



# Metal Alloys Corporation



## NICKEL LEADED COMMERCIAL BRONZE

### EQUIVALENT SPECIFICATIONS

SPECIFICATIONS	DESIGNATION
ISO	CuNi30Mn1Fe
European	CuNi30Mn1Fe
BS	CN 107
JIS	C 7150
Russian	MNZMo30-1-1

Nickel Bearing C31600 is composed of approximately 89% copper, 8% zinc, and 2% lead, but also contains 1% nickel. This alloy combines the natural corrosion resistance and machinability of C31400 with a higher tensile and yield strength resulting from the controlled addition of nickel. The relatively low zinc content provides excellent corrosion resistance in potable water along with a pleasing golden color that matches C22000 hardware. It also possesses a particular resistance to stress corrosion cracking. It is an alloy suitable for outdoor use where higher strength is required.

### TYPICAL USES :

**BUILDERS HARDWARE:** Hardware **ELECTRICAL:** Connectors **FASTENERS:** Fasteners, Nuts, Screws

**INDUSTRIAL:** Screw Machine Parts

### CHEMICAL COMPOSITION

	Cu	Fe	Pb	Ni	P	Zn
Min/Max	87.5 - 90.5	0.1	1.3 - 2.5	0.7 - 1.2	0.04 - 0.1	Rem
Nominals	89.0000	-	1.9000	1.0000	0.7000	8.1000

### PHYSICAL PROPERTIES

Product Property	US Customary
Coefficient of Thermal Expansion	10.2 • 10 <sup>-6</sup> per oF (68-572 F)
Density	0.32 lb/in <sup>3</sup> @ 68 F
Electrical Conductivity	32 %IACS @ 68 F
Electrical Resistivity	32.4 ohms-cmil/ft @ 68 F
Melting Point Liquid US	1900 F
Melting Point Solid US	1850 F
Modulus of Elasticity in Tension	17000 ksi
Specific Gravity	8.86
Specific Heat Capacity	0.09 Btu/lb/°F @ 68 F
Thermal Conductivity	81.0 Btu • ft/(hr • ft <sup>2</sup> • °F) @ 68 F

### SIZES AVAILABLE :

HOLLOW RODS  
 ROUND RODS/BARS  
 HEX  
 SQUARE  
 FLAT  
 PROFILES / SECTIONS  
 BILLETS  
 INGOTS

Min Bore Size 20 mm and Max OD 100 mm  
 6mm To 130 mm  
 5mm To 60mm  
 4mm To 60mm  
 5mm Min Thickness and max Width 120mm  
 AS per Customer Drawing  
 Up to 200 mm  
 AS per Specification

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