

**BELL SYSTEM PRACTICES**  
**Outside Plant Construction**  
**and Maintenance**

**SECTION G31.116.3**  
**Issue 1, October, 1949**  
**AT&T Co Standard**

**STRINGING SAGS**  
**COPPER-STEEL LINE WIRE**

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**1. GENERAL**

- 1.01 This section contains information regarding the stringing sags of **Copper-Steel Line Wire**.
- 1.02 The sag tables contained herein were formerly included in Section G31.116.1, Issue 1. Sag Tables No. 7 through No. 10 are for use in sagging 080 and 128 copper-steel wire. Sag 104 copper-steel wire in accordance with H wire.
- 1.03 Detailed information regarding the determination of the storm loading area or average span lengths and use of sag tables is contained in Section G31.116.1, Issue 2.
- 1.04 H wire, E wire or 104 copper-steel wire placed on the same pole line with 080 or 128 copper-steel wire should be sagged in accordance with the sag tables in this section. E wire placed on the same pole line with 104 copper-steel wire should be sagged in accordance with H wire.
- 1.05 When copper-steel wire is placed on the same pole line with wire of lower strength the copper-steel wire should be sagged in accordance with the wire having the least strength.

## 2. INDEX OF SAG TABLES

2.01 The following index of sag tables indicates the table to be used for sagging wire in various storm loading areas and for various average span lengths.

Kind of Line Wire	Storm Loading Area	Average Span Length (feet)	Table No.
Copper-Steel Wire (080 and 128)	All	201 — 250	7
	Heavy (only)	251 — 350	8
H, E or 104 Copper-Steel Wire on the same line with 080 or 128 Copper - Steel Wire	Medium and Light	251 — 350	9
		351 — 450	10
Copper-Steel Wire (104)  E wire on the same line with 104 Copper-Steel Wire	See Sag Tables for H Steel Line Wire		

TABLE 7

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	10	-10
	SAG (INCHES)											
180	20	19½	17½	16½	15	14	13½	12½	11½	10½	9½	8
190	22½	21	20	18½	17	16	15	14	13	12	10½	9
200	25	23½	23	21	19½	18	16½	15	14	13	11	10
210	27½	26	24	22½	21	19½	18	16½	15½	14½	12½	11½
220	30	28½	26½	24½	23	21½	20	18½	17½	16	14	12½
230	33	31	29	27	25	23½	22	20½	19	17½	15½	13½
240	36	34	31½	29	27	25½	24	22	20½	19	16½	14½
250	39	36½	34	31	28½	27	25½	24	22½	21	18	16
260	42	39½	37	34	32	30	28	26	24	22	20	17
270	45½	42½	40	37	34½	32½	30	28	26	24	21½	18½

TABLE 8

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	10	—10
	SAG (INCHES)											
230	30½	29	27½	26	24½	23	22	20	19	18	15½	13
240	33	32	30	28½	27	25	23½	22	21	19½	17	14½
250	36	34½	32½	31	29	27½	25½	24	22½	21	18½	15½
260	39	37	36	33½	31½	29½	28	26	24½	23	20	17
270	42	40	38	36	34	32	30	28	26½	24½	21½	18
280	45½	43	41	38½	36½	34	32	30	28½	26½	23	19½
290	48½	46½	44	41½	39	36½	34½	32	30	28	24½	21
300	52	49½	47	44½	42	39½	37	34½	32½	30½	26½	22½
310	55½	53	50	47½	45	42	39½	37	34½	32½	28	24
320	59	56½	53½	50½	48	45	42	39½	37	34½	30	25½
330	63	60	57	54	51	48	45	42	39	36½	32	27
340	67	63½	60	57	54	51	48½	45	41½	39	34	29
350	71	67½	64	60½	57	53½	50	47	44	41½	36	30½
360	75	71	67½	64	60½	57	53	49½	47	44	38	32½
370	79	75	71½	67½	64	60	55½	52½	49½	48	40	34

TABLE 9

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	20	10
	SAG (INCHES)											
230	24½	23	21½	20	19	17½	16½	15½	14	13½	12½	12
240	26½	25	23½	22	20½	19½	18	16½	15½	14½	13½	13
250	28½	27	25½	24	22½	21	19½	18	16½	16	15	14
260	31	29	27½	26	24	22½	21	19½	18	17	16	15
270	33½	31½	30	28	26	24½	22½	21	19½	18½	17½	16½
280	36	34	32	30	28	26½	24½	22½	21	20	18½	17½
290	38½	36½	34½	32	30	28	26	24½	22½	21	20	19
300	41½	39	37	34	32	30	28	26	24	22½	21½	20
310	44	41½	39	37	34½	32	30	28	25½	24½	23	21½
320	47	44	42	39	36½	34½	32	29½	27½	26	24½	23
330	50	47	44½	41½	39	36½	34	31½	29	27½	26	24½
340	53	50	47	44	41½	39	36	33½	31	29	27½	26
350	56	53	50	46½	44	41	38½	35½	32½	31	29½	27½
360	59½	56	53	49½	46½	43½	40½	37½	34½	32½	31	29
370	63	59	56	52	49	46	42½	39½	36½	34½	32½	31

TABLE 10

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	20	10
	SAG (INCHES)											
330	45½	43½	41	39	37½	35½	34	32	30½	28½	27	25½
340	48	46	44	41½	39½	38	36	34	32	30½	28½	27
350	51	48½	46½	44	42	40	38	36	34	32	30	29
360	54	51½	49	46½	44½	42½	40½	38	36	34	32	30½
370	57	54½	52	49	47	45	42½	40½	38	36	33½	32
380	60	57½	54½	52	49½	47	45	42½	40	38	35½	34
390	63½	60½	57½	54½	52	49½	47	45	42½	40	37½	36
400	66½	63½	60½	57½	55	52½	50	47	45½	42	39½	37½
410	70	67	64	60½	58	55	52½	49½	47	44	41½	39½
420	73½	70	67	63½	60½	57½	55	51½	49	46	43½	41½
430	77	73½	70	66½	63½	60½	57½	54½	51½	48½	45½	43½
440	80½	77	73½	70	66½	63½	60½	57	54	51	48	45½
450	84½	80½	77	73	69½	66½	63	60	56½	53½	50	47½
460	88	84	80	76	72½	69½	66	62½	59	55½	52	49½
470	92	87	83½	79½	76	72	68½	65	61½	58	54½	52