

CW711R

NAVAL BRASS

DESCRIPTION

CW711R naval brass. Mostly used for machine hardware, screw machine products and valve stems, CW711R naval brass is great for hot forging and pressing and machining. With high ductility, naval brass has excellent electrical and thermal conductivity. CW711R naval brass has good creep resistance and high impact strength. CW711R is a type of Naval Brass with a copper and tin content lesser than that of CW712R. However, it does contain a certain amount of Lead percentage higher than CW712R. Apart from this difference in the chemical composition, it has almost the same properties as CW712R to withstand against corrosion resistance and excellent for hot forming applications.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	59.50	61.50
Pb	1.30	2.20
Fe	-	0.10
Sn	0.50	1.00
Ni	-	0.30
Total Others	-	0.20
Zn	Remainder	

MECHANICAL PROPERTIES (AS PER TEMPER R410)

Range (mm)	From	To	UTS Min (N/mm ²)	PS Min (N/mm ²)	Elongation Min (%)	Hardness Min	Hardness Max
Round (Dia)	2.00	50.00	410.00	-	18.00	-	-
Hex (A/F)	3.00	50.00	410.00	-	18.00	-	-
Square (A/F)	3.00	50.00	410.00	-	18.00	-	-
Rectangle (Thickness)	3.00	50.00	410.00	-	18.00	-	-

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PHYSICAL PROPERTIES

Melting Point - Liquidus°F	1650
Melting Point - Solidus°F	1630
Densitylb/cu in. at 68°F	0.305
Specific Gravity	8.44
Electrical Conductivity% IACS at 68°F	26
Thermal ConductivityBtu/ sq ft/ ft hr/ °F at 68°F	67
Coefficient of Thermal Expansion 68-57210 ⁻⁶ per °F (68 – 572°F)	11.8
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	Poor
Capacity for Being Hot Formed	Good
Forgeability Rating	90
Machinability Rating	70

TYPICAL USES

- Fasteners
- Industrial
- Marine