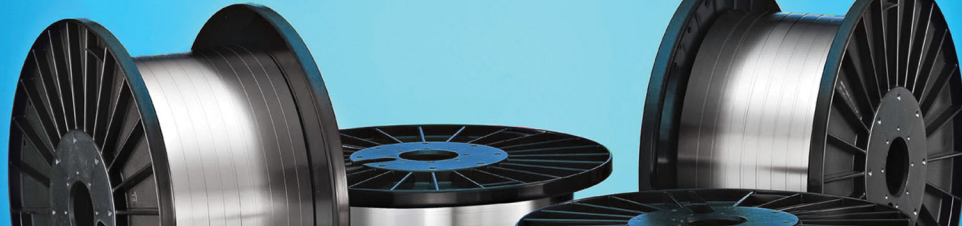




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430 STAINLESS STEEL, UNS S43000

Strip, Coil, Foil, Wire, AMS 5503, ASTM A240

Applications

Architectural, automotive parts, cooking utensils, fasteners, food processing, oil burners parts, television cones, tobacco machinery parts

Description

Type 430 is a chromium ferritic stainless steel with moderate corrosion and heat resistance. It is non-hardenable by heat treatment. Type 430 is magnetic and exhibits good ductility. It can be readily formed into many desired shapes.

Chemistry Typical

Carbon: 0.12 max
Manganese: 1.00 max
Silicon: 1.00 max
Chromium: 16.00-18.00
Nickel: 0.50 max
Molybdenum: 0.50 max
Phosphorus: 0.040 max
Sulfur: 0.030 max
Copper: 0.50 max
Iron: Balance

Physical Properties

Density: 0.28 lbs/in³ 7.74 g/cm³

Electrical Resistivity: microhm-in (microhm-cm):
68 °F (20 °C): 23.68 (60)

Specific Heat: BTU/lb/°F (kJ/kg•K):
32 - 212 °F (0 - 100 °C): 0.11 (0.46)

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Thermal Conductivity: BTU/hr/ft²/ft/°F (W/m•K)

At 212 °F (100 °C): 15.1 (26.1)

At 932 °F (500 °C): 15.2 (26.3)

Mean Coefficient of Thermal Expansion: in/in/°F (µm/m•K):

32 – 212 °F (0 - 100 °C): 5.8×10^{-6} (10.4)

32 – 1000 °F (0 - 538 °C): 6.3×10^{-6} (11.4)

Modulus of Elasticity: ksi (MPa)

29×10^3 (200×10^3) in tension

Magnetic Permeability: Magnetic

Melting Range: 2600 - 2750 °F (1427 - 1510 °C)

Forms

Coil – Strip, Foil, Ribbon

Wire – Profile, Round, Flat, Square

Mechanical Properties at Room Temperature

Properties: Annealed

Ultimate Tensile Strength: 65 KSI min (450 MPa min)

Yield Strength (0.2% offset): 30 KSI min (205 MPa min)

Elongation: 22% min

Hardness: Rb 89 max

Properties: Tempered

Type 430 can be rolled to various tempers. Contact Ulbrich Technical Services if tempered properties are required.

Additional Properties

Corrosion Resistance

Refer to NACE (National Association of Corrosion Engineers) for recommendations.

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Finishes

1 –Hot rolled annealed and descaled. It is available in strip, foil and ribbon. It is used for applications where a smooth decorative finish is not required.

2D – Dull finish produced by cold rolling, annealing and descaling. Used for deep drawn parts and those parts that need to retain lubricants in the forming process.

2B –Smooth finish produced by cold rolling, annealing and descaling. A light cold rolling pass is added after anneal with polished rolls giving it a brighter finish than 2D.

#BA – Bright annealed cold rolled and bright annealed

#CBA – Course bright annealed cold rolled matte finish and bright anneal

#2 – Cold Rolled

2BA – Smooth finish produced by cold rolling and bright annealing. A light pass using highly polished rolls produces a glossy finish. A 2BA finish may be used for lightly formed applications where a glossy finish is desired in the formed part.

Polished – Various grit finish for specific polish finished requirements.

** Not all finishes are available for all alloys – Contact Ulbrich Sales for more information.*

Wire Finishes

XC – Extra clean bright annealed or bright annealed and cold rolled

Grease – Ultra-bright finish (for decorative applications)

Soap – Soap is not removed from tempered wire to act as a lubricant.

** Contact Ulbrich Wire for custom wire finishes.*

Heat Treatment

Type 430 is non-heat treatable.

Welding

For best results refer to: SSINA's "Welding of Stainless Steels and Other Joining Methods".

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