

# Base metal properties

Metal	Nominal Composition	Density (lbs/in <sup>3</sup> )	Elect. Conduct. (% IACS)	Melting Temp Solidus (°F)	Annealing Temp (°F)	Tensile Strength KSI		% Elongation in 2"	
						Annealed	Hard	Annealed	Hard
Aluminum Alloy 1100	99.0 min Al	.098	57.0	1215	650-775	13	24	35	5
C 10200 Copper	99.95 min Cu	.323	101.0	1981	700-1200	32	50	45	6
C 19400	97.4Cu, 2.4Fe, .13Zn, .04P	.322	65.0	1980	700-1200	45	67	32	4
C 21000 Gilding Metal	95Cu, 5Zn	.320	56.0	1920	800-1450	34	56	45	5
C 22000 Commercial Bronze	90Cu, 10Zn	.318	44.0	1870	800-1450	37	61	45	5
C 23000 Red Brass	85Cu, 15Zn	.316	37.0	1810	800-1350	39	70	48	5
C 24000 Low Brass	80Cu, 20Zn	.313	32.0	1770	800-1300	42	74	52	7
C 26000 Cartridge Brass	70Cu, 30Zn	.308	28.0	1680	800-1400	44	76	66	8
C 51000 Phosphor Bronze A	94.8Cu, 5Sn, .2P	.320	15.0	1750	900-1250	47	81	64	10
C 52100 Phosphor Bronze C	91.8Cu, 8Sn, .2P	.318	13.0	1620	900-1250	55	93	70	10
C 68800	73.5Cu, 22.7Zn, 3.4Al, .4Co	.296	18.0	1740	750-1100	82	109	36	6
C 71500 Cupro-Nickel	69.5Cu, 30Ni, .5Fe	.323	4.6	2140	1200-1500	55	78	45	5
C 72500	88.2Cu, 9.5Ni, 2.3Sn	.321	11.0	1940	1200-1475	55	83	35	3
C 75200 Nickel-Silver	65Cu, 18Ni, 17Zn	.316	6.0	1960	1100-1400	58	85	40	3
C7025 High Performance Alloy	Bal. Cu, 3.0Ni, .65Si, .15Mg	.318	40.0	1967	Proprietary	90	125	10	5
<b>Beryllium Copper Alloys (T=Precipitation Heat Treated)</b>									
C 17000, C 17000 T	98.3Cu, 1.7Be, Ni, Co, Fe	.304	22.0	1590	1425-1475	70 165	110 190	45 7	5 3
C 17200 C 17200 T	98.1Cu, 1.9Be, Ni, Co, Fe	.298	22.0	1590	1425-1475	70 175	110 200	45 6	5 2
C 17500 C 17500 T	96.9Cu, 2.55Co, .55Be	.311	45.0	1885	1675-1725 *	45 110	78 115	28 12	5 8
Nickel 201	99.5Ni, .20Mn, .15Fe, .01C	.321	22.5	2615	1300-1500	55	115	55	5
Nickel 270	99.97Ni	.321	23.5	2650	700-1200	50	90	50	5
Monel® 400	Bal. Ni, 31.5Cu, 1.1Fe, 1Mn, .2Si, .2C	.319	3.3	2460	1400-1600	80	105	48	5
Alloy 42	58.5Fe, 41.5Ni	.293	2.5	2597	1400-1500	68	100	45	8
Invar®	64Fe, 36Ni	.291	2.0	2597	1380-1560	71	90	43	8
ASTM F-15 Alloy	54Fe, 29Ni, 17Co	.302	3.5	2642	1200-1800	75	115	24	5
Low Carbon Steel 1010	Bal. Fe, .45Mn, .1C	.284	14.5	2750	1650-1750	48	85	36	7
Stainless Steel Type 302	Bal. Fe, 18Cr, 9Ni, .15C max	.290	2.4	2590	1850-2050	90	190	50	5
Stainless Steel Type 304	Bal. Fe, 19Cr, 9.5Ni, .08C max	.290	2.4	2650	1850-2050	85	185	50	4
Stainless Steel Type 410	Bal. Fe, 12Cr, .15C	.280	2.5	2790	1200-1600	70	180	25	15
Stainless Steel Type 430	Bal. Fe, 17Cr, .12C	.280	3.0	2750	1400-1525	75	110	25	10
Inconel® 600	72Ni, 15.5Cr, 8Fe, 1.0Mn, 0.5Si, Cu, Ti	.306	10.9	2470	1700-1900	95	155	40	6
Inconel® 625	Bal. Ni, 21.5Cr, 9Mo, 5Fe, 3.65Nb	.305	8.9	2460	2000-2200	115	180	42	12

\*Solution heat treating temperature