BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G59.020.1
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AT&T Co Standard

COILS AND CASES — GENERAL
RESISTANCE OF LOADING COILS

1. GENERAL

1.01   This is a new section which indicates the d.c. resistance of loading coils and units as well as that of retardation coils and filters. This information is needed in calculating the location of faults in conductors containing coils or filters by means of Wheatstone bridge measurements. These data were formerly covered in Section G72.245.

1.02   The resistance of the coils and filters is given in the table below. The table also shows the gauge of the leads on the coils and the resistance per foot of stub (in the IN and OUT or loop resistance of the wire) that should be added to the resistance of the coil. Where two gauges of stub are indicated, it will be first necessary to ascertain the type of the case in which the coil is potted in order to determine the leads of the coil. The gauge of the stubs on cases is given in the table in Paragraph 1.03.

Code of Coil or Unit	Resistance Per Line Winding (Ohms)	Gauge of Stub	Loop Resistance Per Foot of Stub (Ohm)
506	3.2	19	.016
507	1.4	19	.016
508	1.95	19	.016
513	.9	16	.008
514	1.79	16 or 19	.008 or .016
515	3.03	16 or 19	.008 or .016
516	.27	16 or 19	.008 or .016
518	.9	19	.016
519	.91	13	.004
520	.97	13	.004

Code of Coil or Unit	Resistance Per Line Winding (Ohms)	Gauge of Stub	Loop Resistance Per Foot of Stub (Ohm)
521	1.35	13	.004
522	1.23	13	.004
528	.41	16 or 19	.088 or .016
529	.58	16 or 19	.088 or .016
530	1.41	16 or 19	.088 or .016
531	.97	13	.004
532	1.09	13	.004
533	1.55	13	.004
534	1.76	13	.004
535	1.31	16 or 19	.008 or .016
536	.71	16 or 19	.008 or .016
538	1.6	13	.004
539	1.19	13	.004
540	1.31	13	.004
541	.38	16 or 19	.008 or .016
542	.18	16 or 19	.008 or .016
543	2.82	16 or 19	.008 or .016
544	.99	13	.004
545	1.03	13	.004
546	4.74	16 or 19	.008 or .016
547	1.94	16 or 19	.008 or .016
548	2.29	16 or 19	.008 or .016
551	1.46	16 or 19	.008 or .016
552	3.45	16 or 19	.008 or .016
553	2.9	19	.016
554	2.48	19	.016
555	1.55	13 or 16	.004 or .008
556	1.96	13 or 16	.004 or .008
557	1.42	13 or 16	.004 or .008
558	1.7	13 or 16	.004 or .008
559	1.22	13 or 16	.004 or .008
560	1.60	13 or 16	.004 or .008
561 A & B	1.65	19	.016
562 A & B	3.95	19	.016
563 A & B	1.07	19	.016
564 A & B	2.14	19	.016
565	.95	19	.016
566	1.84	19	.016

Code of Coil or Unit	Resistance Per Line Winding (Ohms)	Gauge of Stub	Loop Resistance Per Foot of Stub (Ohm)
567	.56	19	.016
568	1.14	19	.016
569	.37	19	.016
570	.5	19	.016
571	.25	19	.016
572	.33	19	.016
573 A & B	3.3	19 or 22	.016 or .032
574 A & B	2.25	19 or 22	.016 or .032
575 A & B	1.85	19 or 22	.016 or .032
577	.3	19	.016
578	.32	19	.016
579	.23	19	.016
580	.25	19	.016
581 A & B	2.6	19	.016
582 A	5.	16 or 19	.008 or .016
582 B	5.25	16 or 19	.008 or .016
583 A & B	1.75	19	.016
584 A & B	3.55	16 or 19	.008 or .016
585	1.4	19	.016
586	2.84	19	.016
587	2.4	19	.016
589	.54	19	.016
590	.96	19	.016
591	1.0	19	.016
593	.61	19	.016
594	.48	19	.016
595	.27	19	.016
596	.29	19	.016
597	1.0	19	.016
598	.95	19	.016
601	5.0	22	.032
602	4.35	22	.032
603	6.4	22	.032
605	.73	22	.032
606	.82	22	.032
607	1.3	19	.016
608	2.9	19	.016
609	3.0	19	.016

COILS AND CASES—GENERAL
RESISTANCE OF LOADING COILS

Code of Coil or Unit	Resistance Per Line Winding (Ohms)	Gauge of Stub	Loop Resistance Per Foot of Stub (Ohm)
611	6.4	19	.016
612	4.25	22 or 24	.032 or .052
613	2.75	22	.032
614	4.0	22	.032
615	6.0	22	.032
616	.45	16 or 19	.008 or .016
617	.2	19	.016
618	2.45	22 or 24	.032 or .052
619	1.25	22 or 24	.032 or .052
620	.43	19	.016
621	.23	19	.016
622	4.4	22 or 24	.032 or .052
623	2.74	22	.032
624	3.9	22	.032
625	5.83	22	.032
626	.45	16	.008
627	1.4	19 (Splice Loading)	
628	2.24	22 or 24	.032 or .052
629	1.14	22 or 24	.032 or .052
630	.75	19	.016
632	4.2	24	.052
633	.31	19	.016
634	.26	19	.016
635	.22	19	.016
636	.17	19	.016
638	2.3	24	.052
639	1.1	24	.052
641	1.5	24	.052
642	2.7	24	.052
643	4.5	22 or 24	.032 or .052
644	6.3	22 or 24	.032 or .052
645	9.4	22 or 24	.032 or .052
651	3.8	22 (Splice Loading)	.052
700	.15	16	.008
701	1.05	16	.008
702	2.6	16	.008
703	1.15	16	.008
704	3.15	16	.008

Code of Coil or Unit	Resistance Per Line Winding (Ohms)	Gauge of Stub	Loop Resistance Per Foot of Stub (Ohm)
705	8.1	16	.008
711	1.05	16	.008
713	1.15	16	.008
714	3.15	16	.008
720	.95	16	.008
721	1.	16	.008
730	.44	19	.016
731	.39	19	.016
732	.34	19	.016
733	.44	19	.016
734	.39	19	.016
735	.34	19	.016
A1	.7	16	.008
A3	.95	16	.008
A4	2.7	16	.008
A11	1.45	16	.008
A13	1.55	16	.008
A14	4.6	16	.008
A20	.85	16	.008
A21	.95	16	.008
A30	.42	16	.008
A31	.40	16	.008
A32	.34	16	.008
B1	1.2	16	.008
B3	1.55	16	.008
B4	3.8	16	.008
B6	2.15	16	.008
B8	2.55	16	.008
B11	1.55	16	.008
B13	1.95	16	.008
B14	3.7	16	.008
C1	1.15	16	.008
C3	1.4	16	.008
C4	3.03	16	.008
C6	2.15	16	.008
C8	2.35	16	.008
C11	1.95	16	.008
C13	2.15	16	.008

COILS AND CASES—GENERAL
RESISTANCE OF LOADING COILS

Code of Coil or Unit	Resistance Per Line Winding (Ohms)	Gauge of Stub	Loop Resistance Per Foot of Stub (Ohm)
C14	5.05	16	.008
M1	5.5	19 or 22	.016 or .032
M2	1.8	19 or 22	.016 or .032
M3	1.9	19 or 22	.016 or .032
M4	1.2	19 or 22	.016 or .032
M5	.6	19 or 22	.016 or .032
M6	1.1	19 or 22	.016 or .032
M7	10.7	19 or 22	.016 or .032
M8	5.3	19 or 22	.016 or .032
M9	3.2	19 or 22	.016 or .032
M10	1.8	19 or 22	.016 or .032
M11	3.2	19 or 22	.016 or .032
MF1 or MFA1 or SM1	6.9	19 or 22	.016 or .032
MF2 or MFA 2 or SM2	2.2	19 or 22	.016 or .032
MF3 or MFA 3 or SM3	2.2	19 or 22	.016 or .032
MF4 or MFA4 or SM4	1.5	19 or 22	.016 or .032
MF5 or MFA5 or SM5	.8	19 or 22	.016 or .032
MF6 or MFA6 or SM6	1.4	19 or 22	.016 or .032
MF7 or MFA7 or SM7	13.2	19 or 22	.016 or .032
MF8 or MFA8 or SM8	6.1	19 or 22	.016 or .032
MF9 or MFA9 or SM9	4.0	19 or 22	.016 or .032
MF10 or MFA 10 or SM10	2.2	19 or 22	.016 or .032
MF11 or MFA11 or SM11	4.0	19 or 22	.016 or .032
MF12 or MFA12	9.0	19 or 22	.016 or .032
MF13 or MFA13	10.0	19 or 22	.016 or .032
P1 or P1B	5.3	19 or 22	.016 or .032
P2 or P2B	1.8	19 or 22	.016 or .032
P3 or P3B	1.8	19 or 22	.016 or .032
P4 or P4B	1.3	19 or 22	.016 or .032
P5 or P5B	.5	19 or 22	.016 or .032
P6 or P6B	1.2	19 or 22	.016 or .032
P7 or P7B	9.9	19 or 22	.016 or .032
P8 or P8B	5.8	19 or 22	.016 or .032
P9B	3.	19 or 22	.016 or .032
P10B	1.8	19 or 22	.016 or .032
P11B	3.	19 or 22	.016 or .032
G2	.6	16	.008
G3	.55	16	.008

Code of Coil or Unit	Resistance Per Line Winding (Ohms)	Gauge of Stub	Loop Resistance Per Foot of Stub (Ohm)
F30	.24	16	.008
F31	.22	16	.008
F32	.21	16	.008
230A Retardation Coil 5.8 ohms		19 or 22	.016 or .032
230B Retardation Coil 3.0 ohms		19 or 22	.016 or .032
260A Retardation Coil 3.8 ohms		19 or 22	.016 or .032
260B Retardation Coil 2.0 ohms		19 or 22	.016 or .032
81A Filter	7.3 ohms	19 or 22	.016 or .032
81B Filter	3.65 ohms	19 or 22	.016 or .032
81C Filter	1.3 ohms	19 or 22	.016 or .032
81D Filter	1.3 ohms	19 or 22	.016 or .032

1.03   The gauge of the conductors in the stub associated with coded loading coil and apparatus cases is given in the following table:

Cases Having 13-Gauge Stubs

25—A,B,C,D,E,F
30—A,B

31—A,B,C,D,E,F,G
34—A,B,C,D,E,F

Cases Having 16-Gauge Stubs

31—H,J,K,L,M,N
37—A,B,C,D,E,F,G,H,J,K,
  L,M,N,P,R,S,T,U,W,Y
58—A,B,C,D,E,F,G,H,J,K,
  L,M,N,P,R,S,T,U,W
70—A,B,C
71—A,B,C,D,E,F,G,H,J,K,
  L,M,N,P,R,S,T,U
77—A,B,C,D,E,F,G,H,K,L
79—A,B

80—A,B,C,D,E,F,G,H,J,K,
  L,M,N,P,R,S,T,U
81—A,B,C,D,E,F,G,H,J
84—A,B,C
85—A,B,C
86—A
87—A
88—A
143—B
144—B

Cases Having 19-Gauge Stubs

22—A,B,C
23—A,B,C,D,E,F,G,H,J,K,L
24—A,B
25—E
27—A,B,C,D,E,F,G
28—A,B,C,D,E,F,G,H,J,K,
    L,M,N,P,R
29—A,B,C,D,E,F,G,H,J,K,L,
    M,N,P,R,S,T,U,V,W,Y
32—A,B,C,D,F
33—A
39—A,B,C
40—A,B,C,D
41—A
42—A,B,C,D,E
46—A,B,C,D
47—A
48—A,B
53—A,B,C,D,E,F,G,H,J
54—A,B,C,D
56—A,B,C,D
59—A,B,C,D,E
60—A,B
62—A,B,C
85—A,B,C
86—A
87—A
88—A
94—A,B
98—A,B,C
99—A,B,C
100—A,B,C,D,E
101—A,B
102—A,B,C,D
103—D,E
104—A,B,C,D
105—A,B,C,D
106—A
107—A,B

108—A,B,C,D,E,F,G
127—E
130—A,B,C,D,E,F,G,H,J
131—A,B,C,D,E,F
132—A
133—A,B
139—A,B,C
152—A,B,C
200—A,B,C,D,E
201—A,B
202—A,B,C,D
203—D,E
204—A,B,C,D
205—A,B,C,D
206—A
208—A,B,C,D,E,F,G
230—A,B,C,D,E,F,G,H,J
231—A,B,C,D,E,F
233—A,B
239—A,B,C
252—A,B,C
257—A,B
258—A,B,C,D,E,F,G
280—A,B,C,D,E,F,G,H,J
281—A,B,C,D,E,F
289—A,B,C
291—A,B,C
298—A,B,C
300—A,B,C
301—A
302—A,B
310—A,B,C
311—A
350—A,B
360—A,B
400—A,B,C
401—A
410—A,B,C
411—A

Cases Having 22-Gauge Stubs

22—D,E,F
23—T,U,W
28—S,T
43—A,B
44—A,B
45—A,B,C
49—A,B
55—A,B,C,D
57—A
61—A,B
63—A
64—A,B
65—A
66—A
67—A,B,C
68—A,B
72—A,B
73—A
74—A
75—A,B,C
76—A,B
91—A,B,C
92—A,B,C
93—A,B
97—A
103—A,B,C
106—B,C,D
109—A,B
110—A,B,C,D,E
120—A,B,C,D
121—A
122—A,B,C

123—A
125—B,C
126—A
149—A,B,C
203—A,B,C
206—B,C,D
209—A,B
210—A,B,C,D,E
220—A,B,C,D
221—A
222—A,B,C
223—A
225—B,C
226—A
259—A,B
260—A,B,C,D,E
261—A,B
262—A,B,C,D,E
300—D,E
310—D
313—A,B
314—A
315—A,B,C,D,E
400—D,E
410—D
413—A,B
414—A
415—A,B,C,D
463—A,B
464—A
465—A,B,C,D

Cases Having 24-Gauge Stubs

69—A,B
90—A
93—C
95—A,B,C,**D**
96—A,B
124—A,B,C
125—A
128—A,B

129—A,B,C
195—A,B,C
225—A
226—B
228—A,B
229—A,B,C
278—A,B
295—B,C

Apparatus Cases Having 22-Gauge Stubs

303—A,B
304—A
305—A,B,C,D,E
306—A,B
307—A
403—A,B

404—A
405—A,B,C,D,E
453—A,B
454—A
455—A,B,C,D,E

Splice Loading Coil Cases

140—A
142—A
155—A,B
156—A,B,C,D,E,F,G,H,J,
    K,L,M,N,P
162—A
164—A
165—A

166—A
167—A,B,C
168—A,B,C,D
171—A,B
172—A
173—A
174—A,B