

**CDA676****Chemical Composition**

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

	Cu ⁽¹⁾	Fe	Pb	Mn	Sn	Zn
Min. /Max.	57.0-60.0	.40-1.3	.50-1.0	.05-.50	.50-1.5	Rem.
Nominal	58.5	.8	.7	.27	1.0	38.7

(1) Cu value includes Ag.

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

Applicable Specifications

Product	Specification
Brazing Filler Metal	AWS A5.8
Forgings, Die	ASTM B283

Common Fabrication Processes

No information available.

Fabrication Properties

Joining Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Good
Gas Shielded Arc Welding	Fair
Spot Weld	Good
Capacity for Being Cold Worked	Poor
Capacity for Being Hot Formed	Excellent
Forgeability Rating	80
Machinability Rating	60

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.	%	F	ksi	ksi	ksi	ksi	% B	CF30T500	5003000	ksi	ksi	ft-lb
	mm.		C	MPa	MPa	MPa	MPa				MPa	MPa	J
Rod													
H01	2	0	TYP68	72	42	-	-	-	77-	-	-	-	0.0
	50.8		20	496	290	-	-	-	77-	-	-	-	0.0
H02	1	0	TYP68	84	60	-	-	-	90-	-	-	-	0.0
	25.4		20	579	414	-	-	-	90-	-	-	-	0.0
H02	1	0	MIN68	-	-	-	-	-	19-	-	-	-	0.0
	25.4		20	-	-	-	-	-	19-	-	-	-	0.0
H01	2	0	MIN68	-	-	-	-	-	27-	-	-	-	0.0
	50.8		20	-	-	-	-	-	27-	-	-	-	0.0
H01	1	0	MIN68	-	-	-	-	-	23-	-	-	-	0.0
	25.4		20	-	-	-	-	-	23-	-	-	-	0.0
O60	0.0	0	TYP68	65	30	-	-	-	65-	-	-	-	0.0
	0.0		20	448	207	-	-	-	65-	-	-	-	0.0
O60	0.0	0	MIN68	-	-	-	-	-	33-	-	-	-	0.0
	0.0		20	-	-	-	-	-	33-	-	-	-	0.0
H01	1	0	TYP68	77	45	-	-	-	83-	-	-	-	0.0
	25.4		20	531	310	-	-	-	83-	-	-	-	0.0

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

**Physical Properties**

	US Customary	Metric
Melting Point - Liquidus	1630 F	890 C
Melting Point - Solidus	1590 F	865 C
Density	0.302 lb/in ³ at 68 F	8.36 gm/cm ³ @ 20 C
Electrical Conductivity	24 %IACS @ 68 F	0.139 MegaSiemens/cm @ 20 C
Thermal Conductivity	61 Btu · ft/(hr · ft ² · °F) at 68F	105.7 W/m · °K at 20 C
Coefficient of Thermal Expansion	11.80 · 10 ⁻⁶ per °F (68-572 F)	20.4 · 10 ⁻⁶ per °C (20-300 C)
Modulus of Elasticity in Tension	15000 ksi	103400 MPa
Modulus of Rigidity	5600 ksi	38600 MPa

Tempers Most Commonly Used

No information available.

Typical Uses**Industrial**

Gate Valve Stems, Welding Rod, Valve Balls

Casting Characteristics

No casting characteristics available for this alloy.