

C37100

LEADED BRASS

DESCRIPTION

Brass is essentially copper alloyed with zinc. It is strong but easy to form, stamp or draw which make it a common choice for a broad spectrum of applications. By varying the amount of zinc content it is possible to achieve a variety of characteristics including different levels of corrosion resistance, ductility and suitability for machining.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	58.00	62.00
Pb	0.60	1.20
Fe	-	0.15
Total Others	-	0.40
Zn	Remainder	

MECHANICAL PROPERTIES (AS PER TEMPER H02)

Range (Inch)	From	To	UTS Min (Ksi)	PS Min (Ksi)	Elongation Min (%)	Hardness Min	Hardness Max
Round (Dia)	0.059	0.500	63.00	28.00	10.00	-	-
	0.500	1.000	55.00	26.00	12.00	-	-
	2.000	2.000	48.00	24.00	20.00	-	-
	2.000	2.952	45.00	20.00	20.00	-	-
Hex (A/F)	0.118	0.500	63.00	28.00	10.00	-	-
	0.500	1.000	55.00	26.00	12.00	-	-
	1.000	2.000	48.00	24.00	20.00	-	-
	2.000	2.756	45.00	20.00	25.00	-	-
Square (A/F)	0.118	0.500	63.00	28.00	10.00	-	-
	0.500	1.000	55.00	26.00	12.00	-	-
	1.000	2.000	48.00	24.00	20.00	-	-
	2.000	2.362	45.00	20.00	25.00	-	-

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MECHANICAL PROPERTIES (AS PER TEMPER HO2)

Range (Inch)	From	To	UTS Min (MPa)	PS Min (MPa)	Elongation Min (%)	Hardness Min	Hardness Max
Round (Dia)	1.5	12.00	430.00	190.00	10.00	-	-
	12.00	25.00	380.00	180.00	12.00	-	-
	25.00	50.00	330.00	165.00	20.00	-	-
	50.00	75.00	310.00	135.00	25.00	-	-
Hex (A/F)	3.00	12.00	430.00	190.00	10.00	-	-
	12.00	25.00	380.00	180.00	12.00	-	-
	25.00	50.00	330.00	165.00	20.00	-	-
	50.00	60.00	310.00	135.00	25.00	-	-
Square (A/F)	3.00	12.00	430.00	190.00	10.00	-	-
	12.00	25.00	380.00	180.00	12.00	-	-
	25.00	50.00	330.00	165.00	20.00	-	-
	50.00	60.00	310.00	135.00	25.00	-	-

PHYSICAL PROPERTIES

Melting Point - Liquidus°F	1650
Melting Point - Solidus°F	1630
Densitylb/cu in. at 68°F	0.304
Specific Gravity	8.41
Electrical Conductivity% IACS at 68°F	27
Thermal ConductivityBtu/ sq ft/ ft hr/ °F at 68°F	69
Coefficient of Thermal Expansion 68-57210 ⁻⁶ per °F (68 – 572°F)	11.6
Specific Heat CapacityBtu/ lb /°F at 68°F	0.09
Modulus of Elasticity in Tensionksi	15000
Modulus of Rigidityksi	5600

FABRICATION PROPERTIES

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	Excellent
Machinability Rating	70

TYPICAL USES

- Builders Hardware
- Consumer
- Building
- Industrial