



Engineering & Manufacturing Co., Inc.

FOUNDRY

CD4 SPECIFICATIONS

TOWNLEY FOUNDRY & MACHINE INC.

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CASTING
 MATERIAL
 DATA SHEET

ALLOY
 DESIGNATION
 CD4MCu-N

DESCRIPTION

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.

REFERENCES

ASTM A351, A743, A744 GRADE CD-4MCu

COMPOSITION

ELEMENT	C	SI	S	P	MN	NI	CR	MO	CU	V	N
MAX	.04	1.00	.04	.04	1.00	6.00	26.5	2.25	3.25	-	.25
MIN	-	-	-	-	-	4.75	24.5	1.75	2.75	-	.15

HEAT TREATMENT

SOLUTION ANNEAL AT 2050°F, Equalize at 1925°F, Water quench.

MECHANICAL PROPERTIES

Tensile Strength, kpsi	.....	100 min.
Yield Strength, kpsi	.....	70 min.
Elongation in 2", %	.....	16 min.
Reduction in Area, % (0.02% offset)	.....	N/A
Brinell Hardness, 3000 KG	.....	224 - 295
Charpy Impact, FT-LBS	.....	N/A

PHYSICAL PROPERTIES

Density, lb/in ³	.....	.028
Melting Point, Range, °F	.....	2550-2600
Coefficient of Thermal Expansion, 70 - 1000°F, 10 ⁻⁶ in/in°F	.....	6.9
Thermal Conductivity, Btu ft/hr ft ² °F	.....	8.8
Magnetic Permeability, u	.....	Ferromagnetic
Specific Heat, Btu/lb °F	.....	0.11
Electric resistivity, microhm-cm	.....	75
Modulus of elasticity, x 10 ⁶	.....	29