

DIVISION VIII.—TABLES.

STILL-AIR SAG AND TENSION TABLES FOR ELECTRICAL CONDUCTORS.

MAXIMUM TENSION AND MINIMUM SAG ALLOWABLE.

TABLE I.—BARE (H.D.) COPPER.

Wind, 12 lb. per square foot of diametral plane.

Constants.—Coefficient of thermal expansion = 9.45×10^{-6} per degree Fahrenheit; maximum allowable stress = 25,000 lb. per square inch; modulus of elasticity = 18×10^6 lb. per square inch.

(A.) 7/044 in.

Constants.—Area, 0.01064 sq. in.; diameter, 0.132 in.; loading factor, 3.308; maximum tension in conductor, 266 lb.; weight, 0.0418 lb. per foot.

Span.	Datum.		Degrees Fahrenheit above Datum.									
	0.		20.		40.		60.		80.		100.	
	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.
Ft.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.
120 ..	239 0	3 3/4	203 0	4 1/2	169 0	5 1/2	137 0	6 1/2	108 0	8 1/2	83 0	11
140 ..	229 0	5 1/4	195 0	6 1/4	162 0	7 1/2	131 0	9 1/2	104 1	0	83 1	3
160 ..	218 0	7 1/2	185 0	8 1/2	154 0	10 3/4	125 1	1	101 1	4	83 1	8
180 ..	207 0	10	175 0	11 1/2	145 1	2	120 1	5	99 1	8	82 2	1

(B.) 7/052 in.

Constants.—Area, 0.01483 sq. in.; diameter, 0.156 in.; loading factor, 2.852; maximum tension in conductor, 371 lb.; weight, 0.0583 lb. per foot.

Span.	Datum.		Degrees Fahrenheit above Datum.									
	0.		20.		40.		60.		80.		100.	
	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.
Ft.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.
120 ..	344 0	3 3/4	287 0	4 1/2	243 0	5 1/2	200 0	6 1/2	159 0	8	122 0	10
140 ..	334 0	5 1/4	282 0	6 1/4	229 0	7 1/2	187 0	9	158 0	11	123 1	2
160 ..	323 0	7	268 0	8 1/2	225 0	10	185 1	0	157 1	2	124 1	6
180 ..	311 0	9	263 0	11	221 1	1	181 1	3	155 1	6	125 1	11

(C.) 7/064 in. (7/16 S.W.G.).

Constants.—Area, 0.0225 sq. in.; diameter, 0.192 in.; loading factor, 2.39; maximum tension in conductor, 562 lb.; weight, 0.0885 lb. per foot.

Span.	Datum.		Degrees Fahrenheit above Datum.									
	0.		20.		40.		60.		80.		100.	
	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.
Ft.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.
120 ..	534 0	3 1/4	460 0	4 1/4	387 0	5	317 0	6	252 0	7 1/2	195 0	10
140 ..	524 0	5	451 0	5 1/2	380 0	7	312 0	8 1/2	250 0	10 1/2	199 1	1
160 ..	515 0	6 1/2	441 0	7 1/4	372 0	9	307 0	11	249 1	2	202 1	5
180 ..	502 0	8 1/2	431 0	10	364 1	0	302 1	2	248 1	5	204 1	9

(D.) 7/092 in. (7/13 S.W.G.).

Constants.—Area, 0.0465 sq. in.; diameter, 0.276 in.; loading factor, 1.81; maximum tension in conductor, 1,163 lb.; weight, 0.1824 lb. per foot.

Span.	Datum.		Degrees Fahrenheit above Datum.									
	0.		20.		40.		60.		80.		100.	
	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.	Ten.	Sag.
Ft.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.	lb.	Ft. in.
120 ..	1135 0	3 1/2	981 0	4	830 0	4 1/2	684 0	5 1/2	546 0	7	425 0	9 1/2
140 ..	1126 0	5	974 0	5 1/2	825 0	6 1/2	683 0	8	551 0	9 1/2	437 1	0
160 ..	1115 0	6 1/2	965 0	7	819 0	8 1/2	681 0	10	555 1	0 1/2	448 1	4
180 ..	1103 0	8	955 0	9 1/2	813 0	11	679 1	1	560 1	4	460 1	7