

C17200 (Beryllium Copper)

US EPA Registered Antimicrobial

Chemical Composition

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

	Cu ⁽¹⁾	Al	Be	Co ⁽²⁾	Si
Min./Max.	Rem.	.20	1.80-2.00	.20 min.	.20
Nominal	98.1	-	1.90	-	-

(1) Cu value includes Ag.

(2) Ni + Co, .20% min.: Ni + Fe + Co, .6% max.

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 Strength			Rockwell Hardness	Vickers Hard.	Brinell Hard.	Shear Strength	Fatigue Strength	Izod Impact Strength
					(0.5% ext. under load)	(0.2% offset)	(0.05% offset)						
	in. mm.	%	F C	ksi MPa	ksi MPa	ksi MPa	% B C F30T500		5003000ksi	ksi MPa	ksi MPa	ft-lb J	
Flat Products													
TM05	0.0	0	MIN 68	150	-	125	9 - 31	-	-	-	-	0.0	
	0.0		20	1030	-	860	9 - 31	-	-	-	-	0.0	
TM08	0.188	0	TYP 68	182	-	160	6 -	-	-	-	-	0.0	
	4.78		20	1255	-	1103	6 -	-	-	-	-	0.0	
TD02	0.188	0	TYP 68	92	-	82	1592-	- 77	-	-	-	0.0	
	4.78		20	634	-	565	1592-	- 77	-	-	-	0.0	
Rod													
TH04	3	0	TYP 68	195	-	145	4 - 41	-	-	-	-	0.0	
	76.2		20	1344	-	1000	4 - 41	-	-	-	-	0.0	
Wire													
TF00	0.0	0	TYP 68	178	-	160	3 -	-	-	-	-	0.0	
	0.0		20	1227	-	1103	3 -	-	-	-	-	0.0	
Flat Products													
TF00	0.188	0	TYP 68	175	-	155	6 - 38	-	-	-	36	0.0	
	4.78		20	1207	-	1069	6 - 38	-	-	-	248	0.0	
TM06	0.188	0	TYP 68	168	-	148	7 - 37	-	-	-	-	0.0	
	4.78		20	1158	-	1020	7 - 37	-	-	-	-	0.0	
Rod													
TD04	1	0	TYP 68	108	-	75	8 95-	-	-	-	-	0.0	
	25.4		20	745	-	517	8 95-	-	-	-	-	0.0	
TF00	0.0	0	TYP 68	182	-	145	4 - 39	-	-	-	-	0.0	
	0.0		20	1255	-	1000	4 - 39	-	-	-	-	0.0	
Wire													
TD04	0.0	0	TYP 68	152	-	125	1 -	-	-	-	-	0.0	
	0.0		20	1048	-	862	1 -	-	-	-	-	0.0	
TD02	0.0	0	TYP 68	122	-	100	5 -	-	-	-	-	0.0	
	0.0		20	841	-	689	5 -	-	-	-	-	0.0	
TH03	0.0	0	TYP 68	210	-	190	1 -	-	-	-	-	0.0	
	0.0		20	1448	-	1310	1 -	-	-	-	-	0.0	
Flat Products													
TH04	0.188	0	TYP 68	200	-	180	2 - 42	-	-	-	45	0.0	
	4.78		20	1379	-	1241	2 - 42	-	-	-	307	0.0	
Rod													
TD04	0.375	0	TYP 68	110	-	75	8 95-	-	-	-	-	0.0	
	9.53		20	758	-	517	8 95-	-	-	-	-	0.0	
Wire													
TH04	0.0	0	TYP 68	212	-	195	1 -	-	-	-	-	0.0	
	0.0		20	1462	-	1344	1 -	-	-	-	-	0.0	
TH02	0.0	0	TYP 68	200	-	185	1 -	-	-	-	-	0.0	
	0.0		20	1379	-	1276	1 -	-	-	-	-	0.0	
Flat Products													
TM04	0.188	0	TYP 68	142	-	122	12- 32	-	-	-	-	0.0	
	4.78		20	979	-	841	12- 32	-	-	-	-	0.0	
TM01	0.188	0	TYP 68	115	-	92	17- 23	-	-	-	-	0.0	
	4.78		20	793	-	634	17- 23	-	-	-	-	0.0	
TD04	0.188	0	TYP 68	110	-	104	5 99-	- 81	-	-	-	0.0	
	4.78		20	758	-	717	5 99-	- 81	-	-	-	0.0	
TH01	0.188	0	TYP 68	185	-	165	4 - 40	-	-	-	40	0.0	
	4.78		20	1276	-	1138	4 - 40	-	-	-	276	0.0	

TD01	0.188 4.78	0	TYP68 20	80 552	-	70 483	-	2580- 2580-	- 70 - - 70 -	- - - - - -	- - - - - -	0.0 0.0
Rod												
TB00	0.0 0.0	0	TYP68 20	72 496	-	20 138	-	2065- 2065-	- - - - - -	- - - - - -	- - - - - -	0.0 0.0
TD04	3 76.2	0	TYP68 20	103 710	-	75 517	-	8 94- 8 94-	- - - - - -	- - - - - -	- - - - - -	0.0 0.0
Wire												
TB00	0.0 0.0	0	TYP68 20	68 469	-	28 193	-	35- 35-	- - - - - -	- - - - - -	- - - - - -	0.0 0.0
TD03	0.0 0.0	0	TYP68 20	142 979	-	120 827	-	2 - 2 -	- - - - - -	- - - - - -	- - - - - -	0.0 0.0
TH01	0.0 0.0	0	TYP68 20	190 1310	-	175 1207	-	2 - 2 -	- - - - - -	- - - - - -	- - - - - -	0.0 0.0
TD01	0.0 0.0	0	TYP68 20	102 703	-	82 565	-	10- 10-	- - - - - -	- - - - - -	- - - - - -	0.0 0.0
Flat Products												
TM02	0.188 4.78	0	TYP68 20	128 883	-	105 724	-	15- 15-	27- - 27- -	- - - - - -	- - - - - -	0.0 0.0
Rod												
TF00	3 76.2	0	TYP68 20	182 1255	-	130 896	-	3 - 3 -	39- - 39- -	- - - - - -	- - - - - -	0.0 0.0
TH04	0.375 9.53	0	TYP68 20	405 2792	-	315 2172	-	4 - 4 -	83- - 83- -	- - - - - -	- - - - - -	0.0 0.0
Flat Products												
TM00	0.188 4.78	0	TYP68 20	105 724	-	82 565	-	20- 20-	27- - 27- -	- - - - - -	- - - - - -	0.0 0.0
TB00	0.0 0.0	0	TYP68 20	70 483	-	32 221	-	4560- 4560-	- 58 - - 58 -	- - - - - -	- - - - - -	0.0 0.0
TH02	0.188 4.78	0	TYP68 20	195 1344	-	175 1207	-	3 - 3 -	41- - 41- -	- - - - - -	- - - - - -	44 303

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

Physical Properties

<="" b="">	US Customary
Melting Point - Liquidus	1800 F
Melting Point - Solidus	1590 F
Density	.290 lb/in ³ at 68 F
Specific Gravity	8.260
Electrical Resistivity	46.20 ohms-cmil/ft @ 68 F
Electrical Conductivity*	22 %IACS @ 68 F
Thermal Conductivity**	62 Btu · ft/(hr · ft ² · °F) at 68F
Coefficient of Thermal Expansion	$9.90 \cdot 10^{-6}$ per °F (68-572 F)
Specific Heat Capacity	.10 Btu/lb/°F at 68 F
Modulus of Elasticity in Tension	18500 ksi
Modulus of Rigidity	7300 ksi

*In the precipitation hardened condition.

**Actual value is 62-75.