

**CDA67410****Chemical Composition**

(% max., unless shown as range or min.)

	Cu ⁽¹⁾	Al	Fe	Pb	Mn	Ni ⁽²⁾	Si	Sn	Zn
Min. /Max.	56.5-59	1.3-2.3	1.0	0.8	1.4-2.6	2.0	0.3-1.0	0.55	Rem.
Nominal	57.7	1.5	0.35	0.5	2.0	-	0.5	0.2	-

(1) Cu value includes Ag.

(2) Ni value includes Co.

Note: Cu + Sum of Named Elements, 99.5% min.

Applicable Specifications

Product	Specification
Bar	DIN17660, DIN17672
Rod	DIN17660, DIN17672

Common Fabrication Processes

No information available.

Fabrication Properties

Joining Technique	Suitability
Soldering	Fair
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Not Recommended
Spot Weld	Good
Seam Weld	Good
Butt Weld	Good
Capacity for Being Cold Worked	Poor
Capacity for Being Hot Formed	Excellent
Forgeability Rating	100
Machinability Rating	50

Mechanical Properties (measured at room temperature, 68 F (20 C))

Temper	Section Size	Cold Work	Temp	Tensile Strength	Yield Strength (0.5% ext. under load)	Yield Strength (0.2% offset)	Yield Strength (0.05% offset)	Rockwell Hardness	Vickers Hard.	Brinell Hard.	Shear Strength	Fatigue Strength*	Izod Impact Strength
	in. mm.	%	F C	ksi MPa	ksi MPa	ksi MPa	ksi MPa	% B CF30T500		5003000	ksi MPa	ksi MPa	ft-lb J
Rod													
M30	1.25	0	TYP 68	82	-	44	-	20-	- - -	-	-	-	0.0
	31.8		20	565	-	303	-	20-	- - -	-	-	-	0.0
Tube													
M30	2.5	0	TYP 68	90	-	47	-	12-	- - -	-	-	-	0.0
	64		20	620	-	324	-	12-	- - -	-	-	-	0.0
Bar													
H02	1.5	0	TYP 68	82	-	46	-	18-	- - -	-	-	-	0.0
	38		20	565	-	317	-	18-	- - -	-	-	-	0.0
Rod													
H04	0.375	0	TYP 68	90	-	69	-	- - - - -	-	-	-	-	0.0
	9.525		20	620	-	476	-	- - - - -	-	-	-	-	0.0
H02	1.25	0	TYP 68	87	-	46	-	1585-	- - -	-	-	-	0.0
	31.8		20	600	-	317	-	1585-	- - -	-	-	-	0.0

*Fatigue Strength: 100 x 10⁶ cycles, unless indicated as [N] X 10⁶.

**Physical Properties**

	US Customary	Metric
Melting Point - Liquidus	1650 F	900 C
Melting Point - Solidus	1590 F	865 C
Density	0.299 lb/in ³ at 68 F	8.27 gm/cm ³ @ 20 C
Specific Gravity	8.270	8.27
Electrical Resistivity	57.70 ohms-cmil/ft @ 68 F	9.6 microhm-cm @ 20 C
Electrical Conductivity	18 %IACS @ 68 F	0.104 MegaSiemens/cm @ 20 C
Thermal Conductivity	51 Btu · ft/(hr · ft ² · °F) at 68 F	88.3 W/m · °K at 20 C
Coefficient of Thermal Expansion	11 · 10 ⁻⁶ per °F (68-572 F)	20.0 · 10 ⁻⁶ per °C (20-300 C)
Specific Heat Capacity	0.090 Btu/lb/°F at 68 F	377.1 J/kg · °K at 293 K
Modulus of Elasticity in Tension	14000 ksi	96500 MPa
Modulus of Rigidity	5250 ksi	36200 MPa

Tempers Most Commonly Used

No information available.

Typical Uses**Automotive**

Valve Guides

Industrial

Gear rings, Shafts, Wear plates

Casting Characteristics

No casting characteristics available for this alloy.