BAND-IT® Metals Data

All values in table are reference only.

Material	201 Stainless Steel	201 1/4 Hard	202 Stainless Steel	301 Stainless Steel	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	317L 1/4 Hard Stainless Steel	321 Stainless Steel	200/300 Series Stainless Steel	Alloy 400	Alloy 625	Titanium GR1
Specification													
UNS Designation	S20100	S20100	S20200	S30100	S30200	S30400	S31600	S31703	S32100	---	N04400	N06625	R50250
ASTM	A 666	A 666	A 666	A 666	A 666	A 666	A 666	A 240	A 240	---	B 127	B 443	B 265
Principal Alloying Elements, %													
Carbon (C)	.015 Max	.015 Max	.015 Max	.15 Max	.15 Max	.08 Max	.08 Max	.03 Max	.08 Max	---	.3 Max	.10 Max	.08 Max
Manganese (Mn)	5.50-7.50	5.50-7.50	7.5-10.0	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max	---	2.0 Max	.50 Max	---
Phosphorus (P)	.06 Max	.06 Max	.06 Max	.045 Max	.045 Max	.045 Max	.045 Max	.045 Max	.045 Max	---	---	.015 Max	---
Sulfur (S)	.03 Max	.03 Max	.03 Max	.030 Max	.030 Max	.030 Max	.030 Max	.030 Max	.030 Max	---	0.024 Max	.015 Max	---
Silicon (Si)	.75 Max	.75 Max	.75 Max	1.00 Max	.75 Max	.75 Max	.75 Max	.75 Max	.75 Max	---	0.5 Max	50 Max	---
Chromium (Cr)	16.0-18.0	16.0-18.0	17.0-19.0	16.0-18.0	17.0-19.0	18.0-20.0	16.0-18.0	18.0-20.0	17.0-19.0	---	---	20.0-23.0	---
Nickel (Ni)	3.50-5.50	3.50-5.50	4.0-6.0	6.0-8.0	8.0-10.0	8.0-10.15	10.0-14.0	11.0-15.0	9.0-12.0	---	63.0 Min	58.0 Min	---
Nitrogen (N)	.25 Max	.25 Max	.25 Max	.10 Max	---	.10 Max	---	.10 Max	.10 Max	---	---	---	.03 Max
Oxygen (O)	---	---	---	---	---	---	---	---	---	---	---	---	.18 Max
Hydrogen (H)	---	---	---	---	---	---	---	---	---	---	---	---	.015 Max
Molybdenum (Mo)	---	---	---	---	---	---	2.0-3.0	3.0-4.0	---	---	---	8.0-10.0	---
Copper (Cu)	---	---	---	---	---	---	---	---	---	---	28.0-34.0	---	---
Iron (Fe)	---	---	---	---	---	---	---	---	---	---	2.5 Max	5.0 Max	.20 Max
Titanium (Ti)	---	---	---	---	---	---	---	---	---	---	---	0.40 Max	Balance
Zinc (Zn)	---	---	---	---	---	---	---	---	---	---	---	0.40 Max	Balance
Aluminium (Al)	---	---	---	---	---	---	---	---	---	---	---	---	---
Physical Properties													
Density (g/cm³)	7.94	7.94	7.94	8.03	8.03	8.03	8.03	8.03	7.92	7.94	8.83	8.44	4.51
Structure	Austenitic	Austenitic	Austenitic	Austenitic	Austenitic	Austenitic	Austenitic	Austenitic	---	Austenitic	---	---	Alpha
Melting Range (°C)	1399-1454	1399-1454	1399-1454	1399-1421	1399-1421	1399-1421	1393-1443	1393-1443	1399-1446	1399-1454	1299-1349	1371-1399	1371-1399
Electrical Properties	Non-Magnetic	Non-Magnetic	Non-Magnetic	Non-Magnetic	Non-Magnetic	Non-Magnetic	Non-Magnetic	Non-Magnetic	Non-Magnetic	Non-Magnetic	Slightly Magnetic	Non-Magnetic	Non-Magnetic
Mechanical Properties													
Rockwell Hardness	100 Rb Max	---	100 Rb Max	95 Rb Max	92 Rb Max	92 Rb Max	95 Rb Max	95 Rb Max	95 Rb Min	70-95 Rb	68 Rb Max	88-94 Rb	64-70 Rb
Ultimate Tensile Strength (MPa)	655.0	861.8	620.5	517.1	517.1	517.1	517.1	792.9	517.1	517.1	482.6	827.4	241.3
Yield Strength (MPa)	310.3	517.1	262.0	206.8	206.8	206.8	275.8	517.1	206.8	206.8	193.1	413.7	137.9
% Elongation at 50.8 mm, Min	40	25	40	40	40	40	35	10	40	30	35	30	24
Corrosion Resistance													
Mild Atmospheric and Fresh Water	Good	Good	Good	Good	Very Good	Very Good	Excellent	Excellent	Excellent	Good	Good	Good	Good
Industrial Atmosphere	Good	Good	Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Good	Good	Good
Marine Atmosphere	Fair	Fair	Fair	Fair	Good	Good	Very Good	Very Good	Very Good	Fair	Excellent	Excellent	Good
Salt Water	No	No	No	No	No	No	Good	Good	Good	No	Excellent	Excellent	Good
Mild Chemical	Fair	Fair	Fair	Fair	Good	Good	Good	Very Good	Good	Fair	Good	Good	Good
Oxidizing Chemical	Fair	Fair	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good	Excellent
Reducing Chemical	No	No	No	No	No	No	Good	Good	Good	No	Good	Good	Fair

Metric values rounded: density to 0.01 g/cm³; strength to 0.1 MPa; temperature to 1 °C.

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BAND-IT® Metals Data

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Material	Titanium GR2	Galvanized Carbon Steel	403 Stainless Steel	Carbon Steel (Magnus)	AL2003	Aluminum 3003	Alloy 27-7	Alloy AL6XN®	Alloy C276	Alloy 2507	UNS S32760	Alloy 2205	Alloy 718	409 Stainless Steel	430 Stainless Steel
Specification															
UNS Designation	R50400	---	S40300	---	S32003	A93003	S31277	N08367	N10276	S32750	S32760	S32205	N07718	S40900	S43000
ASTM	B 265	A 105, A 695	A 176	---	A 240	B 209	A 240	B 688	B 462	A 240	A 240	A 240	B 637	A-240	A-240
Principal Alloying Elements, %															
Carbon (C)	.08 Max	.35 Max	.15 Max	---	.03 Max	---	.5-1.5	.03 Max	.01 Max	.03 Max	.03 Max	.03 Max	.08 Max	.03 Max	0.12 Max
Manganese (Mn)	---	.6-1.05	1.0 Max	---	2.0 Max	1.0-1.5	3.0 Max	---	1.0 Max	1.2 Max	1.0 Max	2.0 Max	.35 Max	1.0 Max	1.00 Max
Phosphorus (P)	---	.04 Max	.04 Max	---	.03 Max	---	.03 Max	.04 Max	.04 Max	0.035 Max	0.03 Max	0.03 Max	.015 Max	0.04 Max	.04 Max
Sulfur (S)	---	.05 Max	.03 Max	---	.02 Max	---	.01 Max	.03 Max	.03 Max	0.02 Max	0.01 Max	0.02 Max	.015 Max	0.02 Max	.03 Max
Silicon (Si)	---	.10-.35	.50 Max	---	1.0 Max	.60 Max	.50 Max	1.0 Max	.08 Max	.80 Max	1.00 Max	1.00 Max	.35 Max	1.00 Max	1.00 Max
Chromium (Cr)	---	---	11.5-13.0	---	19.5-22.5	---	20.5-23.0	20.0-22.0	14.5-16.5	24.0-26.0	24.0-26.0	22.0-23.0	17.0-21.0	10.50-11.75	16.0-18.0
Nickel (Ni)	---	---	.60 Max	---	3.0-4.0	---	26.0-28.0	23.5-25.5	Balance	6.0-8.0	6.0-8.0	4.5-6.5	50.0-55.0	0.5 Max	.75 Max
Nitrogen (N)	.03 Max	---	---	---	.14-.20	---	.3-.4	.18-.25	---	.24-.32	.20-.30	.14-.20	---	---	---
Oxygen (O)	0.25 Max	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hydrogen (H)	.015 Max	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Molybdenum (Mo)	---	---	---	---	1.5-2.0	---	---	6.0-7.0	15.0-17.0	3.0-4.0	3.0-4.0	3.0-3.5	2.8-3.3	---	---
Copper (Cu)	---	---	---	---	---	.20 Max	---	.75 Max	---	---	---	---	---	---	---
Iron (Fe)	.30 Max	---	---	---	Balance	.70 Max	Balance	---	4.0-7.0	---	---	---	Balance	---	---
Titanium (Ti)	Balance	---	---	---	---	---	---	---	---	---	---	---	.65-1.15	---	---
Zinc (Zn)	Balance	---	---	---	---	.10 Max	---	---	---	---	---	---	---	---	---
Aluminium (Al)	---	---	---	---	---	Balance	---	---	---	---	---	---	.2-.8	---	---
Physical Properties															
Density (g/cm³)	4.51	7.83	7.81	---	7.72	2.74	8.03	8.05	8.89	7.81	7.70	7.81	8.19	7.81	7.81
Structure	Alpha	Ferritic	Martensitic	Ferritic	Duplex	---	Austenitic	Austenitic	Duplex	Duplex	Duplex	Duplex	Duplex	Ferritic	Ferritic
Melting Range (°C)	1371-1399	---	1493	---	---	643	---	1371-1399	---	---	---	---	1204-1343	1371-1399	1371-1399
Electrical Properties	Non-Magnetic	Magnetic	Ferro-magnetic	Magnetic	Ferro-magnetic	---	---	---	---	---	---	---	---	---	Magnetic
Mechanical Properties															
Rockwell Hardness	64-70 Rb	80-95 Rb	96 Rb Max	---	31 Rc Max	40 Brinell	90 Rb Typ	100 Rb Max	---	32 Rc Max	290 HB max	31 Rc max	109 Rb Min	88 Rb Max	89 Rb Max
Ultimate Tensile Strength (MPa)	344.7	579.2	482.6	1051.5	689.5	151.7	772.2	689.5	689.5	799.8	744.6	655.0	1275.5	379.2	448.2
Yield Strength (MPa)	275.8	551.6	206.8	---	482.6	144.8	358.5	310.3	282.7	551.6	551.6	448.2	1034.2	172.4	206.8
% Elongation at 50.8 mm, Min	20	5	25	---	25	8	40	30	40	15	25	25	12	20	22
Corrosion Resistance															
Mild Atmospheric and Fresh Water	Good	Good/Fair	Good	Fair/Poor	Excellent	---	Very Good	Good	Very Good	Very Good	Very Good	Excellent	Good	Good	Good
Industrial Atmosphere	Good	Fair	Good	Fair	Very Good	Good	Excellent	Good	Excellent	Very Good	Very Good	Very Good	Good	Good	Good
Marine Atmosphere	Good	Poor	Poor	Poor	Very Good	Good	Excellent	Excellent	Excellent	Very Good	Very Good	Very Good	Excellent	Poor	Poor
Salt Water	Good	No	No	No	Good	---	Excellent	Excellent	Excellent	Very Good	Very Good	Very Good	Excellent	No	No
Mild Chemical	Good	No	Fair	No	Good	---	Good	Good	Good	Good	Good	Good	Good	Fair	Fair
Oxidizing Chemical	Excellent	No	Fair	No	Good	---	Good	Good	Good	Good	Good	Good	Good	Fair	Fair
Reducing Chemical	Fair	No	Fair	No	Good	---	Good	Good	Good	Good	Good	Good	Good	Fair	Fair

Metric values rounded: density to 0.01 g/cm³; strength to 0.1 MPa; temperature to 1 °C.

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