

303 STAINLESS STEEL

303 is a free machining austenitic stainless steel with good strength and corrosion resistance. 303 is characterized by excellent machinability and non-galling properties. The Sulphur addition does slightly lower it's corrosion resistance when compared to 304 S/S, and has low resistance to acids.
303 cannot be hardened by thermal treatment, but strength and hardness can be improved by cold drawing with subsequent reduction in ductility.

Stocked Sizes	-	Rounds	6 mm – 150 mm Ø
Bar Finishes	-	Peeled, Turned & Polished, Cold Drawn & Centreless Ground	

Related Specifications		
Germany	W Nr 1.4305 X10CrNiS 18 9	
Japan	JIS G4303 SUS 303	
United Kingdom	BS970 Part 3 1991 303S31 BS970 1955 EN58M	
USA	ASTM A582/582M-95b 303 SAE 30303 AISI 303 UNS S30300	
Chemical Composition*		
	Min. %	Max %
Carbon	0	0.15
Silicon	0	1.00
Manganese	0	2.00
Nickel	8.00	10.00
Chromium	17.00	19.00
Phosphorous	0	0.06
Sulphur	0.15	0.35
*Molybdenum content up to 1.00% is optional		
Mechanical Property Requirements to ASTM A582/582M-95b 303 is annealed to Max 262 Bhn		
Typical Mechanical Properties (For Ref Only)	Cold Drawn	Other
Tensile Strength Mpa	690	550
0.20% Proof Stress (Yield) Mpa	415	240
Elongation on %	36	55
Charpy Impact J		120
Hardness Brinell HB	220	165
Annealing		
Heat uniformly to 1150-1200 Deg C. Hold until temperature is uniform throughout section. Soak as required (as a guide 30 minutes per 25mm of section) Quench in water to optimize corrosion resistance.		