



800-722-5029
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310 & 310S Stainless Steel

DESCRIPTION

Types 310 Stainless Steel and 310S are typically used for elevated temperature applications. Their high nickel and chromium contents impart excellent elevated temperature strength and resistance to oxidation compared to Type 304 SS. Type 310S Stainless Steel is identical to Type 310 except for a lower carbon content that minimizes carbide precipitation and improves weldability. They are essentially nonmagnetic as annealed and become lightly magnetic when cold worked.

PRODUCT FORMS

Sheet, Strip

SPECIFICATIONS

ASTM A 167 and ASTM A240

TYPICAL APPLICATIONS

Furnace parts, heating elements, heat exchangers, kiln liners, boiler baffles, auto exhaust parts; refinery, chemical and food processing equipment



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CHEMICAL COMPOSITION: (ASTM A167, A240)

Element	Type 310	Type 310S
Carbon	0.25 max.	0.08 max.
Manganese	2.00 max.	2.00 max.
Sulfur	0.030 max.	0.030 max.
Phosphorus	0.045 max.	0.045 max.
Silicon	1.50 max.	1.50 max.
Chromium	24.0 - 26.0	24.0 - 26.0
Nickel	19.0 - 22.0	19.0 - 22.0

MECHANICAL PROPERTIES: (ASTM A167, A240)

Type	Yield Strength 0.2% offset (KSI)	Tensile Strength (KSI)	% Elongation (2" Gauge Length)
310	30 min.	75 min.	40 min.
310S	30 min.	75 min.	40 min,



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PHYSICAL PROPERTIES

Density (lb./in ³) @ RT		0.29
Modulus of Elasticity in Tension (psi x 10 ⁶)		29.0
Specific Heat (BTU/o F/lb.)	32 to 212 oF	0.12
Thermal Conductivity (BTU/hr/ft ² /ft)	212 oF	8.0
	932 oF	10.8
Mean Coefficient of Thermal Expansion (in. x 10 ⁻⁶ per o F)	68 to 212 oF	8.8
	68 to 932 oF	9.5
	68 to 1,832 oF	10.5
Electrical Resistivity (micro ohms - cm)	68 to 1832 oF	10.5
Melting Point Range (oF)	at 70 oF	30.7
Oxidation Resistance - Continuous Service (oF)		2000