



Engineering & Manufacturing Co., Inc.

FOUNDRY

DUPLEX SS SPECIFICATIONS



CD4MCu-N DUPLEX

ASTM A-351, A-743, A-744 Grade CD-4MCu

Mechanical Properties

Tensile Strength	100 KSI Min
Brinell Hardness	224-295
Elongation in 2"	16% Min
Charpy Impact Energy	N/A
Yield Strength	70 KPSI Min

Duplex alloy with approximately equal volume fractions of austenite and ferrite. Corrosion resistance and yield strength superior to hardenable grades. Combines good ductility with high hardness.

Chemical Analysis

Carbon	0.04 Max
Manganese	1% Max
Silicon	1.0 Max
Chromium	24.5 - 26.5
Nickel	4.75 - 6.0
Phosphorus	0.04 Max
Sulfur	0.04 Max
Molybdenum	1.75 - 2.25
Copper	2.75 - 3.25
Nitrogen	.15 - .25

Physical Analysis

Density	0.28 lb/in ³
Melting Point Range	2550 - 0600 °F
Coefficient of Thermal Expansion, 70 - 1000 °F, 10 ⁻⁶ in/in °F	6.9
Thermal Conductivity, BTU ft/hr ft ² °F	6.9
Magnetic Permeability, U	Ferromagnetic
Specific Heat, Btu,lb °F	0.11
Electric resistivity, microhm-cm	75
Modulud of Elasticity, x 10 ⁶	29

Heat Treatment

Solution anneal at 2050°F, Equalize at 1925°F, water quench.



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