

C	Cr	Mn	Mo	Ni	P	S	Si
MAX		MAX	MAX		MAX	MAX	MAX
.08	24.0-26.0	2.0	0.75	19.0-22.0	0.045	0.030	0.75

CHEMICAL COMPOSITION %

DESCRIPTION

310S has excellent resistance to oxidation under constant temperatures to 2000 F. Cyclic conditions reduce its oxidation resistance, and a maximum operating temperature of 1900F is generally recommended if cycling is involved. Having a lower coefficient of expansion than most 300 stainless steels, 310S may be used in operations involving moderately severe thermal cycling, such as rapid air cooling. It is not usually recommended for liquid quenching. Although 310S has less resistance to absorption of carbon and nitrogen than the higher alloys such as 330 and 333, it is widely used in moderately carburizing atmospheres such as encountered in petro-chem plants. Because of its high chromium and medium nickel contents, 310S may be used in atmospheres containing moderate amounts of sulfur.

DESIGN FEATURES

- Austenitic stainless steel with excellent high temperature oxidation resistance.
- Good for continuous exposure to 2100F, intermittent service to 1900F.
- Better elevated temperature creep strength than the 18-8 grades.
- Good resistance to both carburizing and reducing environments.
- General corrosion resistance better than Types 304 and 309.
- May be susceptible to chloride stress corrosion cracking.
- Availability.
- Ease of fabrication.

AVAILABILITY

SPECS

SEAMLESS PIPE	1/2" - 8"	A312
WELD PIPE	8" - 12"	A312
BUTT-WELD FITTINGS	1/2" - 8"	A403
BAR	1" - 8"	A276, A479
PLATE AND SHEET	3/16" - 2"	A240
FORGINGS		A182

TYPICAL APPLICATIONS

Heat exchanger and heat recuperator tubing
 Molten salt applications
 Sulfur bearing gas atmospheres

TENSILE REQ

Tensile Strength	(KSI) 75
Yield Strength	(KSI) 30

KSI can be converted to MPA (Megapascals) by multiplying by 6.895.