

Comparison of Physical Properties of A.J. Tuck Co. Electroformed Copper and Nickel With Conventional Materials

Material	A.J. Tuck Electroformed Materials						Conventional Materials			
	Copper				Nickel		Drawn OFHC Copper	Invest. Cast Copper 20CR	Dip Brazed Alum. 6061	Deep Drawn Stainless 304
	OFC	Type IA	Type II	Type IIa	Type I	Type II				
Characteristic	Oxygen Free	High Throw	High Leveling	High Strength	Pure	Hard	-	-	-	-
Purity	99.98	99.98	99.95	99.95	99.95	99.8	99.95	-	-	-
Tensile Strength, Norm. x10 ³ lb/sq.in.	10-15	60-100	50-90	90-120	80-150	150-200	33-48	75-85	35	70-80
Yield Strength, x10 ³ lb/sq.in.	8-10	40-80	40-55	60-90	60-100	90-150	10-40	40-50	42	30-60
Elongation, % in 2"	10-20	7-15	10-20	7-15	9-15	5-7	10-45	15-30	12	35-60 (annealed)
Hardness, Rockwell	-	-	-	-	B85-100	C45-58	-	B80-85	-	B75-90
Linear Coefficient of thermal expansion per °Fx10 ⁻⁶ (32 to 212°F)	9.2	9.2	9.2	9.2	7.4	7.4	9.2	9.4	13.3	9.4
Thermal Conductivity cal/sq cm/cm°C/sec	.94	.94	.93	.93	.22	.22	.94	.2	.41	.036
Conductivity. % IACS	100	100	94	94	23	23	100	22	56	3
Melting point, °F	1981	1981	1981	1981	2647	2647	1981	1750	1220	2550
Density, lb/cu.in.	.324	.324	.324	.324	.322	.322	.324	.292	.098	.29
Specific Gravity	8.92	8.92	8.92	8.92	8.9	8.9	8.92	8.1	2.7	-
Max Braze/Solder Temp.°F *Hydrogen Brazeable *Weldable	*1540	1175	600	600	**2200	400	*1800	1650	*1150	**2200
Possible Tolerances inches- ⁺	.0001	.0001	.0001	.0001	.0001	.0001	.002	.003	.003	.003