

## Inconel 825 Nickel Alloy Material Grade

**Principal Design Features:** An austenitic nickel-iron-chromium alloy with additions of other alloying elements to enhance resistance to chemical corrosion.

**Partial List of Applications:** Chemical process equipment, pickling, acid production piping and vessels.

### Alloy Inconel 825 Chemistry Data

Aluminum	0.2 max
Carbon	0.05 max
Chromium	19.5 - 23.5
Copper	1.5 - 3
Iron	Balance
Manganese	1 max
Molybdenum	2.5 - 3.5
Nickel	38-46
Phosphorus	0.03 max
Silicon	0.5 max
Sulphur	0.03 max
Titanium	0.6 - 1.2

### Alloy Inconel 825 Physical Data

Density (lb / cu. in.)	0.294
Specific Gravity	8.14
Specific Heat (Btu/lb/Deg F - [32-212 Deg F])	0.105
Electrical Resistivity (microhm-cm (at 68 Deg F))	678
Melting Point (Deg F)	2525
Poissons Ratio	0.42
Thermal Conductivity	78.5
Mean Coeff Thermal Expansion	7.8
Magnetic Permeability	1.005
Modulus of Elasticity Tension	29.8

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