

Mechanical and Electrical Properties of Copper Beryllium Strip

Alloy	Temper ¹	Available Sizes	Tensile Strength	Yield Strength 0.2% Offset	Elongation ³	Fatigue Strength 10 ⁶ cycles, R=-1	Hardness ⁴			Electrical Conductivity
		in	ksi	ksi	%	ksi	DPH or Vickers	Rockwell	Superficial Rockwell	(%IACS)
		mm	MPa	MPa		MPa				
25 C17200	A Dead Soft (TB00) ²	.00197 - .15	60 - 76	28 - 36	35 - 75	30 - 35	90 - 144	B45 - 78	30T 46 - 67	15 - 19
		.05 - 3.81	410 - 530	190 - 250		210 - 240				
	A Plashed (TB00) ²	.00197 - .15	60 - 78	30 - 55	35 - 75	30 - 35	90 - 144	B45 - 78	30T 46 - 67	15 - 19
		.05 - 3.81	410 - 540	200 - 380		210 - 240				
	1/4 H (TD01)	.00175 - .15	75 - 88	60 - 80	20 - 45	31 - 36	121 - 185	B68 - 90	30T 62 - 75	15 - 19
		.045 - 3.81	510 - 610	410 - 560		210 - 250				
	1/2 H (TD02)	.0015 - .15	85 - 100	75 - 95	12 - 30	32 - 38	176 - 216	B88 - 96	30T 74 - 79	15 - 19
		.038 - 3.81	580 - 690	510 - 660		220 - 260				
	H (TD04)	.0012 - .15	100 - 120	90 - 115	2 - 18	35 - 39	216 - 287	B96 - 102	30T 79 - 83	15 - 19
		.0305 - 3.81	680 - 830	620 - 800		240 - 270				
	AT (TF00) ⁵	-	165 - 195	140 - 175	3 - 15	40 - 45	353 - 413	C36 - 42	30N 56 - 62	22 - 28
		-	1130 - 1350	960 - 1210		280 - 310				
1/4 HT (TH01) ⁶	-	175 - 205	150 - 185	3 - 10	40 - 45	353 - 424	C36 - 43	30N 56 - 63	22 - 28	
	-	1200 - 1420	1030 - 1280		280 - 310					
1/2 HT (TH02) ⁶	-	185 - 215	160 - 195	1 - 8	42 - 47	373 - 435	C38 - 44	30N 58 - 63	22 - 28	
	-	1270 - 1490	1100 - 1350		290 - 320					
HT (TH04) ⁶	-	190 - 220	165 - 205	1 - 6	45 - 50	373 - 446	C38 - 45	30N 58 - 65	22 - 28	
	-	1310 - 1520	1130 - 1420		310 - 340					
190 C17200	AM (TM00)	.004 - .018	100 - 110	70 - 95	16 - 30	40 - 45	210 - 251	B95 - C23	30N 37 - 44	17 - 28
		.10 - .46	685 - 755	480 - 660		280 - 310				
	1/4 HM (TM01)	.00197 - .040	110 - 120	80 - 110	15 - 25	41 - 47	230 - 271	C20 - 26	30N 41 - 47	17 - 28
		.05 - 1.0	755 - 825	550 - 760		280 - 320				
	1/2 HM (TM02)	.00157 - .040	120 - 135	95 - 125	12 - 22	42 - 48	250 - 301	C23 - 30	30N 44 - 51	17 - 28
		.04 - 1.0	825 - 940	650 - 870		290 - 330				
	HM (TM04)	.00157 - .040	135 - 150	110 - 135	9 - 20	45 - 52	285 - 343	C28 - 35	30N 48 - 55	17 - 28
		.04 - 1.0	930 - 1035	750 - 940		310 - 360				
	SHM (TM05)	.00157 - .016	150 - 160	125 - 140	9 - 18	47 - 55	309 - 363	C31 - 37	30N 52 - 56	17 - 28
		.04 - .41	1035 - 1110	860 - 970		320 - 380				
	XHM (TM06)	.0012 - .032	155 - 175	135 - 170	4 - 15	50 - 57	317 - 378	C32 - 38	30N 52 - 58	17 - 28
		.03 - .81	1060 - 1205	930 - 1180		340 - 390				
XHMS (TM08)	.0012 - .063	175 - 190	150 - 180	3 - 12	50 - 60	325 - 413	C33 - 42	30N 53 - 62	17 - 28	
	.03 - 1.61	1205 - 1320	1030 - 1250		340 - 410					

BrushForm® 290 C17200	TM02	.00197 - .035	120 min.	95 - 115	14 - 30	42 - 48	225 - 309	B98 - C 31	30T 81 - 30N 52	17 - 26
		.05 - .89	820 min.	650 - 800		290 - 330				
	TM03	.00197 - .035	135 min.	110 - 125	12 - 30	-	-	-	-	17 - 26
		.05 - .89	930 min.	760 - 860						
	TM04	.00197 - .035	140 min.	115 - 135	9 - 25	44 - 50	285 - 369	C28 - 38	30N 48 - 58	17 - 26
		.05 - .89	960 min.	790 - 940		300 - 340				
	TM06	.0012 - .035	155 min.	135 - 155	6 - 13	47 - 57	317 - 393	C32 - 40	30N 52 - 60	17 - 26
		.03 - .89	1060 min.	930 - 1070		320 - 390				
TM08	.0012 - .035	175 min.	155 - 175	3 - 15	50 - 60	345 - 429	C35 - 43	30N 55 - 62	17 - 26	
	.03 - .89	1200 min.	1060 - 1210		340 - 410					
Brush 60® C17460	3/4 HT	.0025 - .080	115 - 135	95 - 115	11 min.	44 - 47	220 - 280	B96 - C30	30T 81 - 30N 48	50 min.
		.063 - 2.03	795 - 930	655 - 795		300 - 320				
	HT	.0025 - .080	120 - 140	105 - 125	10 min.	42 - 45	230 - 290	B98 - C31	30T 82 - 30N 49	50 min.
		.063 - 2.03	825 - 965	720 - 860		290 - 310				
174 C17410	1/2 HT	.0025 - .080	95 - 115	80 - 100	10 - 20	40 - 45	180 - 230	B89 - 98	30T 75 - 82	50 min.
		.063 - 2.03	655 - 790	550 - 685		280 - 310				
	HT	.0025 - .080	110 - 130	100 - 120	7 - 17	40 - 45	210 - 278	B95 - 102	30T 79 - 30N 48	45 - 60
		.063 - 2.03	750 - 900	685 - 870		280 - 310				
3 C17510 and 10 C17500	AT	.0025 - .080	100 - 130	80 - 100	10 - 25	38 - 44	195 - 275	B92 - 100	30T 77 - 82	45 - 60
		.063 - 2.03	685 - 900	550 - 690		260 - 330				
	HT	.0025 - .080	110 - 135	95 - 120	8 - 20	42 - 47	216 - 287	B95 - 102	30T 79 - 83	48 - 60
		.063 - 2.03	750 - 940	650 - 830		290 - 320				
Alloy 390® C17460	HT	.0025 - .015	138 - 158	135 - 153	1 min.	35 - 40	280 - 340	C27 - 35	30N 47 - 55	44 min.
		.063 - .381	950 - 1090	930 - 1055		240 - 280				
Alloy 390E®	EHT	.0017 - .015	143 min.	138 min.	2 min.	-	300 min.	-	-	42 min.
		.043 - .381	986 min.	951 min.						

NOTE: 1) ASTM alphanumeric code for product tempers in parentheses. 2) Annealed strip is available dead soft or planished. Dead soft offers maximum deep drawing capability, but planished strip often is preferred for precision stamping. 3) Elongation applies to strip 0.004 inch (0.10mm) and thicker. 4) Consult ASTM E140, Tables 1 and 2, for proper conversion of hardness measurements. 5) Aged 3 hours at 600°F (315°C). 6) Aged 2 hours at 600°F (315°C).