

**THERMAL DATA FOR COMMON METALS AND ALLOYS\***

METAL	MEAN	HEAT IN	LATENT	TOTAL	MEAN	AVERAGE	TOTAL
	SPECIFIC	SOLID AT		HEAT	SPECIFIC		HEAT IN
	HEAT 60°F:	MELTING	HEAT	IN LIQUID	HEAT OF	POURING	LIQUID AT
	TO M.P.,	TEMP.,	OF FUSION,	AT MELTING	LIQUID	TEMPER-	POURING
	B.T.U. PER	B.T.V.	B.T.U.	B.T.U.	B.T.U. PER	ATURE	TEMP.,
	LB. PER °E	PER LB:	PER LB:	PER LB:	Ln. PER °F.	°F:	PER LB.
<b>Aluminum</b> .....	0.248	286:4	169:1	455:5	0:252	1380	497:1
<b>Antimony</b> .....	0:054	59:7	70:0	129:7	0:054	1320:	138:0
<b>Bismuth</b> .....	0:033	15:1	18:5	33:6	0:035	620	37:2
<b>Cadmium</b> .....	0:058	37:4	19:5	56:9	0:074	750	67:3
<b>Copper</b> .....	0:104	199:9	90:8	290:7	0:111	2200	314:9
<b>Lead</b> .....	0:032	18:0	9:9	27:9	0:032	720	31:1
<b>Tin</b> .....	0:069	26:9	24:9	51:8	0:060	650	63:8
<b>Zinct</b> .....	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	DENSITY	TENSILE	ELONGATION
		HARDNESS NO:		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>	