

STAINLESS STEEL

UNS S31254 - 1.4547



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UNS S31254, also known as 1.4547 or by its trade names F44 or 254 SMO. It is a high-alloy austenitic stainless steel with excellent corrosion resistance in seawater and various industrial environments, as well as high strength and ductility. It is used for applications such as pumps, valves, chokes, piping, flanges, and chemical processing equipment.

KEY FEATURES

- High corrosion resistance
- High alloy content
- Resistance to reducing acids
- Good mechanical properties
- Good weldability

CHEMICAL PROPERTIES

Chromium (Cr)	Nickel (Ni)	Molybdenum (Mo)	Manganese (Mn)	Copper (Cu)	Silicone (Si)	Nitrogen (N)	Phosphorus (P)	Carbon (C)	Sulphur (S)
19.5-20.5%	17.5-18.5%	6-6.5%	1%	0.5-1%	0.8%	0.18-0.22%	0.03%	0.02%	0.01%

MECHANICAL PROPERTIES

Tensile strength (N/mm ²)	700
Yield strength (N/mm ²)	300
Elongation (% in 4D)	35
Hardness - Rockwell (HRB) max	100
Hardness - Brinell (HB) max	250

PHYSICAL PROPERTIES

Density (kg/m ³)	7900	
Modulus of elasticity (Gpa)	195	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	16.5
	0-350°C (µm/m/°C)	17.1
	0-538°C (µm/m/°C)	18.5
Thermal conductivity	at 100°C (W/m.K)	14.0
	at 500°C (W/m.K)	19.3
Specific Heat 0-100°C (J/kg.K)	500	
Electrical resistivity (nΩ.m)	800	
Melting point (°C)	1450	

MARKET SECTORS



Oil & Gas Industry

Platforms, pipelines, tubing, valves, fittings



Chemical Processing

Reactors, piping systems, heat exchangers



Marine Equipment

Boat fittings, hardware, seawater handling



Power Generation

Heat exchangers, boiler tubes, condensers



Pulp & Paper Industry

Digesters, bleach plants, evaporators



Desalination Plants

Evaporators, heat exchangers, components, pumps