



HSM Wire International, Inc

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Alloy 302 Stainless Steel

Description: Alloy 302 austenitic stainless steel provide useful resistance to corrosion on a wide range of moderately oxidizing to moderately reducing environments.

Applications: This alloy is considered for a variety of applications with equipment and utensils for processing and handling of food, beverages and dairy products. Heat exchangers, piping, tanks and other process equipment in contact with fresh water use these alloys.

Nominal Composition:	Fe	Mn	Si	Cr	Ni
	68 - 75	2.00	1.000	17 - 19	8 - 10

Electrical Properties

Specific Resistance (Ω-CM/F)	Specific Resistivity (μΩ-cm ² /cm)	Commercial Resistance Tolerance (0.020 and below)	Temperature Coefficient of Resistance (ohms/ohm/Deg. C {0 to 100°C})	Thermal EMF vs Copper
420.00	69.82	0	0.00085	-0.014

Minimum Mechanical Properties

Ultimate Tensile Strength ksi (MPa)	Yield Strength .2% offset ksi (MPa)	Elongation in 2 in. (%)	Hardness Maximum
75,000 (515)	30,000 (205)	40	201 Brinell / 92 R _B

Typical Physical Properties at Room Temperature

Density	8.03 g/cu cm.	0.29 lb/cu in.
Modulus of elasticity in tension	29 x 10 psi	200 GPa
Melting Point	1399°C	2550°F

Coefficient of Linear Thermal Expansion

Temp. Range		10 / °F (10 / °C)
°F	°C	
68 - 212	20 - 100	9.2 (16.6)
68 - 1600	20 - 870	11.0 (19.8)

Thermal Conductivity

Temp. Range		W/m·K	Btu/hr·ft ² ·°F
°F	°C		
212	100	16.3	9.4
932	500	21.4	12.4

Specific Heat

32 - 212°F	0 - 100°C	0.12 Btu/lb·°F	500 Jkg·K
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Electrical Resistivity

20°C	68°F	72 Microhm-cm	28.3 Microhm-in
100°C	212°F	78 Microhm-cm	30.7 Microhm-in
200°C	392°F	86 Microhm-cm	33.8 Microhm-in
400°C	752°F	100 Microhm-cm	39.4 Microhm-in



*To be used as a guideline only.

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