

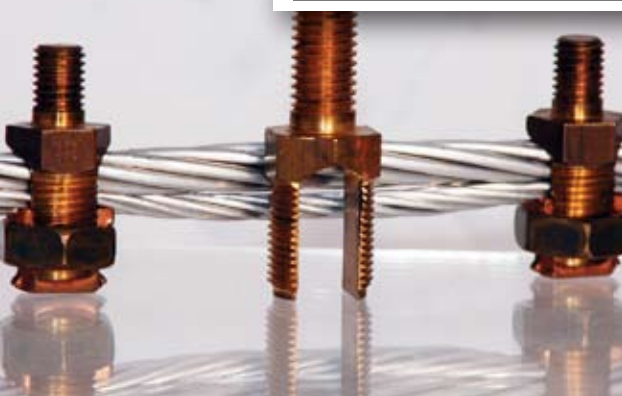


# C31600

# NICKEL LEADED COMMERCIAL BRONZE

[WWW.NBMMETALS.COM](http://WWW.NBMMETALS.COM)

LEADING MANUFACTURER & MASTER DISTRIBUTOR OF BRASS, BRONZE, & COPPER ALLOYS



**Offered in solid & hex bars.**

Similar to C31400, Leaded Commercial Bronze, 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. It also possesses a particular resistance to stress corrosion cracking. It is an alloy suitable for outdoor use where higher strength is required.

### Sizes Available From NBM

SOLID BAR . . . . . 3/16" - 3 1/2" diameter  
 HEX BAR . . . . . 3/8" - 2" across flats

### Spec Equivalents

ASTM B-140  
 MIL-V-18436

### Chemical Composition

	Cu	Fe	Pb	Ni	P	Zn
min/max	87.5 90.5	.10	1.3 - 2.5	.7 - 1.2	.04 - .10	Rem.
nominal	89.0	-	1.9	1.0	.7	8.1

Note: Cu + Sum of Named Elements, 99.6% min.

### Typical Uses

- Builders Hardware**  
Hardware
- Electrical**  
Connectors
- Fasteners**  
Screws, Nuts, Fasteners
- Other Industrial**  
Screw Machine Parts

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## Room Temp Tensile & Hardness Data

TEMPER	SECTION SIZE (INCHES)	TENSILE (KSI) MIN	YIELD (KSI) MIN	ELONGATION IN HD MIN
O60 (Ann.)	All Sizes	35	10	25%
H02 (1/2 H)	Under 1/2"	50	30	7%
	1/2" - 1"	45	27	10%
	Over 1"	40	25	12%
H04 (H)	2" and Under	60	50	6%

## Physical Properties

Melting Point - Liquidus	1900 F
Melting Point - Solidus	1850 F
Density	0.32 lb/in <sup>3</sup> at 68 F
Specific Gravity	8.86
Electrical Resistivity	32.4 ohms-cmil/ft @ 68 F
Electrical Conductivity	32 %IACS @ 68 F
Thermal Conductivity	81.0 Btu · ft/(hr · ft <sup>2</sup> ·°F) at 68F
Coefficient of Thermal Expansion	10.2 · 10 <sup>-6</sup> per °F (68-572 F)
Specific Heat Capacity	0.09 Btu/lb/°F at 68 F
Modulus of Elasticity in Tension	17000 ksi
Machinability Rating	80



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