C27400

LEAD FREE BRASS

DESCRIPTION

UNS C27400 yellow brass has a copper content of not less than 62%, CuZn37 is the major brass alloy for the cold forming process. Even though brasses with lower Zinc content have better cold forming properties, CuZn37 is the most used alloy. Reasons for this are on the one hand economical due to lower price of Zinc compared to copper on the other hand the forming properties of this alloy meet the demand of many applications.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	61.00	64.00
Pb	-	0.10
Fe	-	0.05
Total Others	-	0.30
Zn	Remainder	

MECHANICAL PROPERTIES (AS PER TEMPER HO2)

Range (Inch)	From	To	UTS Min (ksi)	PS Min (ksi)	Elongation Min (%)	Hardness Min	Hardness Max
Round (Dia)	0.059	0.500	53.00	33.00	10.00	-	-
	0.500	1.000	48.00	30.00	13.00	-	-
	1.000	2.953	43.00	28.00	15.00	-	-
Hex (A/F)	0.118	0.500	53.00	33.00	10.00	-	-
	0.500	1.000	48.00	30.00	13.00	-	-
	1.000	2.756	43.00	28.00	15.00	-	-
Square (A/F)	0.118	0.500	53.00	33.00	10.00	-	-
	0.500	1.000	48.00	30.00	13.00	-	-
	1.000	2.362	43.00	28.00	15.00	-	-
Rectangle (Thickness)	0.118	0.500	53.00	33.00	10.00	-	-
	0.500	1.000	48.00	30.00	13.00	-	-
	1.000	1.969	43.00	28.00	15.00	-	-

RAJHANS METALS PRIVATE LIMITED

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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	365.00	230.00	10.00	-	-
	12.00	25.00	330.00	205.00	13.00	-	-
	25.00	75.00	295.00	195.00	15.00	-	-
Hex (A/F)	3.00	12.00	365.00	230.00	10.00	-	-
	12.00	25.00	330.00	205.00	13.00	-	-
	25.00	70.00	295.00	195.00	15.00	-	-
Square (A/F)	3.00	12.00	345.00	170.00	10.00	-	-
	12.00	25.00	310.00	115.00	20.00	-	-
	25.00	50.00	275.00	105.00	20.00	-	-
Rectangle (Thickness)	3.00	12.00	345.00	170.00	10.00	-	-
	12.00	25.00	310.00	115.00	20.00	-	-
	25.00	50.00	275.00	105.00	20.00	-	-

PHYSICAL PROPERTIES

Melting Point - Liquidus°F	1680
Densitylb/cu in. at 68°F	0.31
Specific Gravity	8.44
Electrical Conductivity% IACS at 68°F	27
Thermal ConductivityBtu/ sq ft/ ft hr/ °F at 68°F	67
Coefficient of Thermal Expansion 68-57210-^{6} per °F (68 – 572°F)	11.4
Specific Heat Capacity Btu/ lb /°F at 68°F	0.09
Modulus of Elasticity in Tensionksi	15000
Modulus of Rigidityksi	5600

FABRICATION PROPERTIES

Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Capacity for being hot worked	Good
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Not Recommended
Spot Weld	Good
Seam Weld	Not Recommended
Butt Weld	Good
Capacity for Being Cold Worked	Excellent
Capacity for Being Hot Formed	Fair
Machinability Rating	35

TYPICAL USES

- Fasteners
- Industrial

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