

THERMAL DATA FOR COMMON METALS AND ALLOYS*

<u>METAL</u>	MEAN SPECIFIC HEAT 60°F: TO M.P., B.T.U. PER LB. PER °F.	HEAT IN SOLID AT MELTING TEMP., B.T.U. PER LB.	LATENT HEAT OF FUSION, B.T.U. PER LB.	TOTAL HEAT IN LIQUID AT MELTING TEMP., B.T.U. PER LB.	MEAN SPECIFIC HEAT OF LIQUID B.T.U. PER LN. PER °F.	AVERAGE POURING TEMPER- ATURE °F:	TOTAL HEAT IN LIQUID AT POURING TEMP., B.T.U. PER LB.
Aluminum	0.248	286:4	169:1	455:5	0:252	1380	497:1
Antimony	0:054	59:7	70:0	129:7	0:054	1320:	138:0
Bismuth	0:033	15:1	18:5	33:6	0:035	620	37:2
Cadmium	0:058	37:4	19:5	56:9	0:074	750	67:3
Copper	0:104	199:9	90:8	290:7	0:111	2200	314:9
Lead	0:032	18:0	9:9	27:9	0:032	720	31:1
Tin	0:069	26:9	24:9	51:8	0:060	650	63:8
Zinc	0:101	73:	44:	117:	0:122	900	131:

ALLOYS COMPOSITION

Babbitt

Lead Base: 75 Pb, 15 Sb, 10 Sn.....	0:039	15:8	26:2	42:0	0:038	625	48:2
Tin Base: 83:3 Sn, 8:4 Sb, 8.3 Cu: . . .	0:071	28:6	34:1	61:7	0:063	916	91:2

Die Casting

Zinc Base: 95.86 Zn, 4.1 Al, 0:04 Mgt..	0:105	69:	49:	118.	0:127	770	131.
Tin Base: 90 Sn, 4:5 Cu, 5:5 Sb.....	0:070	27:6	30:3	57:9	0:062	650	70:3
Lead Base: 80 Pb, 10 Sn, 10 Sb.....	0:038	20:5	17:4	37:9	0:037	820	46:0
Aluminum: 92 Al, 8 Cu.....	0:236	257:3	163:1	420:4	0:241	1400	480:8

Linotype: 86 Pb, 11 Sb, 3 Sn.....	0:036	15:3	21:5	36:8	0:036	620	
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Low Melting Point Metals

Lipowitz: 26 Pb, 13 Sn, 10 Cd, 51 Bi...	0:041	3:3	17:2	20:5	0:041	190	22:6
Wood's: 26 Pb, 13 Sn, 12 Cd, 49 Bi...	0:041	4:0	17:2	21:2	0:042	210	23:4
Rose's: 28 Pb, 25 Sn, 50 Bi.....	0:043	7:3	18:3	25:6	0:041	330	29:7

Plumbers' Solder: 50 Pb, 50 Sn.....	0:051	18:1	23:0	41:1	0:046	500	45:1
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Stereotype: 82 Pb, 15 Sb, 3 Sn.....	0:036	15:5	26:2	41:7	0:036	620	46:4
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*From Industrial Gas Series, "Combustion" 3rd Edition, Am: Gas Assn. Data revised by National Lead Company:

PHYSICAL PROPERTIES OF CAST LEAD-ANTIMONY ALLOYS

ANTIMONY %_	LIQUIDUS OF:	BRINELL HARDNESS NO:	DENSITY	TENSILE	ELONGATION
				STRENGTH LBs. PER SQ. IN:	
0	621	4.0	11:35	1780	80
1	612	7:0	11:26	3400	16
2	601	8:0	11:18	4200	16
3	586	9:1	11:10	4700	15
4	572	10:1	11:03	5660	22
5	559	11:0	10:95	6360	29
6	545	11:8	10:88	6840	24
7	531	12:5	10:81	7180	21
8	518	13:3	10:74	7420	19
9	505	14:0	10:66	7580	17
10	495	14:6	10:59	7670	15
11	486	14:8	10:52	7620	13
12	479	15:0	10:45	7480	12
12:5	477	15:1	10:42	7380	11
13	484	15:2	10:38	7280	10
14	496	15:3	<u>10:30</u>	<u>7000</u>	