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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 .0033 pf & Rho 60	90	120
		85°C - Copper Conductor - Hollow Core Concentric Strand								
750	Open	781	729	730	667	687	616	4.2	5.1	6.0
1000	Open	917	854	855	777	801	715	4.8	5.8	6.8
1250	Open	1036	961	961	872	899	801	4.9	6.0	7.1
1500	Open	1138	1056	1057	955	986	875	5.1	6.3	7.4
1750	Open	1234	1140	1140	1028	1059	939	5.3	6.5	7.7
2000	Open	1315	1213	1210	1091	1125	996	5.4	6.7	7.9
2250	Open	1385	1278	1276	1148	1184	1047	5.6	6.9	8.2
		85°C - Copper Conductor - Hollow Core Segmental Strand								
2000	Open	1333	1230	1227	1106	1140	1010	5.4	6.7	7.9
2250	Open	1408	1299	1296	1167	1204	1064	5.6	6.9	8.2
2500	Open	1482	1365	1363	1224	1263	1117	5.7	7.0	8.4
2750	Open	1552	1428	1424	1282	1324	1160	5.8	7.2	8.6
3000	Open	1609	1479	1484	1321	1370	1198	5.9	7.4	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	35.2	31.0	31.1	26.4	27.8	22.9
1000	Open	37.1	32.5	32.6	27.4	29.0	23.7
1250	Open	38.4	33.5	33.5	28.1	29.7	24.2
1500	Open	39.4	34.4	34.5	28.7	30.4	24.6
1750	Open	40.7	35.3	35.3	29.3	30.9	25.0
2000	Open	41.5	35.8	35.7	29.7	31.3	25.3
2250	Open	42.2	36.5	36.4	30.2	31.8	25.7
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	41.4	35.8	35.6	29.6	31.3	25.3
2250	Open	42.3	36.5	36.4	30.2	31.9	25.7
2500	Open	42.8	36.9	36.8	30.5	32.2	26.0
2750	Open	43.7	37.6	37.4	31.1	32.9	26.2
3000	Open	44.3	38.1	38.3	31.2	33.2	26.4

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
					85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	2.841	5.06	0.84	17.78	1.005	1.70	0.21	1.51	0.24	2.11	3.30
1000	Open	2.863	5.06	0.97	13.41	1.007	1.47	0.21	1.48	0.24	2.11	3.30
1250	Open	2.990	5.06	1.04	10.83	1.016	1.38	0.20	1.42	0.24	2.09	3.30
1500	Open	3.098	5.06	1.10	9.14	1.022	1.30	0.19	1.37	0.24	2.09	3.30
1750	Open	3.255	5.06	1.16	7.97	1.029	1.23	0.21	1.30	0.24	2.09	3.27
2000	Open	3.326	5.06	1.20	7.11	1.035	1.19	0.20	1.27	0.24	2.09	3.27
2250	Open	3.436	5.06	1.26	6.46	1.042	1.14	0.20	1.23	0.24	2.09	3.27
					85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	5.06	1.19	6.90	1.036	1.19	0.20	1.27	0.24	2.09	3.27
2250	Open	3.436	5.06	1.26	6.25	1.044	1.14	0.20	1.23	0.24	2.09	3.27
2500	Open	3.505	5.06	1.29	5.69	1.051	1.10	0.19	1.20	0.24	2.09	3.27
2750	Open	3.610	5.06	1.34	5.23	1.063	1.06	0.19	1.16	0.24	2.09	3.27
3000	Open	3.681	5.06	1.38	4.89	1.071	1.03	0.18	1.14	0.24	2.09	3.27

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 .0033 pf & Rho 60	90	120
		85°C - Copper Conductor - Hollow Core Concentric Strand								
750	Open	695	625	621	544	563	484	5.8	7.6	9.4
1000	Open	811	726	719	627	648	555	6.6	8.7	10.8
1250	Open	911	813	805	699	722	617	6.9	9.1	11.4
1500	Open	999	890	879	762	786	670	7.2	9.6	11.9
1750	Open	1076	956	943	816	841	715	7.5	10.0	12.5
2000	Open	1143	1014	1000	863	889	755	7.7	10.3	12.9
2250	Open	1204	1065	1049	904	931	789	8.0	10.7	13.4
		85°C - Copper Conductor - Hollow Core Segmental Strand								
2000	Open	1159	1029	1014	876	902	766	7.7	10.3	12.9
2250	Open	1224	1083	1066	919	946	802	8.0	10.7	13.4
2500	Open	1286	1136	1117	962	989	838	8.2	10.9	13.8
2750	Open	1344	1185	1164	1000	1028	869	8.4	11.3	14.2
3000	Open	1391	1225	1202	1031	1059	894	8.6	11.6	14.6

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	56.9	47.0	46.4	36.8	39.1	30.2
1000	Open	59.2	48.6	47.8	37.8	39.9	30.9
1250	Open	60.8	49.7	48.9	38.4	40.5	31.3
1500	Open	62.3	50.8	49.7	39.0	41.1	31.6
1750	Open	63.7	51.7	50.5	39.6	41.6	32.0
2000	Open	64.5	52.3	51.1	39.9	41.9	32.2
2250	Open	65.7	53.0	51.7	40.3	42.3	32.5
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	64.5	52.3	51.0	39.9	41.9	32.2
2250	Open	65.8	53.1	51.7	40.4	42.3	32.5
2500	Open	66.5	53.6	52.1	40.7	42.5	32.7
2750	Open	67.7	54.4	52.8	41.1	42.9	33.0
3000	Open	68.5	54.9	53.2	41.3	43.2	33.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	Re @ 90 Rho & loss factor 100%
					85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	2.841	5.06	0.84	17.78	1.006	1.70	0.21	1.45	0.24	4.00	6.34
1000	Open	2.863	5.06	0.97	13.41	1.008	1.47	0.21	1.43	0.24	4.00	6.34
1250	Open	2.990	5.06	1.04	10.83	1.012	1.38	0.20	1.37	0.24	4.00	6.34
1500	Open	3.098	5.06	1.10	9.14	1.016	1.30	0.19	1.32	0.24	4.00	6.34
1750	Open	3.255	5.06	1.16	7.97	1.022	1.23	0.21	1.25	0.24	4.00	6.34
2000	Open	3.326	5.06	1.20	7.11	1.026	1.19	0.20	1.22	0.24	4.00	6.34
2250	Open	3.436	5.06	1.26	6.46	1.032	1.14	0.20	1.18	0.24	4.00	6.34
					85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	5.06	1.19	6.90	1.027	1.19	0.20	1.23	0.24	4.00	6.34
2250	Open	3.436	5.06	1.26	6.25	1.033	1.14	0.20	1.18	0.24	4.00	6.34
2500	Open	3.505	5.06	1.29	5.69	1.038	1.10	0.19	1.16	0.24	4.00	6.34
2750	Open	3.610	5.06	1.34	5.23	1.047	1.06	0.19	1.12	0.24	4.00	6.34
3000	Open	3.681	5.06	1.38	4.89	1.053	1.03	0.18	1.10	0.24	4.00	6.34

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2370

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	952	54	23.1	854	60	18.8	780	64	15.9	2.9	3.8	4.8
1000	Open	1131	56	24.7	1006	62	19.7	913	66	16.5	3.2	4.4	5.5
1250	Open	1277	57	24.5	1132	63	19.5	1025	67	16.2	3.3	4.6	5.8
1500	Open	1406	58	24.5	1243	64	19.5	1123	68	16.2	3.5	4.8	6.0
1750	Open	1517	58	23.9	1338	64	19.0	1207	68	15.7	3.6	5.0	6.3
2000	Open	1616	59	24.0	1423	65	18.9	1281	69	15.6	3.7	5.1	6.5
2250	Open	1709	60	23.9	1501	65	18.8	1349	69	15.5	3.8	5.3	6.7
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1638	59	24.0	1443	65	19.0	1299	69	15.6	3.7	5.1	6.5
2250	Open	1736	60	24.0	1525	65	18.8	1370	69	15.5	3.8	5.3	6.7
2500	Open	1828	60	24.0	1603	66	18.7	1438	70	15.4	3.9	5.4	6.9
2750	Open	1915	61	24.0	1675	66	18.6	1501	70	15.2	4.0	5.6	7.1
3000	Open	1987	61	24.0	1735	67	18.6	1552	70	15.2	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	864	60	19.2	758	65	15.1	681	69	12.4	2.9	3.8	4.8
1000	Open	1020	62	20.3	888	67	15.6	793	71	12.8	3.2	4.4	5.5
1250	Open	1148	62	20.1	995	68	15.5	887	72	12.5	3.3	4.6	5.8
1500	Open	1260	63	20.0	1090	69	15.3	969	72	12.3	3.5	4.8	6.0
1750	Open	1356	64	19.5	1170	69	14.8	1039	73	12.0	3.6	5.0	6.3
2000	Open	1442	64	19.4	1242	70	14.7	1101	73	11.8	3.7	5.1	6.5
2250	Open	1520	65	19.2	1306	70	14.6	1156	73	11.7	3.8	5.3	6.7
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1462	64	19.4	1259	70	14.7	1116	73	11.8	3.7	5.1	6.5
2250	Open	1545	65	19.2	1327	70	14.6	1174	73	11.7	3.8	5.3	6.7
2500	Open	1624	65	19.2	1392	71	14.5	1231	74	11.7	3.9	5.4	6.9
2750	Open	1697	66	19.2	1452	71	14.4	1281	74	11.5	4.0	5.6	7.1
3000	Open	1757	66	19.1	1501	71	14.3	1323	74	11.4	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						75°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	879	50	19.2	787	55	15.7	717	58	13.2	2.9	3.8	4.8
1000	Open	1042	51	20.5	925	56	16.4	838	60	13.7	3.2	4.4	5.5
1250	Open	1176	52	20.4	1041	57	16.4	939	60	13.5	3.3	4.6	5.8
1500	Open	1294	53	20.5	1142	58	16.2	1028	61	13.3	3.5	4.8	6.0
1750	Open	1395	53	19.9	1227	58	15.8	1103	61	13.0	3.6	5.0	6.3
2000	Open	1485	54	20.0	1304	58	15.7	1171	62	13.0	3.7	5.1	6.5
2250	Open	1569	54	20.0	1374	59	15.7	1231	62	12.8	3.8	5.3	6.7
						75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1507	54	20.0	1323	58	15.7	1188	62	13.0	3.7	5.1	6.5
2250	Open	1596	54	20.0	1397	59	15.7	1252	62	12.8	3.8	5.3	6.7
2500	Open	1679	55	20.1	1468	59	15.6	1313	63	12.8	3.9	5.4	6.9
2750	Open	1758	55	20.0	1533	60	15.6	1368	63	12.7	4.0	5.6	7.1
3000	Open	1822	55	20.0	1586	60	15.5	1414	63	12.7	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	---- 60 Rho--- Interface Temp Amps	Flux °C	w/ft²	---- 90 Rho--- Interface Temp Amps	Flux °C	w/ft²	----120 Rho--- Interface Temp Amps	Flux °C	w/ft²	delta Td for .0033 pf & Rho 60	90	120
					100% LF								
					75°C - Copper Conductor - Hollow Core Concentric Strand								
750	Open	797	54	16.1	698	59	12.6	626	62	10.4	2.9	3.8	4.8
1000	Open	940	56	16.9	816	60	13.1	728	63	10.7	3.2	4.4	5.5
1250	Open	1057	56	16.7	915	61	12.9	813	64	10.5	3.3	4.6	5.8
1500	Open	1160	57	16.6	1000	62	12.7	887	65	10.4	3.5	4.8	6.0
1750	Open	1247	58	16.2	1073	62	12.4	950	65	10.0	3.6	5.0	6.3
2000	Open	1325	58	16.2	1138	62	12.3	1006	65	9.9	3.7	5.1	6.5
2250	Open	1396	59	16.1	1196	63	12.2	1055	66	9.8	3.8	5.3	6.7
					75°C - Copper Conductor - Hollow Core Segmental Strand								
2000	Open	1344	58	16.2	1154	62	12.3	1021	65	9.9	3.7	5.1	6.5
2250	Open	1420	59	16.1	1216	63	12.2	1073	66	9.8	3.8	5.3	6.7
2500	Open	1491	59	16.0	1275	63	12.1	1123	66	9.7	3.9	5.4	6.9
2750	Open	1558	59	16.0	1328	64	12.1	1168	66	9.6	4.0	5.6	7.1
3000	Open	1612	60	16.0	1372	64	11.9	1205	66	9.5	4.1	5.7	7.3

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2374

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp Amps	60 Rho Interface Temp °C	60 Rho Interface Flux w/ft²	90 Rho Interface Temp Amps	90 Rho Interface Temp °C	90 Rho Interface Flux w/ft²	120 Rho Interface Temp Amps	120 Rho Interface Temp °C	120 Rho Interface Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						65°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	793	45	15.5	708	49	12.5	643	52	10.5	2.9	3.8	4.8
1000	Open	939	46	16.4	831	50	13.2	749	53	10.9	3.2	4.4	5.5
1250	Open	1059	47	16.4	933	51	13.0	839	54	10.7	3.3	4.6	5.8
1500	Open	1164	48	16.3	1023	52	12.9	917	54	10.6	3.5	4.8	6.0
1750	Open	1253	48	16.0	1098	52	12.6	983	55	10.3	3.6	5.0	6.3
2000	Open	1333	48	16.0	1165	52	12.5	1041	55	10.3	3.7	5.1	6.5
2250	Open	1407	49	16.0	1226	53	12.5	1093	55	10.2	3.8	5.3	6.7
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1353	48	16.0	1183	52	12.5	1057	55	10.3	3.7	5.1	6.5
2250	Open	1432	49	16.0	1249	53	12.5	1113	55	10.2	3.8	5.3	6.7
2500	Open	1506	49	16.0	1310	53	12.4	1166	55	10.1	3.9	5.4	6.9
2750	Open	1576	49	16.0	1367	53	12.4	1214	56	10.1	4.0	5.6	7.1
3000	Open	1632	50	16.0	1413	54	12.3	1253	56	10.1	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Interface Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Interface Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Interface Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
						100% LF							
						65°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	49	12.9	719	52	10.1	628	55	8.3	561	2.9	3.8	4.8
1000	Open	50	13.6	847	54	10.5	733	56	8.5	651	3.2	4.4	5.5
1250	Open	50	13.4	951	54	10.3	820	57	8.4	726	3.3	4.6	5.8
1500	Open	51	13.4	1043	55	10.2	896	57	8.3	792	3.5	4.8	6.0
1750	Open	51	13.0	1120	55	10.0	960	57	8.0	846	3.6	5.0	6.3
2000	Open	52	13.0	1189	55	9.9	1017	57	7.9	895	3.7	5.1	6.5
2250	Open	52	12.9	1252	56	9.8	1067	58	7.9	937	3.8	5.3	6.7
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	52	13.0	1207	55	9.9	1032	57	7.9	909	3.7	5.1	6.5
2250	Open	52	12.9	1274	56	9.8	1086	58	7.9	954	3.8	5.3	6.7
2500	Open	52	13.0	1337	56	9.7	1138	58	7.8	998	3.9	5.4	6.9
2750	Open	53	12.8	1396	56	9.6	1184	58	7.7	1036	4.0	5.6	7.1
3000	Open	53	12.9	1443	56	9.7	1222	58	7.7	1068	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	---- 60 Rho--- Interface Temp Amps °C	Flux w/ft²	---- 90 Rho--- Interface Temp Amps °C	Flux w/ft²	----120 Rho--- Interface Temp Amps °C	Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
					75% LF					
				50°C - Copper Conductor - Hollow Core Concentric Strand						
750	Open	627	38 9.7	555	41 7.8	499	42 6.6	2.9	3.8	4.8
1000	Open	741	39 10.3	648	42 8.1	577	43 6.8	3.2	4.4	5.5
1250	Open	833	39 10.2	726	42 8.0	644	44 6.6	3.3	4.6	5.8
1500	Open	914	40 10.2	793	42 8.0	701	44 6.5	3.5	4.8	6.0
1750	Open	982	40 10.0	849	43 7.7	748	44 6.3	3.6	5.0	6.3
2000	Open	1042	40 10.0	898	43 7.8	790	44 6.3	3.7	5.1	6.5
2250	Open	1098	41 9.9	943	43 7.7	826	45 6.2	3.8	5.3	6.7
				50°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	1060	40 10.0	914	43 7.8	803	44 6.3	3.7	5.1	6.5
2250	Open	1119	41 10.0	961	43 7.7	842	45 6.2	3.8	5.3	6.7
2500	Open	1175	41 9.9	1006	43 7.7	880	45 6.2	3.9	5.4	6.9
2750	Open	1227	41 9.9	1047	43 7.6	913	45 6.1	4.0	5.6	7.1
3000	Open	1269	41 10.0	1081	44 7.6	940	45 6.1	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						50°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	570	40	8.2	493	43	6.3	436	44	5.2	2.9	3.8	4.8
1000	Open	668	41	8.5	572	43	6.7	501	45	5.5	3.2	4.4	5.5
1250	Open	749	41	8.6	638	44	6.5	558	45	5.4	3.3	4.6	5.8
1500	Open	819	42	8.5	695	44	6.4	605	46	5.2	3.5	4.8	6.0
1750	Open	878	42	8.2	742	44	6.3	644	46	5.0	3.6	5.0	6.3
2000	Open	930	42	8.3	784	44	6.2	679	46	5.1	3.7	5.1	6.5
2250	Open	977	42	8.1	820	45	6.1	708	46	5.0	3.8	5.3	6.7
						50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	945	42	8.3	797	44	6.2	691	46	5.1	3.7	5.1	6.5
2250	Open	996	43	8.2	836	45	6.2	722	46	5.0	3.8	5.3	6.7
2500	Open	1044	43	8.2	874	45	6.1	753	46	4.9	3.9	5.4	6.9
2750	Open	1087	43	8.1	908	45	6.1	780	46	4.9	4.0	5.6	7.1
3000	Open	1123	43	8.1	935	45	6.0	801	47	4.9	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	51.2	42.6	41.7	33.4	35.2	27.4
1000	Open	54.9	45.2	44.0	35.0	36.8	28.5
1250	Open	56.8	46.5	45.3	35.7	37.7	29.0
1500	Open	58.5	47.7	46.5	36.5	38.5	29.5
1750	Open	59.9	48.6	47.4	37.1	39.2	30.0
2000	Open	61.0	49.3	48.1	37.5	39.7	30.2
2250	Open	62.5	50.2	49.1	38.1	40.4	30.6
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	60.9	49.3	48.1	37.5	39.6	30.2
2250	Open	62.5	50.3	49.1	38.1	40.3	30.6
2500	Open	63.4	50.9	49.7	38.4	40.7	30.9
2750	Open	64.7	51.7	50.5	38.9	41.3	31.2
3000	Open	65.8	52.3	51.1	39.3	41.7	31.5

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
75°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	42.7	35.6	34.8	27.9	29.3	22.9
1000	Open	45.7	37.7	36.6	29.2	30.6	23.8
1250	Open	47.4	38.9	37.8	29.9	31.3	24.3
1500	Open	48.7	39.8	38.7	30.4	32.0	24.6
1750	Open	49.9	40.6	39.4	30.9	32.5	25.0
2000	Open	50.8	41.1	40.0	31.3	32.9	25.2
2250	Open	52.0	42.0	40.8	31.8	33.5	25.6
75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	50.7	41.1	39.9	31.2	32.9	25.2
2250	Open	52.1	42.0	40.8	31.8	33.5	25.6
2500	Open	52.8	42.5	41.3	32.1	33.8	25.8
2750	Open	53.9	43.2	42.0	32.5	34.3	26.1
3000	Open	54.7	43.7	42.5	32.8	34.6	26.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
65°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	34.2	28.6	27.8	22.4	23.4	18.4
1000	Open	36.6	30.3	29.3	23.4	24.3	19.1
1250	Open	37.9	31.2	30.1	24.0	24.9	19.5
1500	Open	39.0	31.9	30.9	24.4	25.4	19.8
1750	Open	39.9	32.6	31.4	24.9	25.9	20.1
2000	Open	40.6	33.0	31.8	25.1	26.2	20.3
2250	Open	41.6	33.7	32.5	25.5	26.6	20.5
65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	40.5	33.0	31.8	25.1	26.1	20.3
2250	Open	41.6	33.7	32.5	25.5	26.6	20.6
2500	Open	42.2	34.1	32.9	25.8	26.9	20.7
2750	Open	43.1	34.7	33.4	26.1	27.2	20.9
3000	Open	43.7	35.1	33.8	26.3	27.5	21.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
50°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	21.4	18.1	17.3	14.2	14.4	11.6
1000	Open	22.9	19.1	18.2	14.8	15.0	12.0
1250	Open	23.6	19.7	18.7	15.2	15.4	12.3
1500	Open	24.3	20.2	19.1	15.5	15.7	12.5
1750	Open	24.9	20.6	19.5	15.7	15.9	12.7
2000	Open	25.3	20.9	19.7	15.9	16.1	12.8
2250	Open	25.9	21.3	20.1	16.1	16.3	13.0
50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	25.3	20.8	19.7	15.9	16.0	12.8
2250	Open	25.9	21.3	20.1	16.1	16.3	13.0
2500	Open	26.3	21.6	20.3	16.3	16.4	13.1
2750	Open	26.8	21.9	20.6	16.5	16.6	13.2
3000	Open	27.2	22.2	20.8	16.6	16.8	13.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	Re @ 90 Rho & loss factor 100%
			85°C - Copper Conductor - Hollow Core Concentric Strand						
750	Open	2.841	0.84	17.78	1.010	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	13.41	1.013	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	10.83	1.020	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	9.14	1.026	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	7.97	1.035	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	7.11	1.042	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.46	1.051	1.14	0.20	2.30	3.45
			85°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	3.323	1.19	6.90	1.043	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.25	1.053	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	5.69	1.061	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	5.23	1.075	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	4.89	1.085	1.03	0.18	2.26	3.42

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
				75°C - Copper Conductor - Hollow Core Concentric Strand					
750	Open	2.841	0.84	17.78	1.010	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	13.41	1.013	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	10.83	1.020	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	9.14	1.026	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	7.97	1.035	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	7.11	1.042	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.46	1.051	1.14	0.20	2.30	3.45
				75°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	3.323	1.19	6.90	1.043	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.25	1.053	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	5.69	1.061	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	5.23	1.075	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	4.89	1.085	1.03	0.18	2.26	3.42

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
			65°C - Copper Conductor - Hollow Core Concentric Strand						
750	Open	2.841	0.84	17.78	1.010	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	13.41	1.013	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	10.83	1.020	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	9.14	1.026	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	7.97	1.035	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	7.11	1.042	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.46	1.051	1.14	0.20	2.30	3.45
			65°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	3.323	1.19	6.90	1.043	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.25	1.053	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	5.69	1.061	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	5.23	1.075	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	4.89	1.085	1.03	0.18	2.26	3.42

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
			50°C - Copper Conductor - Hollow Core Concentric Strand						
750	Open	2.841	0.84	17.78	1.010	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	13.41	1.013	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	10.83	1.020	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	9.14	1.026	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	7.97	1.035	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	7.11	1.042	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.46	1.051	1.14	0.20	2.30	3.45
			50°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	3.323	1.19	6.90	1.043	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	6.25	1.053	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	5.69	1.061	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	5.23	1.075	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	4.89	1.085	1.03	0.18	2.26	3.42

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	903	57	21.0	799	63	16.7	722	67	13.8	3.3	4.6	5.8
1000	Open	1067	59	22.1	937	65	17.3	842	69	14.3	3.8	5.2	6.7
1250	Open	1202	60	22.0	1053	66	17.1	943	70	14.1	3.9	5.5	7.0
1500	Open	1321	61	21.8	1153	67	17.0	1031	70	13.8	4.1	5.7	7.3
1750	Open	1423	62	21.4	1238	67	16.5	1105	71	13.5	4.3	6.0	7.7
2000	Open	1513	62	21.4	1314	68	16.4	1170	71	13.3	4.4	6.1	7.9
2250	Open	1596	63	21.2	1383	68	16.3	1229	72	13.1	4.6	6.4	8.2
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1534	62	21.4	1333	68	16.4	1187	71	13.3	4.4	6.1	7.9
2250	Open	1622	63	21.2	1405	68	16.3	1248	72	13.2	4.6	6.4	8.2
2500	Open	1705	63	21.3	1474	69	16.2	1308	72	13.1	4.7	6.5	8.4
2750	Open	1782	64	21.3	1537	69	16.1	1362	73	13.0	4.8	6.7	8.6
3000	Open	1846	64	21.2	1588	70	16.1	1406	73	12.9	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	---- 60 Rho--- Interface Temp Amps	Flux °C w/ft²		---- 90 Rho--- Interface Temp Amps	Flux °C w/ft²		----120 Rho--- Interface Temp Amps	Flux °C w/ft²		delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	807	63	16.9	699	68	13.0	622	72	10.5	3.3	4.6	5.8
1000	Open	948	65	17.7	814	70	13.5	721	73	10.8	3.8	5.2	6.7
1250	Open	1064	66	17.5	911	71	13.2	805	74	10.6	3.9	5.5	7.0
1500	Open	1166	66	17.4	996	71	12.9	878	74	10.4	4.1	5.7	7.3
1750	Open	1252	67	16.9	1067	72	12.7	938	75	10.1	4.3	6.0	7.7
2000	Open	1329	67	16.8	1130	72	12.5	993	75	10.0	4.4	6.1	7.9
2250	Open	1399	68	16.7	1186	73	12.3	1040	76	9.8	4.6	6.4	8.2
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1348	67	16.8	1146	72	12.5	1007	75	10.0	4.4	6.1	7.9
2250	Open	1421	68	16.7	1205	73	12.3	1057	76	9.8	4.6	6.4	8.2
2500	Open	1492	68	16.6	1263	73	12.3	1105	76	9.8	4.7	6.5	8.4
2750	Open	1556	69	16.5	1314	74	12.2	1148	76	9.6	4.8	6.7	8.6
3000	Open	1609	69	16.4	1356	74	12.1	1184	77	9.5	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
					75% LF								
					75°C - Copper Conductor - Hollow Core Concentric Strand								
750	Open	52	17.5	832	57	13.8	735	61	11.4	663	3.3	4.6	5.8
1000	Open	54	18.4	983	59	14.4	861	62	11.9	771	3.8	5.2	6.7
1250	Open	55	18.3	1106	60	14.3	965	63	11.6	862	3.9	5.5	7.0
1500	Open	55	18.2	1215	60	14.1	1056	63	11.5	941	4.1	5.7	7.3
1750	Open	56	17.8	1306	61	13.7	1133	64	11.1	1007	4.3	6.0	7.7
2000	Open	56	17.8	1389	61	13.7	1202	64	11.0	1067	4.4	6.1	7.9
2250	Open	57	17.7	1464	61	13.6	1263	64	10.9	1118	4.6	6.4	8.2
					75°C - Copper Conductor - Hollow Core Segmental Strand								
2000	Open	56	17.8	1409	61	13.7	1219	64	11.0	1082	4.4	6.1	7.9
2250	Open	57	17.8	1489	62	13.6	1284	64	10.9	1137	4.6	6.4	8.2
2500	Open	57	17.8	1564	62	13.5	1347	65	10.9	1191	4.7	6.5	8.4
2750	Open	58	17.7	1634	62	13.4	1403	65	10.8	1238	4.8	6.7	8.6
3000	Open	58	17.6	1691	63	13.4	1449	65	10.7	1277	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						75°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	744	57	14.1	642	61	10.9	570	64	8.7	3.3	4.6	5.8
1000	Open	873	58	14.8	748	63	11.2	660	66	9.1	3.8	5.2	6.7
1250	Open	979	59	14.6	836	63	11.0	736	66	8.8	3.9	5.5	7.0
1500	Open	1072	60	14.4	912	64	10.9	801	66	8.8	4.1	5.7	7.3
1750	Open	1150	60	14.1	976	64	10.6	855	67	8.4	4.3	6.0	7.7
2000	Open	1219	61	14.0	1033	65	10.5	904	67	8.4	4.4	6.1	7.9
2250	Open	1282	61	13.9	1083	65	10.3	946	67	8.2	4.6	6.4	8.2
						75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1237	61	14.0	1048	65	10.5	918	67	8.4	4.4	6.1	7.9
2250	Open	1304	61	13.9	1101	65	10.3	962	67	8.2	4.6	6.4	8.2
2500	Open	1368	61	13.8	1153	65	10.2	1005	68	8.2	4.7	6.5	8.4
2750	Open	1425	62	13.8	1199	66	10.2	1043	68	8.0	4.8	6.7	8.6
3000	Open	1473	62	13.8	1236	66	10.1	1074	68	8.0	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						65°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	749	47	14.0	660	51	11.0	592	54	9.1	3.3	4.6	5.8
1000	Open	884	49	14.8	771	52	11.5	687	55	9.5	3.8	5.2	6.7
1250	Open	994	49	14.7	863	53	11.4	767	56	9.2	3.9	5.5	7.0
1500	Open	1090	50	14.5	943	54	11.2	836	56	9.1	4.1	5.7	7.3
1750	Open	1171	50	14.2	1010	54	10.9	893	56	8.8	4.3	6.0	7.7
2000	Open	1243	50	14.2	1070	54	10.9	944	57	8.7	4.4	6.1	7.9
2250	Open	1309	51	14.1	1123	55	10.8	988	57	8.7	4.6	6.4	8.2
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1262	50	14.3	1086	54	10.9	958	57	8.7	4.4	6.1	7.9
2250	Open	1333	51	14.1	1143	55	10.8	1005	57	8.7	4.6	6.4	8.2
2500	Open	1399	51	14.2	1197	55	10.8	1051	57	8.6	4.7	6.5	8.4
2750	Open	1460	52	14.2	1246	55	10.7	1091	58	8.5	4.8	6.7	8.6
3000	Open	1510	52	14.1	1286	56	10.6	1124	58	8.5	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						65°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	670	51	11.3	577	54	8.7	511	57	7.1	3.3	4.6	5.8
1000	Open	785	52	11.9	669	56	9.1	588	58	7.2	3.8	5.2	6.7
1250	Open	880	53	11.8	747	56	8.8	654	58	7.2	3.9	5.5	7.0
1500	Open	962	53	11.6	814	56	8.8	711	58	7.0	4.1	5.7	7.3
1750	Open	1031	53	11.4	870	57	8.4	758	59	6.8	4.3	6.0	7.7
2000	Open	1093	54	11.3	920	57	8.4	800	59	6.7	4.4	6.1	7.9
2250	Open	1147	54	11.2	963	57	8.3	835	59	6.6	4.6	6.4	8.2
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1109	54	11.3	934	57	8.4	813	59	6.7	4.4	6.1	7.9
2250	Open	1167	54	11.2	980	57	8.3	850	59	6.6	4.6	6.4	8.2
2500	Open	1223	54	11.1	1025	58	8.3	888	59	6.5	4.7	6.5	8.4
2750	Open	1274	55	11.1	1064	58	8.1	919	60	6.5	4.8	6.7	8.6
3000	Open	1315	55	11.0	1096	58	8.1	946	60	6.4	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp Amps	60 Rho Interface Temp °C	60 Rho Interface Flux w/ft²	90 Rho Interface Temp Amps	90 Rho Interface Temp °C	90 Rho Interface Flux w/ft²	120 Rho Interface Temp Amps	120 Rho Interface Temp °C	120 Rho Interface Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						50°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	591	39	8.7	514	42	6.9	455	44	5.6	3.3	4.6	5.8
1000	Open	694	40	9.2	596	43	7.1	522	45	5.7	3.8	5.2	6.7
1250	Open	778	41	9.1	665	43	7.0	580	45	5.6	3.9	5.5	7.0
1500	Open	851	41	9.1	724	44	6.9	629	45	5.5	4.1	5.7	7.3
1750	Open	911	41	8.8	772	44	6.7	668	45	5.4	4.3	6.0	7.7
2000	Open	966	42	8.8	815	44	6.7	703	46	5.3	4.4	6.1	7.9
2250	Open	1014	42	8.8	852	44	6.6	732	46	5.2	4.6	6.4	8.2
						50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	982	42	8.9	829	44	6.7	715	46	5.3	4.4	6.1	7.9
2250	Open	1034	42	8.8	869	44	6.7	746	46	5.2	4.6	6.4	8.2
2500	Open	1084	42	8.8	908	44	6.5	777	46	5.2	4.7	6.5	8.4
2750	Open	1128	42	8.8	942	45	6.6	803	46	5.2	4.8	6.7	8.6
3000	Open	1165	43	8.7	969	45	6.4	824	46	5.1	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
100% LF													
50°C - Copper Conductor - Hollow Core Concentric Strand													
750	Open	42	7.1	528	44	5.5	449	45	4.4	392	3.3	4.6	5.8
1000	Open	42	7.5	616	45	5.7	517	46	4.5	447	3.8	5.2	6.7
1250	Open	43	7.4	688	45	5.6	576	46	4.5	495	3.9	5.5	7.0
1500	Open	43	7.4	751	45	5.5	625	47	4.4	536	4.1	5.7	7.3
1750	Open	43	7.2	802	45	5.4	665	47	4.2	567	4.3	6.0	7.7
2000	Open	44	7.1	848	46	5.3	701	47	4.2	597	4.4	6.1	7.9
2250	Open	44	7.1	889	46	5.2	731	47	4.1	620	4.6	6.4	8.2
50°C - Copper Conductor - Hollow Core Segmental Strand													
2000	Open	44	7.1	862	46	5.3	713	47	4.3	607	4.4	6.1	7.9
2250	Open	44	7.1	906	46	5.2	745	47	4.1	632	4.6	6.4	8.2
2500	Open	44	7.1	947	46	5.2	777	47	4.1	657	4.7	6.5	8.4
2750	Open	44	7.0	984	46	5.2	804	47	4.0	677	4.8	6.7	8.6
3000	Open	44	7.0	1014	46	5.1	827	47	4.0	694	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	92.7	75.0	73.7	57.5	61.1	46.6
1000	Open	98.5	78.9	77.3	59.7	63.5	48.1
1250	Open	101.7	81.0	79.5	61.0	65.0	49.0
1500	Open	104.4	82.8	81.1	62.2	66.2	49.8
1750	Open	106.7	84.2	82.5	63.0	67.1	50.3
2000	Open	108.3	85.2	83.4	63.6	67.6	50.7
2250	Open	110.6	86.8	85.0	64.5	68.7	51.3
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	108.2	85.2	83.5	63.6	67.7	50.7
2250	Open	110.7	86.7	84.9	64.5	68.6	51.3
2500	Open	112.2	87.7	85.8	65.1	69.2	51.6
2750	Open	114.1	88.9	87.0	65.7	70.0	52.1
3000	Open	115.7	89.9	87.7	66.2	70.6	52.5

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
75°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	77.2	62.8	61.4	48.0	50.9	38.9
1000	Open	82.1	66.0	64.4	50.0	52.8	40.2
1250	Open	84.7	67.7	66.0	51.1	53.9	41.0
1500	Open	87.0	69.2	67.3	51.9	54.8	41.5
1750	Open	88.7	70.4	68.5	52.6	55.6	42.0
2000	Open	90.2	71.1	69.4	53.1	56.2	42.3
2250	Open	92.1	72.4	70.5	53.8	56.9	42.9
75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	90.1	71.1	69.2	53.0	56.1	42.4
2250	Open	92.2	72.5	70.5	53.8	56.9	42.9
2500	Open	93.4	73.2	71.3	54.3	57.4	43.1
2750	Open	95.1	74.3	72.2	54.9	58.0	43.5
3000	Open	96.3	75.1	72.9	55.3	58.5	43.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
65°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	61.6	50.3	49.0	38.6	40.4	31.4
1000	Open	65.6	53.0	51.3	40.1	42.0	32.3
1250	Open	67.7	54.4	52.6	40.9	42.8	32.8
1500	Open	69.4	55.5	53.6	41.6	43.5	33.3
1750	Open	70.8	56.5	54.5	42.2	44.1	33.7
2000	Open	71.9	57.2	55.1	42.6	44.5	34.0
2250	Open	73.4	58.1	56.0	43.2	45.1	34.3
65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	71.8	57.1	55.1	42.6	44.4	34.0
2250	Open	73.5	58.1	56.0	43.2	45.0	34.4
2500	Open	74.5	58.7	56.6	43.6	45.4	34.6
2750	Open	75.8	59.6	57.4	44.0	45.9	34.9
3000	Open	76.7	60.2	57.9	44.3	46.2	35.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
50°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	38.6	31.8	30.4	24.4	24.9	19.8
1000	Open	40.9	33.5	31.7	25.3	25.7	20.4
1250	Open	42.1	34.3	32.5	25.9	26.2	20.8
1500	Open	43.2	35.1	33.1	26.3	26.6	21.1
1750	Open	44.0	35.6	33.5	26.7	26.9	21.3
2000	Open	44.7	36.1	33.9	26.9	27.0	21.5
2250	Open	45.6	36.8	34.4	27.3	27.4	21.8
50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	44.7	36.1	33.9	26.9	27.0	21.5
2250	Open	45.6	36.8	34.4	27.3	27.3	21.7
2500	Open	46.2	37.1	34.8	27.5	27.5	21.9
2750	Open	47.0	37.7	35.2	27.8	27.8	22.1
3000	Open	47.5	38.0	35.4	28.1	27.9	22.2

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
85°C - Copper Conductor - Hollow Core Concentric Strand									
750	Open	2.841	0.84	17.78	1.007	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	13.41	1.010	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	10.83	1.022	1.38	0.20	2.90	4.41
1500	Open	3.098	1.10	9.14	1.029	1.30	0.19	2.88	4.37
1750	Open	3.255	1.16	7.97	1.039	1.23	0.21	2.86	4.34
2000	Open	3.326	1.20	7.11	1.047	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.46	1.056	1.14	0.20	2.83	4.32
85°C - Copper Conductor - Hollow Core Segmental Strand									
2000	Open	3.323	1.19	6.90	1.048	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.25	1.058	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	5.69	1.068	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	5.23	1.083	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	4.89	1.093	1.03	0.18	2.80	4.28

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
			75°C - Copper Conductor - Hollow Core Concentric Strand						
750	Open	2.841	0.84	17.78	1.007	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	13.41	1.010	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	10.83	1.022	1.38	0.20	2.90	4.41
1500	Open	3.098	1.10	9.14	1.029	1.30	0.19	2.88	4.37
1750	Open	3.255	1.16	7.97	1.039	1.23	0.21	2.86	4.34
2000	Open	3.326	1.20	7.11	1.047	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.46	1.056	1.14	0.20	2.83	4.32
			75°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	3.323	1.19	6.90	1.048	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.25	1.058	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	5.69	1.068	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	5.23	1.083	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	4.89	1.093	1.03	0.18	2.80	4.28

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
65°C - Copper Conductor - Hollow Core Concentric Strand									
750	Open	2.841	0.84	17.78	1.007	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	13.41	1.010	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	10.83	1.022	1.38	0.20	2.90	4.41
1500	Open	3.098	1.10	9.14	1.029	1.30	0.19	2.88	4.37
1750	Open	3.255	1.16	7.97	1.039	1.23	0.21	2.86	4.34
2000	Open	3.326	1.20	7.11	1.047	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.46	1.056	1.14	0.20	2.83	4.32
65°C - Copper Conductor - Hollow Core Segmental Strand									
2000	Open	3.323	1.19	6.90	1.048	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.25	1.058	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	5.69	1.068	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	5.23	1.083	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	4.89	1.093	1.03	0.18	2.80	4.28

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
			50°C - Copper Conductor - Hollow Core Concentric Strand						
750	Open	2.841	0.84	17.78	1.007	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	13.41	1.010	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	10.83	1.022	1.38	0.20	2.90	4.41
1500	Open	3.098	1.10	9.14	1.029	1.30	0.19	2.88	4.37
1750	Open	3.255	1.16	7.97	1.039	1.23	0.21	2.86	4.34
2000	Open	3.326	1.20	7.11	1.047	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.46	1.056	1.14	0.20	2.83	4.32
			50°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	3.323	1.19	6.90	1.048	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	6.25	1.058	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	5.69	1.068	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	5.23	1.083	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	4.89	1.093	1.03	0.18	2.80	4.28

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2402

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	686	708	440	520	3.4	3.2
1000	Open	807	835	515	611	3.9	3.6
1250	Open	915	947	583	693	4.0	3.7
1500	Open	1012	1048	643	766	4.1	3.8
1750	Open	1100	1140	698	833	4.2	3.9
2000	Open	1205	1242	754	891	4.1	3.8
2250	Open	1276	1316	798	943	4.2	3.9
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1219	1257	763	901	4.1	3.8
2250	Open	1300	1340	812	960	4.2	3.9
2500	Open	1374	1418	858	1015	4.2	3.9
2750	Open	1450	1497	905	1071	4.3	4.0
3000	Open	1511	1561	942	1116	4.3	4.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Copper Conductor - Hollow Core Concentric Strand					
750	Open	27.6	29.2	12.8	16.9
1000	Open	29.1	30.9	13.6	17.9
1250	Open	30.2	32.2	14.1	18.7
1500	Open	31.3	33.3	14.6	19.3
1750	Open	32.2	34.4	15.1	20.0
2000	Open	34.3	36.2	15.6	20.4
2250	Open	35.3	37.3	16.1	21.0
85°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	34.3	36.2	15.6	20.3
2250	Open	35.4	37.3	16.1	21.0
2500	Open	36.0	38.0	16.4	21.4
2750	Open	36.8	39.0	16.8	21.9
3000	Open	37.5	39.7	17.1	22.3

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2404

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re Sun 2 fps
					85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	2.841	4.03	0.84	17.78	1.000	1.70	0.21	1.81	0.35	0.90	0.61
1000	Open	2.863	4.03	0.97	13.40	1.000	1.47	0.21	1.79	0.35	0.89	0.61
1250	Open	2.990	4.03	1.04	10.80	1.000	1.38	0.20	1.72	0.35	0.89	0.61
1500	Open	3.098	4.03	1.10	9.11	1.000	1.30	0.19	1.66	0.35	0.89	0.61
1750	Open	3.255	4.03	1.16	7.92	1.000	1.23	0.21	1.58	0.35	0.88	0.61
2000	Open	3.326	5.05	1.20	7.05	1.000	1.19	0.20	1.56	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	6.46	1.000	1.14	0.20	1.51	0.31	0.74	0.51
					85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	5.05	1.19	6.88	1.000	1.19	0.20	1.56	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	6.23	1.000	1.14	0.20	1.51	0.31	0.74	0.51
2500	Open	3.505	5.05	1.29	5.66	1.000	1.10	0.19	1.48	0.31	0.73	0.51
2750	Open	3.610	5.05	1.34	5.20	1.000	1.06	0.19	1.44	0.31	0.73	0.51
3000	Open	3.681	5.05	1.38	4.86	1.000	1.03	0.18	1.41	0.31	0.73	0.51

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
		85°C - Copper Conductor - Hollow Core Concentric Strand					
750	Open	872	936	595	723	1.9	1.6
1000	Open	1046	1126	713	869	2.1	1.8
1250	Open	1196	1287	812	990	2.2	1.8
1500	Open	1331	1433	903	1099	2.2	1.8
1750	Open	1456	1564	983	1194	2.2	1.9
2000	Open	1564	1680	1055	1280	2.3	1.9
2250	Open	1666	1790	1121	1360	2.3	1.9
		85°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	1582	1700	1067	1295	2.3	1.9
2250	Open	1697	1822	1142	1385	2.3	1.9
2500	Open	1801	1934	1210	1467	2.3	1.9
2750	Open	1911	2050	1281	1552	2.3	1.9
3000	Open	1999	2145	1339	1620	2.3	1.9

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2406

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Copper Conductor - Hollow Core Concentric Strand					
750	Open	14.4	16.4	7.1	10.1
1000	Open	15.6	18.0	7.8	11.1
1250	Open	16.5	18.9	8.2	11.6
1500	Open	17.2	19.8	8.5	12.1
1750	Open	18.0	20.5	8.8	12.5
2000	Open	18.4	21.1	9.0	12.7
2250	Open	19.2	22.0	9.4	13.2
85°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	18.4	21.1	9.0	12.7
2250	Open	19.2	21.9	9.4	13.2
2500	Open	19.7	22.5	9.6	13.5
2750	Open	20.3	23.2	9.9	13.9
3000	Open	20.8	23.8	10.1	14.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re No Sun 2 fps
					85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	2.841	9.99	0.84	17.78	1.000	1.70	0.21	0.00	0.00	1.27	0.87
1000	Open	2.863	9.99	0.97	13.40	1.000	1.47	0.21	0.00	0.00	1.25	0.87
1250	Open	2.990	9.99	1.04	10.80	1.000	1.38	0.20	0.00	0.00	1.20	0.84
1500	Open	3.098	9.99	1.10	9.11	1.000	1.30	0.19	0.00	0.00	1.16	0.81
1750	Open	3.255	9.99	1.16	7.92	1.000	1.23	0.21	0.00	0.00	1.10	0.78
2000	Open	3.326	9.99	1.20	7.05	1.000	1.19	0.20	0.00	0.00	1.08	0.77
2250	Open	3.436	9.99	1.26	6.46	1.000	1.14	0.20	0.00	0.00	1.05	0.75
					85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	9.99	1.19	6.88	1.000	1.19	0.20	0.00	0.00	1.08	0.77
2250	Open	3.436	9.99	1.26	6.23	1.000	1.14	0.20	0.00	0.00	1.05	0.75
2500	Open	3.505	9.99	1.29	5.66	1.000	1.10	0.19	0.00	0.00	1.03	0.74
2750	Open	3.610	9.99	1.34	5.20	1.000	1.06	0.19	0.00	0.00	1.00	0.72
3000	Open	3.681	9.99	1.38	4.86	1.000	1.03	0.18	0.00	0.00	0.98	0.71

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2408

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	714	741	542	610	3.1	2.9
1000	Open	844	877	638	721	3.5	3.2
1250	Open	957	996	723	818	3.6	3.3
1500	Open	1058	1103	799	905	3.7	3.4
1750	Open	1149	1199	868	984	3.8	3.5
2000	Open	1268	1313	957	1065	3.6	3.4
2250	Open	1343	1392	1014	1129	3.7	3.5
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1283	1328	969	1078	3.6	3.4
2250	Open	1368	1417	1032	1150	3.7	3.5
2500	Open	1446	1499	1091	1216	3.8	3.5
2750	Open	1526	1583	1151	1284	3.8	3.6
3000	Open	1591	1651	1200	1338	3.9	3.6

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Copper Conductor - Hollow Core Concentric Strand					
750	Open	9.9	10.6	6.1	7.5
1000	Open	10.5	11.3	6.4	7.9
1250	Open	10.9	11.8	6.7	8.3
1500	Open	11.3	12.2	6.9	8.6
1750	Open	11.6	12.6	7.1	8.8
2000	Open	12.5	13.3	7.7	9.2
2250	Open	12.9	13.8	7.9	9.5
85°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	12.5	13.3	7.7	9.2
2250	Open	12.9	13.8	7.9	9.5
2500	Open	13.1	14.0	8.0	9.7
2750	Open	13.5	14.4	8.2	9.9
3000	Open	13.7	14.6	8.4	10.1

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2410

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re No Sun 2 fps
					85°C - Copper Conductor - Hollow Core Concentric Strand							
750	Open	2.841	4.03	0.84	17.78	1.000	1.70	0.21	1.44	0.35	0.91	0.61
1000	Open	2.863	4.03	0.97	13.40	1.000	1.47	0.21	1.42	0.35	0.91	0.61
1250	Open	2.990	4.03	1.04	10.80	1.000	1.38	0.20	1.36	0.35	0.90	0.61
1500	Open	3.098	4.03	1.10	9.11	1.000	1.30	0.19	1.31	0.35	0.90	0.61
1750	Open	3.255	4.03	1.16	7.92	1.000	1.23	0.21	1.25	0.35	0.90	0.60
2000	Open	3.326	5.05	1.20	7.05	1.000	1.19	0.20	1.21	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	6.46	1.000	1.14	0.20	1.17	0.31	0.73	0.51
					85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	5.05	1.19	6.88	1.000	1.19	0.20	1.21	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	6.23	1.000	1.14	0.20	1.17	0.31	0.73	0.51
2500	Open	3.505	5.05	1.29	5.66	1.000	1.10	0.19	1.15	0.31	0.73	0.51
2750	Open	3.610	5.05	1.34	5.20	1.000	1.06	0.19	1.11	0.31	0.73	0.51
3000	Open	3.681	5.05	1.38	4.86	1.000	1.03	0.18	1.09	0.31	0.73	0.51

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 .0033 pf & Rho 60	delta Td for .0033 pf & Rho 90	delta Td for .0033 pf & Rho 120
85°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	611	571	572	522	538	482	4.2	5.1	5.9
1000	Open	720	670	671	610	629	561	4.8	5.8	6.8
1250	Open	816	758	758	687	709	631	4.9	6.0	7.1
1500	Open	904	837	837	757	781	693	5.1	6.3	7.4
1750	Open	985	910	910	821	847	751	5.3	6.5	7.7
2000	Open	1056	974	974	877	906	801	5.4	6.7	7.9
2250	Open	1122	1034	1033	928	958	846	5.6	6.9	8.2
85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	1064	982	981	884	913	807	5.4	6.7	7.9
2250	Open	1134	1044	1043	938	968	854	5.6	6.9	8.2
2500	Open	1201	1105	1104	991	1023	901	5.7	7.0	8.4
2750	Open	1267	1164	1163	1042	1075	946	5.8	7.2	8.7
3000	Open	1323	1214	1212	1084	1120	984	5.9	7.4	8.8

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2412

138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	35.3	31.1	31.2	26.4	27.9	22.9
1000	Open	37.1	32.5	32.6	27.5	29.0	23.7
1250	Open	38.4	33.5	33.5	28.1	29.7	24.2
1500	Open	39.6	34.4	34.4	28.7	30.4	24.6
1750	Open	40.7	35.2	35.2	29.3	31.0	25.1
2000	Open	41.3	35.7	35.7	29.6	31.4	25.3
2250	Open	42.3	36.5	36.4	30.1	31.9	25.7
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	41.3	35.7	35.6	29.6	31.3	25.3
2250	Open	42.4	36.5	36.4	30.2	31.9	25.7
2500	Open	43.0	37.0	36.9	30.5	32.2	25.9
2750	Open	43.8	37.6	37.5	30.9	32.7	26.2
3000	Open	44.4	38.1	38.0	31.2	33.0	26.4

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	5.06	0.84	29.22	1.001	1.70	0.21	1.48	0.24	2.11	3.30
1000	Open	2.823	5.06	0.97	21.96	1.001	1.47	0.21	1.45	0.24	2.11	3.30
1250	Open	2.940	5.06	1.04	17.62	1.002	1.38	0.20	1.39	0.24	2.11	3.30
1500	Open	3.058	5.06	1.10	14.76	1.003	1.30	0.20	1.34	0.24	2.11	3.30
1750	Open	3.175	5.06	1.16	12.73	1.004	1.23	0.19	1.29	0.24	2.11	3.30
2000	Open	3.286	5.06	1.20	11.22	1.005	1.19	0.21	1.25	0.24	2.11	3.30
2250	Open	3.396	5.06	1.26	10.14	1.006	1.14	0.20	1.21	0.24	2.11	3.30
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	5.06	1.19	11.05	1.005	1.19	0.21	1.25	0.24	2.11	3.30
2250	Open	3.396	5.06	1.26	9.93	1.006	1.14	0.20	1.21	0.24	2.11	3.30
2500	Open	3.475	5.06	1.29	8.96	1.007	1.10	0.20	1.18	0.24	2.11	3.30
2750	Open	3.570	5.06	1.34	8.17	1.009	1.06	0.19	1.14	0.24	2.11	3.30
3000	Open	3.651	5.06	1.38	7.58	1.010	1.03	0.19	1.12	0.24	2.11	3.30

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2414

138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 .0033 pf & Rho 60	90	120
85°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	544	489	486	426	440	379	5.8	7.6	9.4
1000	Open	637	570	565	492	508	435	6.6	8.7	10.8
1250	Open	718	641	634	551	569	486	6.9	9.1	11.4
1500	Open	791	705	697	604	623	531	7.2	9.5	11.9
1750	Open	859	763	753	652	672	571	7.5	10.0	12.5
2000	Open	918	815	803	694	715	607	7.7	10.3	12.9
2250	Open	972	861	847	731	752	638	8.0	10.7	13.4
85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	925	821	810	700	721	612	7.7	10.3	12.8
2250	Open	982	869	856	738	760	644	8.0	10.7	13.4
2500	Open	1038	918	902	777	800	677	8.1	10.9	13.7
2750	Open	1092	964	946	814	836	708	8.4	11.3	14.2
3000	Open	1137	1003	983	845	867	733	8.6	11.5	14.5

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	57.0	47.0	46.5	36.9	39.0	30.2
1000	Open	59.4	48.7	48.0	37.8	39.9	30.8
1250	Open	60.8	49.7	48.8	38.4	40.5	31.2
1500	Open	62.2	50.7	49.7	39.0	41.0	31.6
1750	Open	63.5	51.6	50.4	39.5	41.6	32.0
2000	Open	64.3	52.2	50.9	39.8	41.8	32.1
2250	Open	65.4	52.9	51.5	40.3	42.2	32.5
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	64.2	52.1	50.9	39.8	41.8	32.1
2250	Open	65.4	52.9	51.5	40.2	42.2	32.4
2500	Open	66.2	53.5	51.9	40.5	42.5	32.6
2750	Open	67.2	54.1	52.4	40.9	42.7	32.9
3000	Open	67.9	54.7	52.8	41.2	42.9	33.1

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	Re @ 90 Rho & loss factor 100%
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	5.06	0.84	29.22	1.001	1.70	0.21	1.43	0.24	4.00	6.34
1000	Open	2.823	5.06	0.97	21.96	1.002	1.47	0.21	1.40	0.24	4.00	6.34
1250	Open	2.940	5.06	1.04	17.62	1.002	1.38	0.20	1.35	0.24	4.00	6.34
1500	Open	3.058	5.06	1.10	14.76	1.003	1.30	0.20	1.29	0.24	4.00	6.34
1750	Open	3.175	5.06	1.16	12.73	1.004	1.23	0.19	1.25	0.24	4.00	6.34
2000	Open	3.286	5.06	1.20	11.22	1.005	1.19	0.21	1.20	0.24	4.00	6.34
2250	Open	3.396	5.06	1.26	10.14	1.006	1.14	0.20	1.16	0.24	4.00	6.34
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	5.06	1.19	11.05	1.005	1.19	0.21	1.21	0.24	4.00	6.34
2250	Open	3.396	5.06	1.26	9.93	1.006	1.14	0.20	1.16	0.24	4.00	6.34
2500	Open	3.475	5.06	1.29	8.96	1.008	1.10	0.20	1.14	0.24	4.00	6.34
2750	Open	3.570	5.06	1.34	8.17	1.010	1.06	0.19	1.11	0.24	4.00	6.34
3000	Open	3.651	5.06	1.38	7.58	1.011	1.03	0.19	1.08	0.24	4.00	6.34

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
						75% LF							
85°C - Aluminum Conductor - Hollow Core Concentric Strand													
750	Open	54	23.3	743	60	19.0	667	64	16.0	609	2.9	3.8	4.8
1000	Open	56	24.8	885	62	19.9	788	66	16.6	715	3.2	4.4	5.5
1250	Open	57	24.6	1004	63	19.6	891	67	16.4	807	3.4	4.6	5.8
1500	Open	58	24.4	1112	64	19.4	984	68	16.0	889	3.5	4.8	6.0
1750	Open	58	24.2	1213	64	19.1	1071	68	15.8	965	3.6	5.0	6.3
2000	Open	59	23.6	1297	64	18.7	1144	68	15.5	1031	3.7	5.1	6.5
2250	Open	59	23.4	1380	65	18.4	1213	69	15.2	1091	3.9	5.3	6.8
85°C - Aluminum Conductor - Hollow Core Segmental Strand													
2000	Open	59	23.6	1307	64	18.6	1153	68	15.4	1039	3.7	5.1	6.5
2250	Open	59	23.4	1394	65	18.4	1226	69	15.2	1102	3.9	5.3	6.8
2500	Open	60	23.3	1477	65	18.2	1297	69	15.1	1165	3.9	5.4	6.9
2750	Open	60	23.2	1559	66	18.1	1366	70	14.9	1225	4.0	5.6	7.1
3000	Open	61	23.0	1627	66	18.0	1424	70	14.8	1275	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Amps	60 Rho Flux °C w/ft²	90 Rho Interface Temp	90 Rho Amps	90 Rho Flux °C w/ft²	120 Rho Interface Temp	120 Rho Amps	120 Rho Flux °C w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	675	59	19.4	592	65	15.2	532	69	12.5	2.9	3.8	4.8
1000	Open	799	61	20.3	696	67	15.7	622	71	12.9	3.2	4.4	5.5
1250	Open	903	62	20.1	784	68	15.5	699	71	12.6	3.4	4.6	5.8
1500	Open	997	63	19.9	863	69	15.2	768	72	12.4	3.5	4.8	6.0
1750	Open	1085	64	19.6	936	69	14.9	831	73	12.0	3.6	5.0	6.3
2000	Open	1159	64	19.1	999	69	14.5	886	73	11.7	3.7	5.1	6.5
2250	Open	1229	65	18.9	1057	70	14.3	936	73	11.6	3.9	5.3	6.8
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1168	64	19.1	1007	69	14.5	893	73	11.8	3.7	5.1	6.5
2250	Open	1242	65	18.9	1068	70	14.3	946	73	11.6	3.9	5.3	6.8
2500	Open	1313	65	18.7	1127	70	14.2	997	73	11.4	3.9	5.4	6.9
2750	Open	1383	65	18.5	1185	71	14.0	1047	74	11.2	4.0	5.6	7.1
3000	Open	1442	66	18.4	1233	71	13.8	1088	74	11.1	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	---- 60 Rho--- Interface Temp Amps	Flux °C w/ft²	---- 90 Rho--- Interface Temp Amps	Flux °C w/ft²	----120 Rho--- Interface Temp Amps	Flux °C w/ft²	delta Td for .0033 pf & Rho 60	90	120
				75% LF						
		75°C - Aluminum Conductor - Hollow Core Concentric Strand								
750	Open	686	49 19.4	614	55 15.7	560	58 13.3	2.9	3.8	4.8
1000	Open	817	51 20.6	725	56 16.5	657	60 13.8	3.2	4.4	5.5
1250	Open	926	52 20.4	819	57 16.4	740	60 13.5	3.4	4.6	5.8
1500	Open	1025	53 20.2	905	57 16.1	815	61 13.4	3.5	4.8	6.0
1750	Open	1118	53 20.1	984	58 15.9	884	61 13.1	3.6	5.0	6.3
2000	Open	1195	53 19.6	1050	58 15.6	943	61 12.8	3.7	5.1	6.5
2250	Open	1270	54 19.6	1113	59 15.3	998	62 12.6	3.9	5.3	6.8
		75°C - Aluminum Conductor - Hollow Core Segmental Strand								
2000	Open	1204	53 19.7	1059	58 15.5	951	61 12.8	3.7	5.1	6.5
2250	Open	1283	54 19.6	1125	59 15.3	1009	62 12.6	3.9	5.3	6.8
2500	Open	1359	54 19.5	1190	59 15.2	1065	62 12.4	3.9	5.4	6.9
2750	Open	1435	55 19.3	1253	59 15.1	1120	63 12.3	4.0	5.6	7.1
3000	Open	1497	55 19.1	1306	60 15.0	1166	63 12.2	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp Amps	60 Rho Interface Temp °C	60 Rho Interface Flux w/ft²	90 Rho Interface Temp Amps	90 Rho Interface Temp °C	90 Rho Interface Flux w/ft²	120 Rho Interface Temp Amps	120 Rho Interface Temp °C	120 Rho Interface Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	623	54	16.3	546	59	12.7	489	62	10.4	2.9	3.8	4.8
1000	Open	737	56	17.0	640	60	13.1	571	63	10.7	3.2	4.4	5.5
1250	Open	833	56	16.8	721	61	13.0	641	64	10.5	3.4	4.6	5.8
1500	Open	919	57	16.6	793	62	12.7	704	64	10.2	3.5	4.8	6.0
1750	Open	999	58	16.4	860	62	12.5	762	65	10.1	3.6	5.0	6.3
2000	Open	1067	58	15.9	917	62	12.2	812	65	9.9	3.7	5.1	6.5
2250	Open	1131	58	15.7	970	63	12.0	856	65	9.7	3.9	5.3	6.8
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1076	58	15.9	925	62	12.2	818	65	9.9	3.7	5.1	6.5
2250	Open	1143	58	15.7	980	63	12.0	866	65	9.7	3.9	5.3	6.8
2500	Open	1209	59	15.6	1035	63	11.9	913	66	9.6	3.9	5.4	6.9
2750	Open	1273	59	15.5	1088	63	11.7	958	66	9.4	4.0	5.6	7.1
3000	Open	1326	59	15.4	1131	64	11.6	995	66	9.3	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
						75% LF							
						65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	619	45	15.6	553	49	12.6	502	52	10.7	2.9	3.8	4.8
1000	Open	736	46	16.5	652	50	13.1	588	53	11.0	3.2	4.4	5.5
1250	Open	834	47	16.4	736	51	13.0	662	54	10.8	3.4	4.6	5.8
1500	Open	923	47	16.2	812	51	12.9	728	54	10.6	3.5	4.8	6.0
1750	Open	1006	48	16.1	882	52	12.6	789	54	10.5	3.6	5.0	6.3
2000	Open	1074	48	15.7	941	52	12.3	841	55	10.2	3.7	5.1	6.5
2250	Open	1141	48	15.6	996	52	12.3	889	55	10.0	3.9	5.3	6.8
						65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1084	48	15.7	949	52	12.3	849	55	10.2	3.7	5.1	6.5
2250	Open	1155	48	15.6	1008	52	12.3	899	55	10.0	3.9	5.3	6.8
2500	Open	1222	49	15.5	1065	53	12.1	949	55	9.9	3.9	5.4	6.9
2750	Open	1289	49	15.4	1121	53	12.0	997	55	9.8	4.0	5.6	7.1
3000	Open	1345	49	15.4	1167	53	11.9	1036	56	9.7	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	90 Rho Interface Temp	90 Rho Flux	120 Rho Interface Temp	120 Rho Flux	delta Td for .0033 pf & Rho 60	90	120
		Amps	°C w/ft²	Amps	°C w/ft²	Amps	°C w/ft²			
100% LF										
65°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	562	48 13.0	491	52 10.3	439	55 8.3	2.9	3.8	4.8
1000	Open	664	50 13.7	575	54 10.6	511	56 8.7	3.2	4.4	5.5
1250	Open	750	50 13.5	647	54 10.4	573	56 8.4	3.4	4.6	5.8
1500	Open	828	51 13.4	712	55 10.2	629	57 8.2	3.5	4.8	6.0
1750	Open	899	51 13.1	771	55 10.0	679	57 8.1	3.6	5.0	6.3
2000	Open	960	51 12.8	821	55 9.8	723	57 7.9	3.7	5.1	6.5
2250	Open	1017	52 12.7	868	55 9.7	763	58 7.8	3.9	5.3	6.8
65°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	968	51 12.8	829	55 9.8	730	57 7.9	3.7	5.1	6.5
2250	Open	1028	52 12.7	878	55 9.7	771	58 7.8	3.9	5.3	6.8
2500	Open	1087	52 12.5	926	56 9.6	813	58 7.7	3.9	5.4	6.9
2750	Open	1144	52 12.4	972	56 9.4	852	58 7.6	4.0	5.6	7.1
3000	Open	1191	53 12.3	1011	56 9.3	884	58 7.4	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Interface Temp Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Interface Temp Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	491	38	9.7	434	41	7.8	390	42	6.6	2.9	3.8	4.8
1000	Open	581	39	10.3	509	42	8.3	454	43	6.8	3.2	4.4	5.5
1250	Open	658	39	10.3	573	42	8.1	509	44	6.6	3.4	4.6	5.8
1500	Open	727	40	10.1	631	42	8.0	558	44	6.5	3.5	4.8	6.0
1750	Open	791	40	10.0	683	43	7.8	602	44	6.4	3.6	5.0	6.3
2000	Open	843	40	9.8	728	43	7.7	640	44	6.3	3.7	5.1	6.5
2250	Open	894	40	9.7	769	43	7.5	674	45	6.2	3.9	5.3	6.8
						50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	851	40	9.8	735	43	7.7	647	44	6.3	3.7	5.1	6.5
2250	Open	905	40	9.7	779	43	7.5	683	45	6.2	3.9	5.3	6.8
2500	Open	958	41	9.7	822	43	7.5	719	45	6.0	3.9	5.4	6.9
2750	Open	1009	41	9.6	863	43	7.4	753	45	6.0	4.0	5.6	7.1
3000	Open	1051	41	9.5	897	43	7.3	781	45	6.0	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
						100% LF							
						50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	446	40	8.2	386	43	6.4	341	44	5.3	2.9	3.8	4.8
1000	Open	525	41	8.7	449	43	6.6	394	45	5.4	3.2	4.4	5.5
1250	Open	592	41	8.6	504	44	6.5	441	45	5.3	3.4	4.6	5.8
1500	Open	652	42	8.4	553	44	6.5	482	45	5.2	3.5	4.8	6.0
1750	Open	707	42	8.3	598	44	6.4	519	46	5.2	3.6	5.0	6.3
2000	Open	753	42	8.1	636	44	6.2	551	46	5.0	3.7	5.1	6.5
2250	Open	796	42	8.0	670	45	6.1	579	46	4.9	3.9	5.3	6.8
						50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	760	42	8.1	642	44	6.2	556	46	5.0	3.7	5.1	6.5
2250	Open	807	42	8.0	678	45	6.1	586	46	4.9	3.9	5.3	6.8
2500	Open	852	43	7.9	714	45	6.0	616	46	4.8	3.9	5.4	6.9
2750	Open	895	43	7.9	749	45	5.9	644	46	4.7	4.0	5.6	7.1
3000	Open	931	43	7.8	777	45	5.9	667	46	4.7	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	51.0	42.5	41.5	33.3	35.1	27.3
1000	Open	54.6	45.1	43.9	34.9	36.7	28.5
1250	Open	56.6	46.3	45.2	35.7	37.6	29.0
1500	Open	58.3	47.5	46.3	36.4	38.4	29.5
1750	Open	59.9	48.7	47.5	37.1	39.2	30.0
2000	Open	60.6	49.1	47.9	37.4	39.6	30.2
2250	Open	62.1	50.0	48.8	38.0	40.2	30.6
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	60.5	49.1	47.9	37.4	39.6	30.2
2250	Open	62.1	50.1	48.9	38.0	40.2	30.6
2500	Open	63.1	50.6	49.5	38.3	40.7	30.8
2750	Open	64.3	51.4	50.3	38.8	41.2	31.2
3000	Open	65.2	52.1	50.9	39.2	41.6	31.4

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	42.5	35.5	34.5	27.8	29.2	22.8
1000	Open	45.6	37.6	36.5	29.1	30.5	23.8
1250	Open	47.1	38.7	37.6	29.8	31.2	24.2
1500	Open	48.5	39.7	38.6	30.4	31.9	24.6
1750	Open	50.0	40.6	39.5	31.0	32.6	25.1
2000	Open	50.5	41.0	39.8	31.2	32.8	25.2
2250	Open	51.7	41.8	40.6	31.7	33.4	25.6
75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	50.4	41.0	39.8	31.2	32.8	25.2
2250	Open	51.7	41.8	40.6	31.7	33.4	25.6
2500	Open	52.5	42.4	41.2	32.1	33.7	25.8
2750	Open	53.6	43.0	41.8	32.5	34.2	26.1
3000	Open	54.3	43.5	42.3	32.8	34.6	26.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	34.0	28.5	27.6	22.3	23.2	18.3
1000	Open	36.4	30.2	29.2	23.4	24.3	19.1
1250	Open	37.7	31.1	30.0	23.9	24.9	19.4
1500	Open	38.8	31.8	30.8	24.4	25.4	19.8
1750	Open	39.9	32.6	31.5	24.9	25.9	20.1
2000	Open	40.3	32.9	31.8	25.0	26.1	20.2
2250	Open	41.3	33.6	32.4	25.5	26.6	20.6
65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	40.3	32.9	31.7	25.1	26.1	20.2
2250	Open	41.4	33.5	32.4	25.5	26.5	20.5
2500	Open	41.9	34.0	32.8	25.7	26.8	20.7
2750	Open	42.7	34.5	33.3	26.0	27.2	20.9
3000	Open	43.4	34.9	33.7	26.3	27.4	21.1

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	21.3	18.0	17.2	14.1	14.4	11.6
1000	Open	22.7	19.1	18.1	14.8	15.0	12.0
1250	Open	23.6	19.7	18.6	15.1	15.3	12.3
1500	Open	24.2	20.1	19.1	15.4	15.6	12.5
1750	Open	24.9	20.6	19.5	15.7	15.9	12.7
2000	Open	25.1	20.8	19.7	15.8	16.0	12.8
2250	Open	25.7	21.2	20.0	16.1	16.2	13.0
50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	25.1	20.7	19.6	15.8	16.0	12.8
2250	Open	25.7	21.2	20.0	16.1	16.3	13.0
2500	Open	26.1	21.5	20.3	16.2	16.4	13.1
2750	Open	26.6	21.8	20.6	16.5	16.6	13.2
3000	Open	27.0	22.1	20.8	16.6	16.7	13.3

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.002	1.70	0.21	2.39	3.55
1000	Open	2.823	0.97	21.96	1.003	1.47	0.21	2.39	3.54
1250	Open	2.940	1.04	17.62	1.004	1.38	0.20	2.37	3.52
1500	Open	3.058	1.10	14.76	1.005	1.30	0.20	2.35	3.51
1750	Open	3.175	1.16	12.73	1.007	1.23	0.19	2.33	3.49
2000	Open	3.286	1.20	11.22	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	10.14	1.010	1.14	0.20	2.30	3.46
		85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	9.93	1.010	1.14	0.20	2.30	3.46
2500	Open	3.475	1.29	8.96	1.013	1.10	0.20	2.29	3.45
2750	Open	3.570	1.34	8.17	1.015	1.06	0.19	2.28	3.43
3000	Open	3.651	1.38	7.58	1.018	1.03	0.19	2.27	3.42

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.002	1.70	0.21	2.39	3.55
1000	Open	2.823	0.97	21.96	1.003	1.47	0.21	2.39	3.54
1250	Open	2.940	1.04	17.62	1.004	1.38	0.20	2.37	3.52
1500	Open	3.058	1.10	14.76	1.005	1.30	0.20	2.35	3.51
1750	Open	3.175	1.16	12.73	1.007	1.23	0.19	2.33	3.49
2000	Open	3.286	1.20	11.22	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	10.14	1.010	1.14	0.20	2.30	3.46
		75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	9.93	1.010	1.14	0.20	2.30	3.46
2500	Open	3.475	1.29	8.96	1.013	1.10	0.20	2.29	3.45
2750	Open	3.570	1.34	8.17	1.015	1.06	0.19	2.28	3.43
3000	Open	3.651	1.38	7.58	1.018	1.03	0.19	2.27	3.42

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.002	1.70	0.21	2.39	3.55
1000	Open	2.823	0.97	21.96	1.003	1.47	0.21	2.39	3.54
1250	Open	2.940	1.04	17.62	1.004	1.38	0.20	2.37	3.52
1500	Open	3.058	1.10	14.76	1.005	1.30	0.20	2.35	3.51
1750	Open	3.175	1.16	12.73	1.007	1.23	0.19	2.33	3.49
2000	Open	3.286	1.20	11.22	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	10.14	1.010	1.14	0.20	2.30	3.46
		65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	9.93	1.010	1.14	0.20	2.30	3.46
2500	Open	3.475	1.29	8.96	1.013	1.10	0.20	2.29	3.45
2750	Open	3.570	1.34	8.17	1.015	1.06	0.19	2.28	3.43
3000	Open	3.651	1.38	7.58	1.018	1.03	0.19	2.27	3.42

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.002	1.70	0.21	2.39	3.55
1000	Open	2.823	0.97	21.96	1.003	1.47	0.21	2.39	3.54
1250	Open	2.940	1.04	17.62	1.004	1.38	0.20	2.37	3.52
1500	Open	3.058	1.10	14.76	1.005	1.30	0.20	2.35	3.51
1750	Open	3.175	1.16	12.73	1.007	1.23	0.19	2.33	3.49
2000	Open	3.286	1.20	11.22	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	10.14	1.010	1.14	0.20	2.30	3.46
		50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.008	1.19	0.21	2.32	3.47
2250	Open	3.396	1.26	9.93	1.010	1.14	0.20	2.30	3.46
2500	Open	3.475	1.29	8.96	1.013	1.10	0.20	2.29	3.45
2750	Open	3.570	1.34	8.17	1.015	1.06	0.19	2.28	3.43
3000	Open	3.651	1.38	7.58	1.018	1.03	0.19	2.27	3.42

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Interface Temp Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Interface Temp Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	704	57	21.1	624	63	16.7	564	67	14.0	3.4	4.6	5.8
1000	Open	835	59	22.2	734	65	17.3	660	69	14.3	3.8	5.2	6.7
1250	Open	945	60	22.0	828	66	17.1	742	70	14.0	4.0	5.5	7.0
1500	Open	1045	61	21.7	912	67	16.9	816	70	13.7	4.1	5.7	7.3
1750	Open	1138	62	21.4	990	67	16.6	884	71	13.5	4.3	6.0	7.7
2000	Open	1216	62	20.9	1058	67	16.2	943	71	13.1	4.4	6.2	7.9
2250	Open	1291	62	20.8	1120	68	16.0	996	72	12.9	4.6	6.4	8.2
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1226	62	20.9	1066	67	16.2	950	71	13.1	4.4	6.2	7.9
2250	Open	1305	62	20.8	1131	68	16.0	1006	72	12.9	4.6	6.4	8.2
2500	Open	1381	63	20.6	1195	68	15.8	1061	72	12.8	4.7	6.6	8.4
2750	Open	1455	63	20.4	1257	69	15.6	1115	72	12.6	4.8	6.8	8.7
3000	Open	1518	64	20.3	1309	69	15.5	1159	73	12.4	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	630	63	17.1	546	68	13.1	486	72	10.7	3.4	4.6	5.8
1000	Open	742	65	17.7	638	70	13.4	565	73	10.8	3.8	5.2	6.7
1250	Open	837	66	17.5	717	71	13.3	634	74	10.7	4.0	5.5	7.0
1500	Open	923	66	17.2	788	71	12.9	695	74	10.4	4.1	5.7	7.3
1750	Open	1002	67	17.0	853	72	12.6	751	75	10.1	4.3	6.0	7.7
2000	Open	1069	67	16.5	910	72	12.3	800	75	9.9	4.4	6.2	7.9
2250	Open	1132	68	16.3	961	73	12.1	843	75	9.7	4.6	6.4	8.2
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1077	67	16.5	917	72	12.3	806	75	9.9	4.4	6.2	7.9
2250	Open	1144	68	16.3	971	73	12.1	852	75	9.7	4.6	6.4	8.2
2500	Open	1209	68	16.2	1024	73	12.0	897	76	9.6	4.7	6.6	8.4
2750	Open	1272	68	15.9	1075	73	11.8	940	76	9.4	4.8	6.8	8.7
3000	Open	1324	69	15.8	1118	73	11.6	976	76	9.2	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Amps	60 Rho Interface Temp °C	60 Rho Interface Flux w/ft²	90 Rho Interface Amps	90 Rho Interface Temp °C	90 Rho Interface Flux w/ft²	120 Rho Interface Amps	120 Rho Interface Temp °C	120 Rho Interface Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	650	52	17.5	574	57	14.0	518	61	11.5	3.4	4.6	5.8
1000	Open	770	54	18.4	674	59	14.5	604	62	11.9	3.8	5.2	6.7
1250	Open	871	55	18.3	760	59	14.3	679	63	11.7	4.0	5.5	7.0
1500	Open	962	55	18.1	837	60	14.0	746	63	11.4	4.1	5.7	7.3
1750	Open	1047	56	17.9	908	61	13.8	807	64	11.2	4.3	6.0	7.7
2000	Open	1119	56	17.4	969	61	13.5	860	64	10.9	4.4	6.2	7.9
2250	Open	1187	57	17.3	1025	61	13.3	908	64	10.7	4.6	6.4	8.2
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1128	56	17.5	977	61	13.5	867	64	10.9	4.4	6.2	7.9
2250	Open	1200	57	17.3	1036	61	13.3	918	64	10.7	4.6	6.4	8.2
2500	Open	1270	57	17.1	1094	62	13.1	968	64	10.6	4.7	6.6	8.4
2750	Open	1338	57	17.0	1151	62	12.9	1016	65	10.4	4.8	6.8	8.7
3000	Open	1395	58	16.9	1198	62	12.9	1056	65	10.3	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Interface Temp Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Interface Temp Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	581	57	14.2	502	61	10.9	446	64	8.9	3.4	4.6	5.8
1000	Open	684	58	14.9	586	63	11.2	517	65	9.1	3.8	5.2	6.7
1250	Open	771	59	14.6	658	63	11.0	580	66	8.8	4.0	5.5	7.0
1500	Open	849	60	14.4	723	64	10.7	635	66	8.6	4.1	5.7	7.3
1750	Open	921	60	14.2	782	64	10.6	686	67	8.4	4.3	6.0	7.7
2000	Open	983	60	13.8	833	64	10.3	730	67	8.3	4.4	6.2	7.9
2250	Open	1040	61	13.6	879	65	10.1	768	67	8.1	4.6	6.4	8.2
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	991	60	13.8	840	64	10.4	736	67	8.3	4.4	6.2	7.9
2250	Open	1052	61	13.6	889	65	10.1	777	67	8.1	4.6	6.4	8.2
2500	Open	1111	61	13.5	938	65	10.0	818	67	7.9	4.7	6.6	8.4
2750	Open	1168	62	13.4	984	65	9.8	857	68	7.8	4.8	6.8	8.7
3000	Open	1216	62	13.2	1022	66	9.7	889	68	7.7	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
					75% LF								
65°C - Aluminum Conductor - Hollow Core Concentric Strand													
750	Open	585	47	14.0	515	51	11.1	463	54	9.2	3.4	4.6	5.8
1000	Open	693	48	14.7	604	52	11.5	539	55	9.5	3.8	5.2	6.7
1250	Open	783	49	14.6	680	53	11.3	604	56	9.2	4.0	5.5	7.0
1500	Open	865	50	14.4	749	53	11.1	663	56	9.0	4.1	5.7	7.3
1750	Open	941	50	14.3	811	54	10.9	717	56	8.9	4.3	6.0	7.7
2000	Open	1004	50	13.9	864	54	10.7	763	56	8.6	4.4	6.2	7.9
2250	Open	1064	51	13.8	914	54	10.6	804	57	8.4	4.6	6.4	8.2
65°C - Aluminum Conductor - Hollow Core Segmental Strand													
2000	Open	1013	50	14.0	872	54	10.7	770	56	8.6	4.4	6.2	7.9
2250	Open	1077	51	13.8	924	54	10.6	813	57	8.4	4.6	6.4	8.2
2500	Open	1139	51	13.7	976	55	10.4	857	57	8.4	4.7	6.6	8.4
2750	Open	1199	51	13.6	1025	55	10.3	899	57	8.2	4.8	6.8	8.7
3000	Open	1249	51	13.5	1066	55	10.3	933	57	8.2	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	90 Rho Interface Temp	90 Rho Flux	120 Rho Interface Temp	120 Rho Flux	delta Td for .0033 pf & Rho 60	90	120
		Amps	°C w/ft²	Amps	°C w/ft²	Amps	°C w/ft²			
				100% LF						
		65°C - Aluminum Conductor - Hollow Core Concentric Strand								
750	Open	524	51 11.5	451	54 8.8	399	57 7.1	3.4	4.6	5.8
1000	Open	616	52 11.9	525	56 9.1	462	58 7.3	3.8	5.2	6.7
1250	Open	694	52 11.7	589	56 8.8	516	58 7.1	4.0	5.5	7.0
1500	Open	764	53 11.5	647	56 8.6	565	58 6.9	4.1	5.7	7.3
1750	Open	828	53 11.3	699	57 8.5	609	59 6.7	4.3	6.0	7.7
2000	Open	883	54 11.0	745	57 8.3	648	59 6.6	4.4	6.2	7.9
2250	Open	933	54 10.9	784	57 8.1	681	59 6.5	4.6	6.4	8.2
		65°C - Aluminum Conductor - Hollow Core Segmental Strand								
2000	Open	890	54 11.1	752	57 8.3	654	59 6.6	4.4	6.2	7.9
2250	Open	944	54 10.9	793	57 8.1	689	59 6.5	4.6	6.4	8.2
2500	Open	996	54 10.8	836	57 8.0	726	59 6.4	4.7	6.6	8.4
2750	Open	1047	55 10.7	876	58 7.9	758	60 6.3	4.8	6.8	8.7
3000	Open	1090	55 10.6	910	58 7.8	786	60 6.2	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
						75% LF							
50°C - Aluminum Conductor - Hollow Core Concentric Strand													
750	Open	462	39	8.8	402	42	6.8	356	44	5.6	3.4	4.6	5.8
1000	Open	544	40	9.2	468	43	7.2	410	45	5.8	3.8	5.2	6.7
1250	Open	614	41	9.1	525	43	7.0	458	45	5.7	4.0	5.5	7.0
1500	Open	677	41	9.0	576	44	6.9	500	45	5.5	4.1	5.7	7.3
1750	Open	734	41	8.9	622	44	6.7	538	45	5.4	4.3	6.0	7.7
2000	Open	782	41	8.6	661	44	6.6	571	45	5.2	4.4	6.2	7.9
2250	Open	828	42	8.5	696	44	6.5	599	46	5.2	4.6	6.4	8.2
50°C - Aluminum Conductor - Hollow Core Segmental Strand													
2000	Open	790	41	8.6	668	44	6.6	576	45	5.2	4.4	6.2	7.9
2250	Open	838	42	8.5	705	44	6.5	606	46	5.2	4.6	6.4	8.2
2500	Open	886	42	8.5	743	44	6.4	637	46	5.1	4.7	6.6	8.4
2750	Open	931	42	8.5	778	45	6.3	665	46	5.0	4.8	6.8	8.7
3000	Open	969	42	8.4	807	45	6.3	688	46	4.9	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
					100% LF								
50°C - Aluminum Conductor - Hollow Core Concentric Strand													
750	Open	413	42	7.3	351	44	5.5	307	45	4.5	3.4	4.6	5.8
1000	Open	483	42	7.6	406	45	5.7	351	46	4.6	3.8	5.2	6.7
1250	Open	543	43	7.4	455	45	5.6	391	46	4.5	4.0	5.5	7.0
1500	Open	597	43	7.2	497	45	5.5	426	46	4.4	4.1	5.7	7.3
1750	Open	646	43	7.2	536	45	5.4	457	47	4.3	4.3	6.0	7.7
2000	Open	687	43	7.0	569	46	5.2	484	47	4.2	4.4	6.2	7.9
2250	Open	725	44	6.9	598	46	5.2	507	47	4.0	4.6	6.4	8.2
50°C - Aluminum Conductor - Hollow Core Segmental Strand													
2000	Open	694	43	7.0	574	46	5.2	489	47	4.2	4.4	6.2	7.9
2250	Open	735	44	6.9	605	46	5.2	513	47	4.0	4.6	6.4	8.2
2500	Open	775	44	6.8	636	46	5.1	538	47	4.1	4.7	6.6	8.4
2750	Open	813	44	6.7	665	46	5.0	561	47	4.0	4.8	6.8	8.7
3000	Open	845	44	6.7	689	46	4.9	579	47	3.9	4.9	6.9	8.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	92.0	74.7	73.4	57.3	60.8	46.5
1000	Open	97.9	78.5	77.0	59.6	63.3	48.0
1250	Open	100.9	80.5	78.9	60.7	64.6	48.8
1500	Open	103.7	82.3	80.5	61.8	65.8	49.5
1750	Open	106.5	84.1	82.3	62.9	67.0	50.3
2000	Open	107.4	84.7	83.1	63.3	67.5	50.6
2250	Open	109.8	86.2	84.5	64.2	68.4	51.1
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	107.5	84.6	83.0	63.3	67.4	50.5
2250	Open	110.0	86.2	84.5	64.2	68.4	51.2
2500	Open	111.4	87.2	85.4	64.8	69.0	51.5
2750	Open	113.2	88.4	86.6	65.5	69.8	52.0
3000	Open	114.8	89.3	87.5	66.1	70.4	52.3

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Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	76.9	62.5	61.1	47.9	50.7	38.9
1000	Open	81.6	65.7	63.9	49.7	52.5	40.0
1250	Open	84.1	67.3	65.5	50.7	53.6	40.8
1500	Open	86.3	68.7	67.0	51.6	54.5	41.3
1750	Open	88.6	70.1	68.4	52.5	55.5	42.0
2000	Open	89.6	70.8	69.0	52.8	55.8	42.2
2250	Open	91.4	71.9	70.1	53.5	56.6	42.7
75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	89.5	70.7	68.9	52.8	55.8	42.2
2250	Open	91.5	72.1	70.1	53.6	56.7	42.7
2500	Open	92.8	72.9	70.9	54.2	57.2	43.1
2750	Open	94.4	73.8	71.9	54.7	57.8	43.5
3000	Open	95.6	74.6	72.7	55.1	58.3	43.7

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Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	61.3	50.2	48.6	38.5	40.3	31.2
1000	Open	65.2	52.8	51.0	39.9	41.8	32.2
1250	Open	67.1	54.1	52.2	40.7	42.5	32.7
1500	Open	69.0	55.3	53.4	41.5	43.2	33.2
1750	Open	70.8	56.4	54.4	42.2	44.0	33.7
2000	Open	71.4	56.9	54.8	42.6	44.3	33.9
2250	Open	72.9	57.8	55.8	43.0	44.9	34.3
65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	71.4	56.7	54.8	42.6	44.3	33.9
2250	Open	73.0	57.8	55.7	43.0	44.8	34.3
2500	Open	74.0	58.4	56.4	43.5	45.3	34.7
2750	Open	75.2	59.2	57.1	43.9	45.8	34.9
3000	Open	76.1	60.0	57.7	44.3	46.1	35.2

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Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	38.3	31.6	30.2	24.2	24.8	19.7
1000	Open	40.6	33.3	31.6	25.2	25.6	20.3
1250	Open	41.9	34.1	32.3	25.8	26.0	20.7
1500	Open	42.9	34.8	32.9	26.1	26.4	21.0
1750	Open	43.9	35.6	33.5	26.7	26.8	21.3
2000	Open	44.3	35.8	33.7	26.8	27.0	21.4
2250	Open	45.3	36.5	34.2	27.2	27.3	21.7
50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	44.3	35.8	33.7	26.8	26.9	21.4
2250	Open	45.2	36.5	34.2	27.2	27.2	21.7
2500	Open	45.9	36.9	34.6	27.4	27.5	21.8
2750	Open	46.6	37.5	35.0	27.7	27.7	22.1
3000	Open	47.2	37.9	35.3	28.0	27.9	22.2

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Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.001	1.70	0.21	2.95	4.44
1000	Open	2.823	0.97	21.96	1.002	1.47	0.21	2.94	4.43
1250	Open	2.940	1.04	17.62	1.003	1.38	0.20	2.92	4.41
1500	Open	3.058	1.10	14.76	1.004	1.30	0.20	2.90	4.39
1750	Open	3.175	1.16	12.73	1.005	1.23	0.19	2.89	4.38
2000	Open	3.286	1.20	11.22	1.006	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	10.14	1.008	1.14	0.20	2.85	4.35
		85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.007	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	9.93	1.008	1.14	0.20	2.85	4.35
2500	Open	3.475	1.29	8.96	1.010	1.10	0.20	2.84	4.34
2750	Open	3.570	1.34	8.17	1.012	1.06	0.19	2.83	4.32
3000	Open	3.651	1.38	7.58	1.014	1.03	0.19	2.82	4.31

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.001	1.70	0.21	2.95	4.44
1000	Open	2.823	0.97	21.96	1.002	1.47	0.21	2.94	4.43
1250	Open	2.940	1.04	17.62	1.003	1.38	0.20	2.92	4.41
1500	Open	3.058	1.10	14.76	1.004	1.30	0.20	2.90	4.39
1750	Open	3.175	1.16	12.73	1.005	1.23	0.19	2.89	4.38
2000	Open	3.286	1.20	11.22	1.006	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	10.14	1.008	1.14	0.20	2.85	4.35
		75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.007	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	9.93	1.008	1.14	0.20	2.85	4.35
2500	Open	3.475	1.29	8.96	1.010	1.10	0.20	2.84	4.34
2750	Open	3.570	1.34	8.17	1.012	1.06	0.19	2.83	4.32
3000	Open	3.651	1.38	7.58	1.014	1.03	0.19	2.82	4.31

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.001	1.70	0.21	2.95	4.44
1000	Open	2.823	0.97	21.96	1.002	1.47	0.21	2.94	4.43
1250	Open	2.940	1.04	17.62	1.003	1.38	0.20	2.92	4.41
1500	Open	3.058	1.10	14.76	1.004	1.30	0.20	2.90	4.39
1750	Open	3.175	1.16	12.73	1.005	1.23	0.19	2.89	4.38
2000	Open	3.286	1.20	11.22	1.006	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	10.14	1.008	1.14	0.20	2.85	4.35
		65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.007	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	9.93	1.008	1.14	0.20	2.85	4.35
2500	Open	3.475	1.29	8.96	1.010	1.10	0.20	2.84	4.34
2750	Open	3.570	1.34	8.17	1.012	1.06	0.19	2.83	4.32
3000	Open	3.651	1.38	7.58	1.014	1.03	0.19	2.82	4.31

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	0.84	29.22	1.001	1.70	0.21	2.95	4.44
1000	Open	2.823	0.97	21.96	1.002	1.47	0.21	2.94	4.43
1250	Open	2.940	1.04	17.62	1.003	1.38	0.20	2.92	4.41
1500	Open	3.058	1.10	14.76	1.004	1.30	0.20	2.90	4.39
1750	Open	3.175	1.16	12.73	1.005	1.23	0.19	2.89	4.38
2000	Open	3.286	1.20	11.22	1.006	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	10.14	1.008	1.14	0.20	2.85	4.35
		50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	1.19	11.05	1.007	1.19	0.21	2.87	4.36
2250	Open	3.396	1.26	9.93	1.008	1.14	0.20	2.85	4.35
2500	Open	3.475	1.29	8.96	1.010	1.10	0.20	2.84	4.34
2750	Open	3.570	1.34	8.17	1.012	1.06	0.19	2.83	4.32
3000	Open	3.651	1.38	7.58	1.014	1.03	0.19	2.82	4.31

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
		85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	536	553	344	407	3.4	3.2
1000	Open	633	654	404	480	3.8	3.6
1250	Open	719	744	458	544	4.0	3.7
1500	Open	798	826	507	604	4.1	3.8
1750	Open	872	904	554	660	4.2	3.9
2000	Open	960	989	601	709	4.0	3.8
2250	Open	1022	1054	639	755	4.1	3.9
		85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	966	996	605	714	4.0	3.8
2250	Open	1033	1066	646	764	4.1	3.9
2500	Open	1097	1133	686	811	4.2	3.9
2750	Open	1162	1200	725	858	4.3	4.0
3000	Open	1216	1256	759	898	4.3	4.0

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	27.7	29.3	12.9	17.0
1000	Open	29.3	31.1	13.7	18.1
1250	Open	30.4	32.4	14.2	18.8
1500	Open	31.5	33.5	14.7	19.4
1750	Open	32.5	34.7	15.2	20.1
2000	Open	34.6	36.5	15.7	20.5
2250	Open	35.5	37.5	16.2	21.1
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	34.5	36.4	15.7	20.5
2250	Open	35.5	37.6	16.2	21.1
2500	Open	36.2	38.4	16.5	21.5
2750	Open	37.1	39.3	16.9	22.0
3000	Open	37.7	40.0	17.2	22.5

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re Sun 2 fps
		85°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	2.791	4.03	0.84	29.22	1.000	1.70	0.21	1.78	0.35	0.90	0.61
1000	Open	2.823	4.03	0.97	21.96	1.000	1.47	0.21	1.76	0.35	0.89	0.61
1250	Open	2.940	4.03	1.04	17.62	1.000	1.38	0.20	1.69	0.35	0.89	0.61
1500	Open	3.058	4.03	1.10	14.75	1.000	1.30	0.20	1.63	0.35	0.89	0.61
1750	Open	3.175	4.03	1.16	12.72	1.000	1.23	0.19	1.57	0.35	0.88	0.61
2000	Open	3.286	5.05	1.20	11.20	1.000	1.19	0.21	1.53	0.31	0.74	0.51
2250	Open	3.396	5.05	1.26	10.14	1.000	1.14	0.20	1.48	0.31	0.73	0.51
		85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	3.283	5.05	1.19	11.03	1.000	1.19	0.21	1.53	0.31	0.74	0.51
2250	Open	3.396	5.05	1.26	9.92	1.000	1.14	0.20	1.48	0.31	0.73	0.51
2500	Open	3.475	5.05	1.29	8.95	1.000	1.10	0.20	1.45	0.31	0.73	0.51
2750	Open	3.570	5.05	1.34	8.16	1.000	1.06	0.19	1.42	0.31	0.73	0.51
3000	Open	3.651	5.05	1.38	7.57	1.000	1.03	0.19	1.39	0.31	0.73	0.51

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
		85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	682	731	464	564	1.9	1.6
1000	Open	820	882	558	679	2.1	1.8
1250	Open	939	1009	637	775	2.1	1.8
1500	Open	1050	1128	711	864	2.2	1.8
1750	Open	1156	1243	781	948	2.2	1.8
2000	Open	1245	1336	838	1016	2.2	1.9
2250	Open	1334	1431	897	1086	2.3	1.9
		85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	1253	1345	844	1024	2.2	1.9
2250	Open	1349	1447	906	1098	2.3	1.9
2500	Open	1438	1542	965	1168	2.3	1.9
2750	Open	1530	1641	1025	1240	2.3	1.9
3000	Open	1608	1723	1076	1300	2.3	1.9

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	14.4	16.5	7.1	10.1
1000	Open	15.7	18.1	7.8	11.1
1250	Open	16.6	19.0	8.2	11.6
1500	Open	17.4	19.9	8.5	12.1
1750	Open	18.2	20.8	8.9	12.6
2000	Open	18.6	21.2	9.1	12.8
2250	Open	19.3	22.0	9.4	13.2
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	18.5	21.2	9.1	12.8
2250	Open	19.3	22.0	9.4	13.2
2500	Open	19.8	22.6	9.6	13.5
2750	Open	20.4	23.3	9.9	13.9
3000	Open	21.0	23.8	10.1	14.2

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re Sun 2 fps
		85°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	2.791	9.99	0.84	29.22	1.000	1.70	0.21	0.00	0.00	1.25	0.86
1000	Open	2.823	9.99	0.97	21.96	1.000	1.47	0.21	0.00	0.00	1.23	0.85
1250	Open	2.940	9.99	1.04	17.62	1.000	1.38	0.20	0.00	0.00	1.18	0.83
1500	Open	3.058	9.99	1.10	14.75	1.000	1.30	0.20	0.00	0.00	1.14	0.80
1750	Open	3.175	9.99	1.16	12.72	1.000	1.23	0.19	0.00	0.00	1.10	0.78
2000	Open	3.286	9.99	1.20	11.20	1.000	1.19	0.21	0.00	0.00	1.07	0.76
2250	Open	3.396	9.99	1.26	10.14	1.000	1.14	0.20	0.00	0.00	1.03	0.74
		85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	3.283	9.99	1.19	11.03	1.000	1.19	0.21	0.00	0.00	1.07	0.76
2250	Open	3.396	9.99	1.26	9.92	1.000	1.14	0.20	0.00	0.00	1.03	0.74
2500	Open	3.475	9.99	1.29	8.95	1.000	1.10	0.20	0.00	0.00	1.01	0.73
2750	Open	3.570	9.99	1.34	8.16	1.000	1.06	0.19	0.00	0.00	0.99	0.71
3000	Open	3.651	9.99	1.38	7.57	1.000	1.03	0.19	0.00	0.00	0.97	0.70

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	558	579	424	477	3.1	2.9
1000	Open	661	688	500	565	3.5	3.2
1250	Open	751	782	568	642	3.6	3.3
1500	Open	834	869	630	713	3.7	3.4
1750	Open	911	951	689	780	3.8	3.5
2000	Open	1009	1045	762	848	3.6	3.4
2250	Open	1075	1114	812	904	3.7	3.4
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1016	1052	768	854	3.6	3.4
2250	Open	1087	1126	820	914	3.7	3.4
2500	Open	1154	1196	871	971	3.8	3.5
2750	Open	1222	1268	922	1028	3.8	3.5
3000	Open	1279	1327	965	1076	3.9	3.6

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	9.9	10.6	6.1	7.5
1000	Open	10.6	11.4	6.5	8.0
1250	Open	11.0	11.8	6.7	8.3
1500	Open	11.4	12.2	6.9	8.6
1750	Open	11.7	12.7	7.2	8.9
2000	Open	12.6	13.4	7.7	9.3
2250	Open	13.0	13.8	7.9	9.5
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	12.6	13.4	7.7	9.2
2250	Open	13.0	13.8	7.9	9.5
2500	Open	13.2	14.1	8.1	9.7
2750	Open	13.5	14.5	8.3	10.0
3000	Open	13.8	14.7	8.4	10.1

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138 kV 1/c Self Contained Liquid Filled Lead Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re Sun 2 fps
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.791	4.03	0.84	29.22	1.000	1.70	0.21	1.42	0.35	0.91	0.61
1000	Open	2.823	4.03	0.97	21.96	1.000	1.47	0.21	1.39	0.35	0.91	0.61
1250	Open	2.940	4.03	1.04	17.62	1.000	1.38	0.20	1.33	0.35	0.90	0.61
1500	Open	3.058	4.03	1.10	14.75	1.000	1.30	0.20	1.28	0.35	0.90	0.61
1750	Open	3.175	4.03	1.16	12.72	1.000	1.23	0.19	1.24	0.35	0.90	0.60
2000	Open	3.286	5.05	1.20	11.20	1.000	1.19	0.21	1.19	0.31	0.74	0.51
2250	Open	3.396	5.05	1.26	10.14	1.000	1.14	0.20	1.15	0.31	0.73	0.51
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.283	5.05	1.19	11.03	1.000	1.19	0.21	1.19	0.31	0.74	0.51
2250	Open	3.396	5.05	1.26	9.92	1.000	1.14	0.20	1.15	0.31	0.73	0.51
2500	Open	3.475	5.05	1.29	8.95	1.000	1.10	0.20	1.12	0.31	0.73	0.51
2750	Open	3.570	5.05	1.34	8.16	1.000	1.06	0.19	1.09	0.31	0.73	0.51
3000	Open	3.651	5.05	1.38	7.57	1.000	1.03	0.19	1.07	0.31	0.73	0.51

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 .0033 pf & Rho 60	90	120
85°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	609	569	570	520	536	481	4.2	5.1	6.0
1000	Open	718	668	669	608	627	559	4.8	5.8	6.8
1250	Open	813	755	755	685	706	629	4.9	6.0	7.1
1500	Open	899	833	833	754	777	690	5.1	6.3	7.4
1750	Open	978	905	905	816	842	746	5.3	6.5	7.7
2000	Open	1048	969	968	872	900	796	5.4	6.7	7.9
2250	Open	1114	1026	1026	922	952	840	5.6	6.9	8.2
85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	1056	976	976	879	907	802	5.4	6.7	7.9
2250	Open	1126	1037	1036	931	962	849	5.6	6.9	8.2
2500	Open	1191	1096	1093	983	1013	894	5.7	7.0	8.4
2750	Open	1252	1154	1149	1031	1063	936	5.8	7.2	8.6
3000	Open	1304	1199	1196	1071	1105	973	5.9	7.4	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	35.2	31.0	31.1	26.3	27.8	22.9
1000	Open	37.0	32.5	32.5	27.4	28.9	23.6
1250	Open	38.3	33.5	33.5	28.1	29.7	24.2
1500	Open	39.4	34.3	34.3	28.7	30.3	24.6
1750	Open	40.5	35.2	35.2	29.3	30.9	25.0
2000	Open	41.2	35.7	35.7	29.6	31.3	25.3
2250	Open	42.3	36.4	36.4	30.2	31.9	25.7
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	41.2	35.7	35.7	29.6	31.3	25.3
2250	Open	42.4	36.5	36.5	30.2	32.0	25.7
2500	Open	43.0	37.0	36.8	30.5	32.2	25.9
2750	Open	43.7	37.7	37.4	30.9	32.6	26.2
3000	Open	44.2	38.0	37.9	31.2	32.9	26.5

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable in Underground Duct Bank - 1 Circuit - Three Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	100%
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	5.06	0.84	29.22	1.003	1.70	0.21	1.51	0.24	2.11	3.30
1000	Open	2.863	5.06	0.97	21.96	1.004	1.47	0.21	1.48	0.24	2.11	3.30
1250	Open	2.990	5.06	1.04	17.62	1.007	1.38	0.20	1.42	0.24	2.11	3.30
1500	Open	3.098	5.06	1.10	14.76	1.013	1.30	0.19	1.37	0.24	2.09	3.30
1750	Open	3.255	5.06	1.16	12.73	1.018	1.23	0.21	1.30	0.24	2.09	3.30
2000	Open	3.326	5.06	1.20	11.22	1.022	1.19	0.20	1.27	0.24	2.09	3.30
2250	Open	3.436	5.06	1.26	10.14	1.027	1.14	0.20	1.23	0.24	2.09	3.30
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	5.06	1.19	11.05	1.022	1.19	0.20	1.27	0.24	2.09	3.30
2250	Open	3.436	5.06	1.26	9.93	1.028	1.14	0.20	1.23	0.24	2.09	3.30
2500	Open	3.505	5.06	1.29	8.96	1.032	1.10	0.19	1.20	0.24	2.09	3.27
2750	Open	3.610	5.06	1.34	8.17	1.040	1.06	0.19	1.17	0.24	2.09	3.27
3000	Open	3.681	5.06	1.38	7.58	1.046	1.03	0.18	1.14	0.24	2.09	3.27

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 .0033 pf & Rho 60	delta Td for .0033 pf & Rho 90	delta Td for .0033 pf & Rho 120
85°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	543	488	485	425	439	378	5.8	7.6	9.4
1000	Open	634	568	563	491	507	434	6.6	8.7	10.8
1250	Open	715	639	632	549	567	485	6.9	9.1	11.4
1500	Open	788	702	693	601	620	529	7.2	9.6	11.9
1750	Open	854	759	749	648	667	568	7.5	10.0	12.5
2000	Open	913	810	798	690	711	604	7.7	10.3	12.9
2250	Open	965	855	842	725	747	633	8.0	10.7	13.4
85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	920	816	805	695	716	608	7.7	10.3	12.9
2250	Open	975	863	850	733	754	639	8.0	10.7	13.4
2500	Open	1029	910	895	771	793	671	8.2	10.9	13.8
2750	Open	1081	954	937	806	828	700	8.4	11.3	14.2
3000	Open	1125	991	973	835	857	724	8.6	11.6	14.6

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	56.9	46.9	46.4	36.8	38.9	30.2
1000	Open	59.1	48.6	47.8	37.8	39.9	30.8
1250	Open	60.7	49.7	48.8	38.3	40.5	31.3
1500	Open	62.2	50.7	49.6	38.9	41.0	31.6
1750	Open	63.5	51.6	50.4	39.5	41.4	32.0
2000	Open	64.3	52.2	50.8	39.8	41.8	32.2
2250	Open	65.4	53.0	51.6	40.2	42.2	32.4
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	64.3	52.1	50.9	39.8	41.8	32.1
2250	Open	65.5	52.9	51.6	40.3	42.2	32.4
2500	Open	66.2	53.5	52.0	40.6	42.5	32.6
2750	Open	67.3	54.2	52.5	41.0	42.8	32.9
3000	Open	68.1	54.7	53.0	41.2	43.0	33.0

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

in Underground Duct Bank - 2 Circuits - Six Cables - 12 in Spacing

25°C Earth Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re @ 90 Rho & loss factor 75%	Re @ 90 Rho & loss factor 100%
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	5.06	0.84	29.22	1.004	1.70	0.21	1.45	0.24	4.00	6.34
1000	Open	2.863	5.06	0.97	21.96	1.005	1.47	0.21	1.43	0.24	4.00	6.34
1250	Open	2.990	5.06	1.04	17.62	1.007	1.38	0.20	1.37	0.24	4.00	6.34
1500	Open	3.098	5.06	1.10	14.76	1.010	1.30	0.19	1.32	0.24	4.00	6.34
1750	Open	3.255	5.06	1.16	12.73	1.014	1.23	0.21	1.25	0.24	4.00	6.34
2000	Open	3.326	5.06	1.20	11.22	1.016	1.19	0.20	1.22	0.24	4.00	6.34
2250	Open	3.436	5.06	1.26	10.14	1.020	1.14	0.20	1.18	0.24	4.00	6.34
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	5.06	1.19	11.05	1.017	1.19	0.20	1.23	0.24	4.00	6.34
2250	Open	3.436	5.06	1.26	9.93	1.021	1.14	0.20	1.18	0.24	4.00	6.34
2500	Open	3.505	5.06	1.29	8.96	1.024	1.10	0.19	1.16	0.24	4.00	6.34
2750	Open	3.610	5.06	1.34	8.17	1.030	1.06	0.19	1.12	0.24	4.00	6.34
3000	Open	3.681	5.06	1.38	7.58	1.034	1.03	0.18	1.10	0.24	4.00	6.34

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
		85°C - Aluminum Conductor - Hollow Core Concentric Strand											
750	Open	744	54	23.0	667	60	18.8	609	64	15.9	2.9	3.8	4.8
1000	Open	885	56	24.5	788	62	19.7	715	66	16.4	3.2	4.4	5.5
1250	Open	1003	57	24.4	890	63	19.4	805	67	16.2	3.3	4.6	5.8
1500	Open	1110	58	24.3	982	64	19.4	887	68	16.0	3.5	4.8	6.0
1750	Open	1205	58	23.7	1064	64	18.8	959	68	15.5	3.6	5.0	6.3
2000	Open	1292	59	23.7	1138	65	18.7	1025	68	15.4	3.7	5.1	6.5
2250	Open	1372	59	23.6	1206	65	18.6	1084	69	15.2	3.8	5.3	6.7
		85°C - Aluminum Conductor - Hollow Core Segmental Strand											
2000	Open	1301	59	23.7	1147	65	18.7	1033	68	15.4	3.7	5.1	6.5
2250	Open	1386	59	23.7	1218	65	18.6	1095	69	15.2	3.8	5.3	6.7
2500	Open	1466	60	23.6	1286	66	18.5	1155	69	15.1	3.9	5.4	6.9
2750	Open	1545	60	23.5	1352	66	18.3	1212	70	15.0	4.0	5.6	7.1
3000	Open	1610	61	23.5	1407	67	18.3	1260	70	14.9	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
						100% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	60	19.2	675	65	15.1	592	69	12.4	532	2.9	3.8	4.8
1000	Open	62	20.1	798	67	15.6	695	71	12.7	621	3.2	4.4	5.5
1250	Open	62	19.9	902	68	15.3	782	72	12.5	697	3.3	4.6	5.8
1500	Open	63	19.7	995	69	15.2	861	72	12.2	765	3.5	4.8	6.0
1750	Open	64	19.2	1077	69	14.7	930	72	11.9	826	3.6	5.0	6.3
2000	Open	64	19.2	1153	69	14.6	993	73	11.7	881	3.7	5.1	6.5
2250	Open	65	19.0	1221	70	14.5	1050	73	11.6	929	3.8	5.3	6.7
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	64	19.2	1162	69	14.6	1001	73	11.7	888	3.7	5.1	6.5
2250	Open	65	19.0	1234	70	14.5	1060	73	11.6	938	3.8	5.3	6.7
2500	Open	65	19.0	1303	70	14.3	1118	74	11.4	988	3.9	5.4	6.9
2750	Open	66	18.8	1370	71	14.2	1172	74	11.3	1035	4.0	5.6	7.1
3000	Open	66	18.7	1425	71	14.0	1218	74	11.2	1074	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	---- 60 Rho--- Interface Temp Flux Amps °C w/ft²			---- 90 Rho--- Interface Temp Flux Amps °C w/ft²			----120 Rho--- Interface Temp Flux Amps °C w/ft²			delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	686	50	19.2	615	55	15.6	560	58	13.2	2.9	3.8	4.8
1000	Open	816	51	20.4	725	56	16.4	656	60	13.6	3.2	4.4	5.5
1250	Open	925	52	20.3	818	57	16.2	739	60	13.4	3.3	4.6	5.8
1500	Open	1023	53	20.2	902	58	16.0	813	61	13.3	3.5	4.8	6.0
1750	Open	1110	53	19.8	977	58	15.6	878	61	12.9	3.6	5.0	6.3
2000	Open	1189	53	19.8	1045	58	15.6	938	62	12.9	3.7	5.1	6.5
2250	Open	1262	54	19.7	1106	59	15.5	991	62	12.7	3.8	5.3	6.7
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1199	53	19.8	1053	58	15.6	946	62	12.9	3.7	5.1	6.5
2250	Open	1276	54	19.7	1118	59	15.5	1002	62	12.7	3.8	5.3	6.7
2500	Open	1349	54	19.7	1180	59	15.4	1056	62	12.6	3.9	5.4	6.9
2750	Open	1421	55	19.6	1240	60	15.2	1108	63	12.5	4.0	5.6	7.1
3000	Open	1481	55	19.6	1290	60	15.3	1151	63	12.3	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	623	54	16.0	546	59	12.5	489	62	10.4	2.9	3.8	4.8
1000	Open	736	56	16.8	640	60	13.1	570	63	10.7	3.2	4.4	5.5
1250	Open	831	56	16.7	719	61	12.8	640	64	10.5	3.3	4.6	5.8
1500	Open	917	57	16.5	791	62	12.7	702	64	10.2	3.5	4.8	6.0
1750	Open	992	57	16.1	854	62	12.3	757	65	10.0	3.6	5.0	6.3
2000	Open	1061	58	16.1	912	62	12.2	807	65	9.9	3.7	5.1	6.5
2250	Open	1123	58	15.9	963	63	12.0	850	66	9.7	3.8	5.3	6.7
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1070	58	16.0	919	62	12.2	813	65	9.9	3.7	5.1	6.5
2250	Open	1135	58	15.9	973	63	12.0	859	66	9.7	3.8	5.3	6.7
2500	Open	1199	59	15.8	1025	63	12.0	904	66	9.6	3.9	5.4	6.9
2750	Open	1260	59	15.8	1075	63	11.9	946	66	9.5	4.0	5.6	7.1
3000	Open	1311	60	15.7	1117	64	11.7	981	66	9.4	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²		°C	w/ft²		°C	w/ft²				
						75% LF							
					65°C - Aluminum Conductor - Hollow Core Concentric Strand								
750	Open	619	45	15.3	553	49	12.5	502	52	10.5	2.9	3.8	4.8
1000	Open	736	46	16.4	651	50	13.1	588	53	10.9	3.2	4.4	5.5
1250	Open	833	47	16.2	735	51	12.9	661	54	10.7	3.3	4.6	5.8
1500	Open	921	47	16.2	809	51	12.8	726	54	10.6	3.5	4.8	6.0
1750	Open	998	48	15.8	875	52	12.4	784	54	10.3	3.6	5.0	6.3
2000	Open	1069	48	15.8	935	52	12.4	836	55	10.2	3.7	5.1	6.5
2250	Open	1134	49	15.8	989	53	12.3	882	55	10.1	3.8	5.3	6.7
					65°C - Aluminum Conductor - Hollow Core Segmental Strand								
2000	Open	1078	48	15.9	944	52	12.4	843	55	10.2	3.7	5.1	6.5
2250	Open	1147	49	15.8	1001	53	12.3	892	55	10.1	3.8	5.3	6.7
2500	Open	1213	49	15.7	1056	53	12.3	940	55	10.0	3.9	5.4	6.9
2750	Open	1277	49	15.7	1108	53	12.2	985	56	9.9	4.0	5.6	7.1
3000	Open	1330	50	15.7	1152	53	12.1	1022	56	9.9	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	562	48	12.9	491	52	10.1	439	55	8.3	2.9	3.8	4.8
1000	Open	664	50	13.6	575	54	10.5	510	56	8.5	3.2	4.4	5.5
1250	Open	749	50	13.4	646	54	10.3	572	57	8.3	3.3	4.6	5.8
1500	Open	825	51	13.3	709	55	10.1	627	57	8.3	3.5	4.8	6.0
1750	Open	893	51	12.9	765	55	9.9	675	57	8.0	3.6	5.0	6.3
2000	Open	954	52	12.9	816	55	9.8	719	57	7.9	3.7	5.1	6.5
2250	Open	1009	52	12.8	861	56	9.7	756	58	7.8	3.8	5.3	6.7
						65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	962	52	12.9	823	55	9.8	725	57	7.9	3.7	5.1	6.5
2250	Open	1021	52	12.8	871	56	9.7	765	58	7.8	3.8	5.3	6.7
2500	Open	1077	52	12.8	917	56	9.6	805	58	7.7	3.9	5.4	6.9
2750	Open	1132	53	12.6	961	56	9.5	841	58	7.6	4.0	5.6	7.1
3000	Open	1177	53	12.6	997	56	9.4	872	58	7.6	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Interface Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Interface Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	491	38	9.7	434	41	7.8	390	42	6.5	2.9	3.8	4.8
1000	Open	581	39	10.3	509	42	8.1	453	43	6.7	3.2	4.4	5.5
1250	Open	657	39	10.1	572	42	8.0	508	44	6.6	3.3	4.6	5.8
1500	Open	725	40	10.1	629	42	7.9	556	44	6.5	3.5	4.8	6.0
1750	Open	784	40	9.9	678	42	7.7	598	44	6.3	3.6	5.0	6.3
2000	Open	839	40	9.9	723	43	7.7	636	44	6.2	3.7	5.1	6.5
2250	Open	888	40	9.8	763	43	7.6	669	45	6.2	3.8	5.3	6.7
						50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	847	40	9.9	730	43	7.7	643	44	6.2	3.7	5.1	6.5
2250	Open	899	40	9.8	773	43	7.6	677	45	6.2	3.8	5.3	6.7
2500	Open	949	41	9.8	814	43	7.5	712	45	6.1	3.9	5.4	6.9
2750	Open	998	41	9.7	853	43	7.5	744	45	6.0	4.0	5.6	7.1
3000	Open	1038	41	9.8	885	44	7.5	770	45	6.0	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	446	40	8.1	385	43	6.3	341	44	5.2	2.9	3.8	4.8
1000	Open	524	41	8.5	449	43	6.7	394	45	5.3	3.2	4.4	5.5
1250	Open	590	41	8.4	503	44	6.5	440	45	5.2	3.3	4.6	5.8
1500	Open	650	42	8.4	551	44	6.4	480	45	5.2	3.5	4.8	6.0
1750	Open	701	42	8.2	593	44	6.2	515	46	5.0	3.6	5.0	6.3
2000	Open	748	42	8.2	631	44	6.2	547	46	4.9	3.7	5.1	6.5
2250	Open	790	42	8.1	664	45	6.1	574	46	4.9	3.8	5.3	6.7
						50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	756	42	8.2	637	44	6.2	552	46	4.9	3.7	5.1	6.5
2250	Open	800	42	8.1	672	45	6.1	581	46	4.9	3.8	5.3	6.7
2500	Open	844	43	8.1	707	45	6.1	609	46	4.9	3.9	5.4	6.9
2750	Open	885	43	7.9	739	45	6.0	635	46	4.8	4.0	5.6	7.1
3000	Open	919	43	8.0	766	45	5.9	657	46	4.8	4.1	5.7	7.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	51.2	42.6	41.7	33.4	35.2	27.4
1000	Open	54.8	45.1	44.1	34.9	36.8	28.5
1250	Open	56.8	46.5	45.4	35.7	37.7	29.0
1500	Open	58.5	47.7	46.5	36.5	38.5	29.5
1750	Open	59.8	48.5	47.4	37.0	39.2	29.9
2000	Open	60.9	49.2	48.1	37.5	39.7	30.2
2250	Open	62.4	50.2	49.0	38.1	40.4	30.6
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	60.8	49.2	48.0	37.4	39.6	30.2
2250	Open	62.4	50.2	49.0	38.1	40.4	30.6
2500	Open	63.3	50.8	49.6	38.5	40.8	30.9
2750	Open	64.7	51.7	50.5	38.9	41.3	31.2
3000	Open	65.5	52.2	51.0	39.2	41.7	31.4

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	42.7	35.6	34.8	27.9	29.3	22.9
1000	Open	45.7	37.7	36.7	29.2	30.5	23.8
1250	Open	47.3	38.8	37.7	29.8	31.3	24.3
1500	Open	48.7	39.8	38.6	30.4	32.0	24.7
1750	Open	49.9	40.5	39.4	30.9	32.5	25.1
2000	Open	50.7	41.1	40.0	31.3	32.9	25.3
2250	Open	51.9	41.9	40.8	31.8	33.5	25.6
75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	50.7	41.1	39.9	31.3	32.9	25.2
2250	Open	52.0	41.9	40.8	31.8	33.5	25.6
2500	Open	52.7	42.5	41.3	32.1	33.8	25.8
2750	Open	53.8	43.2	41.9	32.5	34.3	26.1
3000	Open	54.6	43.7	42.4	32.8	34.6	26.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	34.1	28.6	27.7	22.4	23.3	18.4
1000	Open	36.6	30.3	29.3	23.5	24.4	19.1
1250	Open	37.8	31.2	30.1	24.0	25.0	19.5
1500	Open	38.9	31.9	30.8	24.4	25.4	19.8
1750	Open	39.8	32.6	31.4	24.8	25.9	20.1
2000	Open	40.5	33.0	31.8	25.1	26.2	20.3
2250	Open	41.5	33.6	32.5	25.5	26.6	20.5
65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	40.5	32.9	31.9	25.1	26.1	20.3
2250	Open	41.5	33.7	32.5	25.5	26.6	20.6
2500	Open	42.2	34.1	32.9	25.8	26.9	20.7
2750	Open	43.0	34.7	33.4	26.1	27.2	20.9
3000	Open	43.6	35.1	33.8	26.3	27.5	21.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	21.4	18.1	17.3	14.1	14.4	11.6
1000	Open	22.8	19.1	18.2	14.8	15.0	12.1
1250	Open	23.7	19.7	18.7	15.2	15.4	12.3
1500	Open	24.3	20.2	19.1	15.4	15.6	12.5
1750	Open	24.8	20.6	19.5	15.7	15.9	12.7
2000	Open	25.3	20.8	19.7	15.8	16.0	12.8
2250	Open	25.9	21.3	20.1	16.1	16.3	13.0
50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	25.2	20.8	19.7	15.8	16.1	12.8
2250	Open	25.8	21.2	20.1	16.1	16.3	13.0
2500	Open	26.2	21.5	20.3	16.3	16.5	13.1
2750	Open	26.8	21.9	20.6	16.5	16.7	13.2
3000	Open	27.1	22.1	20.8	16.6	16.8	13.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.006	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	21.96	1.008	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	17.62	1.012	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	14.76	1.016	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	12.73	1.022	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	11.22	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	10.14	1.033	1.14	0.20	2.30	3.45
		85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	9.93	1.033	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	8.96	1.039	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	8.17	1.048	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	7.58	1.055	1.03	0.18	2.26	3.42

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.006	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	21.96	1.008	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	17.62	1.012	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	14.76	1.016	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	12.73	1.022	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	11.22	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	10.14	1.033	1.14	0.20	2.30	3.45
		75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	9.93	1.033	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	8.96	1.039	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	8.17	1.048	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	7.58	1.055	1.03	0.18	2.26	3.42

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.006	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	21.96	1.008	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	17.62	1.012	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	14.76	1.016	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	12.73	1.022	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	11.22	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	10.14	1.033	1.14	0.20	2.30	3.45
		65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	9.93	1.033	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	8.96	1.039	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	8.17	1.048	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	7.58	1.055	1.03	0.18	2.26	3.42

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 1 Circuit - Three Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	Re @ 90 Rho & loss factor 100%
		50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.006	1.70	0.21	2.39	3.54
1000	Open	2.863	0.97	21.96	1.008	1.47	0.21	2.38	3.54
1250	Open	2.990	1.04	17.62	1.012	1.38	0.20	2.36	3.52
1500	Open	3.098	1.10	14.76	1.016	1.30	0.19	2.35	3.50
1750	Open	3.255	1.16	12.73	1.022	1.23	0.21	2.32	3.48
2000	Open	3.326	1.20	11.22	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	10.14	1.033	1.14	0.20	2.30	3.45
		50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.027	1.19	0.20	2.31	3.47
2250	Open	3.436	1.26	9.93	1.033	1.14	0.20	2.30	3.45
2500	Open	3.505	1.29	8.96	1.039	1.10	0.19	2.29	3.44
2750	Open	3.610	1.34	8.17	1.048	1.06	0.19	2.27	3.43
3000	Open	3.681	1.38	7.58	1.055	1.03	0.18	2.26	3.42

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2480

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Amps	60 Rho Interface Temp °C	60 Rho Interface Flux w/ft²	90 Rho Interface Amps	90 Rho Interface Temp °C	90 Rho Interface Flux w/ft²	120 Rho Interface Amps	120 Rho Interface Temp °C	120 Rho Interface Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	705	57	20.8	624	63	16.5	564	67	13.7	3.3	4.6	5.8
1000	Open	835	59	22.0	734	65	17.2	659	69	14.1	3.8	5.2	6.7
1250	Open	945	60	21.8	827	66	17.0	741	70	13.9	4.0	5.5	7.0
1500	Open	1043	61	21.7	911	67	16.9	814	70	13.7	4.1	5.7	7.3
1750	Open	1130	61	21.1	985	67	16.4	879	71	13.4	4.3	6.0	7.7
2000	Open	1210	62	21.1	1052	68	16.3	937	71	13.2	4.4	6.1	7.9
2250	Open	1283	63	21.0	1112	68	16.1	988	72	13.0	4.6	6.4	8.2
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1219	62	21.2	1060	68	16.3	944	71	13.2	4.4	6.1	7.9
2250	Open	1296	63	21.0	1123	68	16.1	998	72	13.0	4.6	6.4	8.2
2500	Open	1370	63	20.9	1185	69	16.0	1052	72	12.9	4.7	6.5	8.4
2750	Open	1440	64	20.7	1243	69	15.9	1101	73	12.8	4.8	6.7	8.6
3000	Open	1498	64	20.8	1292	69	15.8	1143	73	12.7	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	---- 60 Rho--- Interface Temp Amps	Interface Temp °C	Flux w/ft²	---- 90 Rho--- Interface Temp Amps	Interface Temp °C	Flux w/ft²	----120 Rho--- Interface Temp Amps	Interface Temp °C	Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						100% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	630	63	16.8	546	68	12.9	486	72	10.5	3.3	4.6	5.8
1000	Open	742	65	17.6	637	70	13.3	564	73	10.8	3.8	5.2	6.7
1250	Open	836	66	17.4	716	71	13.0	632	74	10.5	4.0	5.5	7.0
1500	Open	921	66	17.1	786	71	12.9	693	74	10.4	4.1	5.7	7.3
1750	Open	996	67	16.7	849	72	12.6	746	75	10.0	4.3	6.0	7.7
2000	Open	1064	67	16.7	905	72	12.4	795	75	9.9	4.4	6.1	7.9
2250	Open	1125	68	16.5	954	73	12.2	837	76	9.7	4.6	6.4	8.2
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1072	67	16.7	912	72	12.4	802	75	9.9	4.4	6.1	7.9
2250	Open	1136	68	16.5	964	73	12.2	845	76	9.7	4.6	6.4	8.2
2500	Open	1198	68	16.3	1015	73	12.1	889	76	9.6	4.7	6.5	8.4
2750	Open	1257	69	16.2	1062	73	12.0	929	76	9.5	4.8	6.7	8.6
3000	Open	1307	69	16.1	1102	74	11.8	963	76	9.4	4.9	6.9	8.8

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2482

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	650	52	17.3	574	57	13.8	518	61	11.4	3.3	4.6	5.8
1000	Open	770	54	18.4	674	59	14.4	604	62	11.7	3.8	5.2	6.7
1250	Open	870	55	18.1	759	60	14.2	678	63	11.6	4.0	5.5	7.0
1500	Open	961	55	18.1	836	60	14.1	744	63	11.3	4.1	5.7	7.3
1750	Open	1040	56	17.6	902	60	13.6	802	64	11.0	4.3	6.0	7.7
2000	Open	1113	56	17.6	964	61	13.6	856	64	10.9	4.4	6.1	7.9
2250	Open	1179	57	17.5	1018	61	13.3	901	64	10.8	4.6	6.4	8.2
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1122	56	17.6	971	61	13.6	863	64	10.9	4.4	6.1	7.9
2250	Open	1191	57	17.5	1028	61	13.3	911	64	10.8	4.6	6.4	8.2
2500	Open	1258	57	17.4	1084	62	13.3	959	65	10.7	4.7	6.5	8.4
2750	Open	1323	58	17.4	1137	62	13.1	1003	65	10.6	4.8	6.7	8.6
3000	Open	1376	58	17.3	1180	62	13.1	1040	65	10.5	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²		°C	w/ft²		°C	w/ft²				
					100% LF								
75°C - Aluminum Conductor - Hollow Core Concentric Strand													
750	Open	57	14.1	581	61	10.8	502	64	8.7	446	3.3	4.6	5.8
1000	Open	58	14.7	683	63	11.2	586	66	8.9	517	3.8	5.2	6.7
1250	Open	59	14.6	770	63	11.0	657	66	8.8	579	4.0	5.5	7.0
1500	Open	60	14.4	847	64	10.7	721	66	8.6	633	4.1	5.7	7.3
1750	Open	60	14.0	915	64	10.4	777	67	8.3	682	4.3	6.0	7.7
2000	Open	60	13.9	978	65	10.3	829	67	8.3	726	4.4	6.1	7.9
2250	Open	61	13.7	1033	65	10.2	873	67	8.1	763	4.6	6.4	8.2
75°C - Aluminum Conductor - Hollow Core Segmental Strand													
2000	Open	60	13.9	986	65	10.3	836	67	8.3	732	4.4	6.1	7.9
2250	Open	61	13.8	1044	65	10.2	882	67	8.1	771	4.6	6.4	8.2
2500	Open	61	13.6	1101	65	10.1	929	68	8.1	810	4.7	6.5	8.4
2750	Open	62	13.5	1155	66	10.1	972	68	7.9	846	4.8	6.7	8.6
3000	Open	62	13.5	1199	66	10.0	1007	68	7.9	876	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
					75% LF								
		65°C - Aluminum Conductor - Hollow Core Concentric Strand											
750	Open	586	47	13.8	515	51	11.0	463	54	9.1	3.3	4.6	5.8
1000	Open	693	48	14.7	604	52	11.5	538	55	9.3	3.8	5.2	6.7
1250	Open	783	49	14.6	679	53	11.2	604	56	9.2	4.0	5.5	7.0
1500	Open	863	50	14.4	747	53	11.1	662	56	9.0	4.1	5.7	7.3
1750	Open	934	50	14.1	806	54	10.8	712	56	8.8	4.3	6.0	7.7
2000	Open	998	50	14.0	860	54	10.8	759	57	8.7	4.4	6.1	7.9
2250	Open	1057	51	13.9	907	55	10.7	798	57	8.6	4.6	6.4	8.2
		65°C - Aluminum Conductor - Hollow Core Segmental Strand											
2000	Open	1007	50	14.0	867	54	10.8	765	57	8.7	4.4	6.1	7.9
2250	Open	1069	51	13.9	917	55	10.7	807	57	8.6	4.6	6.4	8.2
2500	Open	1128	51	13.9	966	55	10.6	849	57	8.5	4.7	6.5	8.4
2750	Open	1185	51	13.9	1012	55	10.5	887	57	8.4	4.8	6.7	8.6
3000	Open	1232	52	13.8	1050	55	10.4	919	58	8.3	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²	Amps	°C	w/ft²	Amps	°C	w/ft²	Amps			
					100% LF								
					65°C - Aluminum Conductor - Hollow Core Concentric Strand								
750	Open	51	11.3	523	54	8.7	451	57	7.0	399	3.3	4.6	5.8
1000	Open	52	11.9	615	56	8.9	525	58	7.2	462	3.8	5.2	6.7
1250	Open	53	11.6	692	56	8.8	588	58	7.0	516	4.0	5.5	7.0
1500	Open	53	11.6	761	56	8.6	645	58	6.9	563	4.1	5.7	7.3
1750	Open	53	11.3	822	57	8.3	694	59	6.7	605	4.3	6.0	7.7
2000	Open	54	11.1	878	57	8.3	739	59	6.7	643	4.4	6.1	7.9
2250	Open	54	11.0	926	57	8.2	778	59	6.6	675	4.6	6.4	8.2
					65°C - Aluminum Conductor - Hollow Core Segmental Strand								
2000	Open	54	11.1	885	57	8.3	746	59	6.7	649	4.4	6.1	7.9
2250	Open	54	11.0	937	57	8.2	787	59	6.6	683	4.6	6.4	8.2
2500	Open	54	11.0	987	58	8.2	827	59	6.4	717	4.7	6.5	8.4
2750	Open	55	10.9	1034	58	8.0	865	60	6.3	748	4.8	6.7	8.6
3000	Open	55	10.8	1074	58	8.0	896	60	6.3	773	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp Amps	60 Rho Interface Temp °C	60 Rho Flux w/ft²	90 Rho Interface Temp Amps	90 Rho Interface Temp °C	90 Rho Flux w/ft²	120 Rho Interface Temp Amps	120 Rho Interface Temp °C	120 Rho Flux w/ft²	delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	462	39	8.6	402	42	6.9	356	44	5.6	3.3	4.6	5.8
1000	Open	544	40	9.1	467	43	7.1	410	45	5.7	3.8	5.2	6.7
1250	Open	613	41	9.1	524	43	7.0	457	45	5.6	4.0	5.5	7.0
1500	Open	675	41	9.0	574	44	6.9	499	45	5.5	4.1	5.7	7.3
1750	Open	729	41	8.8	617	44	6.7	535	45	5.3	4.3	6.0	7.7
2000	Open	778	42	8.7	657	44	6.7	567	46	5.3	4.4	6.1	7.9
2250	Open	821	42	8.7	690	44	6.6	594	46	5.2	4.6	6.4	8.2
						50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	785	42	8.7	663	44	6.7	573	46	5.3	4.4	6.1	7.9
2250	Open	832	42	8.7	699	44	6.6	601	46	5.2	4.6	6.4	8.2
2500	Open	877	42	8.6	735	44	6.4	630	46	5.1	4.7	6.5	8.4
2750	Open	919	42	8.6	768	45	6.5	655	46	5.1	4.8	6.7	8.6
3000	Open	955	42	8.5	795	45	6.3	677	46	5.0	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	60 Rho Interface Temp	60 Rho Flux	60 Rho Amps	90 Rho Interface Temp	90 Rho Flux	90 Rho Amps	120 Rho Interface Temp	120 Rho Flux	120 Rho Amps	delta Td for .0033 pf & Rho 60	90	120
		°C	w/ft²		°C	w/ft²		°C	w/ft²				
100% LF													
50°C - Aluminum Conductor - Hollow Core Concentric Strand													
750	Open	42	7.1	413	44	5.5	351	45	4.4	307	3.3	4.6	5.8
1000	Open	42	7.5	483	45	5.6	406	46	4.5	351	3.8	5.2	6.7
1250	Open	43	7.4	543	45	5.5	454	46	4.5	390	4.0	5.5	7.0
1500	Open	43	7.3	596	45	5.4	496	46	4.3	425	4.1	5.7	7.3
1750	Open	43	7.0	641	45	5.3	532	47	4.2	454	4.3	6.0	7.7
2000	Open	43	7.0	683	46	5.3	565	47	4.1	481	4.4	6.1	7.9
2250	Open	44	7.0	720	46	5.2	593	47	4.1	503	4.6	6.4	8.2
50°C - Aluminum Conductor - Hollow Core Segmental Strand													
2000	Open	43	7.0	690	46	5.3	571	47	4.1	486	4.4	6.1	7.9
2250	Open	44	7.0	729	46	5.2	600	47	4.1	509	4.6	6.4	8.2
2500	Open	44	7.0	767	46	5.1	630	47	4.0	533	4.7	6.5	8.4
2750	Open	44	6.9	802	46	5.1	656	47	4.0	553	4.8	6.7	8.6
3000	Open	44	6.8	832	46	5.0	678	47	3.9	570	4.9	6.9	8.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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 - Hollow Core Concentric Strand							
750	Open	92.6	75.0	73.6	57.5	61.1	46.6
1000	Open	98.3	78.9	77.3	59.7	63.5	48.0
1250	Open	101.6	80.8	79.2	61.0	64.8	48.9
1500	Open	104.3	82.7	81.1	62.1	66.1	49.7
1750	Open	106.3	84.2	82.5	63.1	67.1	50.3
2000	Open	108.0	85.2	83.4	63.6	67.7	50.7
2250	Open	110.4	86.6	84.8	64.4	68.6	51.3
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	107.9	85.1	83.3	63.6	67.6	50.8
2250	Open	110.4	86.6	84.8	64.5	68.6	51.3
2500	Open	112.0	87.5	85.8	65.0	69.2	51.7
2750	Open	114.0	88.8	87.0	65.7	70.0	52.2
3000	Open	115.2	89.7	87.8	66.1	70.5	52.5

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	77.1	62.6	61.2	48.0	50.8	39.0
1000	Open	82.0	65.8	64.2	50.0	52.7	40.2
1250	Open	84.6	67.6	65.9	50.9	53.8	40.9
1500	Open	87.0	69.0	67.4	51.8	54.8	41.5
1750	Open	88.6	70.2	68.4	52.5	55.5	42.1
2000	Open	90.0	71.1	69.3	53.1	56.2	42.4
2250	Open	91.9	72.3	70.5	53.8	56.8	42.9
75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	89.9	71.1	69.1	53.1	56.1	42.4
2250	Open	91.9	72.3	70.4	53.8	56.9	42.9
2500	Open	93.1	73.2	71.2	54.3	57.4	43.2
2750	Open	94.9	74.3	72.2	55.0	58.0	43.6
3000	Open	96.0	74.9	72.8	55.3	58.4	43.8

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	61.7	50.2	48.8	38.6	40.4	31.3
1000	Open	65.6	52.9	51.2	40.1	41.9	32.4
1250	Open	67.7	54.2	52.4	40.9	42.8	32.9
1500	Open	69.3	55.4	53.6	41.6	43.5	33.3
1750	Open	70.8	56.4	54.5	42.2	44.0	33.7
2000	Open	71.7	57.1	55.1	42.6	44.5	34.0
2250	Open	73.4	58.1	56.1	43.2	45.1	34.4
65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	71.8	57.1	55.1	42.6	44.5	34.0
2250	Open	73.4	58.1	56.0	43.2	45.1	34.4
2500	Open	74.3	58.7	56.6	43.5	45.5	34.6
2750	Open	75.6	59.5	57.3	44.1	45.9	35.0
3000	Open	76.5	60.1	57.8	44.4	46.2	35.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	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					
50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	38.5	31.7	30.3	24.3	24.9	19.8
1000	Open	40.8	33.4	31.6	25.3	25.7	20.4
1250	Open	42.1	34.3	32.4	25.9	26.1	20.7
1500	Open	43.1	35.1	33.0	26.3	26.5	21.1
1750	Open	44.0	35.6	33.5	26.7	26.9	21.3
2000	Open	44.6	36.0	33.9	26.9	27.1	21.5
2250	Open	45.5	36.7	34.3	27.3	27.4	21.8
50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	44.5	36.0	33.8	26.9	27.1	21.5
2250	Open	45.5	36.7	34.3	27.3	27.4	21.7
2500	Open	46.1	37.1	34.7	27.5	27.5	21.9
2750	Open	46.9	37.6	35.2	27.8	27.8	22.1
3000	Open	47.4	38.0	35.4	28.0	28.0	22.2

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.005	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	21.96	1.006	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	17.62	1.009	1.38	0.20	2.91	4.41
1500	Open	3.098	1.10	14.76	1.012	1.30	0.19	2.90	4.39
1750	Open	3.255	1.16	12.73	1.024	1.23	0.21	2.86	4.37
2000	Open	3.326	1.20	11.22	1.029	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	10.14	1.036	1.14	0.20	2.83	4.32
		85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.030	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	9.93	1.037	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	8.96	1.043	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	8.17	1.053	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	7.58	1.060	1.03	0.18	2.80	4.28

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		75°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.005	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	21.96	1.006	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	17.62	1.009	1.38	0.20	2.91	4.41
1500	Open	3.098	1.10	14.76	1.012	1.30	0.19	2.90	4.39
1750	Open	3.255	1.16	12.73	1.024	1.23	0.21	2.86	4.37
2000	Open	3.326	1.20	11.22	1.029	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	10.14	1.036	1.14	0.20	2.83	4.32
		75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.030	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	9.93	1.037	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	8.96	1.043	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	8.17	1.053	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	7.58	1.060	1.03	0.18	2.80	4.28

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	100%
		65°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.005	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	21.96	1.006	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	17.62	1.009	1.38	0.20	2.91	4.41
1500	Open	3.098	1.10	14.76	1.012	1.30	0.19	2.90	4.39
1750	Open	3.255	1.16	12.73	1.024	1.23	0.21	2.86	4.37
2000	Open	3.326	1.20	11.22	1.029	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	10.14	1.036	1.14	0.20	2.83	4.32
		65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.030	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	9.93	1.037	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	8.96	1.043	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	8.17	1.053	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	7.58	1.060	1.03	0.18	2.80	4.28

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Direct Buried - 2 Circuits - Six Cables - Spaced

25°C Earth Ambient

Condr Size	Sheath Res	OD	Wd	Rac	Qs	Ri	Rj	Re @ 90 Rho & loss factor 75%	Re @ 90 Rho & loss factor 100%
		50°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	0.84	29.22	1.005	1.70	0.21	2.94	4.43
1000	Open	2.863	0.97	21.96	1.006	1.47	0.21	2.93	4.43
1250	Open	2.990	1.04	17.62	1.009	1.38	0.20	2.91	4.41
1500	Open	3.098	1.10	14.76	1.012	1.30	0.19	2.90	4.39
1750	Open	3.255	1.16	12.73	1.024	1.23	0.21	2.86	4.37
2000	Open	3.326	1.20	11.22	1.029	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	10.14	1.036	1.14	0.20	2.83	4.32
		50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	1.19	11.05	1.030	1.19	0.20	2.85	4.33
2250	Open	3.436	1.26	9.93	1.037	1.14	0.20	2.83	4.32
2500	Open	3.505	1.29	8.96	1.043	1.10	0.19	2.82	4.31
2750	Open	3.610	1.34	8.17	1.053	1.06	0.19	2.81	4.29
3000	Open	3.681	1.38	7.58	1.060	1.03	0.18	2.80	4.28

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2496

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	535	552	343	406	3.4	3.2
1000	Open	631	652	402	478	3.9	3.6
1250	Open	717	742	456	543	4.0	3.7
1500	Open	795	823	505	602	4.1	3.8
1750	Open	868	900	551	657	4.2	3.9
2000	Open	956	986	599	707	4.1	3.8
2250	Open	1019	1051	637	753	4.2	3.9
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	963	993	603	712	4.1	3.8
2250	Open	1030	1062	644	761	4.2	3.9
2500	Open	1093	1128	683	807	4.2	3.9
2750	Open	1158	1196	723	855	4.3	4.0
3000	Open	1211	1252	755	895	4.3	4.1

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	27.6	29.2	12.8	17.0
1000	Open	29.1	30.9	13.6	18.0
1250	Open	30.3	32.2	14.1	18.7
1500	Open	31.2	33.2	14.6	19.3
1750	Open	32.2	34.4	15.1	19.9
2000	Open	34.3	36.3	15.6	20.4
2250	Open	35.3	37.4	16.1	21.0
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	34.3	36.2	15.6	20.4
2250	Open	35.4	37.3	16.1	21.0
2500	Open	36.0	38.1	16.4	21.4
2750	Open	36.8	39.0	16.8	21.9
3000	Open	37.4	39.7	17.1	22.3

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Conduit in Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re 2 fps
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	4.03	0.84	29.22	1.000	1.70	0.21	1.81	0.35	0.90	0.61
1000	Open	2.863	4.03	0.97	21.96	1.000	1.47	0.21	1.79	0.35	0.89	0.61
1250	Open	2.990	4.03	1.04	17.62	1.000	1.38	0.20	1.72	0.35	0.89	0.61
1500	Open	3.098	4.03	1.10	14.75	1.000	1.30	0.19	1.66	0.35	0.89	0.61
1750	Open	3.255	4.03	1.16	12.72	1.000	1.23	0.21	1.58	0.35	0.88	0.61
2000	Open	3.326	5.05	1.20	11.20	1.000	1.19	0.20	1.56	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	10.14	1.000	1.14	0.20	1.51	0.31	0.74	0.51
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	5.05	1.19	11.03	1.000	1.19	0.20	1.56	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	9.92	1.000	1.14	0.20	1.51	0.31	0.74	0.51
2500	Open	3.505	5.05	1.29	8.95	1.000	1.10	0.19	1.48	0.31	0.73	0.51
2750	Open	3.610	5.05	1.34	8.16	1.000	1.06	0.19	1.44	0.31	0.73	0.51
3000	Open	3.681	5.05	1.38	7.57	1.000	1.03	0.18	1.41	0.31	0.73	0.51

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	680	730	464	564	1.9	1.6
1000	Open	817	880	557	679	2.1	1.8
1250	Open	936	1008	636	775	2.2	1.8
1500	Open	1046	1126	709	863	2.2	1.8
1750	Open	1150	1235	776	943	2.2	1.9
2000	Open	1241	1333	837	1016	2.3	1.9
2250	Open	1330	1429	895	1086	2.3	1.9
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1250	1343	843	1023	2.3	1.9
2250	Open	1345	1444	905	1097	2.3	1.9
2500	Open	1433	1538	963	1167	2.3	1.9
2750	Open	1526	1638	1023	1239	2.3	1.9
3000	Open	1602	1719	1073	1299	2.3	1.9

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2500

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	14.3	16.4	7.1	10.1
1000	Open	15.6	18.0	7.8	11.1
1250	Open	16.5	18.9	8.2	11.6
1500	Open	17.2	19.8	8.5	12.1
1750	Open	18.0	20.6	8.8	12.5
2000	Open	18.4	21.1	9.0	12.8
2250	Open	19.2	22.0	9.4	13.2
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	18.4	21.1	9.0	12.7
2250	Open	19.2	21.9	9.4	13.2
2500	Open	19.7	22.5	9.6	13.5
2750	Open	20.3	23.2	9.9	13.9
3000	Open	20.8	23.7	10.1	14.2

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Free Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re Sun 2 fps
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
750	Open	2.841	9.99	0.84	29.22	1.000	1.70	0.21	0.00	0.00	1.27	0.87
1000	Open	2.863	9.99	0.97	21.96	1.000	1.47	0.21	0.00	0.00	1.25	0.87
1250	Open	2.990	9.99	1.04	17.62	1.000	1.38	0.20	0.00	0.00	1.20	0.84
1500	Open	3.098	9.99	1.10	14.75	1.000	1.30	0.19	0.00	0.00	1.16	0.81
1750	Open	3.255	9.99	1.16	12.72	1.000	1.23	0.21	0.00	0.00	1.10	0.78
2000	Open	3.326	9.99	1.20	11.20	1.000	1.19	0.20	0.00	0.00	1.08	0.77
2250	Open	3.436	9.99	1.26	10.14	1.000	1.14	0.20	0.00	0.00	1.05	0.75
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	3.323	9.99	1.19	11.03	1.000	1.19	0.20	0.00	0.00	1.08	0.77
2250	Open	3.436	9.99	1.26	9.92	1.000	1.14	0.20	0.00	0.00	1.05	0.75
2500	Open	3.505	9.99	1.29	8.95	1.000	1.10	0.19	0.00	0.00	1.03	0.74
2750	Open	3.610	9.99	1.34	8.16	1.000	1.06	0.19	0.00	0.00	1.00	0.72
3000	Open	3.681	9.99	1.38	7.57	1.000	1.03	0.18	0.00	0.00	0.98	0.71

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2502

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s	delta Td for .0033 pf No Sun 0 Ft/s	delta Td for .0033 pf No Sun 2 Ft/s
		85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	557	578	422	476	3.1	2.9
1000	Open	659	685	499	563	3.5	3.2
1250	Open	749	780	566	640	3.6	3.3
1500	Open	831	867	628	711	3.7	3.4
1750	Open	908	947	685	777	3.8	3.5
2000	Open	1006	1042	760	845	3.6	3.4
2250	Open	1072	1111	809	901	3.7	3.5
		85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	1014	1049	765	852	3.6	3.4
2250	Open	1084	1123	818	911	3.7	3.5
2500	Open	1151	1193	868	967	3.8	3.5
2750	Open	1219	1264	920	1025	3.8	3.6
3000	Open	1275	1324	962	1073	3.9	3.6

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138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	No Sun 0 Ft/s	No Sun 2 Ft/s	Full Sun 0 Ft/s	Full Sun 2 Ft/s
		Total Watts/ft			
85°C - Aluminum Conductor - Hollow Core Concentric Strand					
750	Open	9.9	10.6	6.0	7.5
1000	Open	10.5	11.3	6.4	7.9
1250	Open	10.9	11.8	6.7	8.3
1500	Open	11.3	12.2	6.9	8.5
1750	Open	11.6	12.6	7.1	8.8
2000	Open	12.5	13.4	7.7	9.2
2250	Open	12.9	13.8	7.9	9.5
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	12.5	13.3	7.7	9.2
2250	Open	12.9	13.8	7.9	9.5
2500	Open	13.2	14.0	8.0	9.7
2750	Open	13.5	14.4	8.2	9.9
3000	Open	13.7	14.6	8.4	10.1

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2504

138 kV 1/c Self Contained Liquid Filled Aluminum Sheathed Power Cable

Isolated Cable in Non-Metallic Unventilated Riser in Air

40°C Air Ambient

Condr Size	Sheath Res	OD	Duct ID	Wd	Rac	Qs	Ri	Rj	Rsd	Rd	Re No Sun 0 fps	Re Sun 2 fps
		85°C - Aluminum Conductor - Hollow Core Concentric Strand										
750	Open	2.841	4.03	0.84	29.22	1.000	1.70	0.21	1.44	0.35	0.91	0.61
1000	Open	2.863	4.03	0.97	21.96	1.000	1.47	0.21	1.42	0.35	0.91	0.61
1250	Open	2.990	4.03	1.04	17.62	1.000	1.38	0.20	1.36	0.35	0.90	0.61
1500	Open	3.098	4.03	1.10	14.75	1.000	1.30	0.19	1.31	0.35	0.90	0.61
1750	Open	3.255	4.03	1.16	12.72	1.000	1.23	0.21	1.25	0.35	0.90	0.60
2000	Open	3.326	5.05	1.20	11.20	1.000	1.19	0.20	1.21	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	10.14	1.000	1.14	0.20	1.17	0.31	0.73	0.51
		85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	3.323	5.05	1.19	11.03	1.000	1.19	0.20	1.21	0.31	0.74	0.51
2250	Open	3.436	5.05	1.26	9.92	1.000	1.14	0.20	1.17	0.31	0.73	0.51
2500	Open	3.505	5.05	1.29	8.95	1.000	1.10	0.19	1.15	0.31	0.73	0.51
2750	Open	3.610	5.05	1.34	8.16	1.000	1.06	0.19	1.11	0.31	0.73	0.51
3000	Open	3.681	5.05	1.38	7.57	1.000	1.03	0.18	1.09	0.31	0.73	0.51

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