

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G31.116.4
Issue 2, April, 1952
AT&T Co Standard

STRINGING SAGS

H STEEL LINE WIRE

104 COPPER-STEEL LINE WIRE

Contents	Page
1. General	1
2. Index of Sag Tables	2
3. Tables of Stringing Sags	3

1. GENERAL

1.01 This section contains information regarding the stringing sags of **H Steel Line Wire and 104 Copper-Steel Line Wire**.

1.02 Table No. 11 has been expanded to provide stringing sags for these wires in shorter spans than were formerly covered. H steel line wire may at times be used in place of steel line wire to obtain improved ground clearances in the shorter spans.

1.03 Detailed information regarding the determination of the storm loading area or average span lengths and the use of sag tables is contained in Section G31.116.1, Issue 2.

1.04 When H steel line wire is placed on the same pole line with wire of a lower strength, the H wire should be sagged in accordance with the wire having the lowest 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.

<u>Kind of Line Wire</u>	<u>Storm Loading Area</u>	<u>Average Span Length (feet)</u>	<u>Table No.</u>
H Steel Line Wire or 104 Copper- Steel Wire	All	100-250	11 ←
	Heavy (only)	251-350	12
		351-600	13
E Wire on Same Line with H Wire or 104 Copper- Steel Wire	Medium and Light	251-450	14
		451-600	15

TABLE 11

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	10	—10
	SAG (INCHES)											
100	4½	4	3½	3	3	3	2½	2½	2½	2	2	1½
120	6	6	5	4½	4½	4	4	3½	3½	3	3	2½
140	8½	8	7	6½	6	5½	5	5	4½	4	4	3½
160	11	10	9	8½	8	7	6½	6	6	5½	5	4½
180	14	13	11½	10½	10	9	8½	8	7½	7	6½	5½
190	15½	14½	13	12	11½	10	9½	9	8½	8	7	6
200	17	16	14½	13	12½	11½	10½	10	9½	8½	7½	7
210	18½	17½	16	14½	14	12½	12	11	10½	9½	8½	7½
220	20½	19	17½	16	15	13½	13	12½	11½	10½	9	8
230	22½	21	19	17½	16½	15	14	13½	12½	11½	10	9
240	24½	23	20	19	17½	16½	15	14½	13½	12½	11	10
250	26½	25	21½	20½	19	17½	16½	16	14½	13½	12	10½
260	29	27	24	22½	21	19	18	17½	16	14½	13	11½
270	31	29	26	24	23	20½	19½	18½	17	16	14	12½

3. TABLES OF STRINGING SAGS

STRINGING SAGS
H STEEL LINE WIRE
104 COPPER-STEEL LINE WIRE

TABLE 12

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	10	-10
	SAG (INCHES)											
230	20	19	18½	17	16	15	14	13	12½	12	10½	9½
240	22	21	20	18½	17½	16½	15½	14½	13½	13	11½	10½
250	24	22½	21½	20	19	18	16½	15½	14½	14	12½	11½
260	26	24½	23	22	20½	19	18	17	16	15	13½	12
270	28	26½	25	23½	22	21	19½	18	17	16	14½	13
280	30	28½	27	25	24	22	21	19½	18	17½	15½	14
290	32	30½	29	27	26	24	22½	21	20	19	17	15
300	34½	32½	31½	29	27½	25½	24	22½	21	20	18	16
310	37	35	33½	31	29	27	25½	24	22½	21	19	17
320	39½	37	36	33	31	29	27	25½	24	23	20½	18½
330	41½	39½	38	35	33	31	29	27	25½	24	22	19½
340	44½	42	40	37½	36	33	31	29	27	25½	23	20½
350	47	44½	43	39½	37	35	32½	30½	28½	27	24½	22
360	50	47	45½	42	39½	37	34½	32½	30	29	26	23
370	52½	49½	48	44	42	39	36½	34	32	30½	27½	24

TABLE 13

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT												
	120	110	100	90	80	70	60	50	40	30	20	10	-10
	SAG (INCHES)												
300	23	21½	20½	19½	18½	18	17	16½	15½	15	14½	14	13
325	26½	25½	24	23	22	21	20	19	18½	17½	17	16½	15
350	31	29½	28	26½	25½	24½	23	22½	21½	20½	20	19	17½
375	35½	34	32	30½	29	28	26½	25½	24½	23½	22½	21½	20
400	40½	38½	36½	35	33	32	30½	29	28	27	25½	24½	23
425	45½	43½	41	39½	37½	36	34½	33	31½	30	29	28	26
450	51	48½	46	44	42	40½	38½	37	35	34	32½	31	29
475	57	54	51½	49	47	45	43	41	39½	37½	36	34½	32½
500	63	60	57	54½	52	49½	47½	45½	43½	42	40	38½	36
525	69½	66	63	60	57	55	52½	50	48	46	44½	42½	40
550	76½	72½	69	66	63	60	57½	55	52½	50½	48½	46½	44
575	83½	79½	75½	72	68½	65½	63	60	57½	55	53	51	48
600	91	86½	82	78½	74½	71½	68½	65½	62½	60	58	55	52
625	99	94	89	85	81	77½	74	71	68	65½	63	60	56½
650	107	101½	96½	92	87½	84	80½	77	73½	70½	68	65	61

STRINGING SAGS
H STEEL LINE WIRE
104 COPPER-STEEL LINE WIRE

TABLE 14

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	20	10
	SAG (INCHES)											
230	16½	15½	14½	13½	13	12	11½	11	10½	10	9½	9
240	18	16½	15½	15	14	13	12½	12	11½	11	10	10
250	19	18	17	16	15	14½	14	13	12½	12	11	10½
260	21	19½	18½	17½	16½	15½	15	14	13½	12½	12	11½
270	22	21	19½	18½	17½	16½	16	15	14	13½	13	12
280	24	22½	21	20	19	18	17½	16	15½	14½	14	13½
290	26	24½	23	21½	20½	19½	18½	17½	16½	16	15	14½
300	27½	26	24½	23	22	20½	20	18½	18	17	16	15½
310	29½	28	26	24½	23½	22	21	20	19	18	17	16½
320	31½	29½	27½	26½	25	23½	22½	21	20	19½	18½	17½
330	33½	31½	29½	28	26½	25	24	22½	21½	20½	19½	18½
340	35½	33½	31½	29½	28	26½	25½	24	23	22	20½	19½

TABLE 14 (Continued)

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	20	10
	SAG (INCHES)											
350	37½	35½	33	31½	30	28	27	25½	24	23	22	21
360	40	37½	35	33½	31½	29½	28½	27	25½	24½	23	22
370	42	39½	37	35	33½	31½	30	28½	27	26	24½	23½
380	44½	42	39	37	35	33	32	30	28½	27	26	24½
390	47	44	41	39	37	35	33½	31½	30	28½	27	26
400	49	46½	43½	41	39	36½	35½	33	31½	30	28½	27
410	51½	48½	45½	43	41	38½	37	34½	33	31½	30	28½
420	54½	51	48	45½	43	40½	39	36½	35	33	31½	30
430	57	53½	50	47½	45	42½	40½	38	36½	35	33	31½
440	59½	56	52½	50	47	44½	42½	40	38	36½	34½	33
450	62½	58½	55	52	49½	46½	44½	42	40	38	36½	34½
460	64½	61	57	54½	51½	48	46½	44	41½	40	37½	36
470	68	64	59½	57	53½	50½	48½	46	43½	42	39	37½

STRINGING SAGS
H STEEL LINE WIRE
104 COPPER-STEEL LINE WIRE

TABLE 15

SPAN LENGTH (FEET)	TEMPERATURE—DEGREES FAHRENHEIT											
	120	110	100	90	80	70	60	50	40	30	20	10
	SAG (INCHES)											
375	35½	34	32	30½	29	28	26½	25½	24½	23½	22½	21½
400	40½	38½	36½	35	33	32	30½	29	28	27	25½	24½
425	45½	43½	41	39½	37½	36	34½	33	31½	30	29	28
450	51	48½	46	44	42	40½	38½	37	35	34	32½	31
475	57	54	51½	49	47	45	43	41	39½	37½	36	34½
500	63	60	57	54½	52	49½	47½	45½	43½	42	40	38½
525	69½	66	63	60	57	55	52½	50	48	46	44½	42½
550	76½	72½	69	66	63	60	57½	55	52½	50½	48½	46½
575	83½	79½	75½	72	68½	65½	63	60	57½	55	53	51
600	91	86½	82	78½	74½	71½	68½	65½	62½	60	58	55
625	99	94	89	85	81	77½	74	71	68	65½	63	60
650	107	101½	96½	92	87½	84	80½	77	73½	70½	68	65