STAINLESS STEEL

304 - 1.4301 / 304L - 1.4307

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304 and 304L are both grades of austenitic stainless steel, which is the most widely used type of stainless steel. These grades are very similar, known for their versatility and corrosion resistance, with the main difference being the carbon content. The use of 304L is often preferred in situations where welding is a significant consideration due to its improved weldability and reduced susceptibility to sensitivity.

KEY FEATURES

- Corrosion resistance
- Forming and welding characteristics
- Oxidation resistance

CHEMICAL PROPERTIES

	Chromium (Cr)	Nickel (Ni)	Manganese (Mn)	Silicone (Si)	Nitrogen (N)	Carbon (C)	Phosphorus (P)	Sulphur (S)
304	18-20%	8-11%	2%	1%	0.1%	0.08%	0.045%	0.03%
304L	18-20%	8-11%	2%	1%	0.1%	0.035%	0.045%	0.03%

MECHANICAL PROPERTIES

	304	304L
Tensile strength (N/mm²)	500-700	500-700
Yield strength (N/mm²)	170-220	170-220
Elongation (% in 4D)	40	40
Hardness - Rockwell (HRB) max	92	92
Hardness - Brinell (HB) max	201	201

PHYSICAL PROPERTIES

Density (kg/m³)		8000
Modulus of elasticity (Gpa)		193
Mean coefficient of thermal expansion	0-100ºC (µm/m/ºC)	17.2
	0-350ºC (µm/m/ºC)	17.8
	0-538ºC (µm/m/ºC)	18.4
Thermal conductivity	at 100ºC (W/m.K)	16.2
	at 500ºC (W/m.K)	21.5
Specific Heat 0-100ºC (J/kg.K)		500
Electrical resistivity (nΩ.m)		720
Melting point (ºC)		1450

MARKET SECTORS

Food & Beverage Industry
Tanks, pipes, conveyor systems

Chemical Processing
Storage tanks, vessels for chemicals, piping systems

Architectural Applications
Handrails, architectural trim, structural components

Kitchen Equipment
Countertops, sinks, ovens refrigerators, dishwashers

Pharmaceutical Industry
Surgical instruments, processing equipment, storage

Engineered Components
Fasteners, bolts, valves, fittings

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