



Stainless Steel

Stainless Steel is the general identification for a wide range of corrosion & stain resisting steel used in various industries including Oil & Gas, Chemical and Desalination. Chromium content of 10.5% in minimum is a commonly identifiable characteristic that makes this Iron alloy corrosion resistant. Chromium is the deciding factor of corrosion resistance by forming a layer of chromium oxide to withstand any surface corrosion.

Even though stainless steel is considered as corrosion resistant, certain highly corrosive and high pressure environments will be needing a more corrosion resistant and specially enhanced stainless steel made by alloying various elements like Carbon, Chromium, Nickel, Molybdenum, Nitrogen etc.

Stainless Steel is classified primarily into 3 types

1. Austenitic Steel (300 Series)

Austenitic steels are the most commonly available and popular among stainless steel family. 300 series steel falls within the austenitic range with 304/304L and 316/316L being the most common and famous of the grades for its availability and characteristics of forming, corrosion resistance & weldability.

2. Ferritic Steel (400 Series)

Ferritic steels are magnetic, high in chromium with low carbon less than 0.10% and certain characteristics similar to carbon and low alloys. Ferritic series is known for their good ductility, resistance to corrosion and stress corrosion cracking.

3. Martensitic Steel

Martensitic are magnetic, high in Chromium with a higher level of Carbon up to 1.20%. These types of steels are more preferred for applications demanding higher strength in relatively less corrosive environments. They can be hardened and tempered but very low in weldability.

Chemical and Mechanical properties of Stainless Steel grades available from our stock programme

Grade	UNS	C %	Cr %	Ni %	Mo %	Tensile	Yield Point	Elongation	Hardness
304	S30400	0.08	18.00 - 20.00	8.00 - 11.00		515	205	40	201/92
304L	S30403	0.03	18.00 - 20.00	8.00 - 12.00		485	170	40	201/92
316	S31600	0.08	16.00 - 18.00	11.00 - 14.00	2.00 - 3.00	515	205	40	217/95
316L	S31603	0.035	16.00 - 18.00	10.00 - 15.00	2.00 - 3.00	485	170	40	217/95
321	S32100	0.08	17.00 - 20.00	9.00 - 12.00		515	205	40	217/95
321H	S32109	0.04 - 0.10	17.00 - 20.00	9.00 - 13.00		515	205	40	217/95
347	S34700	0.08	17.00 - 20.00	9.00 - 13.00		515	205	40	201/92
347H	S34709	0.04 - 0.10	17.00 - 20.00	9.00 - 13.00		515	205	40	201/92
310H	S31009	0.04 - 0.10	24.00 - 26.00	19.00 - 22.00		515	205	40	217/95
254SMO	S31254	0.02	19.50 - 20.50	17.50 - 18.50	6.00 - 6.50	650	300	35	223/96

Stock available size ranges in Stainless Steel to ASME B36.10 / ASME B36.19 specifications

Category	Construction	Size Range (DN)	SCH/Ratings	Standard
Pipe	Seamless	015 - 300	10S - XXS	ASTM A312
	Welded	250 - 600		ASTM A358
BW Fittings	Seamless	015 - 300	10S - XXS	ASTM A312
	Welded	200 - 600		
SW Fittings	Forged	015 - 100	CL 3000 - 6000	ASTM A312
Flanges	Forged	015 - 450	CL 150 - 1500	ASTM A312

Stock Certifications, Testings and Reports

All stock available materials from Ferro FPF are coming with full traceability and necessary testing reports along with Material Test Certificates to EN 10204 3.1. Most of our process piping materials from stock is coming with dual certification. This is achieved according to the international standards by controlling the chemical composition and mechanical properties in the permissible ratio meeting different grades and standards. This is an optimal way of providing our customers with a comprehensive range of material grades in the most efficient way suiting the project requirements.

Any client and project requirements over and above the normal standards are achieved with possible additional testings, modifications and inspections using in-house and approved third party facilities. All project confirmed modifications are performed according to relevant international standards and backed with conformity reports.

Ferro Pipe and Fittings is having a demonstrated experience in managing project package supplies of Pipes, Fittings, Flanges and Valves for various national and international projects directly with end users and through international EPC's. [Contact us](#) to discuss on our capacities and custom solutions we can offer to your project piping requirements.

