

CN 15 kV 100% 1/3 Neutral (UD) Electrical Properties

Conductor Size		Stranding (No of Wires)	DC Resistance 20°C (Ω/km)	AC*** Resistance 90°C (Ω/km, 60 Hz)	Inductive Reactance*** (Ω/km, 60 Hz)	Capacitance (μF/km)	Capacitive Reactance (MΩ·km, 60 Hz)
AWG or kcmil	mm ²						
CN 15 kV 100% Aluminum 1/3 Neutral (UD)							
2	33.6	solid	0.8407	1.0779	0.3496	0.1613	16500
2	33.6	7	0.8575	1.0994	0.3406	0.1651	16100
1	42.4	solid	0.6664	0.8545	0.3406	0.1718	15500
1	42.4	18	0.6798	0.8716	0.3317	0.1756	15100
1/0	53.5	solid	0.5282	0.6773	0.3406	0.1858	14300
1/0	53.5	18	0.5388	0.6909	0.3230	0.1904	13900
2/0	67.4	18	0.4275	0.5482	0.3145	0.2054	12900
3/0	85.0	18	0.3391	0.4350	0.3055	0.2239	11900
4/0	107	18	0.2689	0.3450	0.2968	0.2415	11000
250	127	35	0.2275	0.2921	0.2900	0.2626	10100
300	152	35	0.1897	0.2436	0.2831	0.2808	9400
350	177	35	0.1626	0.2090	0.2772	0.2946	9000
400	203	35	0.1422	0.1830	0.2721	0.3121	8500
500	253	35	0.1138	0.1467	0.2638	0.3369	7900
600	304	58	0.0948	0.1225	0.2563	0.3665	7200
750	380	58	0.0759	0.0985	0.2480	0.3992	6600
1000	507	58	0.0569	0.0745	0.2362	0.4529	5900
CN 15 kV 100% Copper 1/3 Neutral (UD)							
2	33.6	solid	0.5128	0.6540	0.3496	0.1613	16500
2	33.6	7	0.5231	0.6671	0.3406	0.1651	16100
1	42.4	solid	0.4065	0.5186	0.3406	0.1718	15500
1	42.4	18	0.4147	0.5289	0.3317	0.1756	15100
1/0	53.5	solid	0.3222	0.4111	0.3406	0.1858	14300
1/0	53.5	18	0.3286	0.4193	0.3230	0.1904	13900
2/0	67.4	18	0.2608	0.3328	0.3145	0.2054	12900
3/0	85.0	18	0.2068	0.2642	0.3055	0.2239	11900
4/0	107	18	0.1640	0.2097	0.2968	0.2415	11000
250	127	35	0.1388	0.1776	0.2900	0.2626	10100
300	152	35	0.1157	0.1483	0.2831	0.2808	9400
350	177	35	0.0992	0.1274	0.2772	0.2946	9000
400	203	35	0.0868	0.1117	0.2721	0.3121	8500
500	253	35	0.0694	0.0898	0.2638	0.3369	7900
600	304	58	0.0578	0.0753	0.2563	0.3665	7200
750	380	58	0.0463	0.0610	0.2480	0.3992	6600
1000	507	58	0.0347	0.0468	0.2362	0.4529	5900

*** AC resistance, including skin effect, and inductive reactance are calculated for cables in separate ducts, or spaced in air or direct burial for 1/3 CN. Assumed spacing is 190 mm flat axial separation.
Balanced three-phase current loading is assumed for 1/3 CN cables.