SECONDARY CONSTANTS OF LOADED CABLE
22 GAUGE ASA, BSA, CSA, DSA, ESA
H88 LOADING

at 68° F.*

Freq. Hertz	Propagation Constant per Mile			Mid-Section Impedance			
	Attenuation		Phase Shift	R	X	Z	Angle
	α nepers	dB	β Radians	Ohms	Ohms (neg.)	Ohms	Degrees (neg.)
1	.00739	.064	.00633	14117	12024	18543	40.4
50	.04522	.393	.05162	2003	1741	2654	41.0
100	.05976	.519	.07809	1514	1153	1903	37.3
200	.07448	.647	.1253	1216	719	1413	30.6
300	.08149	.708	.1719	1113	525	1231	25.3
500	.08743	.759	.2675	1044	339	1098	18.0
800	.09020	.783	.4164	1028	221	1051	12.1
1000	.09085	.789	.5187	1035	180	1051	9.9
1200	.09114	.792	.6233	1051	153	1062	8.3
1400	.09125	.793	.7305	1073	134	1082	7.1
1600	.09128	.793	.8408	1103	120	1110	6.2
1800	.09131	.793	.9549	1142	111	1147	5.6
2000	.09141	.794	1.0738	1191	105	1196	5.1
2200	.09171	.797	1.1984	1255	103	1259	4.7
2400	.09237	.802	1.3307	1338	105	1342	4.5
2500	.09293	.807	1.4004	1390	109	1394	4.5
2600	.09372	.814	1.4730	1450	114	1455	4.5
2700	.09482	.824	1.5490	1523	122	1528	4.6
2750	.09553	.830	1.5885	1565	128	1570	4.7
2800	.09637	.837	1.6291	1611	135	1617	4.8
3000	.1018	.884	1.8060	1862	182	1871	5.6
3200	.1146	.995	2.0176	2315	321	2337	7.9
3400	.1587	1.379	2.3023	3371	1081	3540	17.8

* Temperature variation per degree F.

Hz	dB	rad.	R	X
300	.0013	.00010	.288	-.831
1000	.0018	.00014	-.040	-.362
3000	.0017	.00058	.752	-.567

Notes: Nominal cutoff frequency = 3500 Hz

Phase delay = 82.55×10^{-6} seconds/mile at 1000 Hz.

Velocity of propagation = 12.1×10^{3} miles/second at 1000 Hz.

END-SECTION IMPEDANCE

Frequency (Hz) / End Section	300		500		1000		1600	
	R	X	R	X	R	X	R	X
0 (Full Coil)	1110	-438	1028	-193	956	+114	880	+353
.1	1112	-456	1035	-223	985	+ 60	956	+285
.2	1114	-474	1040	-252	1009	+ 2	1020	+200
.3	1114	-491	1044	-281	1025	- 58	1069	+101
.4	1114	-508	1045	-310	1034	-119	1098	- 8
.5 (Mid Section)	1113	-525	1044	-339	1035	-180	1103	-120
.6	1112	-541	1042	-367	1029	-239	1087	-229
.7	1110	-558	1038	-394	1017	-296	1050	-327
.8	1107	-573	1033	-420	998	-348	999	-411
.9	1104	-589	1027	-445	975	-396	937	-479
1.0 (Full Section)	1101	-604	1019	-470	947	-439	871	-531

Frequency (Hz) / End Section	2000		2500		2750		3000	
	R	X	R	X	R	X	R	X
0 (Full Coil)	812	+493	695	+661	617	+745	518	+832
.1	928	+432	861	+636	810	+757	727	+898
.2	1036	+337	1049	+556	1049	+708	1023	+912
.3	1125	+210	1229	+401	1310	+550	1408	+785
.4	1181	+ 57	1358	+168	1516	+255	1769	+404
.5 (Mid Section)	1191	-105	1390	-109	1565	-128	1862	-182
.6	1160	-262	1313	-368	1434	-476	1606	-681
.7	1092	-396	1162	-559	1201	-697	1222	-913
.8	1001	-499	986	-670	960	-791	895	-949
.9	901	-570	822	-716	759	-803	664	-901
1.0 (Full Section)	802	-612	685	-720	606	-774	507	-826