

Mechanical and Electrical Properties of Beryllium Copper Strip

Alloy	Temper (**)	Heat Treatment	Tensile Strength ksi	Yield Strength 0.2% offset ksi	Elongation percent ***	Fatigue Strength 10 ⁶ cycles ksi (r=-1)	****HARDNESS			Electrical Conductivity percent IACS
							Diamond Pyramid	Rockwell		
								B or C	Superficial	
25 C17200	A Dead Soft* Planished (TB00)	—	60-76	28-36	35-65	30-35	90-144	B45-78	30T46-67	15-19
		—	60-78	30-55	35-60	30-35	90-144	B45-78	30T46-67	15-19
	1/4 H (TD01)	—	75-88	60-80	20-45	31-36	121-185	B68-90	30T62-75	15-19
	1/2 H (TD02)	—	85-100	75-95	12-30	32-38	176-216	B88-96	30T74-79	15-19
	H (TD04)	—	100-120	90-115	2-18	35-39	216-287	B96-102	30T79-83	15-19
	AT (TF00)	3 hr 600°F	165-195	140-175	3-15	40-45	353-413	C36-42	30N56-62	22-28
	1/4 HT (TH01)	2 hr 600°F	175-205	150-185	3-10	40-45	353-424	C36-43	30N56-63	22-28
	1/2 HT (TH02)	2 hr 600°F	185-215	160-195	1-8	42-47	373-435	C38-44	30N58-63	22-28
	HT (TH04)	2 hr 600°F	190-220	165-205	1-6	45-50	373-446	C38-45	30N58-65	22-28
190 C17200	AM (TM00)	M	100-110	70-95	16-30	40-45	210-251	B95-C23	30N37-44	17-28
	1/4 HM (TM01)	M	110-120	80-110	15-25	41-47	230-271	C20-26	30N41-47	17-28
	1/2 HM (TM02)	M	120-135	95-125	12-22	42-48	250-301	C23-30	30N44-51	17-28
	HM (TM04)	M	135-150	110-135	9-20	45-52	285-343	C28-35	30N48-55	17-28
	SHM (TM05)	M	150-160	125-140	9-18	47-55	309-363	C31-37	30N52-56	17-28
	XHM (TM06)	M	155-175	135-170	4-15	50-57	317-378	C32-38	30N52-58	17-28
	XHMS (TM08)	M	175-190	150-180	3-12	50-60	325-413	C33-42	30N53-62	17-28
290 C17200	TM00	M	100 min	75-95	19-35	40-45	225-309	B98-C31	30T81-30N52	17-26
	TM02	M	120 min	95-115	14-30	42-48	255-339	C25-34	30N46-54	17-26
	TM04	M	140 min	115-135	9-25	44-50	285-369	C28-38	30N48-58	17-26
	TM06	M	155 min	135-155	6-13	47-57	317-393	C32-40	30N52-60	17-26
	TM08	M	175 min	155-175	3-15	50-60	345-429	C35-43	30N55-62	17-26
165 C17000	A Dead Soft* Planished (TB00)	—	60-76	28-36	35-65	28-33	90-144	B45-78	30T46-67	15-19
		—	60-78	30-55	35-60	28-33	90-144	B45-78	30T46-67	15-19
	1/4 H (TD01)	—	75-88	60-80	20-45	29-34	121-185	B68-90	30T62-75	15-19
	1/2 H (TD02)	—	85-100	75-95	12-30	32-38	176-216	B88-96	30T74-79	15-19
	H (TD04)	—	100-120	90-115	2-10	35-39	216-287	B96-102	30T79-83	15-19
	AT (TF00)	3 hr 600°F	150-180	130-165	3-20	37-42	325-373	C33-38	30N53-58	22-28
	1/4 HT (TH01)	2 hr 600°F	160-190	135-175	3-15	38-44	343-393	C35-40	30N55-59	22-28
	1/2 HT (TH02)	2 hr 600°F	170-200	150-180	1-10	40-45	363-413	C37-42	30N57-60	22-28
	HT (TH04)	2 hr 600°F	180-210	155-180	1-6	42-47	372-435	C38-44	30N58-63	22-28
	AM (TM00)	M	100-110	70-95	18-30	40-45	225-251	B98-C23	30N37-44	18-33
	1/4 HM (TM01)	M	110-120	80-110	15-25	40-45	230-271	C20-26	30N41-47	18-33
	1/2 HM (TM02)	M	120-135	95-125	12-22	42-48	257-301	C24-30	30N45-51	18-33
	HM (TM04)	M	135-150	110-135	9-20	45-52	285-343	C28-35	30N48-55	18-33
	SHM (TM05)	M	150-160	125-140	9-18	47-55	309-363	C31-37	30N52-56	18-33
XHM (TM06)	M	155-175	135-165	3-10	50-57	317-378	C32-38	30N52-58	18-33	
3 C17510 and 10 C17500	A Dead Soft* Planished (TB00)	—	35-55	20-30	20-40	20-30	65-125	B20-45	30T28-45	20-30
		—	35-55	25-45	20-40	20-30	65-125	B20-45	30T28-45	20-30
	H (TD04)	—	70-85	55-80	2-10	25-35	144-176	B78-88	30T69-75	20-30
	AT (TF00)	M or 2-3 hr 900°F	100-130	80-100	10-25	38-44	195-275	B92-100	30T77-82	45-60
	HT (TH04)		110-135	95-120	8-20	42-47	216-287	B95-102	30T79-83	48-60
	HTR	M	120-150	110-140	1-5	43-48	216-287	B98-103	30T80-84	48-60
HTC	M	75-85	50-75	8-20	30-35	147-176	B79-88	30T69-75	60 min	
174 C17410	1/2 HT (TH02)	M	95-115	80-100	10-20	40-45	180-230	B89-98	30T75.5-81.9	50 min
	HT (TH04)	M	110-130	100-120	7-17	40-45	210-278	B95-102	30T79-30N48	45-60

NOTES:

- *Annealed strip is available either dead soft or planished. Dead soft offers maximum deep drawing capability, but planished strip is often preferred for precision stamping.
- **ASTM alphanumeric code for product tempers.
- ***Elongation applies to strip 0.004 in. and thicker.
- ****Diamond Pyramid hardness numbers are a direct conversion from the Rockwell hardness scale.
- M — Heat treatment performed at the mill.