138 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								
500	5.047	580	539	536	485	500	443	2.9	3.7	4.5
750	6.125	729	671	671	600	624	546	3.1	3.9	4.8
1000	6.125	845	772	772	684	713	618	3.6	4.6	5.6
1250	6.125	929	844	843	744	776	669	3.8	4.9	6.0
		85°C - Copper Conductor - Compact Segmental Strand								
1000	6.125	888	809	808	714	745	644	3.7	4.8	5.8
1250	6.125	991	898	897	788	823	708	3.9	5.0	6.2
1500	6.125	1078	973	971	850	889	761	4.1	5.3	6.5
1750	8.125	1185	1057	1070	922	982	825	4.0	5.2	6.4
2000	8.125	1249	1110	1125	965	1029	861	4.1	5.4	6.6
2250	8.125	1302	1152	1168	999	1065	889	4.3	5.6	6.9
2500	8.125	1350	1191	1207	1029	1099	914	4.4	5.7	7.1
2750	8.125	1392	1225	1241	1056	1128	936	4.5	5.9	7.3
3000	8.125	1425	1251	1268	1075	1149	951	4.6	6.1	7.6

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2872

138 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							
500	5.047	31.0	27.0	26.7	22.2	23.5	18.8
750	6.125	35.3	30.2	30.2	24.5	26.4	20.6
1000	6.125	38.7	32.7	32.7	26.1	28.2	21.7
1250	6.125	40.8	34.1	34.0	27.0	29.1	22.3
85°C - Copper Conductor - Compact Segmental Strand							
1000	6.125	39.9	33.5	33.4	26.6	28.8	22.1
1250	6.125	42.0	34.9	34.9	27.5	29.7	22.7
1500	6.125	43.8	36.2	36.1	28.2	30.6	23.2
1750	8.125	49.5	40.0	40.9	31.1	34.9	25.4
2000	8.125	51.1	41.0	42.0	31.7	35.6	25.8
2250	8.125	52.7	41.9	43.0	32.3	36.3	26.2
2500	8.125	54.0	42.7	43.8	32.7	36.8	26.5
2750	8.125	55.3	43.5	44.6	33.2	37.4	26.8
3000	8.125	56.3	44.2	45.3	33.5	37.8	27.0

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138 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 - Copper Conductor - Compact Round Strand							
500	5.047	1.996	0.52	27.33	1.013	1.069	2.74	0.00	1.02	0.16	3.02	4.55
750	6.125	2.168	0.60	18.90	1.019	1.113	2.38	0.00	0.96	0.13	2.78	4.31
1000	6.125	2.220	0.72	14.92	1.023	1.143	1.97	0.00	0.92	0.13	2.78	4.31
1250	6.125	2.345	0.78	12.68	1.025	1.170	1.81	0.00	0.87	0.13	2.78	4.31
					85°C - Copper Conductor - Compact Segmental Strand							
1000	6.125	2.300	0.76	13.76	1.024	1.156	1.87	0.00	0.89	0.13	2.78	4.31
1250	6.125	2.420	0.82	11.26	1.027	1.193	1.73	0.00	0.85	0.13	2.78	4.31
1500	6.125	2.535	0.88	9.63	1.029	1.227	1.62	0.00	0.81	0.13	2.78	4.31
1750	8.125	2.640	0.93	8.51	1.036	1.304	1.53	0.00	0.79	0.10	2.41	3.95
2000	8.125	2.730	0.97	7.69	1.038	1.339	1.46	0.00	0.76	0.10	2.41	3.95
2250	8.125	2.825	1.02	7.13	1.039	1.368	1.39	0.00	0.74	0.10	2.41	3.95
2500	8.125	2.900	1.06	6.65	1.040	1.397	1.34	0.00	0.72	0.10	2.41	3.95
2750	8.125	2.990	1.10	6.28	1.041	1.424	1.29	0.00	0.69	0.10	2.41	3.95
3000	8.125	3.070	1.14	6.01	1.041	1.446	1.24	0.00	0.68	0.10	2.41	3.95

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138 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								
500	5.047	548	499	498	441	458	397	3.5	4.5	5.6
750	6.125	684	616	617	540	565	484	3.7	4.9	6.0
1000	6.125	788	704	704	611	639	544	4.3	5.7	7.1
1250	6.125	862	766	766	661	693	586	4.6	6.1	7.6
		85°C - Copper Conductor - Compact Segmental Strand								
1000	6.125	826	735	735	636	666	565	4.5	6.0	7.4
1250	6.125	917	813	812	699	733	619	4.8	6.3	7.9
1500	6.125	994	877	876	751	788	662	5.0	6.7	8.4
1750	8.125	1083	944	954	806	858	710	5.0	6.7	8.4
2000	8.125	1138	988	999	841	896	738	5.2	6.9	8.7
2250	8.125	1182	1023	1033	868	924	760	5.3	7.2	9.1
2500	8.125	1222	1055	1065	892	951	780	5.5	7.4	9.3
2750	8.125	1257	1082	1092	912	972	796	5.7	7.7	9.7
3000	8.125	1284	1103	1113	928	989	808	5.8	7.9	10.0

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138 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						
500	5.047	55.8	46.8	46.6	37.2	39.9	30.7
750	6.125	62.6	51.5	51.6	40.4	43.9	33.1
1000	6.125	67.9	55.1	55.1	42.5	46.1	34.6
1250	6.125	70.8	56.9	56.9	43.6	47.4	35.3
	85°C - Copper Conductor - Compact Segmental Strand						
1000	6.125	69.7	56.1	56.1	43.2	46.9	35.0
1250	6.125	72.7	58.2	58.0	44.3	48.2	35.8
1500	6.125	75.3	59.8	59.7	45.2	49.3	36.3
1750	8.125	83.6	64.9	66.2	48.8	54.6	39.1
2000	8.125	85.8	66.1	67.5	49.5	55.4	39.5
2250	8.125	87.9	67.4	68.6	50.2	56.1	39.9
2500	8.125	89.6	68.4	69.6	50.7	56.8	40.3
2750	8.125	91.3	69.4	70.6	51.2	57.3	40.6
3000	8.125	92.8	70.2	71.4	51.7	57.8	40.9

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138 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							
500	5.047	1.996	0.52	27.33	1.013	1.069	2.74	0.00	0.99	0.16	3.36	5.09
750	6.125	2.168	0.60	18.90	1.019	1.113	2.38	0.00	0.92	0.13	3.11	4.85
1000	6.125	2.220	0.72	14.92	1.023	1.143	1.97	0.00	0.87	0.13	3.11	4.85
1250	6.125	2.345	0.78	12.68	1.025	1.170	1.81	0.00	0.83	0.13	3.11	4.85
					85°C - Copper Conductor - Compact Segmental Strand							
1000	6.125	2.300	0.76	13.76	1.024	1.156	1.87	0.00	0.85	0.13	3.11	4.85
1250	6.125	2.420	0.82	11.26	1.027	1.193	1.73	0.00	0.81	0.13	3.11	4.85
1500	6.125	2.535	0.88	9.63	1.029	1.227	1.62	0.00	0.77	0.13	3.11	4.85
1750	8.125	2.640	0.93	8.51	1.036	1.304	1.53	0.00	0.75	0.10	2.75	4.49
2000	8.125	2.730	0.97	7.69	1.038	1.339	1.46	0.00	0.72	0.10	2.75	4.49
2250	8.125	2.825	1.02	7.13	1.039	1.368	1.39	0.00	0.70	0.10	2.75	4.49
2500	8.125	2.900	1.06	6.65	1.040	1.397	1.34	0.00	0.68	0.10	2.75	4.49
2750	8.125	2.990	1.10	6.28	1.041	1.424	1.29	0.00	0.66	0.10	2.75	4.49
3000	8.125	3.070	1.14	6.01	1.041	1.446	1.24	0.00	0.64	0.10	2.75	4.49

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138 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						
500	5.047	557	511	508	453	469	410	3.3	4.3	5.2
750	6.125	697	632	632	557	582	501	3.5	4.6	5.7
1000	6.125	804	723	723	631	660	564	4.1	5.4	6.7
1250	6.125	881	788	787	684	716	609	4.3	5.7	7.1
				85°C - Copper Conductor - Compact Segmental Strand						
1000	6.125	844	756	756	657	688	586	4.3	5.6	7.0
1250	6.125	938	837	836	724	758	643	4.5	5.9	7.4
1500	6.125	1018	904	902	778	815	688	4.7	6.3	7.8
1750	8.125	1111	974	986	837	891	740	4.7	6.2	7.8
2000	8.125	1169	1021	1033	874	931	771	4.8	6.5	8.1
2250	8.125	1215	1058	1070	903	962	794	5.0	6.7	8.4
2500	8.125	1258	1092	1104	929	990	815	5.2	6.9	8.7
2750	8.125	1295	1121	1133	950	1014	833	5.3	7.1	9.0
3000	8.125	1323	1143	1155	967	1031	846	5.4	7.3	9.3

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138 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							
500	5.047	57.5	48.9	48.4	39.1	41.7	32.6
750	6.125	64.9	54.0	54.0	42.7	46.3	35.3
1000	6.125	70.5	57.8	57.8	45.1	48.9	36.9
1250	6.125	73.8	60.0	59.8	46.3	50.3	37.7
85°C - Copper Conductor - Compact Segmental Strand							
1000	6.125	72.6	59.1	59.1	45.8	49.8	37.3
1250	6.125	75.8	61.4	61.2	47.2	51.2	38.2
1500	6.125	78.7	63.2	62.9	48.2	52.4	38.8
1750	8.125	87.7	68.7	70.3	52.2	58.4	42.0
2000	8.125	90.3	70.2	71.8	53.0	59.4	42.6
2250	8.125	92.6	71.7	73.2	53.9	60.3	43.0
2500	8.125	94.6	72.8	74.3	54.5	61.0	43.4
2750	8.125	96.5	74.0	75.4	55.0	61.7	43.8
3000	8.125	98.1	74.9	76.4	55.6	62.2	44.1

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138 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%	100%
					85°C - Copper Conductor - Compact Round Strand							
500	5.047	1.996	0.52	27.33	1.013	1.069	2.74	0.00	1.00	0.16	3.25	4.93
750	6.125	2.168	0.60	18.90	1.019	1.113	2.38	0.00	0.93	0.13	3.01	4.69
1000	6.125	2.220	0.72	14.92	1.023	1.143	1.97	0.00	0.89	0.13	3.01	4.69
1250	6.125	2.345	0.78	12.68	1.025	1.170	1.81	0.00	0.85	0.13	3.01	4.69
					85°C - Copper Conductor - Compact Segmental Strand							
1000	6.125	2.300	0.76	13.76	1.024	1.156	1.87	0.00	0.86	0.13	3.01	4.69
1250	6.125	2.420	0.82	11.26	1.027	1.193	1.73	0.00	0.82	0.13	3.01	4.69
1500	6.125	2.535	0.88	9.63	1.029	1.227	1.62	0.00	0.78	0.13	3.01	4.69
1750	8.125	2.640	0.93	8.51	1.036	1.304	1.53	0.00	0.76	0.10	2.65	4.32
2000	8.125	2.730	0.97	7.69	1.038	1.339	1.46	0.00	0.73	0.10	2.65	4.32
2250	8.125	2.825	1.02	7.13	1.039	1.368	1.39	0.00	0.70	0.10	2.65	4.32
2500	8.125	2.900	1.06	6.65	1.040	1.397	1.34	0.00	0.69	0.10	2.65	4.32
2750	8.125	2.990	1.10	6.28	1.041	1.424	1.29	0.00	0.67	0.10	2.65	4.32
3000	8.125	3.070	1.14	6.01	1.041	1.446	1.24	0.00	0.65	0.10	2.65	4.32

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138 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						
500	5.047	458	426	424	384	396	351	2.9	3.7	4.5
750	6.125	584	539	539	483	502	440	3.1	3.9	4.8
1000	6.125	690	632	631	561	584	507	3.6	4.6	5.6
1250	6.125	773	704	704	622	649	561	3.8	4.9	6.0
				85°C - Aluminum Conductor - Compact Segmental Strand						
1000	6.125	709	648	647	573	598	518	3.7	4.8	5.8
1250	6.125	800	727	726	640	668	576	3.9	5.0	6.2
1500	6.125	881	797	796	699	730	627	4.1	5.3	6.5
1750	8.125	981	879	890	770	818	690	4.0	5.2	6.4
2000	8.125	1047	935	947	817	868	730	4.2	5.4	6.6
2250	8.125	1104	983	995	855	910	763	4.3	5.6	6.9
2500	8.125	1158	1028	1040	892	950	794	4.4	5.7	7.1
2750	8.125	1209	1069	1082	925	986	821	4.5	5.9	7.3
3000	8.125	1251	1102	1116	951	1015	843	4.6	6.1	7.6
3250	8.125	1292	1136	1150	978	1044	865	4.7	6.2	7.8
3500	8.125	1332	1167	1182	1002	1070	885	4.9	6.4	8.0
3750	8.125	1365	1195	1210	1023	1093	903	5.0	6.6	8.2
4000	8.125	1397	1220	1235	1043	1114	918	5.1	6.7	8.4

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138 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							
500	5.047	30.6	26.7	26.4	22.0	23.3	18.6
750	6.125	34.5	29.7	29.7	24.2	26.0	20.4
1000	6.125	37.8	32.1	32.0	25.7	27.7	21.4
1250	6.125	39.7	33.4	33.4	26.6	28.7	22.0
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	6.125	38.8	32.8	32.7	26.1	28.3	21.8
1250	6.125	40.8	34.1	34.0	27.0	29.2	22.3
1500	6.125	42.5	35.2	35.1	27.7	30.0	22.8
1750	8.125	47.6	38.7	39.6	30.4	33.9	24.9
2000	8.125	49.1	39.7	40.7	31.0	34.6	25.4
2250	8.125	50.6	40.7	41.6	31.6	35.3	25.7
2500	8.125	51.8	41.5	42.4	32.0	35.9	26.0
2750	8.125	53.2	42.3	43.3	32.5	36.5	26.3
3000	8.125	54.4	43.0	44.0	32.9	37.0	26.6
3250	8.125	55.5	43.7	44.7	33.3	37.5	26.8
3500	8.125	56.8	44.4	45.5	33.7	38.0	27.1
3750	8.125	57.6	45.1	46.1	34.0	38.3	27.3
4000	8.125	58.6	45.6	46.6	34.4	38.7	27.5

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138 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							
500	5.047	1.996	0.52	44.21	1.008	1.043	2.74	0.00	1.03	0.16	3.02	4.55
750	6.125	2.168	0.60	29.87	1.012	1.071	2.38	0.00	0.96	0.13	2.78	4.31
1000	6.125	2.220	0.72	22.83	1.015	1.094	1.97	0.00	0.92	0.13	2.78	4.31
1250	6.125	2.345	0.78	18.71	1.017	1.115	1.81	0.00	0.87	0.13	2.78	4.31
					85°C - Aluminum Conductor - Compact Segmental Strand							
1000	6.125	2.300	0.76	22.09	1.015	1.097	1.87	0.00	0.89	0.13	2.78	4.31
1250	6.125	2.420	0.82	17.78	1.017	1.122	1.73	0.00	0.85	0.13	2.78	4.31
1500	6.125	2.535	0.88	14.92	1.019	1.146	1.62	0.00	0.82	0.13	2.78	4.31
1750	8.125	2.640	0.93	12.92	1.023	1.200	1.53	0.00	0.79	0.10	2.41	3.95
2000	8.125	2.730	0.97	11.43	1.025	1.228	1.46	0.00	0.77	0.10	2.41	3.95
2250	8.125	2.825	1.02	10.37	1.027	1.253	1.39	0.00	0.74	0.10	2.41	3.95
2500	8.125	2.900	1.06	9.46	1.028	1.279	1.34	0.00	0.72	0.10	2.41	3.95
2750	8.125	2.990	1.10	8.72	1.030	1.305	1.29	0.00	0.70	0.10	2.41	3.95
3000	8.125	3.070	1.14	8.19	1.030	1.327	1.24	0.00	0.68	0.10	2.41	3.95
3250	8.125	3.145	1.18	7.68	1.031	1.351	1.20	0.00	0.67	0.10	2.41	3.95
3500	8.125	3.245	1.22	7.26	1.031	1.374	1.16	0.00	0.65	0.10	2.41	3.95
3750	8.125	3.310	1.26	6.90	1.032	1.396	1.13	0.00	0.63	0.10	2.41	3.95
4000	8.125	3.385	1.29	6.59	1.032	1.417	1.09	0.00	0.62	0.10	2.41	3.95

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138 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	delta Td for .0030 pf & Rho 90	delta Td for .0030 pf & Rho 120
				85°C - Aluminum Conductor - Compact Round Strand						
500	5.047	434	395	394	349	362	315	3.5	4.5	5.6
750	6.125	549	496	496	435	455	391	3.7	4.9	6.0
1000	6.125	644	577	577	502	525	447	4.3	5.7	7.1
1250	6.125	719	640	640	554	580	492	4.6	6.1	7.6
				85°C - Aluminum Conductor - Compact Segmental Strand						
1000	6.125	661	590	590	512	535	455	4.5	6.0	7.4
1250	6.125	742	660	659	569	596	504	4.8	6.3	7.9
1500	6.125	814	721	719	619	648	546	5.0	6.7	8.4
1750	8.125	900	788	796	675	717	596	5.0	6.7	8.4
2000	8.125	958	835	844	713	759	628	5.2	6.9	8.7
2250	8.125	1006	875	883	745	792	654	5.3	7.2	9.1
2500	8.125	1053	913	921	775	824	679	5.5	7.4	9.3
2750	8.125	1096	947	956	802	853	701	5.7	7.7	9.7
3000	8.125	1131	975	983	823	875	718	5.8	7.9	10.0
3250	8.125	1165	1002	1011	844	898	735	6.0	8.1	10.3
3500	8.125	1198	1028	1036	863	918	750	6.2	8.4	10.6
3750	8.125	1226	1050	1058	879	936	763	6.3	8.6	10.9
4000	8.125	1252	1070	1078	894	952	775	6.4	8.8	11.2

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138 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							
500	5.047	55.2	46.3	46.1	36.8	39.4	30.6
750	6.125	61.4	50.8	50.8	39.9	43.3	32.9
1000	6.125	66.5	54.2	54.2	42.1	45.6	34.3
1250	6.125	69.4	56.0	56.0	43.1	46.8	35.0
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	6.125	68.1	55.2	55.2	42.7	46.2	34.7
1250	6.125	70.8	57.1	56.9	43.7	47.4	35.3
1500	6.125	73.3	58.6	58.3	44.6	48.3	35.8
1750	8.125	80.9	63.3	64.5	48.0	53.4	38.6
2000	8.125	83.1	64.5	65.8	48.6	54.3	39.0
2250	8.125	85.0	65.8	66.9	49.4	55.0	39.5
2500	8.125	86.8	66.8	67.9	49.9	55.6	39.8
2750	8.125	88.6	67.8	69.0	50.5	56.3	40.2
3000	8.125	90.2	68.8	69.8	51.0	56.8	40.4
3250	8.125	91.6	69.6	70.7	51.4	57.3	40.7
3500	8.125	93.3	70.6	71.6	51.9	57.8	41.0
3750	8.125	94.4	71.3	72.3	52.2	58.2	41.2
4000	8.125	95.6	71.9	72.9	52.5	58.5	41.4

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138 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							
500	5.047	1.996	0.52	44.21	1.008	1.043	2.74	0.00	0.99	0.16	3.36	5.09
750	6.125	2.168	0.60	29.87	1.012	1.071	2.38	0.00	0.92	0.13	3.11	4.85
1000	6.125	2.220	0.72	22.83	1.015	1.094	1.97	0.00	0.88	0.13	3.11	4.85
1250	6.125	2.345	0.78	18.71	1.017	1.115	1.81	0.00	0.83	0.13	3.11	4.85
					85°C - Aluminum Conductor - Compact Segmental Strand							
1000	6.125	2.300	0.76	22.09	1.015	1.097	1.87	0.00	0.85	0.13	3.11	4.85
1250	6.125	2.420	0.82	17.78	1.017	1.122	1.73	0.00	0.81	0.13	3.11	4.85
1500	6.125	2.535	0.88	14.92	1.019	1.146	1.62	0.00	0.77	0.13	3.11	4.85
1750	8.125	2.640	0.93	12.92	1.023	1.200	1.53	0.00	0.75	0.10	2.75	4.49
2000	8.125	2.730	0.97	11.43	1.025	1.228	1.46	0.00	0.73	0.10	2.75	4.49
2250	8.125	2.825	1.02	10.37	1.027	1.253	1.39	0.00	0.70	0.10	2.75	4.49
2500	8.125	2.900	1.06	9.46	1.028	1.279	1.34	0.00	0.69	0.10	2.75	4.49
2750	8.125	2.990	1.10	8.72	1.030	1.305	1.29	0.00	0.66	0.10	2.75	4.49
3000	8.125	3.070	1.14	8.19	1.030	1.327	1.24	0.00	0.65	0.10	2.75	4.49
3250	8.125	3.145	1.18	7.68	1.031	1.351	1.20	0.00	0.63	0.10	2.75	4.49
3500	8.125	3.245	1.22	7.26	1.031	1.374	1.16	0.00	0.61	0.10	2.75	4.49
3750	8.125	3.310	1.26	6.90	1.032	1.396	1.13	0.00	0.60	0.10	2.75	4.49
4000	8.125	3.385	1.29	6.59	1.032	1.417	1.09	0.00	0.59	0.10	2.75	4.49

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138 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						
500	5.047	441	404	402	359	372	325	3.3	4.3	5.2
750	6.125	559	508	508	448	468	404	3.5	4.6	5.7
1000	6.125	657	592	592	518	541	463	4.1	5.4	6.7
1250	6.125	734	658	658	573	599	510	4.3	5.7	7.1
				85°C - Aluminum Conductor - Compact Segmental Strand						
1000	6.125	675	606	606	529	553	472	4.3	5.6	7.0
1250	6.125	759	679	678	588	616	523	4.5	6.0	7.4
1500	6.125	833	742	741	641	671	568	4.7	6.3	7.8
1750	8.125	923	813	822	701	745	621	4.7	6.2	7.8
2000	8.125	983	863	872	741	788	655	4.8	6.5	8.1
2250	8.125	1034	904	914	774	824	682	5.0	6.7	8.4
2500	8.125	1083	944	954	806	858	709	5.2	6.9	8.7
2750	8.125	1128	980	990	834	889	732	5.3	7.1	9.0
3000	8.125	1164	1009	1020	857	913	751	5.5	7.3	9.3
3250	8.125	1201	1039	1049	880	937	769	5.6	7.5	9.5
3500	8.125	1235	1065	1075	900	958	785	5.8	7.8	9.8
3750	8.125	1265	1089	1099	918	978	800	5.9	8.0	10.1
4000	8.125	1292	1110	1120	933	995	813	6.0	8.2	10.3

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138 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							
500	5.047	56.9	48.3	47.8	38.8	41.4	32.3
750	6.125	63.6	53.1	53.1	42.1	45.6	34.9
1000	6.125	69.0	56.8	56.8	44.5	48.2	36.4
1250	6.125	72.1	58.9	58.9	45.8	49.6	37.3
85°C - Aluminum Conductor - Compact Segmental Strand							
1000	6.125	70.8	58.0	58.0	45.2	49.0	37.0
1250	6.125	73.9	60.1	59.9	46.3	50.3	37.7
1500	6.125	76.5	61.8	61.6	47.4	51.5	38.4
1750	8.125	84.8	67.1	68.4	51.3	57.2	41.4
2000	8.125	87.2	68.5	69.9	52.1	58.1	42.0
2250	8.125	89.5	69.8	71.2	52.8	59.0	42.4
2500	8.125	91.5	71.0	72.4	53.5	59.8	42.8
2750	8.125	93.5	72.2	73.5	54.1	60.6	43.2
3000	8.125	95.2	73.2	74.7	54.7	61.2	43.6
3250	8.125	96.9	74.3	75.6	55.3	61.7	43.9
3500	8.125	98.7	75.3	76.5	55.8	62.3	44.2
3750	8.125	100.1	76.1	77.4	56.3	62.8	44.5
4000	8.125	101.3	76.8	78.1	56.5	63.2	44.8

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138 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%	100%
					85°C - Aluminum Conductor - Compact Round Strand							
500	5.047	1.996	0.52	44.21	1.008	1.043	2.74	0.00	1.00	0.16	3.25	4.93
750	6.125	2.168	0.60	29.87	1.012	1.071	2.38	0.00	0.93	0.13	3.01	4.69
1000	6.125	2.220	0.72	22.83	1.015	1.094	1.97	0.00	0.89	0.13	3.01	4.69
1250	6.125	2.345	0.78	18.71	1.017	1.115	1.81	0.00	0.85	0.13	3.01	4.69
					85°C - Aluminum Conductor - Compact Segmental Strand							
1000	6.125	2.300	0.76	22.09	1.015	1.097	1.87	0.00	0.87	0.13	3.01	4.69
1250	6.125	2.420	0.82	17.78	1.017	1.122	1.73	0.00	0.83	0.13	3.01	4.69
1500	6.125	2.535	0.88	14.92	1.019	1.146	1.62	0.00	0.79	0.13	3.01	4.69
1750	8.125	2.640	0.93	12.92	1.023	1.200	1.53	0.00	0.77	0.10	2.65	4.32
2000	8.125	2.730	0.97	11.43	1.025	1.228	1.46	0.00	0.74	0.10	2.65	4.32
2250	8.125	2.825	1.02	10.37	1.027	1.253	1.39	0.00	0.72	0.10	2.65	4.32
2500	8.125	2.900	1.06	9.46	1.028	1.279	1.34	0.00	0.70	0.10	2.65	4.32
2750	8.125	2.990	1.10	8.72	1.030	1.305	1.29	0.00	0.67	0.10	2.65	4.32
3000	8.125	3.070	1.14	8.19	1.030	1.327	1.24	0.00	0.65	0.10	2.65	4.32
3250	8.125	3.145	1.18	7.68	1.031	1.351	1.20	0.00	0.64	0.10	2.65	4.32
3500	8.125	3.245	1.22	7.26	1.031	1.374	1.16	0.00	0.62	0.10	2.65	4.32
3750	8.125	3.310	1.26	6.90	1.032	1.396	1.13	0.00	0.61	0.10	2.65	4.32
4000	8.125	3.385	1.29	6.59	1.032	1.417	1.09	0.00	0.59	0.10	2.65	4.32

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