

Table II.

	Temperature "t"					
	-30°	0°	+30°	+60°	+90°	+120°
$1 + \alpha t$	.999712	1.000000	1.000288	1.000576	1.000864	1.001152
$a E (1 + \alpha t)$	3,140,695	3,141,600	3,142,505	3,143,410	3,144,315	3,145,220
$P_0 - a E (1 + \alpha t)$ (neg.)	3,134,795	3,135,700	3,136,605	3,137,510	3,138,415	3,139,320
$\log [P_0 - a E (1 + \alpha t)]$	6.4962091	6.4963345	6.4964598	6.4965851	6.4967104	6.4968356
$\log (3 l^2 + 8 S_1^2)$	6.0340217	6.0340217	6.0340217	6.0340217	6.0340217	6.0340217
$\log [(3 l^2 + 8 S_1^2) \{P_0 - a E (1 + \alpha t)\}]$	12.5302308	12.5303562	12.5304815	12.5306068	12.5307321	12.5308572

Sag in feet = S_1

	6	8	10	12	14	16	18	20
$3 l^2 + 8 S_1^2$	1,080,288	1,080,512	1,080,800	1,081,152	1,081,568	1,082,048	1,082,592	1,083,200
$\log (3 l^2 + 8 S_1^2)$...	6.0335396	6.0336296	6.0337453	6.0338868	6.0340538	6.0342465	6.0344648	6.0347087
t								
Tension P_1 in lbs.	-30°	3,324	3,974	4,809	5,820	7,037	8,427	10,002
	0°	2,417	3,067	3,904	4,920	6,132	7,522	9,097
	+30°	1,511	2,162	3,000	4,021	5,227	6,618	8,193
	+60°	605	1,256	2,093	3,115	4,322	5,714	7,290
	+90°	-303	350	1,187	2,210	3,417	4,809	6,385
	+120°	-1,209	-555	282	1,305	2,513	3,905	5,482

Table III.—Copper Wire.

$$P_1 = \frac{w l^2}{8 S_1}$$

Sag in feet = S_1

	6	8	10	12	14	16	18	20
Tension P_1 in lbs.	$w_0 = 1.788$, 8 lb. wind; $\frac{1}{2}$ " ice	13,437	10,078	8,046	6,710	5,745	5,028	4,470
	$w_1 = .762$ No wind; no ice..	5,715	4,286	3,429	2,855	2,450	2,145	1,905
	$w_2 = 1.061$ 15 lb. wind; no ice	7,958	5,968	4,775	3,980	3,410	2,985	2,656
	$w_3 = 1.440$ No wind; $\frac{1}{2}$ " ice.	10,800	8,100	6,480	5,400	4,625	4,050	3,600

Table IV.—Copper Wire.

$$P_1 = 23.239 S_1^2 + 1,580 - 30.16 t$$

Sag S_1 in feet.

	Temp. t	6	8	10	12	14	16	18	20
Tension P_1 in lbs.	-30°	3,322	3,972	4,809	5,831	7,040	8,434	10,014	11,780
	0°	2,417	3,067	3,904	4,926	6,135	7,529	9,109	10,876
	+30°	1,512	2,162	3,000	4,021	5,230	6,624	8,204	9,971
	+60°	607	1,257	2,095	3,116	4,325	5,719	7,300	9,065
	+90°	....	352	1,190	2,211	3,420	4,814	6,395	8,160
	+120°	....	....	285	1,306	2,515	3,909	5,490	7,255

Table V.—Aluminum Wire.

$$P_1 = 20.877 S_1^2 - 4875 - 36.18 t$$

Sag in feet = S_1

	Temp. t	12	14	16	18	20	22	24	26
Tension in lbs. P_1	-30°	-784	302	1,555	2,975	4,560	6,315	8,235	10,323
	0°	-1,869	-783	470	1,890	3,476	5,230	7,150	9,238
	+30°	-2,954	-1,868	615	805	2,390	4,145	6,065	8,153
	+60°	....	-2,936	-1,700	-280	1,306	3,060	4,980	7,068
	+90°	....	....	-2,785	-1,365	220	1,975	3,895	5,983
	+120°	....	....	....	....	-864	890	2,810	4,898

Table VI.—Aluminum Wire.

$$P_1 = \frac{w l^2}{8 S_1}$$

Sag S_1 in feet.

	12	14	16	18	20	22	24	26
Tension P_1 in lbs.	$w_0 = 1.612$ 8 lb. wind; $\frac{1}{2}$ " ice	6,045	5,180	4,540	4,030	3,627	3,300	3,020
	$w_1 = .368$ No wind; no ice..	1,380	1,182	1,035	920	823	753	690
	$w_2 = .977$ 15 lb. wind; no ice	3,664	3,140	2,748	2,440	2,198	1,997	1,830
	$w_3 = 1.130$ No wind; $\frac{1}{2}$ " ice.	4,238	3,632	3,180	2,825	2,543	2,310	2,117