

# C27451

## LEAD FREE BRASS

### DESCRIPTION

C27451 is a lead free material suited for the use in drinking water applications. C27451 can be used where no high mechanical stresses occur. Uses: A ductile alloy suitable for blanking, riveting, bending, hot forging and pressing, hot heading, up-setting large nuts & bolts and brazing rods.

### CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	61.00	65.00
Pb	-	0.25
Fe	-	0.35
Total Others	-	0.50
Zn	Remainder	

### MECHANICAL PROPERTIES ACCORDING TO ASTM B124

Mechanical property requirement, if any, are to be established by agreement between the manufacturer and the purchaser.



## PHYSICAL PROPERTIES

Melting Point - Liquidus°F	1680
Melting Point - Solidus°F	1650
Densitylb/cu in. at 68°F	0.31
Specific Gravity	8.44
Electrical Conductivity% IACS at 68°F	22.8
Thermal ConductivityBtu/ sq ft/ ft hr/ °F at 68°F	67
Coefficient of Thermal Expansion 68-57210 <sup>6</sup> 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	5500
Magnetic Permeability	1

## 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	Excellent
Machinability Rating	95

## TYPICAL USES

- Plumbing

