CDA353 (High 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	1.5-2.5	Rem.
Nominal	61.5	-	2.0	36.5

(1) Cu, 61.0% min. for rod.
(2) For flat products, the iron shall be .10% max.
Note: Cu + Sum of Named Elements, 99.5% min.

Applicable Specifications

Product	Specification
Bar	ASTM B121
Plate	ASTM B121
Rod	ASTM B453
Sheet	ASTM B121
Strip	ASTM B121

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	Poor
Machinability Rating	90

Thermal Properties

Treatment	Temp./Time - US	Temp./Time - SI
Annealing Minimum	800	427
Annealing Maximum	1100	594
Annealing Time		

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)	El	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 30T	500	3000	ksi MPa	ksi MPa	ft-lb J
Rod															
O60	<0.50	0	SMIN	68	46	16	-	-	20-	- - - -	-	- -	-	-	0.0
	<12.7			20	317	110	-	-	20-	- - - -	-	- -	-	-	0.0
Flat Products															
H06	0.04	0	TYP	68	85	62	-	-	5	87- - 74	-	- -	45	-	0.0
	1			20	586	427	-	-	5	87- - 74	-	- -	310	-	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	1.375	0	TYP	68	58	45	-	-	25	75- - -	-	- -	-	-	0.0
	34.9			20	400	310	-	-	25	75- - -	-	- -	-	-	0.0
H02	<0.50	0	SMIN	68	57	25	-	-	7	- - - -	-	- -	-	-	0.0
	<12.7			20	393	172	-	-	7	- - - -	-	- -	-	-	0.0
O60	.75	0	SMIN	68	44	15	-	-	25-	- - - -	-	- -	-	-	0.0
	19.1			20	303	103	-	-	25-	- - - -	-	- -	-	-	0.0
Flat Products															
H04	0.04	0	TYP	68	74	60	-	-	7	80- - 69	-	- -	43	-	0.0
	1			20	510	414	-	-	7	80- - 69	-	- -	296	-	0.0
H01	0.04	0	TYP	68	54	40	-	-	38	55- - 54	-	- -	36	-	0.0
	1			20	372	276	-	-	38	55- - 54	-	- -	248	-	0.0
OS035	0.04	0	TYP	68	49	17	-	-	52-	- 68 31	-	- -	34	-	0.0
	1			20	338	117	-	-	52-	- 68 31	-	- -	234	-	0.0
Rod															
H02	.75	0	SMAX	68	70	-	-	-	-	- - - -	-	- -	-	-	0.0
	19.1			20	483	-	-	-	-	- - - -	-	- -	-	-	0.0
H02	<0.50	0	SMAX	68	80	-	-	-	-	- - - -	-	- -	-	-	0.0
	<12.7			20	552	-	-	-	-	- - - -	-	- -	-	-	0.0
H01	1.375	0	SMAX	68	62	-	-	-	-	- - - -	-	- -	-	-	0.0
	34.9			20	427	-	-	-	-	- - - -	-	- -	-	-	0.0
H01	<0.50	0	SMAX	68	65	-	-	-	-	- - - -	-	- -	-	-	0.0
	<12.7			20	448	-	-	-	-	- - - -	-	- -	-	-	0.0
H01	.75	0	SMIN	68	50	20	-	-	15-	- - - -	-	- -	-	-	0.0
	19.1			20	345	138	-	-	15-	- - - -	-	- -	-	-	0.0
H01	.75	0	SMAX	68	62	-	-	-	-	- - - -	-	- -	-	-	0.0
	19.1			20	427	-	-	-	-	- - - -	-	- -	-	-	0.0
Flat Products															
H02	0.04	0	TYP	68	61	50	-	-	20	70- - 65	-	- -	40	-	0.0
	1			20	421	345	-	-	20	70- - 65	-	- -	276	-	0.0
Rod															
H02	.75	0	SMIN	68	55	25	-	-	10-	- - - -	-	- -	-	-	0.0
	19.1			20	378	172	-	-	10-	- - - -	-	- -	-	-	0.0

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

Physical Properties

	US Customary	Metric
Melting Point - Liquidus	1670 F	910 C
Melting Point - Solidus	1630 F	888 C
Density	0.306 lb/in^3 at 68 F	8.47 gm/cm^3 @ 20 C
Specific Gravity	8.470	8.47
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 · ft2·^oF)at 68F	116.0 W/m · ^oK at 20 C
Coefficient of Thermal Expansion	11.30 ·10^{-6} per ^oF (68-572 F)	20.3 ·10^{-6} per ^oC (20-300 C)
Modulus of Elasticity in Tension	15000 ksi	103400 MPa
Modulus of Rigidity	5600 ksi	38610 MPa

Tempers Most Commonly Used

Flat Products	
BAR, ROLLED	H02, H04
PLATE	H02
SHEET	O60
STRIP, ROLLED	H01, H02, H04, H06, O60, OS035

Other	
ROD	H01, H02, O60

Typical Uses

Builders Hardware
Drawer Pulls, Hinges, Drawer Handles

Consumer
Bicycle Spoke Nipples, Clock and Watch Parts, Clock Plates and Nuts, Key Blanks

Fasteners
Nuts, Rivets, Screws

Industrial
Ratchets, Instrument Backs, Automatic Screw Machine Parts, Valve Stems, Pinions, Flare Fittings, Couplings, Bearing Cages, Channel Plate, Wheels, Gears, Adapters

Other
Engravers Plate

Plumbing
Faucet Seats, Faucet Stems Pipe Fittings, Plumbers Fittings, and Plumbers' Brass Goods

Casting Characteristics
No casting characteristics available for this alloy.