

## PROPERTIES OF METALS

METAL OR ALLOY	WT/CU FT.	SPECIFIC GRAVITY	MELTING POINT °F	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	BRINELL HARDNESS	MODULUS OF ELASTICITY 10 <sup>4</sup> psi	THERMAL CONDUCTIVITY BTU/SQ FT HR/°F/in.	ELECTRICAL CONDUCTIVITY % COPPER	ELECTRICAL RESISTIVITY OHMS/cmF	COEFFICIENT OF EXPANSION °F x 10 <sup>4</sup>
ALUMINUM 99%	165	2.72	1220	5,000	13,000	35	23	10.2	1570	59.0	17.6	13.8
ANTIMONY	417	6.67	1166				30	11.2		1.0		6.7
ARSENIC	367	5.72	1497							4.5		2.14
BISMUTH	612	9.8	520				9	4.6		1.3	670	7.47
BRASS, YELLOW	535	8.6	1660	18,000	40,000	60	60	14.0		26.0	40	
BRONZE, ALUMINUM	481	7.7	1905	30,000	76,000	55	125	15	173	15.0	80	16.5
BRONZE, MANGANESE	522	8.38	1598	25,000	60,000	30	100	15	100	25.0	42	11.7
BRONZE, TOBIN	535	8.6	1625	24,000	54,000	40	100	15	810	25.0	42	11.9
CADMIUM	540	8.64	1610		9,200	20	20	7.1		34.0		16.6
CHROMIUM	419	6.7	2740				350			55.0		4.5
COBALT	550	8.8	2700		35,000		125			16.0		12.4
COPPER	557	8.93	1981	10,000	32,000	40	30	15.8	2680	100.0	10.4	9.8
EVERDUR	534	8.57	1866	20,000	55,000	50	95	15.0				9.6
GOLD	1204	19.3	1945		17,000	45	25	13	2000	71.0	14.6	7.8
INCONEL®	534	8.57	2540	35,000	85,000	45	150	30	420	7.8	100	7.2
IRON, CAST	450	7.22	2300	25,000	25,000	0.5	180	13	310	2.9	400	6.0
IRON, MALLEABLE	462	7.42	2300	37,500	57,000	22	110	12.5				6.6
IRON, PURE	490	7.86	2795	19,000	38,000	45	67	30.1	470	17.5	57	6.8
IRON, WROUGHT	480	7.76	2750	27,000	40,000	14*	97 TO 105	29.0	418	15.0	87	6.7



LEAD, CHEMICAL	710	11.4	620	1,900	2,500	50	50	5	2	240	8.0	124	16.4
LEAD,													
TELLURIUM	707	11.34	620	2,200	3,000	45	45	6	2	240	8.0	124	16.4
MAGNESIUM													
99%	108	1.74	1240	13,000	25,000	4	4	40	6.5	1090	37.0	27	14.3
MANGANESE	475	7.3	2246		130,000	60	60	200			35.0	29	12.8
MOLYBDENUM	651	10.3	4532	100,000	140,000			147	50.2		35.0	29	3.1
MONEL ®	551	8.84	2400	35,000	75,000	40	40	125	26	180	3.6	290	7.8
NICHROME	517	8.19	2450	50,000	70,000	5	5	170		135	1.5	675	13.7
NICKEL, 99%	556	8.91	2650	8,500	46,000	28	28	85	30	575	18.8	57	7.4
NICKEL SILVER													
18	546	8.75	2030	20,000	58,000	40	40	90	18.5	230	8.3	17.5	10
PLATINUM	1330	21.4	3218	10,000	24,000	24	24	25	24	480	15.0	64	4.9
SILICON	147	2.34	2588						16.5		1.6	630	3.5
SILVER	655	10.5	1762	8,000	23,000	50	50	30	10.5	2900	106.0	9.6	10.6
STEEL, 0.15C	490	7.85	2700	40,000	60,000	35	35	130.0	30.0	460	14.5	72.0	6.7
STEEL, 0.30C	490	7.85	2600	52,000	84,000	24	24	170.0	30.0	460	14.5	72.0	6.7
STEEL, 0.50C	490	7.83	2500	72,000	98,000	26	26	201.0	30.0	460	14.5	72.0	6.7
STEEL,													
MANGANESE	495	7.93	2450	75,000	118,000	22	22	300.0	29.0				6.7
STEEL, NICKEL													
(2330)	490	7.85	2600	84,000	105,000	25	25	217.0	30.0				6.7
STEEL, CAST	490	7.85	2600	40,000	72,000	26	26	140.0	30.0	400	16	60	6.7
STEEL,													
STAINLESS (304)	495	7.93	2550	35,000	85,000	55	55	160.0	29.0		2.0	460	9.3
TIN (CAST)	458	7.28	450	1,710	3,130	70	70	5.9	7.1	455	13.5	69	11.7
TITANIUM	281	4.5	3270					230.0	12.1				4.0
TUNGSTEN	1191	19.1	6152		500,000				51.0		31.0	33.1	2.2
VANADIUM	380	6	3182										5.6
ZINC	447	7.14	786		20,000	60	60	35.0	18.5		30.0	34	18.0

