

IS 291 GR II

NAVAL BRASS

DESCRIPTION

IS 291 Gr II Naval Brass is mostly used for machine hardware, screw machine products and valve stems, IS 291 Gr II Naval Brass is great for hot forging, pressing and machining. With high ductility, naval brass has excellent electrical and thermal conductivity. IS 291 Gr II naval brass has good creep resistance and high impact strength.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	59.00	62.00
Pb	0.50	1.00
Sn	0.50	1.00
Fe	-	0.10
Total Others	-	0.20
Zn	Remainder	

MECHANICAL PROPERTIES (AS PER TEMPER HB)

Range (Inch)	From	To	UTS Min (MPa)	PS Min (Mpa)	Elongation Min (%)	Hardness Min	Hardness Max
Round (Dia)	1.5	75.00	390.00	-	15.00	-	-
Hex (A/F)	3.00	65.00	390.00	-	15.00	-	-
Square (A/F)	3.00	60.00	390.00	-	15.00	-	-
Rectangle (Thickness)	3.00	50.00	390.00	-	15.00	-	-

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PHYSICAL PROPERTIES

Melting Point - Liquidus°F	1650
Melting Point - Solidus°F	1630
Densitylb/cu in. at 68°F	0.305
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