

**CDA350 (Medium Leaded Brass, 62%)****Chemical Composition**

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

	Cu ⁽¹⁾	Fe ⁽²⁾	Pb	Zn
Min. /Max.	60.0-63.0	.15	.8-2.0	Rem.
Nominal	61.5	-	1.1	37.4

(1) Cu, 61.0% min. for rod.

(2) For flat products, the iron shall be .10% max.

Note: Cu + Sum of Named Elements, 99.6% min.

Applicable Specifications

Product	Specification
Bar	ASTM B121
Plate	ASTM B121
Rod	ASTM B453, B453 SAE J463, J461
Sheet	ASTM B121 SAE J463, J461
Strip	ASTM B121 SAE J461, J463

Common Fabrication Processes

Blanking, Machining, Piercing and Punching, Roll Threading and Knurling, Stamping

Fabrication Properties

Joining Technique	Suitability
Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Not Recommended
Coated Metal Arc Welding	Not Recommended
Spot Weld	Not Recommended
Seam Weld	Not Recommended
Butt Weld	Fair
Capacity for Being Cold Worked	Fair
Capacity for Being Hot Formed	Fair
Forgeability Rating	50
Machinability Rating	70

**Thermal Properties**

Treatment	Temp./Time - US	Temp./Time - SI
Annealing Minimum	800	427
Annealing Maximum	1100	594
Annealing Time		
Hot Works Minimum	1400	761
Hot Works Maximum	1500	816

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

Temper	Section Size	Cold Work	Typ/Min	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 CF 30T500		5003000ksi	ksi MPa	ksi MPa	ft-lb J
Rod														
OS015	0.5	0	TYP	68	55	25	-	-	46- 8550	-	-	36	-	0.0
	12.7			20	379	172	-	-	46- 8550	-	-	248	-	0.0
O60	<0.50	0	SMIN	68	46	16	-	-	20- - - -	-	-	-	-	0.0
	<12.7			20	317	110	-	-	20- - - -	-	-	-	-	0.0
Flat Products														
H02	0.04	0	TYP	68	60	45	45	-	2966- 60	-	-	-	-	0.0
	1			20	414	310	310	-	2966- 60	-	-	-	-	0.0
OS015	0.04	0	TYP	68	51	25	25	-	46- 74	-	-	-	-	0.0
	1			20	352	172	172	-	46- 74	-	-	-	-	0.0
Rod														
H01	1.375	0	SMIN	68	42	15	-	-	20- - - -	-	-	-	-	0.0
	34.9			20	290	103	-	-	20- - - -	-	-	-	-	0.0
H01	<0.50	0	SMIN	68	52	25	-	-	10- - - -	-	-	-	-	0.0
	<12.7			20	358	172	-	-	10- - - -	-	-	-	-	0.0
O60	1.375	0	SMIN	68	40	15	-	-	30- - - -	-	-	-	-	0.0
	34.9			20	276	103	-	-	30- - - -	-	-	-	-	0.0
H02	0.75	0	S MAX	68	70	-	-	-	- - - -	-	-	-	-	0.0
	19.1			20	483	-	-	-	- - - -	-	-	-	-	0.0
H01	0.75	0	S MAX	68	62	-	-	-	- - - -	-	-	-	-	0.0
	19.1			20	427	-	-	-	- - - -	-	-	-	-	0.0
Flat Products														
H06	0.04	0	TYP	68	84	65	69	-	5 86- 75	-	-	-	-	0.0
	1			20	579	448	476	-	5 86- 75	-	-	-	-	0.0
H03	0.04	0	TYP	68	67	53	55	-	1775- 68	-	-	-	-	0.0
	1			20	462	365	379	-	1775- 68	-	-	-	-	0.0
OS035	0.04	0	TYP	68	47	16	16	-	54- 67	-	-	-	-	0.0
	1			20	324	110	110	-	54- 67	-	-	-	-	0.0
Rod														
H02	<0.50	0	SMIN	68	57	25	-	-	7 - - - -	-	-	-	-	0.0
	<12.7			20	393	172	-	-	7 - - - -	-	-	-	-	0.0
Flat Products														
H04	0.04	0	TYP	68	73	60	60	-	1080- 71	-	-	-	-	0.0
	1			20	503	414	414	-	1080- 71	-	-	-	-	0.0
Rod														
H02	0.75	0	TYP	68	-	-	-	-	- 80- 70	-	-	42	-	0.0
	19.1			20	-	-	-	-	- 80- 70	-	-	290	-	0.0
H02	0.75	0	SMIN	68	55	25	-	-	10- - - -	-	-	-	-	0.0
	19.1			20	378	172	-	-	10- - - -	-	-	-	-	0.0
H01	0.75	0	SMIN	68	50	20	-	-	15- - - -	-	-	-	-	0.0
	19.1			20	345	138	-	-	15- - - -	-	-	-	-	0.0
H02	<0.50	0	S MAX	68	80	-	-	-	- - - -	-	-	-	-	0.0
	<12.7			20	552	-	-	-	- - - -	-	-	-	-	0.0
H01	1.375	0	S MAX	68	62	-	-	-	- - - -	-	-	-	-	0.0
	34.9			20	427	-	-	-	- - - -	-	-	-	-	0.0
H01	<0.50	0	S MAX	68	65	-	-	-	- - - -	-	-	-	-	0.0
	<12.7			20	448	-	-	-	- - - -	-	-	-	-	0.0
H02	1.375	0	SMIN	68	50	20	-	-	15- - - -	-	-	-	-	0.0
	34.9			20	345	138	-	-	15- - - -	-	-	-	-	0.0
H01	0.75	0	TYP	68	-	-	-	-	- 60- 57	-	-	38	-	0.0
	19.1			20	-	-	-	-	- 60- 57	-	-	262	-	0.0
Flat Products														
OS050	0.04	0	TYP	68	45	13	13	-	57- 61	-	-	-	-	0.0
	1			20	310	90	90	-	57- 61	-	-	-	-	0.0
Rod														
OS050	0.5	0	TYP	68	48	16	-	-	56- 6525	-	-	34	-	0.0
	12.7			20	331	110	-	-	56- 6525	-	-	234	-	0.0
H02	1.375	0	S MAX	68	62	-	-	-	- - - -	-	-	-	-	0.0
	34.9			20	427	-	-	-	- - - -	-	-	-	-	0.0
O60	0.75	0	SMIN	68	44	15	-	-	25- - - -	-	-	-	-	0.0
	19.1			20	303	103	-	-	25- - - -	-	-	-	-	0.0

**Flat Products**

OS025	0.04	0	TYP	68	48	20	20	-	50-	-	70-	-	-	-	-	0.0
	1			20	331	138	138	-	50-	-	70-	-	-	-	-	0.0
H01	0.04	0	TYP	68	54	32	34	-	4353-	-	52	-	-	-	-	0.0
	1			20	372	221	234	-	4353-	-	52	-	-	-	-	0.0

*Fatigue Strength: 100×10^6 cycles,
unless indicated as [N] X 10^6 .

Physical Properties

	US Customary	Metric
Melting Point - Liquidus	1680 F	916 C
Melting Point - Solidus	1640 F	893 C
Density	0.305 lb/in ³ at 68 F	8.44 gm/cm ³ @ 20 C
Specific Gravity	8.440	8.44
Electrical Resistivity	39.90 ohms-cmil/ft @ 68 F	6.63 microhm-cm @ 20 C
Electrical Conductivity	26 %IACS @ 68 F	0.152 MegaSiemens/cm @ 20 C
Thermal Conductivity	67 Btu · ft/(hr · ft ² · °F) at 68 F	116.0 W/m · °K at 20 C
Coefficient of Thermal Expansion	$11.30 \cdot 10^{-6}$ per °F (68-572 F)	$20.3 \cdot 10^{-6}$ 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	15000 ksi	103400 MPa
Modulus of Rigidity	5600 ksi	38610 MPa

Tempers Most Commonly Used**Flat Products**

STRIP, ROLLED | H01, H02, H03, H04, H06, OS015, OS025, OS035, OS050

Other

ROD | H02, H04, OS015, OS050

Typical Uses**Builders Hardware**

Hinges

Consumer

Lock Tumblers, Lock Parts, Keys

Fasteners

Nuts, Washer

s

Industrial

Templates, Type Characters, Wear Plates, Strike Plates, Meter Parts, Gears, Engraving Plates, Clock Plates, Bearing Cages, Book Dies, Hose Couplings

Plumbing

Sink Strainers

Casting Characteristics

No casting characteristics available for this alloy.