

# C17510 (Beryllium Copper)

US EPA Registered Antimicrobial

## Chemical Composition

(%max., unless shown as range or min.)

	Cu <sup>(1)</sup>	Al	Be	Co	Fe	Ni	Si
Min./Max.	Rem.	.20	.2-.6	.3	.10	1.4-2.2	.20
Nominal	97.8	-	.4	-	-	1.8	-

(1) Cu value includes Ag.

Note: Cu + Sum of Named Elements, 99.5% min.

## Mechanical Properties (measured at room temperature, 68 F (20 C))

Temper	Section Size	Cold Work	Typ/Min	Temp	Tensile Strength	Yield	Yield	Yield	Rockwell Hardness	Vickers Hard.	Brinell Hard.	Shear Strength	Fatigue Strength*	Izod Impact Strength
						Strength (0.5% ext. under load)	Strength (0.2% offset)	Strength (0.05% offset)						
	in. mm.	%	F C		ksi MPa	ksi MPa	ksi MPa	ksi MPa	% B	CF30T	500	3000ksi MPa	ksi MPa	ft-lb J
<b>Rod</b>														
TD04	0.0	0	TYP	68	72	65	-	-	1268	- - -	-	-	-	0.0
	0.0			20	496	448	-	-	1268	- - -	-	-	-	0.0
<b>Forgings</b>														
TF00	4	0	TYP	68	115	-	90	-	92	- - -	-	-	-	0.0
	102			20	794	-	620	-	92	- - -	-	-	-	0.0
<b>Flat Products</b>														
TF00	0.0	0	TYP	68	110	90	-	-	1296	- 80 -	-	-	-	0.0
	0.0			20	758	621	-	-	1296	- 80 -	-	-	-	0.0
TD04	0.0	0	TYP	68	78	70	-	-	5 83	- 72 -	-	-	-	0.0
	0.0			20	538	483	-	-	5 83	- 72 -	-	-	-	0.0
<b>Rod</b>														
TF00	0.0	0	TYP	68	110	90	-	-	1896	- - -	-	-	-	0.0
	0.0			20	758	621	-	-	1896	- - -	-	-	-	0.0
<b>Forgings</b>														
TB00	0.0	0	TYP	68	42	-	20	-	50	- - -	-	-	-	0.0
	0.0			20	293	-	138	-	50	- - -	-	-	-	0.0
<b>Flat Products</b>														
TH04	0.0	0	TYP	68	115	110	-	-	8 98	- 81 -	-	-	-	0.0
	0.0			20	793	758	-	-	8 98	- 81 -	-	-	-	0.0
<b>Rod</b>														
TH04	0.0	0	TYP	68	115	110	-	-	1498	- - -	-	-	-	0.0
	0.0			20	793	758	-	-	1498	- - -	-	-	-	0.0
TB00	0.0	0	TYP	68	45	25	-	-	2835	- - -	-	-	-	0.0
	0.0			20	310	172	-	-	2835	- - -	-	-	-	0.0
<b>Flat Products</b>														
TH02	0.0	0	TYP	68	115	108	-	-	8 98	- 81 -	-	-	35	0.0
	0.0			20	793	745	-	-	8 98	- 81 -	-	-	241	0.0
TD02	0.0	0	TYP	68	68	60	-	-	8 70	- 64 -	-	-	-	0.0
	0.0			20	469	414	-	-	8 70	- 64 -	-	-	-	0.0
TB00	0.0	0	TYP	68	45	25	-	-	2832	- 36 -	-	-	-	0.0
	0.0			20	310	172	-	-	2832	- 36 -	-	-	-	0.0

\*Fatigue Strength:  $100 \times 10^6$  cycles, unless indicated as  $[N] \times 10^6$ .

## Physical Properties

<="" b="">	US Customary
Melting Point - Liquidus	1955 F
Melting Point - Solidus	1885 F
Density	0.317 lb/in <sup>3</sup> at 68 F
Specific Gravity	8.770
Electrical Resistivity	22.80 ohms-cmil/ft @ 68 F
Electrical Conductivity*	48 %IACS @ 68 F
Electrical Conductivity**	45 %IACS @ 68 F

Thermal Conductivity	120 Btu · ft/(hr · ft <sup>2</sup> ·°F)at 68F
Coefficient of Thermal Expansion	$9.80 \cdot 10^{-6}$ per °F (68-392 F)
Specific Heat Capacity	0.10 Btu/lb/°F at 68 F
Modulus of Elasticity in Tension	19200 ksi
Modulus of Rigidity	7500 ksi

\*Cold worked and precipitation hardened condition. HT Temper

\*\*AT Temper