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Industrial Piping Products

AISI 304 / UNS S30400 / DIN 1.4301

18/8 Chrome-Nickel Austentic Alloy

Alloy 304 Data Sheet

Introduction

Alloy 304 is chrome-nickel austenitic alloy, it is also known as 18/8 grade which states 18% chromium & 8% nickel . It can be deep drawn resulted it being the superior grade. It have also exhibited good strength and toughness when exposed to cryogenic conditions. It has excellent forming and welding characteristics.

Chemical Composition (Typical)

Element	Limits	
	min	max
Carbon	0.000	0.080
Manganese	0.000	2.000
Phosphorus	0.000	0.045
Sulphur	0.000	0.300
Silicon	0.000	0.750
Chromium	18.000	20.000
Nickel	8.000	12.000
Nitrogen	0.000	0.100
Iron	Remainder	

Mechanical Properties (typical)

Parameter	Value
Yield 0.2 % (ksi/Mpa), Min	205
Tensile (ksi/Mpa), Min	515
Elongation (% in 50mm), Min	40
Reduction in Area, %	50
Hardness (HB), Max	201

Physical Properties

Parameter	Value
Density (Kg/m^3)	7900
Elastic Modulus (Gpa)	193
Co-eff of Expansion (µm/m/°C)	16.9
Thermal Condc. (W/m.K)	16.3
Electric Resistivity (nΩ.m)	720

Corrosion Data

Excellent in a wide range of atmospheric environments and many corrosive media. Subject to pitting and crevice corrosion in warm chloride environments, and to stress corrosion cracking above about 60°C. Considered resistant to potable water with up to about 200mg/L chlorides at ambient temperatures, reducing to about 150mg/L at 60°C.

Equivalent Grade Designation

AISI 304
UNS S30400
BS 304S31
DIN EN 1.4301
0Cr18Ni9
Z7 CN 18-09
SS 2333

Available Product Forms

Round, Sqaure, Hexagon & Flat Bars
Seamless / Welded Pipes
Seamless / Welded Tubes
Hot & Cold Rolled Plates & Sheets
Forged Bars
Buttweld Pipe Fittings
Forged Fittings
Ferrule Compression Fittings
Forged Flanges
Valves
Guages

Common Manufacturing Specifications

AMS 5501, 5513, 5560, 5563, 5564, 5565, 5566, 5567, 5639, 5697, 5857, 5910, 5911, 5912, 5913, 5868.
ASME SA-182, SA-194, SA-213, SA-240, SA-249, SA-312, SA-320, SA-358, SA-376, SA-403, SA-409, SA-479, SA-688.
ASTM A182, A193, A194, A213, A240, A249, A264, A269, A276, A312, A313, A314, A320, A336, A358, A368, A376, A403, A409, A430, A473, A478, A479, A492, A493, A511, A554, A580, A632, A666, A688, A774, A793, A813, A814, A851, A908, A943, A965, A988, F593, F738, F836, F837, F879, F880, F899.

Alternate to Alloy

301 higher work hardening rate required for roll or stretch formed components.
F20S Lower cost & easy fabrication.
303 Higher machinability needed with lower corrosion resistance
316 Higher resistance to pitting and crevice corrosion in chloride environments.
430 Lower cost & reduced corrosion resistance and fabrication characteristics needed.

Applications & Industries

Food processing equipment
Automotive and aerospace structural use
Construction material
Architectural Applications
Marine Applications
Fasteners
Heat exchangers

Excellence Inherent

With 3 decade long experience inherited, we aim at providing better solutions for Industrial Piping Sector. Skilled Team, passion drives our *will* to be better with resolute for continous customer & vendor concurrence. We also perceive our duty towards planet for its unconditional support & try to minimise any harm caused due to our activity. For Instance, *We Stay Paperless*

The Information contained in this data sheet is for reference purpose only and actual data may vary from product to product. Complete rely on these values for product design recommended. User will be solely responsible for any failure in intended construction. **FERROBEND**™ is trademark Property of **FERROBEND.**

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