

# C3712

# LEADED BRASS

## DESCRIPTION

C3712, Engraving brass, are 60/40 alpha-beta brasses with different levels of lead added to give free machining properties. They are widely used for engraved plates and plaques, builders hardware, gears. They should not be used for acid etched work, for which the single phase alpha brasses should be used.

## CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	58.00	62.00
Pb	0.25	1.20
Fe+Sn	-	0.80
Zn	Remainder	

## MECHANICAL PROPERTIES (AS PER TEMPER R410)

Range (Inch)	From	To	UTS Min (Mpa)	PS Min	Elongation Min (%)	Hardness Min	Hardness Max
Round (Dia)	6.00	75.00	315.00	-	15.00	-	-
Hex (A/F)	6.00	70.00	315.00	-	15.00	-	-
Square (A/F)	6.00	60.00	315.00	-	15.00	-	-
Rectangle (Thickness)	6.00	50.00	315.00	-	15.00	-	-

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## 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 <sup>-6</sup> 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

- Industrial