



Grade	Code	AISI	UNS	Austenitic Stainless Steel
1.4301	X5CrNi18-10	304	S30400	
1.4307	X2CrNi18-9	304L	S30403	

Properties

AISI 304/304L, is an austenitic stainless steel grade offering good corrosion resistance, high formability and excellent weldability. The lower carbon content of 304L reduces the risk of intergranular corrosion, particularly in welded applications. Both grades are versatile and reliable materials for general industrial service.

Chemical Analysis

Grade	C %	Si %	Mn %	P %	S %	Cr %	Ni %	N %	Fe %
AISI 304 / UNS S30400*	≤0.070	≤0.75	≤ 2.00	≤0.045	≤0.030	17.50–19.50	8.00–10.50	≤0.10	Bal.
AISI 304L / UNS S30403*	≤0.030	≤0.75	≤2.00	≤0.045	≤0.030	17.50–19.50	8.00–12.00	≤0.10	Bal.

* ASTM A240 chemical composition limits

Mechanical Properties

Grade	Condition	Rp0.2 MPa	Rm MPa	A %	Hardness HRB	Density g/cm ³
1.4301*	Annealed	≥ 205	≥ 515	≥ 40	≤ 92	7.90
1.4307*	Annealed	≥ 170	≥ 485	≥ 40	≤ 92	7.90

* ASTM A240 - annealed plate, sheet and strip, at room temperature

Applications

Industry	Commonly Manufactured Products
Food and Beverage Industry	Process and storage tanks, piping systems, valves and fittings
Chemical Industry	Process tanks, flanges, pipes and fittings
Pharmaceutical Industry	Process vessels, piping systems, heat exchangers
Petrochemical and Process Industry	Flanges, valves, fittings and couplings
Kitchen and HoReCa	Sinks and washing units, worktops, commercial kitchen equipment
Architecture and Construction	Facade and decorative cladding, railings, door and window components
Machinery and General Industry	Shafts, bolts and nuts, rings and machine components
Tank and Storage Systems	Storage tanks, tank containers, process vessels
Heat Transfer and Energy	Heat exchangers, pipes, flanges and valves
Pulp and Paper Industry	Pipes and fittings, valves, couplings and machine components



Description

AISI 304/304L, retains good toughness at low temperatures and is essentially non-magnetic in the annealed condition. It cannot be hardened by heat treatment, but cold working increases strength and may induce partial magnetism. Its work-hardening tendency requires suitable cutting tools and machining parameters. In chloride-rich environments, pitting and crevice corrosion can limit performance, making more highly alloyed stainless grades preferable.

Specification

AISI 304, 1.4301, X5CrNi18-10, UNS S30400

AISI 304L, 1.4307, X2CrNi18-9, UNS S30403

Standards

Product Form	AISI 304 - ASTM	AISI 304 - AMS	AISI 304L - ASTM	AISI 304L - AMS
Rod / Bar	ASTM A276 / ASTM A479	AMS 5639	ASTM A276 / ASTM A479	AMS 5647
Plate	ASTM A240	AMS 5513	ASTM A240	AMS 5511
Sheet	ASTM A240	AMS 5513	ASTM A240	AMS 5511
Pipe / Tube	ASTM A312 / ASTM A269 / ASTM A213	AMS 5560 / AMS 5567	ASTM A312 / ASTM A269 / ASTM A213	AMS 5647 / AMS 5569

Other Stainless Steel Grades to Consider

Grade	Why Consider This Grade?
316 / 316L	Higher corrosion resistance than 304/304L, especially in chloride-containing environments.
AISI 317	Higher molybdenum content than 316, providing greater resistance in more demanding corrosive environments.
904L - 1.4539	High-nickel, high-molybdenum austenitic grade for more aggressive chemical and acidic environments.