

317L

317L (UNS S31703) is a low carbon corrosion resistant austenitic chromium-nickel-molybdenum stainless steel. The high levels of these elements assure it has superior chloride pitting and general corrosion resistance to the conventional 304/304L and 316/316L grades. 317L provides improved resistance relative to 316L in strongly corrosive environments containing sulfurous media, chlorides, and other halides. The low carbon content of 317L enables it to be welded without intergranular corrosion resulting from chromium carbide precipitation.

Chemical Composition, %

element	Cr	Ni	Fe	Mo	C	Mn	Si	P	S
min.	18.00	11.00	bal.	3.00	0.030	2.00	1.00	0.045	0.030
max.	20.00	15.00		4.00					

Chemical Composition according to ASTM. Some compositional limits of other specifications may vary slightly.

Designation and standards

National Standards	Material designation	Chemical composition	Forgings	Rod and bar	Plate and sheet	Strip	Seamless tube
ASTM ASME	UNS S31703 317L	A959 SA959	A182 SA182		A240 SA240	A240 SA240	A213 SA213 A249 SA249 A312 SA312
DIN	1.4438 X2CrNiMo18-15-4	DIN 10088-1		DIN 10088-3	DIN 10088-2	DIN 10088-2	
GB/T	022Cr19Ni13Mo3 00Cr19Ni13Mo3 S31703	GB/T 20878	YB/T 5089 NB/T 47010	GB/T 1220	GB/T 3280 GB/T 4237 GB/T 4238	GB/T 3280 GB/T 4237 GB/T 4238	GB/T 13296 GB/T 14975 GB/T 14976

Density 7.90g/cm³

Corrosion resistance

- superior chloride pitting and general corrosion resistance to the conventional 304/304L and 316/316L
- improved resistance relative to 316L in strongly corrosive environments containing sulfurous media, chlorides, and other halides

Applications

Typical applications are:

- flue gas desulfurization equipment
- chemical and pharmaceutical industries
- petrochemical industry
- food and beverage processing
- pulp and paper

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