69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - One Circuit

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF	delta Td for .0030 pf & Rho 60	delta Td for .0030 pf & Rho 90	delta Td for .0030 pf & Rho 120
		85°C - Copper Conductor - Compact Round Strand								
3/0	4.026	320	300	298	274	281	254	0.9	1.1	1.3
4/0	4.026	365	342	340	311	319	287	0.9	1.1	1.4
350	4.026	486	453	449	409	420	375	1.0	1.3	1.5
500	5.047	602	557	556	501	519	458	1.1	1.4	1.6
750	5.047	745	684	683	610	634	555	1.2	1.5	1.8
1000	5.047	855	780	779	692	720	627	1.3	1.6	2.0
1250	5.047	938	853	851	752	784	680	1.4	1.8	2.2
		85°C - Copper Conductor - Compact Segmental Strand								
1000	5.047	900	820	818	725	755	655	1.3	1.7	2.1
1250	6.125	1021	921	927	812	855	733	1.4	1.8	2.2
1500	6.125	1110	997	1003	876	923	788	1.4	1.9	2.3
1750	6.125	1185	1061	1068	928	980	834	1.5	1.9	2.4
2000	6.125	1248	1114	1121	972	1027	871	1.5	2.0	2.5
2250	6.125	1300	1157	1164	1006	1064	900	1.6	2.1	2.6
2500	8.125	1385	1217	1244	1058	1141	947	1.5	2.0	2.5
2750	8.125	1428	1251	1280	1085	1171	969	1.6	2.1	2.6
3000	8.125	1462	1278	1307	1106	1194	986	1.6	2.1	2.7

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3034

69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - One Circuit

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF
		Total Watts/ft					
85°C - Copper Conductor - Compact Round Strand							
3/0	4.026	25.3	22.3	22.0	18.6	19.6	16.1
4/0	4.026	26.3	23.1	22.8	19.2	20.2	16.4
350	4.026	29.0	25.2	24.8	20.6	21.7	17.4
500	5.047	32.4	27.8	27.7	22.6	24.2	19.0
750	5.047	35.5	30.0	29.9	24.0	25.9	20.0
1000	5.047	37.9	31.7	31.6	25.1	27.1	20.7
1250	5.047	39.8	33.1	32.9	25.9	28.0	21.3
85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	39.1	32.6	32.4	25.6	27.7	21.1
1250	6.125	43.0	35.2	35.6	27.5	30.4	22.6
1500	6.125	45.0	36.4	36.9	28.3	31.4	23.1
1750	6.125	46.6	37.5	38.0	28.9	32.2	23.6
2000	6.125	47.9	38.4	38.9	29.5	32.8	23.9
2250	6.125	49.3	39.3	39.7	29.9	33.4	24.2
2500	8.125	55.4	43.0	44.9	32.8	38.0	26.5
2750	8.125	56.8	43.9	45.9	33.3	38.6	26.8
3000	8.125	57.9	44.5	46.5	33.6	39.0	27.0

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - One Circuit

25°C Earth Ambient

Condr Size	Pipe ID	OD	Wd	Rac	Qs	Qe	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
85°C - Copper Conductor - Compact Round Strand												
3/0	4.026	1.303	0.13	79.36	1.007	1.021	2.67	0.00	2.07	0.19	3.31	4.84
4/0	4.026	1.355	0.14	63.05	1.009	1.026	2.48	0.00	2.00	0.19	3.31	4.84
350	4.026	1.496	0.16	38.51	1.013	1.043	2.07	0.00	1.81	0.19	3.31	4.84
500	5.047	1.616	0.19	27.41	1.017	1.068	1.82	0.00	1.68	0.16	3.02	4.55
750	5.047	1.788	0.22	19.03	1.022	1.099	1.55	0.00	1.52	0.16	3.02	4.55
1000	5.047	1.940	0.24	15.07	1.025	1.125	1.37	0.00	1.40	0.16	3.02	4.55
1250	5.047	2.065	0.27	12.87	1.027	1.148	1.26	0.00	1.32	0.16	3.02	4.55
85°C - Copper Conductor - Compact Segmental Strand												
1000	5.047	2.020	0.26	13.86	1.026	1.137	1.30	0.00	1.35	0.16	3.02	4.55
1250	6.125	2.140	0.28	11.37	1.032	1.187	1.19	0.00	1.27	0.13	2.78	4.31
1500	6.125	2.255	0.30	9.78	1.035	1.219	1.11	0.00	1.21	0.13	2.78	4.31
1750	6.125	2.360	0.32	8.67	1.037	1.249	1.05	0.00	1.15	0.13	2.78	4.31
2000	6.125	2.450	0.34	7.87	1.038	1.276	1.00	0.00	1.11	0.13	2.78	4.31
2250	6.125	2.545	0.35	7.33	1.038	1.298	0.95	0.00	1.07	0.13	2.78	4.31
2500	8.125	2.620	0.37	6.86	1.044	1.377	0.91	0.00	1.04	0.10	2.41	3.95
2750	8.125	2.710	0.38	6.49	1.045	1.401	0.87	0.00	1.00	0.10	2.41	3.95
3000	8.125	2.790	0.40	6.23	1.045	1.420	0.84	0.00	0.98	0.10	2.41	3.95

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 24 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF	delta Td for .0030 pf & Rho 60	90	120
85°C - Copper Conductor - Compact Round Strand										
3/0	4.026	306	282	281	254	262	232	1.0	1.3	1.5
4/0	4.026	348	321	320	287	297	262	1.1	1.4	1.6
350	4.026	462	422	420	375	389	340	1.2	1.5	1.9
500	5.047	569	515	517	456	477	412	1.3	1.6	2.0
750	5.047	700	629	631	552	579	497	1.4	1.9	2.3
1000	5.047	799	714	716	623	654	559	1.5	2.0	2.5
1250	5.047	874	778	780	675	710	604	1.6	2.2	2.7
85°C - Copper Conductor - Compact Segmental Strand										
1000	5.047	840	749	750	651	684	583	1.6	2.1	2.7
1250	6.125	946	836	843	725	768	647	1.7	2.2	2.8
1500	6.125	1026	902	910	779	826	694	1.8	2.3	2.9
1750	6.125	1092	957	966	823	875	732	1.8	2.5	3.1
2000	6.125	1147	1003	1012	860	914	763	1.9	2.6	3.2
2250	6.125	1192	1038	1048	889	945	787	2.0	2.7	3.4
2500	8.125	1258	1082	1107	925	999	819	1.9	2.6	3.3
2750	8.125	1294	1110	1136	947	1024	837	2.0	2.7	3.4
3000	8.125	1322	1131	1158	964	1042	851	2.1	2.8	3.5

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 24 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF
		Total Watts/ft					
85°C - Copper Conductor - Compact Round Strand							
3/0	4.026	46.3	39.4	39.1	32.1	34.1	26.9
4/0	4.026	47.8	40.8	40.6	32.8	35.1	27.5
350	4.026	52.4	43.9	43.5	34.9	37.4	28.8
500	5.047	58.0	47.7	48.1	37.6	41.1	30.9
750	5.047	62.8	50.9	51.3	39.5	43.4	32.3
1000	5.047	66.4	53.3	53.6	41.0	45.0	33.3
1250	5.047	69.3	55.3	55.5	42.0	46.3	33.9
85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	68.3	54.6	54.7	41.6	45.8	33.7
1250	6.125	74.1	58.3	59.2	44.2	49.4	35.6
1500	6.125	77.1	60.0	61.0	45.2	50.6	36.2
1750	6.125	79.4	61.4	62.5	45.9	51.7	36.7
2000	6.125	81.3	62.6	63.7	46.6	52.3	37.1
2250	6.125	83.2	63.6	64.8	47.2	53.1	37.5
2500	8.125	91.8	68.5	71.6	50.7	58.7	40.2
2750	8.125	93.7	69.6	72.7	51.2	59.5	40.5
3000	8.125	95.1	70.2	73.5	51.7	60.0	40.8

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 24 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	OD	Wd	Rac	Qs	Qe	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
85°C - Copper Conductor - Compact Round Strand												
3/0	4.026	1.303	0.13	79.36	1.007	1.021	2.67	0.00	2.05	0.19	3.65	5.38
4/0	4.026	1.355	0.14	63.05	1.009	1.026	2.48	0.00	1.98	0.19	3.65	5.38
350	4.026	1.496	0.16	38.51	1.013	1.043	2.07	0.00	1.79	0.19	3.65	5.38
500	5.047	1.616	0.19	27.41	1.017	1.068	1.82	0.00	1.66	0.16	3.36	5.09
750	5.047	1.788	0.22	19.03	1.022	1.099	1.55	0.00	1.50	0.16	3.36	5.09
1000	5.047	1.940	0.24	15.07	1.025	1.125	1.37	0.00	1.38	0.16	3.36	5.09
1250	5.047	2.065	0.27	12.87	1.027	1.148	1.26	0.00	1.30	0.16	3.36	5.09
85°C - Copper Conductor - Compact Segmental Strand												
1000	5.047	2.020	0.26	13.86	1.026	1.137	1.30	0.00	1.33	0.16	3.36	5.09
1250	6.125	2.140	0.28	11.37	1.032	1.187	1.19	0.00	1.26	0.13	3.11	4.85
1500	6.125	2.255	0.30	9.78	1.035	1.219	1.11	0.00	1.19	0.13	3.11	4.85
1750	6.125	2.360	0.32	8.67	1.037	1.249	1.05	0.00	1.14	0.13	3.11	4.85
2000	6.125	2.450	0.34	7.87	1.038	1.276	1.00	0.00	1.10	0.13	3.11	4.85
2250	6.125	2.545	0.35	7.33	1.038	1.298	0.95	0.00	1.05	0.13	3.11	4.85
2500	8.125	2.620	0.37	6.86	1.044	1.377	0.91	0.00	1.03	0.10	2.75	4.49
2750	8.125	2.710	0.38	6.49	1.045	1.401	0.87	0.00	0.99	0.10	2.75	4.49
3000	8.125	2.790	0.40	6.23	1.045	1.420	0.84	0.00	0.96	0.10	2.75	4.49

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 36 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF	delta Td for .0030 pf & Rho 60	90	120
				85°C - Copper Conductor - Compact Round Strand						
3/0	4.026	310	287	286	259	268	238	1.0	1.2	1.5
4/0	4.026	353	327	325	294	303	269	1.0	1.3	1.6
350	4.026	469	431	429	384	397	350	1.1	1.5	1.8
500	5.047	578	527	528	468	489	425	1.2	1.6	1.9
750	5.047	713	644	645	568	594	513	1.4	1.8	2.2
1000	5.047	815	732	733	642	672	577	1.5	1.9	2.4
1250	5.047	892	798	799	696	730	624	1.6	2.1	2.6
				85°C - Copper Conductor - Compact Segmental Strand						
1000	5.047	857	768	769	671	704	602	1.5	2.0	2.5
1250	6.125	967	859	867	748	792	670	1.6	2.1	2.6
1500	6.125	1049	928	936	805	853	719	1.7	2.2	2.7
1750	6.125	1118	985	994	851	903	759	1.7	2.3	2.9
2000	6.125	1175	1033	1042	890	945	792	1.8	2.4	3.0
2250	6.125	1222	1070	1079	920	977	817	1.9	2.5	3.1
2500	8.125	1293	1118	1144	960	1037	852	1.8	2.4	3.0
2750	8.125	1331	1148	1174	983	1063	872	1.9	2.5	3.2
3000	8.125	1360	1170	1198	1001	1082	886	1.9	2.6	3.3

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 36 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF
		Total Watts/ft					
85°C - Copper Conductor - Compact Round Strand							
3/0	4.026	47.5	40.8	40.5	33.4	35.7	28.3
4/0	4.026	49.2	42.3	41.8	34.4	36.5	28.9
350	4.026	54.0	45.7	45.3	36.5	39.0	30.5
500	5.047	59.8	49.9	50.1	39.6	43.1	32.8
750	5.047	65.1	53.3	53.5	41.8	45.6	34.3
1000	5.047	69.0	56.0	56.1	43.4	47.4	35.3
1250	5.047	72.1	58.1	58.2	44.5	48.8	36.1
85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	71.0	57.3	57.5	44.1	48.4	35.8
1250	6.125	77.4	61.4	62.5	47.0	52.5	38.0
1500	6.125	80.5	63.4	64.4	48.1	53.8	38.8
1750	6.125	83.1	65.0	66.1	49.0	54.9	39.3
2000	6.125	85.2	66.3	67.4	49.7	55.8	39.8
2250	6.125	87.4	67.5	68.6	50.4	56.6	40.2
2500	8.125	96.9	73.0	76.3	54.4	63.1	43.3
2750	8.125	99.0	74.2	77.5	55.0	64.0	43.8
3000	8.125	100.5	75.0	78.5	55.5	64.5	44.0

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 36 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	OD	Wd	Rac	Qs	Qe	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
					85°C - Copper Conductor - Compact Round Strand							
3/0	4.026	1.303	0.13	79.36	1.007	1.021	2.67	0.00	2.06	0.19	3.54	5.22
4/0	4.026	1.355	0.14	63.05	1.009	1.026	2.48	0.00	1.98	0.19	3.54	5.22
350	4.026	1.496	0.16	38.51	1.013	1.043	2.07	0.00	1.80	0.19	3.54	5.22
500	5.047	1.616	0.19	27.41	1.017	1.068	1.82	0.00	1.67	0.16	3.25	4.93
750	5.047	1.788	0.22	19.03	1.022	1.099	1.55	0.00	1.51	0.16	3.25	4.93
1000	5.047	1.940	0.24	15.07	1.025	1.125	1.37	0.00	1.39	0.16	3.25	4.93
1250	5.047	2.065	0.27	12.87	1.027	1.148	1.26	0.00	1.30	0.16	3.25	4.93
					85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	2.020	0.26	13.86	1.026	1.137	1.30	0.00	1.33	0.16	3.25	4.93
1250	6.125	2.140	0.28	11.37	1.032	1.187	1.19	0.00	1.26	0.13	3.01	4.69
1500	6.125	2.255	0.30	9.78	1.035	1.219	1.11	0.00	1.19	0.13	3.01	4.69
1750	6.125	2.360	0.32	8.67	1.037	1.249	1.05	0.00	1.14	0.13	3.01	4.69
2000	6.125	2.450	0.34	7.87	1.038	1.276	1.00	0.00	1.10	0.13	3.01	4.69
2250	6.125	2.545	0.35	7.33	1.038	1.298	0.95	0.00	1.06	0.13	3.01	4.69
2500	8.125	2.620	0.37	6.86	1.044	1.377	0.91	0.00	1.03	0.10	2.65	4.32
2750	8.125	2.710	0.38	6.49	1.045	1.401	0.87	0.00	0.99	0.10	2.65	4.32
3000	8.125	2.790	0.40	6.23	1.045	1.420	0.84	0.00	0.97	0.10	2.65	4.32

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - One Circuit

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF	delta Td for .0030 pf & Rho 60	90	120
85°C - Aluminum Conductor - Compact Round Strand										
3/0	4.026	250	235	233	214	220	198	0.9	1.1	1.3
4/0	4.026	285	268	266	244	250	225	0.9	1.1	1.4
350	4.026	382	356	353	322	330	295	1.0	1.3	1.5
500	5.047	477	441	441	397	412	364	1.1	1.4	1.6
750	5.047	599	551	550	492	511	448	1.2	1.5	1.8
1000	5.047	700	640	639	569	592	516	1.3	1.6	2.0
1250	5.047	785	715	713	632	658	571	1.4	1.8	2.2
85°C - Aluminum Conductor - Compact Segmental Strand										
1000	5.047	721	658	656	583	607	528	1.3	1.7	2.1
1250	6.125	828	749	754	662	697	599	1.4	1.8	2.2
1500	6.125	912	822	827	724	762	653	1.4	1.9	2.3
1750	6.125	987	887	892	778	820	700	1.5	1.9	2.4
2000	6.125	1054	944	949	825	871	741	1.5	2.0	2.5
2250	6.125	1111	992	998	865	914	776	1.6	2.1	2.6
2500	8.125	1201	1059	1082	924	994	828	1.5	2.0	2.5
2750	8.125	1253	1102	1127	959	1033	858	1.6	2.1	2.6
3000	8.125	1296	1137	1162	987	1064	882	1.6	2.1	2.7
3250	8.125	1338	1171	1198	1015	1095	906	1.7	2.2	2.7
3500	8.125	1379	1204	1232	1041	1124	927	1.7	2.3	2.8
3750	8.125	1414	1232	1261	1063	1149	946	1.8	2.3	2.9
4000	8.125	1447	1258	1288	1084	1172	963	1.8	2.4	3.0

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - One Circuit

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF
		Total Watts/ft					
85°C - Aluminum Conductor - Compact Round Strand							
3/0	4.026	25.2	22.3	21.9	18.6	19.6	15.9
4/0	4.026	26.1	23.1	22.8	19.2	20.2	16.4
350	4.026	28.7	25.0	24.6	20.6	21.6	17.3
500	5.047	32.0	27.5	27.5	22.4	24.0	18.9
750	5.047	34.9	29.6	29.5	23.8	25.6	19.8
1000	5.047	37.2	31.2	31.1	24.8	26.8	20.5
1250	5.047	39.1	32.5	32.4	25.6	27.7	21.0
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	5.047	38.3	32.0	31.8	25.3	27.3	20.9
1250	6.125	41.9	34.4	34.9	27.1	29.9	22.3
1500	6.125	43.6	35.6	36.0	27.8	30.7	22.8
1750	6.125	45.2	36.7	37.1	28.5	31.5	23.2
2000	6.125	46.6	37.5	37.9	28.9	32.1	23.5
2250	6.125	47.9	38.4	38.8	29.4	32.7	23.9
2500	8.125	53.6	41.9	43.7	32.2	37.1	26.0
2750	8.125	55.0	42.8	44.7	32.7	37.7	26.4
3000	8.125	56.2	43.5	45.4	33.1	38.3	26.7
3250	8.125	57.3	44.2	46.2	33.5	38.8	26.9
3500	8.125	58.6	45.0	47.0	33.9	39.4	27.2
3750	8.125	59.5	45.5	47.6	34.2	39.7	27.4
4000	8.125	60.5	46.0	48.2	34.5	40.1	27.5

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - One Circuit

25°C Earth Ambient

Condr Size	Pipe ID	OD	Wd	Rac	Qs	Qe	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
85°C - Aluminum Conductor - Compact Round Strand												
3/0	4.026	1.303	0.13	130.58	1.004	1.013	2.67	0.00	2.07	0.19	3.31	4.84
4/0	4.026	1.355	0.14	103.65	1.005	1.016	2.48	0.00	2.00	0.19	3.31	4.84
350	4.026	1.496	0.16	62.87	1.008	1.026	2.07	0.00	1.81	0.19	3.31	4.84
500	5.047	1.616	0.19	44.26	1.011	1.042	1.82	0.00	1.68	0.16	3.02	4.55
750	5.047	1.788	0.22	29.93	1.014	1.063	1.55	0.00	1.52	0.16	3.02	4.55
1000	5.047	1.940	0.24	22.90	1.017	1.083	1.37	0.00	1.40	0.16	3.02	4.55
1250	5.047	2.065	0.27	18.80	1.019	1.101	1.26	0.00	1.32	0.16	3.02	4.55
85°C - Aluminum Conductor - Compact Segmental Strand												
1000	5.047	2.020	0.26	22.13	1.016	1.086	1.30	0.00	1.35	0.16	3.02	4.55
1250	6.125	2.140	0.28	17.83	1.020	1.119	1.19	0.00	1.28	0.13	2.78	4.31
1500	6.125	2.255	0.30	14.98	1.023	1.143	1.11	0.00	1.21	0.13	2.78	4.31
1750	6.125	2.360	0.32	12.99	1.024	1.166	1.05	0.00	1.16	0.13	2.78	4.31
2000	6.125	2.450	0.34	11.50	1.026	1.189	1.00	0.00	1.11	0.13	2.78	4.31
2250	6.125	2.545	0.35	10.45	1.027	1.209	0.95	0.00	1.07	0.13	2.78	4.31
2500	8.125	2.620	0.37	9.54	1.032	1.271	0.91	0.00	1.04	0.10	2.41	3.95
2750	8.125	2.710	0.38	8.83	1.033	1.295	0.87	0.00	1.01	0.10	2.41	3.95
3000	8.125	2.790	0.40	8.30	1.034	1.316	0.84	0.00	0.98	0.10	2.41	3.95
3250	8.125	2.865	0.41	7.80	1.035	1.338	0.81	0.00	0.95	0.10	2.41	3.95
3500	8.125	2.965	0.43	7.39	1.035	1.360	0.78	0.00	0.92	0.10	2.41	3.95
3750	8.125	3.030	0.44	7.03	1.036	1.380	0.76	0.00	0.90	0.10	2.41	3.95
4000	8.125	3.105	0.45	6.73	1.036	1.399	0.74	0.00	0.88	0.10	2.41	3.95

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 24 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF	delta Td for .0030 pf & Rho 60	90	120
85°C - Aluminum Conductor - Compact Round Strand										
3/0	4.026	239	220	220	198	205	181	1.0	1.3	1.5
4/0	4.026	272	251	250	225	233	205	1.1	1.4	1.6
350	4.026	363	332	331	295	306	268	1.2	1.5	1.9
500	5.047	451	409	410	362	378	328	1.3	1.6	2.0
750	5.047	563	507	508	446	467	402	1.4	1.9	2.3
1000	5.047	656	587	588	513	538	460	1.5	2.0	2.5
1250	5.047	732	653	654	568	597	508	1.6	2.2	2.7
85°C - Aluminum Conductor - Compact Segmental Strand										
1000	5.047	674	602	603	524	551	470	1.6	2.1	2.7
1250	6.125	769	681	687	592	627	529	1.7	2.2	2.8
1500	6.125	845	745	752	645	684	575	1.8	2.3	2.9
1750	6.125	912	801	808	691	733	615	1.8	2.5	3.1
2000	6.125	971	851	859	732	777	651	1.9	2.6	3.2
2250	6.125	1021	892	900	766	813	679	2.0	2.7	3.4
2500	8.125	1094	944	966	810	873	718	1.9	2.6	3.3
2750	8.125	1139	980	1003	839	905	743	2.0	2.7	3.4
3000	8.125	1175	1009	1032	862	931	762	2.1	2.8	3.5
3250	8.125	1211	1038	1062	885	956	782	2.1	2.9	3.6
3500	8.125	1246	1065	1089	906	979	799	2.2	3.0	3.8
3750	8.125	1275	1088	1113	924	1000	814	2.2	3.0	3.8
4000	8.125	1302	1109	1135	941	1018	828	2.3	3.1	3.9

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 24 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF
		Total Watts/ft					
85°C - Aluminum Conductor - Compact Round Strand							
3/0	4.026	46.1	39.2	39.2	31.9	34.1	26.8
4/0	4.026	47.6	40.6	40.3	32.8	35.1	27.4
350	4.026	52.0	43.6	43.4	34.7	37.2	28.8
500	5.047	57.4	47.4	47.6	37.4	40.6	30.9
750	5.047	61.8	50.4	50.6	39.3	42.9	32.1
1000	5.047	65.5	52.7	52.9	40.6	44.5	32.9
1250	5.047	68.2	54.6	54.7	41.7	45.9	33.7
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	5.047	67.1	53.8	54.0	41.1	45.3	33.4
1250	6.125	72.5	57.2	58.2	43.6	48.7	35.2
1500	6.125	75.2	58.8	59.9	44.6	49.9	35.8
1750	6.125	77.5	60.2	61.2	45.3	50.7	36.3
2000	6.125	79.3	61.4	62.5	46.0	51.5	36.8
2250	6.125	81.2	62.4	63.5	46.6	52.2	37.1
2500	8.125	89.3	67.1	70.1	49.9	57.7	39.7
2750	8.125	91.3	68.2	71.3	50.6	58.5	40.2
3000	8.125	92.8	69.1	72.2	51.1	59.2	40.4
3250	8.125	94.3	69.9	73.1	51.5	59.7	40.7
3500	8.125	96.2	70.9	74.1	52.0	60.3	41.0
3750	8.125	97.2	71.5	74.7	52.3	60.8	41.2
4000	8.125	98.4	72.1	75.4	52.7	61.2	41.4

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 24 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	OD	Wd	Rac	Qs	Qe	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
85°C - Aluminum Conductor - Compact Round Strand												
3/0	4.026	1.303	0.13	130.58	1.004	1.013	2.67	0.00	2.05	0.19	3.65	5.38
4/0	4.026	1.355	0.14	103.65	1.005	1.016	2.48	0.00	1.98	0.19	3.65	5.38
350	4.026	1.496	0.16	62.87	1.008	1.026	2.07	0.00	1.79	0.19	3.65	5.38
500	5.047	1.616	0.19	44.26	1.011	1.042	1.82	0.00	1.66	0.16	3.36	5.09
750	5.047	1.788	0.22	29.93	1.014	1.063	1.55	0.00	1.51	0.16	3.36	5.09
1000	5.047	1.940	0.24	22.90	1.017	1.083	1.37	0.00	1.39	0.16	3.36	5.09
1250	5.047	2.065	0.27	18.80	1.019	1.101	1.26	0.00	1.30	0.16	3.36	5.09
85°C - Aluminum Conductor - Compact Segmental Strand												
1000	5.047	2.020	0.26	22.13	1.016	1.086	1.30	0.00	1.33	0.16	3.36	5.09
1250	6.125	2.140	0.28	17.83	1.020	1.119	1.19	0.00	1.26	0.13	3.11	4.85
1500	6.125	2.255	0.30	14.98	1.023	1.143	1.11	0.00	1.19	0.13	3.11	4.85
1750	6.125	2.360	0.32	12.99	1.024	1.166	1.05	0.00	1.14	0.13	3.11	4.85
2000	6.125	2.450	0.34	11.50	1.026	1.189	1.00	0.00	1.10	0.13	3.11	4.85
2250	6.125	2.545	0.35	10.45	1.027	1.209	0.95	0.00	1.06	0.13	3.11	4.85
2500	8.125	2.620	0.37	9.54	1.032	1.271	0.91	0.00	1.03	0.10	2.75	4.49
2750	8.125	2.710	0.38	8.83	1.033	1.295	0.87	0.00	0.99	0.10	2.75	4.49
3000	8.125	2.790	0.40	8.30	1.034	1.316	0.84	0.00	0.97	0.10	2.75	4.49
3250	8.125	2.865	0.41	7.80	1.035	1.338	0.81	0.00	0.94	0.10	2.75	4.49
3500	8.125	2.965	0.43	7.39	1.035	1.360	0.78	0.00	0.91	0.10	2.75	4.49
3750	8.125	3.030	0.44	7.03	1.036	1.380	0.76	0.00	0.89	0.10	2.75	4.49
4000	8.125	3.105	0.45	6.73	1.036	1.399	0.74	0.00	0.87	0.10	2.75	4.49

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 36 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF	delta Td for .0030 pf & Rho 60	90	120
85°C - Aluminum Conductor - Compact Round Strand										
3/0	4.026	242	225	224	203	209	186	1.0	1.2	1.5
4/0	4.026	276	256	255	230	238	211	1.0	1.3	1.6
350	4.026	368	339	337	302	313	275	1.1	1.5	1.8
500	5.047	458	418	418	372	388	337	1.2	1.6	1.9
750	5.047	573	519	520	458	479	414	1.4	1.8	2.2
1000	5.047	668	602	603	528	553	475	1.5	1.9	2.4
1250	5.047	747	670	671	585	613	525	1.6	2.1	2.6
85°C - Aluminum Conductor - Compact Segmental Strand										
1000	5.047	687	617	618	540	566	485	1.5	2.0	2.5
1250	6.125	786	700	706	611	646	548	1.6	2.1	2.6
1500	6.125	864	766	772	666	705	596	1.7	2.2	2.7
1750	6.125	933	824	831	714	757	638	1.7	2.3	2.9
2000	6.125	994	876	883	757	803	675	1.8	2.4	3.0
2250	6.125	1046	919	927	792	841	705	1.9	2.5	3.1
2500	8.125	1123	975	997	840	906	747	1.8	2.4	3.0
2750	8.125	1170	1013	1036	870	939	773	1.9	2.5	3.2
3000	8.125	1208	1043	1067	895	966	793	1.9	2.6	3.3
3250	8.125	1246	1074	1098	919	993	814	2.0	2.7	3.3
3500	8.125	1282	1102	1128	941	1017	832	2.0	2.8	3.5
3750	8.125	1313	1126	1153	960	1039	848	2.1	2.8	3.6
4000	8.125	1342	1149	1176	978	1058	863	2.1	2.9	3.6

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69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 36 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	60 Rho 75 LF	60 Rho 100 LF	90 Rho 75 LF	90 Rho 100 LF	120 Rho 75 LF	120 Rho 100 LF
		Total Watts/ft					
85°C - Aluminum Conductor - Compact Round Strand							
3/0	4.026	47.2	40.9	40.6	33.5	35.4	28.2
4/0	4.026	49.0	42.2	41.9	34.2	36.6	29.0
350	4.026	53.4	45.5	44.9	36.3	38.9	30.2
500	5.047	59.1	49.5	49.5	39.4	42.8	32.5
750	5.047	64.0	52.7	52.9	41.3	45.1	34.0
1000	5.047	67.8	55.4	55.6	42.9	47.0	35.0
1250	5.047	70.9	57.4	57.5	44.1	48.3	35.8
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	5.047	69.6	56.4	56.6	43.6	47.7	35.5
1250	6.125	75.6	60.3	61.3	46.4	51.6	37.6
1500	6.125	78.5	62.1	63.0	47.4	52.9	38.3
1750	6.125	81.0	63.6	64.7	48.2	54.0	38.9
2000	6.125	83.0	64.9	66.0	49.0	54.9	39.4
2250	6.125	85.1	66.2	67.3	49.7	55.7	39.8
2500	8.125	94.0	71.4	74.5	53.5	61.9	42.8
2750	8.125	96.2	72.7	75.9	54.2	62.8	43.3
3000	8.125	98.0	73.6	77.0	54.9	63.5	43.6
3250	8.125	99.7	74.7	77.9	55.3	64.2	43.9
3500	8.125	101.7	75.8	79.3	55.9	64.9	44.3
3750	8.125	103.0	76.4	80.0	56.3	65.5	44.5
4000	8.125	104.4	77.2	80.8	56.7	65.9	44.8

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3050

69 kV Paper Insulated High Pressure Gas Filled Pipe Type Cable

Buried - Two Circuits - 36 in. Spacing

25°C Earth Ambient

Condr Size	Pipe ID	OD	Wd	Rac	Qs	Qe	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
85°C - Aluminum Conductor - Compact Round Strand												
3/0	4.026	1.303	0.13	130.58	1.004	1.013	2.67	0.00	2.06	0.19	3.54	5.22
4/0	4.026	1.355	0.14	103.65	1.005	1.016	2.48	0.00	1.98	0.19	3.54	5.22
350	4.026	1.496	0.16	62.87	1.008	1.026	2.07	0.00	1.80	0.19	3.54	5.22
500	5.047	1.616	0.19	44.26	1.011	1.042	1.82	0.00	1.67	0.16	3.25	4.93
750	5.047	1.788	0.22	29.93	1.014	1.063	1.55	0.00	1.51	0.16	3.25	4.93
1000	5.047	1.940	0.24	22.90	1.017	1.083	1.37	0.00	1.39	0.16	3.25	4.93
1250	5.047	2.065	0.27	18.80	1.019	1.101	1.26	0.00	1.30	0.16	3.25	4.93
85°C - Aluminum Conductor - Compact Segmental Strand												
1000	5.047	2.020	0.26	22.13	1.016	1.086	1.30	0.00	1.33	0.16	3.25	4.93
1250	6.125	2.140	0.28	17.83	1.020	1.119	1.19	0.00	1.26	0.13	3.01	4.69
1500	6.125	2.255	0.30	14.98	1.023	1.143	1.11	0.00	1.20	0.13	3.01	4.69
1750	6.125	2.360	0.32	12.99	1.024	1.166	1.05	0.00	1.14	0.13	3.01	4.69
2000	6.125	2.450	0.34	11.50	1.026	1.189	1.00	0.00	1.10	0.13	3.01	4.69
2250	6.125	2.545	0.35	10.45	1.027	1.209	0.95	0.00	1.06	0.13	3.01	4.69
2500	8.125	2.620	0.37	9.54	1.032	1.271	0.91	0.00	1.03	0.10	2.65	4.32
2750	8.125	2.710	0.38	8.83	1.033	1.295	0.87	0.00	1.00	0.10	2.65	4.32
3000	8.125	2.790	0.40	8.30	1.034	1.316	0.84	0.00	0.97	0.10	2.65	4.32
3250	8.125	2.865	0.41	7.80	1.035	1.338	0.81	0.00	0.94	0.10	2.65	4.32
3500	8.125	2.965	0.43	7.39	1.035	1.360	0.78	0.00	0.91	0.10	2.65	4.32
3750	8.125	3.030	0.44	7.03	1.036	1.380	0.76	0.00	0.89	0.10	2.65	4.32
4000	8.125	3.105	0.45	6.73	1.036	1.399	0.74	0.00	0.87	0.10	2.65	4.32

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