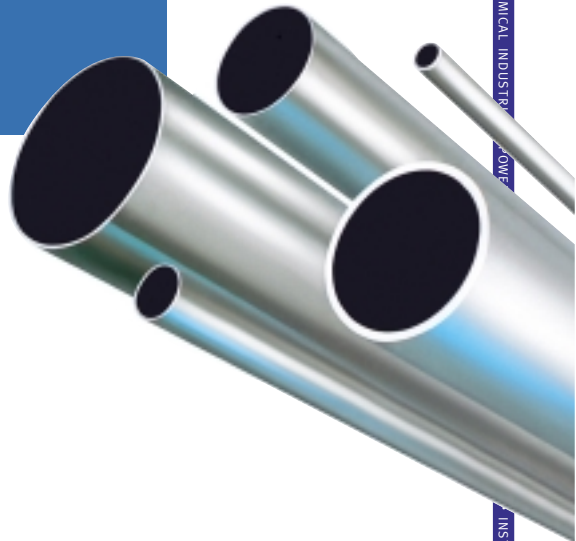
<sup>1)</sup> not valid for inspection purposes <sup>2)</sup> Charpy-V-notch, longitudinal <sup>3)</sup> for W.Nr. 1.4571 hot formed tubes

<sup>4)</sup> for W.Nr. 1.4571 cold formed tubes <sup>5)</sup> for ASTM

### Physical properties

Density at 20°C	7.95	g/cm <sup>3</sup>
Modulus of elasticity at 20°C	200.000	N/mm <sup>2</sup>
Thermal conductivity at 20°C	15.0	W/(m.K)
Specific heat at 20°C	0.5	J/(g.K)
Electric resistivity at 20°C	0.75	Ohm.mm <sup>2</sup> /m
Magnetic properties	non magnetic	
Thermal expansion between:	20 - 100°C	16.5
	20 - 200°C	17.5
	20 - 300°C	18
	20 - 400°C	18.5
	20 - 500°C	19

# Stainless Steel SBS A 300



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NAHTLOS ZUM ERFOLG

This leaflet contains various data which are typical of average values and are given for the purpose of illustration only. They are not intended as warranties.



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