

TECHNICAL DATA

310 Stainless Steel

310 stainless steel fasteners offer good high temperature oxidation and carburization resistance for moderate strength applications. They also provide resistance to moderate sulfidation, nitriding, and other hot forms of corrosion. Usable to 2000°F, 310 stainless retains its strength and mechanical properties under moderate thermal cycling. 310 bolts are an economic alternative to Inconel and Alloy 330 – providing slightly less strength and temperature resistance. It is not advised to expose 310 stainless steel bolts to severe thermal shock of repeated liquid quenching or where aqueous corrosives are present.

Properties

Ultimate Tensile Strength	70 ksi
Yield Strength at 0.2%	30 ksi
Elongation %	-
Usable Temperature Limit	2000°F / 1090°C

Chemistry & Specifications

310 Stainless Steel	Cr	Ni	C	Si	Mn	P	S	Mo	Cu	Fe
Min %	24.0	19.0	-	-	-	-	-	-	-	-
Max %	26.0	22.0	0.08	0.75*	2.0	0.045	0.03	0.75	0.50	balance

*ASTM specification 1.50 max Si

SPECIFICATIONS: AMS 5521, AMS 5651, ASME SA 240, ASME SA 312, ASME SA 479, ASTM A 240, ASTM A 276, ASTM A 276 Condition A, ASTM A 276 Condition S, ASTM A 312, ASTM A 479, EN 10095, UNS S31008, UNS S31009, Werkstoff 1.4845

Key Benefits

- High temperature stability to 2000°F for moderate strength application
- Excellent resistance to oxidation under mildly cyclic conditions
- Resistance to sulfidation and nitriding
- Good resistance to thermal fatigue
- Excellent cryogenic toughness down to -450°F.
- Low magnetic permeability.