310 Stainless Steel Material Grade

Principal Design Features: The strength of this alloy is a combination of good strength and corrosion resistance in temperatures up to 2100 F (1149 C). Due to its relatively high chromium and nickel content it is superior in most environments to 304 or 309 stainless.

Applications: Oven linings, boiler baffles, kilns, lead pots, radiant tubes, annealing covers, saggers, burners, combustion tubes, refractory anchor bolts, fire box sheets, furnace components and other high temperature containers.

Machinability: This alloy machines similarly to type 304 stainless. Its chips are stringy and it will work harden rapidly. It is necessary to keep the tool cutting at all times and use chip breakers.

Welding: Most of the austenitic stainless steels can be readily welded using fusion or resistance methods. Oxyacetylene welding is not recommended. Filler metal should be AWS E/ER 310.

310 Chemistry Data

Carbon	0.25 max
Chromium	24 - 26
Iron	Balance
Manganese	2 max
Molybdenum	2 - 3
Nickel	19 - 22
Phosphorus	0.045 max
Silicon	1.5 max
Sulphur	0.03 max

310 Physical Data

Density (lb / cu. in.)	0.289
Specific Gravity	7.9
Specific Heat (Btu/lb/Deg F - [32-212 Deg F])	0.12
Electrical Resistivity (microhm-cm (at 68 Deg F))	468
Melting Point (Deg F)	2650
Modulus of Elasticity Tension	30

QUALITY ⬩ SPEED ⬩ RELIABILITY