Ulbrich Stainless Steels & Special Metals, Inc. • 153 Washington Avenue • North Haven, CT 06473 USA • 800-243-1676 • ULBRICH.com

NITRONIC 30®, UNS S20400

Strip, Coil, Foil & Wire, ASTM A240, ASTM A666

Applications

Coal handling equipment: screens, chute liners, buckets. Well screens, mixing tanks, hose clamps. Mining equipment

Description

Nitronic 30® is a nitrogen-strengthened austenitic stainless steel developed for applications requiring good aqueous corrosion resistance combined with good resistance to abrasive and metal-to-metal wear. Nitronic 30® has annealed mechanical properties which are well above those of typical austenitic grades such as 304.

Chemistry Typical

Carbon: 0.10 max
Manganese: 7.00-9.00
Silicon: 1.00 max
Chromium: 15.00-17.00
Nickel: 1.50-3.00
Copper: 1.00 max
Nitrogen: 0.15-0.30

Physical Properties

Density: 0.284 lbs/in^3 7.862 g/cm^3

Modulus of Elasticity: ksi (MPa)
28 x 10^3 (193 x 10^3) in tension

Magnetic Permeability: H = 200: Annealed < 1.011

Forms

Nitronic 30® is a registered Trademark of Armco Inc.

Coil – Sheet, Strip, Foil
Wire – Profile, Round, Flat, Square

Mechanical Properties at Room Temperature

Properties: Annealed Typical

Ultimate Tensile Strength: 108 KSI (749 MPa)
Yield Strength: 49 KSI (339 MPa)
Elongation: 56% min
Hardness: RB 89

Properties: Tempered Typical

10% Cold Work
Ultimate Tensile Strength: 124 KSI (856 MPa)
Yield Strength: 78 KSI (539 MPa)
Elongation: 44%
Hardness: Rc 23.5

20% Cold Work
Ultimate Tensile Strength: 150 KSI (1038 MPa)
Yield Strength: 101 KSI (696 MPa)
Elongation: 29%
Hardness: Rc 34.5

30% Cold Work
Ultimate Tensile Strength: 174 KSI (1204 MPa)
Yield Strength: 137 KSI (948 MPa)
Elongation: 20%
Hardness: Rc 39

40% Cold Work
Ultimate Tensile Strength: 204 KSI (1411 MPa)
Yield Strength: 173 KSI (1195 MPa)
Elongation: 8%
Hardness: Rc 44

50% Cold Work
Ultimate Tensile Strength: 204 KSI (1411 MPa)
Yield Strength: 173 KSI (1195 MPa)
Elongation: 8%
Hardness: Rc 44

60% Cold Work
Ultimate Tensile Strength: 214 KSI (1478 MPa)
Yield Strength: 184 KSI (1271 MPa)
Elongation: 6%
Hardness: Rc 45

Properties: Tempered

Nitronic 30® can be cold worked to various temper ranges. Contact Ulbrich Technical Service for additional information.

Additional Properties

Corrosion Resistance

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

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 – Consult Sales for Applicable Finishes.*

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 with special finish requests.*

Heat Treatment

Nitronic 30® is non hardenable by heat treatment.

Welding

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