

GENERAL PROPERTIES

Prodec Alloy 304/304L is an improved version of standard 304/304L processed for improved machinability and outstanding uniformity. This alloy offers faster machining speeds, longer tool life, improved part quality and lower total cost of machined parts. Prodec 304/304L is nonmagnetic in the annealed condition, but may become slightly magnetic as a result of cold working or welding.

Specifications: UNS S30400, UNS S30403

APPLICATIONS:

Prodec 304/304L Stainless Steel is used in a wide variety of home and commercial applications, including:

- Chemical process equipment
- Food and beverage industry

STANDARDS:

- ASTM/ASME: UNS S30400 / S30403
- EURONORM: 1.4301 / 1.4307

CORROSION RESISTANCE:

- Prodec 304/304L is a versatile, general purpose stainless steel with good resistance to atmospheric corrosion, to many organic and inorganic chemicals, and to food and beverages.
- It has also been used in vacuum processing equipment and specialized instruments where high integrity is essential.

HEAT RESISTANCE:

- Good oxidation resistance in intermittent service to 1600°F and in continuous service to 1690°F.
- Continuous use of 304 in the 800-1580°F range is not recommended if subsequent aqueous corrosion resistance is important.

Chemical Properties

	Cr	Ni	C	Mn	P	S	Si	Fe
MIN	18.0	8.0	-	-	-	0.015	-	-

MAX	20.0	11.0	0.03	2.0	0.045	0.03	0.75	Balance
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Mechanical Properties

		Typical	ASTM
Tensile Strength, ksi	ksi	85	75
Yield Strength, ksi	ksi	35	30
Elongation in 2 inches, %	%	60	40
Reduction of area, %	%	70	-
Hardness, HB	HB	160	201

Physical Properties

Density lb _m /in ³	Thermal Conductivity (BTU/h ft. °F)	Electrical Resistivity (in x 10 ⁻⁶)	Modulus of Elasticity (psi x 10 ⁶)	Coefficient of Thermal Expansion (in/in)/ °F x 10 ⁻⁶	Specific Heat (BTU/lb/ °F)	Melting Range (°F)
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at 68°F: 0.285	8.7 at 212°F	27.6 at 68°F	29	9.4 at 32 – 212°F	0.1200 at 68°F to 212°F	2500 to 2590
				10.2 at 32 – 1000°F		
				10.4 at 32 – 1500°F		

PROPERTIES OF 304 ALLOY

WELDING CHARACTERISTICS:

- readily welded by full range of conventional welding procedures except oxyacetylene.
- AWS E308L/ ER308L filler metal should be used with Prodec 304/304L steel.

MACHINABILITY:

- offers faster machining speeds, longer tool life, improved part quality and lower total cost of machined parts.