69 kV Paper Insulated High Pressure Liquid 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	334	313	311	284	292	261	0.8	1.1	1.3
4/0	4.026	382	356	354	322	331	296	0.9	1.1	1.4
350	4.026	507	471	467	422	435	386	1.0	1.3	1.6
500	4.026	616	569	564	507	523	461	1.1	1.4	1.7
750	5.047	775	708	707	628	654	569	1.2	1.5	1.9
1000	5.047	886	805	803	710	740	641	1.3	1.7	2.1
1250	5.047	970	878	876	770	804	693	1.4	1.8	2.3
		85°C - Copper Conductor - Compact Segmental Strand								
1000	5.047	932	845	843	743	775	669	1.4	1.8	2.2
1250	6.125	1056	949	954	832	877	748	1.4	1.8	2.3
1500	6.125	1146	1025	1031	895	946	802	1.5	1.9	2.4
1750	6.125	1222	1089	1095	947	1002	847	1.5	2.0	2.5
2000	6.125	1285	1142	1148	990	1048	884	1.6	2.1	2.6
2250	6.125	1336	1184	1190	1023	1085	912	1.6	2.2	2.7
2500	8.125	1424	1245	1273	1076	1163	959	1.6	2.1	2.6
2750	8.125	1466	1278	1308	1102	1193	981	1.6	2.2	2.7
3000	8.125	1498	1304	1335	1122	1215	998	1.7	2.3	2.8

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69 kV Paper Insulated High Pressure Liquid 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	27.5	24.2	23.9	20.0	21.1	17.0
4/0	4.026	28.8	25.1	24.8	20.6	21.7	17.5
350	4.026	31.5	27.3	26.8	22.0	23.3	18.5
500	4.026	33.7	28.9	28.4	23.0	24.5	19.1
750	5.047	38.4	32.2	32.1	25.5	27.5	21.0
1000	5.047	40.9	33.9	33.7	26.5	28.7	21.8
1250	5.047	42.7	35.1	35.0	27.2	29.6	22.2
85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	42.0	34.6	34.5	27.0	29.3	22.0
1250	6.125	46.2	37.5	37.8	29.0	32.1	23.6
1500	6.125	48.1	38.7	39.1	29.7	33.1	24.1
1750	6.125	49.7	39.7	40.1	30.3	33.8	24.4
2000	6.125	51.0	40.5	40.9	30.7	34.3	24.7
2250	6.125	52.3	41.3	41.7	31.1	34.9	25.0
2500	8.125	58.9	45.3	47.3	34.1	39.7	27.4
2750	8.125	60.1	46.0	48.1	34.5	40.2	27.6
3000	8.125	61.2	46.7	48.9	34.9	40.7	27.9

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69 kV Paper Insulated High Pressure Liquid 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%	Re @ 90 Rho & loss factor 100%
85°C - Copper Conductor - Compact Round Strand												
3/0	4.026	1.243	0.14	79.36	1.007	1.021	2.74	0.00	1.37	0.19	3.31	4.84
4/0	4.026	1.295	0.15	63.12	1.009	1.027	2.53	0.00	1.33	0.19	3.31	4.84
350	4.026	1.436	0.18	38.51	1.013	1.043	2.10	0.00	1.22	0.19	3.31	4.84
500	4.026	1.556	0.20	27.41	1.017	1.061	1.84	0.00	1.14	0.19	3.31	4.84
750	5.047	1.728	0.24	19.05	1.023	1.098	1.57	0.00	1.06	0.16	3.02	4.55
1000	5.047	1.880	0.27	15.12	1.026	1.125	1.39	0.00	0.99	0.16	3.02	4.55
1250	5.047	2.005	0.29	12.92	1.028	1.147	1.27	0.00	0.94	0.16	3.02	4.55
85°C - Copper Conductor - Compact Segmental Strand												
1000	5.047	1.960	0.28	13.89	1.027	1.136	1.31	0.00	0.96	0.16	3.02	4.55
1250	6.125	2.080	0.31	11.40	1.033	1.186	1.20	0.00	0.92	0.13	2.78	4.31
1500	6.125	2.195	0.33	9.82	1.036	1.218	1.12	0.00	0.87	0.13	2.78	4.31
1750	6.125	2.300	0.35	8.71	1.038	1.247	1.05	0.00	0.84	0.13	2.78	4.31
2000	6.125	2.390	0.37	7.92	1.039	1.273	1.00	0.00	0.81	0.13	2.78	4.31
2250	6.125	2.485	0.39	7.37	1.040	1.295	0.95	0.00	0.78	0.13	2.78	4.31
2500	8.125	2.560	0.40	6.91	1.045	1.372	0.91	0.00	0.77	0.10	2.41	3.95
2750	8.125	2.650	0.42	6.55	1.046	1.395	0.88	0.00	0.74	0.10	2.41	3.95
3000	8.125	2.730	0.43	6.29	1.046	1.414	0.84	0.00	0.72	0.10	2.41	3.95

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69 kV Paper Insulated High Pressure Liquid 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	319	293	292	261	271	238	1.0	1.3	1.6
4/0	4.026	363	333	332	296	307	269	1.0	1.4	1.7
350	4.026	480	437	435	385	400	348	1.2	1.6	1.9
500	4.026	581	525	523	461	480	415	1.3	1.7	2.2
750	5.047	725	648	650	565	594	507	1.4	1.9	2.4
1000	5.047	826	734	736	636	669	568	1.6	2.1	2.7
1250	5.047	901	797	799	688	725	613	1.7	2.3	2.9
				85°C - Copper Conductor - Compact Segmental Strand						
1000	5.047	868	769	771	665	699	592	1.7	2.2	2.8
1250	6.125	976	857	865	739	784	657	1.7	2.3	2.9
1500	6.125	1056	923	931	792	842	703	1.8	2.5	3.1
1750	6.125	1122	977	986	836	890	741	1.9	2.6	3.3
2000	6.125	1177	1022	1032	873	929	772	2.0	2.7	3.4
2250	6.125	1221	1057	1067	901	959	795	2.1	2.8	3.6
2500	8.125	1288	1102	1127	937	1014	827	2.0	2.7	3.5
2750	8.125	1323	1129	1155	958	1037	844	2.1	2.8	3.6
3000	8.125	1350	1150	1177	974	1056	857	2.1	2.9	3.7

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69 kV Paper Insulated High Pressure Liquid 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	50.3	42.6	42.3	33.9	36.5	28.4
4/0	4.026	52.1	44.0	43.8	35.0	37.5	29.0
350	4.026	56.6	47.1	46.7	36.8	39.6	30.2
500	4.026	60.1	49.3	48.9	38.3	41.4	31.3
750	5.047	67.4	54.1	54.4	41.5	45.7	33.7
1000	5.047	71.2	56.6	56.9	42.9	47.3	34.5
1250	5.047	73.9	58.2	58.5	43.8	48.5	35.2
85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	73.0	57.7	58.0	43.5	47.9	34.9
1250	6.125	79.1	61.4	62.6	46.1	51.7	36.9
1500	6.125	82.0	63.1	64.1	47.0	52.8	37.4
1750	6.125	84.2	64.3	65.5	47.7	53.7	37.9
2000	6.125	86.0	65.4	66.6	48.3	54.4	38.2
2250	6.125	87.7	66.3	67.5	48.8	55.0	38.5
2500	8.125	96.8	71.5	74.7	52.3	60.9	41.3
2750	8.125	98.4	72.4	75.6	52.8	61.4	41.5
3000	8.125	99.9	73.2	76.5	53.2	62.1	41.8

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69 kV Paper Insulated High Pressure Liquid 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	1.243	0.14	79.36	1.007	1.021	2.74	0.00	1.33	0.19	3.65	5.38
4/0	4.026	1.295	0.15	63.12	1.009	1.027	2.53	0.00	1.29	0.19	3.65	5.38
350	4.026	1.436	0.18	38.51	1.013	1.043	2.10	0.00	1.19	0.19	3.65	5.38
500	4.026	1.556	0.20	27.41	1.017	1.061	1.84	0.00	1.11	0.19	3.65	5.38
750	5.047	1.728	0.24	19.05	1.023	1.098	1.57	0.00	1.03	0.16	3.36	5.09
1000	5.047	1.880	0.27	15.12	1.026	1.125	1.39	0.00	0.96	0.16	3.36	5.09
1250	5.047	2.005	0.29	12.92	1.028	1.147	1.27	0.00	0.91	0.16	3.36	5.09
					85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	1.960	0.28	13.89	1.027	1.136	1.31	0.00	0.93	0.16	3.36	5.09
1250	6.125	2.080	0.31	11.40	1.033	1.186	1.20	0.00	0.88	0.13	3.11	4.85
1500	6.125	2.195	0.33	9.82	1.036	1.218	1.12	0.00	0.84	0.13	3.11	4.85
1750	6.125	2.300	0.35	8.71	1.038	1.247	1.05	0.00	0.81	0.13	3.11	4.85
2000	6.125	2.390	0.37	7.92	1.039	1.273	1.00	0.00	0.78	0.13	3.11	4.85
2250	6.125	2.485	0.39	7.37	1.040	1.295	0.95	0.00	0.75	0.13	3.11	4.85
2500	8.125	2.560	0.40	6.91	1.045	1.372	0.91	0.00	0.74	0.10	2.75	4.49
2750	8.125	2.650	0.42	6.55	1.046	1.395	0.88	0.00	0.71	0.10	2.75	4.49
3000	8.125	2.730	0.43	6.29	1.046	1.414	0.84	0.00	0.70	0.10	2.75	4.49

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69 kV Paper Insulated High Pressure Liquid 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	323	299	297	268	277	244	0.9	1.2	1.5
4/0	4.026	369	339	338	303	314	276	1.0	1.3	1.6
350	4.026	488	446	444	396	410	358	1.1	1.5	1.8
500	4.026	591	538	535	474	492	427	1.3	1.6	2.0
750	5.047	739	665	666	582	610	523	1.4	1.8	2.2
1000	5.047	843	754	755	656	689	587	1.5	2.0	2.5
1250	5.047	921	819	821	710	747	634	1.6	2.1	2.7
				85°C - Copper Conductor - Compact Segmental Strand						
1000	5.047	886	790	791	686	720	613	1.6	2.1	2.6
1250	6.125	999	882	890	763	810	681	1.6	2.2	2.7
1500	6.125	1081	951	959	820	870	729	1.7	2.3	2.9
1750	6.125	1150	1007	1017	866	920	769	1.8	2.4	3.0
2000	6.125	1207	1055	1064	904	961	801	1.9	2.5	3.2
2250	6.125	1253	1092	1101	933	993	826	1.9	2.6	3.3
2500	8.125	1325	1140	1167	973	1054	861	1.9	2.5	3.2
2750	8.125	1363	1169	1196	996	1079	880	1.9	2.6	3.3
3000	8.125	1391	1191	1219	1013	1098	894	2.0	2.7	3.5

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69 kV Paper Insulated High Pressure Liquid 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	51.5	44.3	43.7	35.7	38.1	29.8
4/0	4.026	53.8	45.6	45.3	36.6	39.2	30.5
350	4.026	58.5	49.0	48.6	38.9	41.6	31.9
500	4.026	62.2	51.7	51.2	40.4	43.4	33.0
750	5.047	69.9	56.9	57.1	43.9	48.1	35.7
1000	5.047	74.1	59.6	59.8	45.5	50.0	36.8
1250	5.047	77.2	61.4	61.7	46.6	51.4	37.5
85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	76.0	60.8	60.9	46.2	50.8	37.3
1250	6.125	82.8	65.0	66.1	49.1	55.1	39.5
1500	6.125	85.8	66.8	67.9	50.2	56.3	40.1
1750	6.125	88.3	68.2	69.5	51.0	57.3	40.7
2000	6.125	90.3	69.5	70.7	51.6	58.0	41.0
2250	6.125	92.3	70.6	71.8	52.2	58.8	41.4
2500	8.125	102.3	76.3	79.9	56.3	65.6	44.6
2750	8.125	104.3	77.4	80.9	56.9	66.3	44.9
3000	8.125	105.9	78.3	81.9	57.4	66.9	45.3

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69 kV Paper Insulated High Pressure Liquid 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%	Re @ 90 Rho & loss factor 100%
					85°C - Copper Conductor - Compact Round Strand							
3/0	4.026	1.243	0.14	79.36	1.007	1.021	2.74	0.00	1.34	0.19	3.54	5.22
4/0	4.026	1.295	0.15	63.12	1.009	1.027	2.53	0.00	1.30	0.19	3.54	5.22
350	4.026	1.436	0.18	38.51	1.013	1.043	2.10	0.00	1.20	0.19	3.54	5.22
500	4.026	1.556	0.20	27.41	1.017	1.061	1.84	0.00	1.12	0.19	3.54	5.22
750	5.047	1.728	0.24	19.05	1.023	1.098	1.57	0.00	1.04	0.16	3.25	4.93
1000	5.047	1.880	0.27	15.12	1.026	1.125	1.39	0.00	0.97	0.16	3.25	4.93
1250	5.047	2.005	0.29	12.92	1.028	1.147	1.27	0.00	0.92	0.16	3.25	4.93
					85°C - Copper Conductor - Compact Segmental Strand							
1000	5.047	1.960	0.28	13.89	1.027	1.136	1.31	0.00	0.93	0.16	3.25	4.93
1250	6.125	2.080	0.31	11.40	1.033	1.186	1.20	0.00	0.89	0.13	3.01	4.69
1500	6.125	2.195	0.33	9.82	1.036	1.218	1.12	0.00	0.85	0.13	3.01	4.69
1750	6.125	2.300	0.35	8.71	1.038	1.247	1.05	0.00	0.81	0.13	3.01	4.69
2000	6.125	2.390	0.37	7.92	1.039	1.273	1.00	0.00	0.79	0.13	3.01	4.69
2250	6.125	2.485	0.39	7.37	1.040	1.295	0.95	0.00	0.76	0.13	3.01	4.69
2500	8.125	2.560	0.40	6.91	1.045	1.372	0.91	0.00	0.74	0.10	2.65	4.32
2750	8.125	2.650	0.42	6.55	1.046	1.395	0.88	0.00	0.72	0.10	2.65	4.32
3000	8.125	2.730	0.43	6.29	1.046	1.414	0.84	0.00	0.70	0.10	2.65	4.32

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69 kV Paper Insulated High Pressure Liquid 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	261	245	243	222	228	204	0.8	1.1	1.3
4/0	4.026	298	279	277	252	259	232	0.9	1.1	1.4
350	4.026	399	370	367	332	342	304	1.0	1.3	1.6
500	4.026	488	451	447	402	414	366	1.1	1.4	1.7
750	5.047	623	571	570	507	527	460	1.2	1.5	1.9
1000	5.047	727	661	660	584	609	528	1.3	1.7	2.1
1250	5.047	812	737	735	648	676	583	1.4	1.8	2.3
		85°C - Aluminum Conductor - Compact Segmental Strand								
1000	5.047	747	679	677	598	624	539	1.4	1.8	2.2
1250	6.125	858	773	777	679	716	611	1.4	1.8	2.3
1500	6.125	943	846	851	741	782	665	1.5	1.9	2.4
1750	6.125	1019	911	917	795	840	712	1.5	2.0	2.5
2000	6.125	1087	969	975	843	891	754	1.6	2.1	2.6
2250	6.125	1145	1017	1023	883	934	788	1.6	2.2	2.7
2500	8.125	1237	1087	1110	943	1017	842	1.6	2.1	2.6
2750	8.125	1290	1129	1155	977	1055	871	1.6	2.2	2.7
3000	8.125	1333	1164	1190	1004	1086	894	1.7	2.3	2.8
3250	8.125	1375	1198	1225	1032	1117	918	1.7	2.3	2.9
3500	8.125	1415	1230	1259	1057	1145	939	1.8	2.4	3.0
3750	8.125	1450	1258	1288	1079	1170	957	1.8	2.5	3.1
4000	8.125	1482	1283	1314	1099	1192	974	1.9	2.5	3.1

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69 kV Paper Insulated High Pressure Liquid 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	27.4	24.2	23.8	20.0	21.0	16.9
4/0	4.026	28.5	25.0	24.7	20.5	21.6	17.4
350	4.026	31.4	27.0	26.6	21.9	23.2	18.4
500	4.026	33.4	28.6	28.1	22.9	24.2	19.1
750	5.047	37.8	31.8	31.7	25.2	27.2	20.9
1000	5.047	40.1	33.3	33.2	26.2	28.4	21.5
1250	5.047	41.9	34.6	34.5	27.0	29.3	22.0
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	5.047	41.0	34.1	33.9	26.6	28.9	21.8
1250	6.125	45.0	36.7	37.1	28.5	31.6	23.3
1500	6.125	46.7	37.8	38.2	29.2	32.4	23.7
1750	6.125	48.2	38.8	39.3	29.8	33.1	24.1
2000	6.125	49.6	39.6	40.1	30.3	33.7	24.4
2250	6.125	50.9	40.4	40.9	30.8	34.3	24.7
2500	8.125	57.0	44.3	46.1	33.6	38.9	27.0
2750	8.125	58.4	45.0	47.1	34.0	39.5	27.3
3000	8.125	59.6	45.7	47.7	34.3	40.0	27.5
3250	8.125	60.6	46.4	48.4	34.7	40.5	27.8
3500	8.125	61.8	47.1	49.2	35.1	41.0	28.0
3750	8.125	62.8	47.6	49.8	35.4	41.4	28.1
4000	8.125	63.7	48.1	50.4	35.7	41.7	28.4

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69 kV Paper Insulated High Pressure Liquid 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	1.243	0.14	130.58	1.004	1.013	2.74	0.00	1.37	0.19	3.31	4.84
4/0	4.026	1.295	0.15	103.65	1.005	1.016	2.53	0.00	1.33	0.19	3.31	4.84
350	4.026	1.436	0.18	62.87	1.008	1.027	2.10	0.00	1.23	0.19	3.31	4.84
500	4.026	1.556	0.20	44.26	1.010	1.038	1.84	0.00	1.15	0.19	3.31	4.84
750	5.047	1.728	0.24	29.93	1.015	1.063	1.57	0.00	1.06	0.16	3.02	4.55
1000	5.047	1.880	0.27	22.92	1.017	1.082	1.39	0.00	1.00	0.16	3.02	4.55
1250	5.047	2.005	0.29	18.82	1.019	1.101	1.27	0.00	0.94	0.16	3.02	4.55
					85°C - Aluminum Conductor - Compact Segmental Strand							
1000	5.047	1.960	0.28	22.13	1.017	1.085	1.31	0.00	0.96	0.16	3.02	4.55
1250	6.125	2.080	0.31	17.85	1.021	1.119	1.20	0.00	0.92	0.13	2.78	4.31
1500	6.125	2.195	0.33	15.00	1.023	1.142	1.12	0.00	0.88	0.13	2.78	4.31
1750	6.125	2.300	0.35	13.00	1.025	1.165	1.05	0.00	0.84	0.13	2.78	4.31
2000	6.125	2.390	0.37	11.52	1.027	1.188	1.00	0.00	0.81	0.13	2.78	4.31
2250	6.125	2.485	0.39	10.48	1.028	1.208	0.95	0.00	0.79	0.13	2.78	4.31
2500	8.125	2.560	0.40	9.57	1.033	1.269	0.91	0.00	0.77	0.10	2.41	3.95
2750	8.125	2.650	0.42	8.86	1.034	1.293	0.88	0.00	0.75	0.10	2.41	3.95
3000	8.125	2.730	0.43	8.32	1.035	1.313	0.84	0.00	0.73	0.10	2.41	3.95
3250	8.125	2.805	0.45	7.83	1.036	1.335	0.82	0.00	0.71	0.10	2.41	3.95
3500	8.125	2.905	0.47	7.42	1.036	1.356	0.78	0.00	0.68	0.10	2.41	3.95
3750	8.125	2.970	0.48	7.06	1.037	1.376	0.76	0.00	0.67	0.10	2.41	3.95
4000	8.125	3.045	0.50	6.77	1.037	1.395	0.74	0.00	0.65	0.10	2.41	3.95

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69 kV Paper Insulated High Pressure Liquid 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	249	229	228	204	212	186	1.0	1.3	1.6
4/0	4.026	284	260	259	232	240	211	1.0	1.4	1.7
350	4.026	378	344	342	303	315	274	1.2	1.6	1.9
500	4.026	460	416	415	366	380	329	1.3	1.7	2.2
750	5.047	584	523	524	457	479	410	1.4	1.9	2.4
1000	5.047	679	604	605	524	551	469	1.6	2.1	2.7
1250	5.047	756	670	672	580	610	516	1.7	2.3	2.9
				85°C - Aluminum Conductor - Compact Segmental Strand						
1000	5.047	697	619	620	536	563	478	1.7	2.2	2.8
1250	6.125	794	699	706	604	641	538	1.7	2.3	2.9
1500	6.125	871	764	771	657	698	584	1.8	2.5	3.1
1750	6.125	939	820	828	704	748	624	1.9	2.6	3.3
2000	6.125	998	870	878	744	791	659	2.0	2.7	3.4
2250	6.125	1049	911	919	778	828	688	2.1	2.8	3.6
2500	8.125	1123	964	986	822	889	727	2.0	2.8	3.5
2750	8.125	1168	1000	1023	851	920	751	2.1	2.8	3.6
3000	8.125	1204	1028	1052	874	945	770	2.1	2.9	3.7
3250	8.125	1240	1057	1081	896	970	789	2.2	3.0	3.8
3500	8.125	1274	1083	1108	916	993	806	2.3	3.1	4.0
3750	8.125	1303	1106	1132	934	1013	821	2.3	3.2	4.1
4000	8.125	1330	1127	1153	951	1031	834	2.4	3.3	4.2

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69 kV Paper Insulated High Pressure Liquid 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	50.0	42.4	42.1	33.9	36.5	28.3
4/0	4.026	51.8	43.6	43.3	34.9	37.3	29.0
350	4.026	56.4	46.9	46.4	36.6	39.5	30.1
500	4.026	59.5	48.9	48.7	38.1	41.0	31.0
750	5.047	66.5	53.6	53.8	41.3	45.2	33.5
1000	5.047	70.2	55.9	56.1	42.4	46.8	34.3
1250	5.047	72.8	57.6	57.9	43.6	48.0	34.8
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	5.047	71.7	56.9	57.1	43.1	47.4	34.6
1250	6.125	77.4	60.4	61.6	45.6	51.1	36.5
1500	6.125	79.9	62.0	63.1	46.3	52.0	37.0
1750	6.125	82.2	63.2	64.4	47.1	52.9	37.5
2000	6.125	84.0	64.3	65.5	47.6	53.6	37.9
2250	6.125	85.9	65.3	66.4	48.3	54.4	38.2
2500	8.125	94.3	70.1	73.3	51.7	60.0	40.9
2750	8.125	96.2	71.2	74.4	52.3	60.7	41.3
3000	8.125	97.6	71.9	75.2	52.7	61.2	41.5
3250	8.125	99.1	72.8	76.0	53.0	61.7	41.7
3500	8.125	100.8	73.6	76.9	53.5	62.3	42.0
3750	8.125	101.9	74.2	77.6	53.8	62.7	42.2
4000	8.125	103.2	74.9	78.3	54.2	63.2	42.4

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69 kV Paper Insulated High Pressure Liquid 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%	Re @ 90 Rho & loss factor 100%
85°C - Aluminum Conductor - Compact Round Strand												
3/0	4.026	1.243	0.14	130.58	1.004	1.013	2.74	0.00	1.33	0.19	3.65	5.38
4/0	4.026	1.295	0.15	103.65	1.005	1.016	2.53	0.00	1.29	0.19	3.65	5.38
350	4.026	1.436	0.18	62.87	1.008	1.027	2.10	0.00	1.19	0.19	3.65	5.38
500	4.026	1.556	0.20	44.26	1.010	1.038	1.84	0.00	1.12	0.19	3.65	5.38
750	5.047	1.728	0.24	29.93	1.015	1.063	1.57	0.00	1.03	0.16	3.36	5.09
1000	5.047	1.880	0.27	22.92	1.017	1.082	1.39	0.00	0.96	0.16	3.36	5.09
1250	5.047	2.005	0.29	18.82	1.019	1.101	1.27	0.00	0.91	0.16	3.36	5.09
85°C - Aluminum Conductor - Compact Segmental Strand												
1000	5.047	1.960	0.28	22.13	1.017	1.085	1.31	0.00	0.93	0.16	3.36	5.09
1250	6.125	2.080	0.31	17.85	1.021	1.119	1.20	0.00	0.89	0.13	3.11	4.85
1500	6.125	2.195	0.33	15.00	1.023	1.142	1.12	0.00	0.85	0.13	3.11	4.85
1750	6.125	2.300	0.35	13.00	1.025	1.165	1.05	0.00	0.81	0.13	3.11	4.85
2000	6.125	2.390	0.37	11.52	1.027	1.188	1.00	0.00	0.78	0.13	3.11	4.85
2250	6.125	2.485	0.39	10.48	1.028	1.208	0.95	0.00	0.76	0.13	3.11	4.85
2500	8.125	2.560	0.40	9.57	1.033	1.269	0.91	0.00	0.74	0.10	2.75	4.49
2750	8.125	2.650	0.42	8.86	1.034	1.293	0.88	0.00	0.72	0.10	2.75	4.49
3000	8.125	2.730	0.43	8.32	1.035	1.313	0.84	0.00	0.70	0.10	2.75	4.49
3250	8.125	2.805	0.45	7.83	1.036	1.335	0.82	0.00	0.68	0.10	2.75	4.49
3500	8.125	2.905	0.47	7.42	1.036	1.356	0.78	0.00	0.66	0.10	2.75	4.49
3750	8.125	2.970	0.48	7.06	1.037	1.376	0.76	0.00	0.65	0.10	2.75	4.49
4000	8.125	3.045	0.50	6.77	1.037	1.395	0.74	0.00	0.63	0.10	2.75	4.49

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69 kV Paper Insulated High Pressure Liquid 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	253	233	232	209	216	191	0.9	1.2	1.5
4/0	4.026	288	266	264	237	246	216	1.0	1.3	1.6
350	4.026	384	351	349	311	323	282	1.1	1.5	1.8
500	4.026	468	426	424	376	390	339	1.3	1.6	2.0
750	5.047	595	536	537	470	493	423	1.4	1.8	2.2
1000	5.047	692	620	621	541	567	485	1.5	2.0	2.5
1250	5.047	772	689	689	598	628	534	1.6	2.1	2.7
85°C - Aluminum Conductor - Compact Segmental Strand										
1000	5.047	711	635	636	553	580	494	1.6	2.1	2.6
1250	6.125	812	720	726	624	661	558	1.6	2.2	2.7
1500	6.125	891	786	793	680	721	605	1.7	2.3	2.9
1750	6.125	961	845	852	728	773	647	1.8	2.4	3.0
2000	6.125	1023	897	905	770	818	684	1.9	2.5	3.2
2250	6.125	1075	940	948	805	856	714	1.9	2.6	3.3
2500	8.125	1155	997	1020	854	923	756	1.9	2.5	3.2
2750	8.125	1202	1034	1059	884	956	782	1.9	2.6	3.3
3000	8.125	1239	1064	1089	908	983	802	2.0	2.7	3.5
3250	8.125	1277	1094	1120	932	1009	822	2.1	2.8	3.6
3500	8.125	1313	1122	1149	953	1033	840	2.1	2.9	3.7
3750	8.125	1344	1146	1173	972	1054	856	2.2	3.0	3.8
4000	8.125	1372	1168	1196	989	1073	870	2.2	3.1	3.9

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69 kV Paper Insulated High Pressure Liquid 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	51.6	43.9	43.5	35.5	37.9	29.8
4/0	4.026	53.3	45.6	44.9	36.4	39.1	30.4
350	4.026	58.2	48.8	48.2	38.5	41.5	31.9
500	4.026	61.6	51.2	50.8	40.2	43.1	32.9
750	5.047	69.0	56.3	56.5	43.6	47.8	35.6
1000	5.047	72.8	58.8	59.0	45.1	49.4	36.6
1250	5.047	75.8	60.8	60.8	46.2	50.8	37.2
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	5.047	74.5	59.8	60.0	45.7	50.2	36.8
1250	6.125	80.8	64.0	65.0	48.5	54.2	39.1
1500	6.125	83.6	65.5	66.6	49.5	55.4	39.6
1750	6.125	86.0	67.0	68.1	50.3	56.4	40.1
2000	6.125	88.1	68.3	69.4	50.9	57.1	40.6
2250	6.125	90.0	69.4	70.5	51.5	57.9	41.0
2500	8.125	99.6	74.9	78.2	55.6	64.5	44.1
2750	8.125	101.8	76.0	79.6	56.2	65.3	44.5
3000	8.125	103.3	76.8	80.4	56.7	66.0	44.8
3250	8.125	105.0	77.8	81.4	57.2	66.5	45.1
3500	8.125	106.9	78.8	82.5	57.6	67.2	45.4
3750	8.125	108.2	79.5	83.1	58.0	67.7	45.6
4000	8.125	109.6	80.2	84.0	58.4	68.2	45.8

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69 kV Paper Insulated High Pressure Liquid 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%	Re @ 90 Rho & loss factor 100%
85°C - Aluminum Conductor - Compact Round Strand												
3/0	4.026	1.243	0.14	130.58	1.004	1.013	2.74	0.00	1.34	0.19	3.54	5.22
4/0	4.026	1.295	0.15	103.65	1.005	1.016	2.53	0.00	1.30	0.19	3.54	5.22
350	4.026	1.436	0.18	62.87	1.008	1.027	2.10	0.00	1.20	0.19	3.54	5.22
500	4.026	1.556	0.20	44.26	1.010	1.038	1.84	0.00	1.12	0.19	3.54	5.22
750	5.047	1.728	0.24	29.93	1.015	1.063	1.57	0.00	1.04	0.16	3.25	4.93
1000	5.047	1.880	0.27	22.92	1.017	1.082	1.39	0.00	0.97	0.16	3.25	4.93
1250	5.047	2.005	0.29	18.82	1.019	1.101	1.27	0.00	0.92	0.16	3.25	4.93
85°C - Aluminum Conductor - Compact Segmental Strand												
1000	5.047	1.960	0.28	22.13	1.017	1.085	1.31	0.00	0.94	0.16	3.25	4.93
1250	6.125	2.080	0.31	17.85	1.021	1.119	1.20	0.00	0.90	0.13	3.01	4.69
1500	6.125	2.195	0.33	15.00	1.023	1.142	1.12	0.00	0.85	0.13	3.01	4.69
1750	6.125	2.300	0.35	13.00	1.025	1.165	1.05	0.00	0.82	0.13	3.01	4.69
2000	6.125	2.390	0.37	11.52	1.027	1.188	1.00	0.00	0.79	0.13	3.01	4.69
2250	6.125	2.485	0.39	10.48	1.028	1.208	0.95	0.00	0.76	0.13	3.01	4.69
2500	8.125	2.560	0.40	9.57	1.033	1.269	0.91	0.00	0.75	0.10	2.65	4.32
2750	8.125	2.650	0.42	8.86	1.034	1.293	0.88	0.00	0.73	0.10	2.65	4.32
3000	8.125	2.730	0.43	8.32	1.035	1.313	0.84	0.00	0.71	0.10	2.65	4.32
3250	8.125	2.805	0.45	7.83	1.036	1.335	0.82	0.00	0.69	0.10	2.65	4.32
3500	8.125	2.905	0.47	7.42	1.036	1.356	0.78	0.00	0.67	0.10	2.65	4.32
3750	8.125	2.970	0.48	7.06	1.037	1.376	0.76	0.00	0.65	0.10	2.65	4.32
4000	8.125	3.045	0.50	6.77	1.037	1.395	0.74	0.00	0.64	0.10	2.65	4.32

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