

Inconel 800 Nickel Alloy Material Grade

Principal Design Features: A Ni-Cr-Fe alloy that resists high temperature oxidation. This alloy is a first choice for an upgrade from the 300 series stainless steels when improved performance or strength at temperature is required. For higher ASME Boiler and Pressure Code design values, consider Alloy 800HT.

Partial List of Applications: Heat treating equipment and fixtures. Sheathing for electric resistance alloy tubular heating elements. Heat exchangers.

Alloy Inconel 800 Chemistry Data

Aluminum	0.15 - 0.6
Carbon	0.1 max
Chromium	19 - 23
Copper	0.75 max
Iron	Balance
Manganese	1.5 max
Nickel	30 - 35
Silicon	1 max
Sulphur	0.015 max
Titanium	0.15 - 0.6

Alloy Inconel 800 Physical Data

Density (lb / cu. in.)	0.287
Specific Gravity	7.98
Specific Heat (Btu/lb/Deg F - [32-212 Deg F])	0.11
Electrical Resistivity (microhm-cm (at 68 Deg F))	595
Melting Point (Deg F)	2500
Poissons Ratio	0.339
Thermal Conductivity	80
Mean Coeff Thermal Expansion	7.9
Magnetic Permeability	1.01
Modulus of Elasticity Tension	28.5
Reduction of Area	50

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