



800-722-5029
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430 Stainless Steel

DESCRIPTION

Type 430 Stainless Steel is a low carbon ferritic stainless steel which, in mildly corrosive environments or atmospheric exposures, has corrosion resistance approaching that of some nickel-bearing stainless steels. This alloy is oxidation resistant at elevated temperatures. Type 430 is ductile, does not work harden readily, and can be formed using a variety of roll forming or mild stretch bending operations as well as the more common drawing and bending processes. Type 430 is ferromagnetic.

PRODUCT FORMS

Sheet, Strip

SPECIFICATIONS

ASTM A240

TYPICAL APPLICATIONS

Sinks, sink rims, appliance trim, counter tops, dish washers, range hoods, flatware, architectural uses, roofing, siding and restaurant equipment.

PROCESSING

Type 430 should be annealed at 1450-1550°F and furnace cooled at a rate of 50°F per hour to 1100°F and air cooled. If the annealing temperature does not exceed 1450°F (790°C), an air cool may be substituted for the furnace cool when annealing thin sections.

FORMING

Type 430 is readily drawn and formed. Its drawing characteristics are similar to those of low-carbon steel, although it is stronger in the annealed condition and will require stronger tooling and increased power.

WELDING

Type 430 is generally considered to be weldable by the common fusion and resistance techniques. Special consideration is required to avoid brittle weld fractures during fabrication. When a weld filler is needed, AWS E/ER 308L and 430 are most often specified. Corrosion: This alloy is resistant to attack in a wide variety of corrosive media including nitric acid, and many organic acids.



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CHEMICAL COMPOSITION

Element	Type 430
Carbon	0.12 max.
Manganese	1.00 max.
Sulfur	0.030 max.
Phosphorus	0.040 max.
Silicon	1.00 max.
Chromium	16.0 - 18.0
Nickel	0.75 max.

MECHANICAL PROPERTIES

Type	Yield Strength 0.2% offset (KSI)	Tensile Strength (KSI)	% Elongation (2" Gauge Length)
430 Ann	30 min.	65 min.	22 min.



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PHYSICAL PROPERTIES

Density (lb./in ³) @ RT		0.278
Modulus of Elasticity in Tension (psi x 10 ⁶)		29.0
Specific Heat (BTU/o F/lb.)	32 to 212 oF	0.11
Thermal Conductivity (BTU/hr/ft ² /ft)	212 oF	13.8
	932 oF	15.0
Mean Coefficient of Thermal Expansion (in. x 10 ⁻⁶ per o F)	32 to 212 oF	5.7
	32 to 932 oF	6.2
Electrical Resistivity (micro ohms - cm)	at 70 oF	60.0
Melting Point Range (oF)		2600 - 2750
Oxidation Resistance - Continuous Service (oF)		1500