

HM Wire International, Inc.

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Alloy 347 Stainless Steel

Description: Alloy 347 is a stabilized stainless steel alloy which offers as its main advantage an excellent resistance to intergranular corrosion following exposure to temperatures in the chromium carbide precipitation range from 800 - 1600°F.

Applications: High Temperature chemical process, heat exchanger tubes, refineries and high temperature steam service.

Nominal Composition:	C	Mn	P	S	Si	Cr	Ni
	0.08	2.00	0.045	0.03	0.75	17 - 19	9 - 13
	Cb + Ta		Fe				
	10xC min to 1.00 max		Balance				

Physical Properties of 347 Alloys in Annealed Condition at -20°F to +100°F

Tensile Strength		Yield Strength		Elongation in 2 in. (%)	Modulus of Elasticity (x10 ⁶ psi)	Coefficient of Thermal Expansion (in./in./°F x 10 ⁻⁶)
psi	MPa	psi	MPa			
75,000	515	30,000	205	35	29	9.2
Density		7.96 g/cu cm.		0.288 lb/cu in.		

Minimum Room Temperature Mechanical Properties

Hardness, Maximum

Plate	Sheet	Strip
201 Brinell	92 Rb	92 Rb

Typical Elevated Temperature Tensile Properties (0.060in / 1.54mm thick)

Test Temperature		Yield Strength .2% offset psi (MPa)	Ultimate Tensile Strength psi (MPa)	% Elongation in 2 in.
°F	°C			
68	20	36,500 (250)	93,250 (640)	45.0
400	204	36,600 (250)	73,570 (505)	36.0
800	427	29,680 (205)	69,500 (475)	30.0
1000	538	27,400 (190)	63,510 (435)	27.0
1200	649	24,475 (165)	52,300 (360)	26.0
1350	732	22,800 (155)	39,280 (270)	40.0
1500	816	18,600 (125)	26,400 (180)	50.0

*To be used as a guideline only.

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