69 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 - Copper Conductor - Hollow Core Concentric Strand										
4/0	Open	402	378	381	351	363	328	1.4	1.6	1.8
250	Open	441	414	417	384	397	359	1.4	1.6	1.9
350	Open	545	510	513	469	486	436	1.5	1.8	2.1
500	Open	663	619	623	568	589	527	1.6	1.9	2.2
750	Open	830	771	777	705	733	653	1.7	2.0	2.4
1000	Open	974	903	910	823	856	760	1.8	2.1	2.5
1250	Open	1099	1017	1024	924	962	852	1.8	2.3	2.7
1500	Open	1214	1120	1128	1015	1058	935	1.9	2.3	2.8
1750	Open	1318	1213	1222	1098	1143	1008	2.0	2.5	2.9
2000	Open	1407	1293	1303	1168	1217	1071	2.0	2.5	3.0
2250	Open	1493	1369	1379	1234	1287	1130	2.1	2.6	3.1
85°C - Copper Conductor - Hollow Core Segmental Strand										
2000	Open	1427	1312	1321	1185	1235	1087	2.0	2.5	3.0
2250	Open	1518	1392	1402	1254	1308	1148	2.1	2.6	3.1
2500	Open	1601	1467	1478	1320	1377	1208	2.1	2.7	3.2
2750	Open	1684	1540	1552	1384	1444	1264	2.2	2.7	3.3
3000	Open	1749	1598	1610	1434	1497	1309	2.2	2.8	3.3

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2130

69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	31.1	27.6	28.0	23.9	25.5	21.0
250	Open	31.7	28.1	28.4	24.2	25.9	21.3
350	Open	34.7	30.5	30.8	25.9	27.7	22.5
500	Open	36.0	31.5	31.9	26.7	28.6	23.1
750	Open	37.8	32.8	33.2	27.5	29.7	23.8
1000	Open	39.3	34.0	34.5	28.4	30.6	24.4
1250	Open	40.5	34.8	35.3	29.0	31.3	24.8
1500	Open	41.8	35.7	36.2	29.6	32.0	25.3
1750	Open	43.0	36.6	37.2	30.3	32.7	25.7
2000	Open	43.8	37.2	37.7	30.6	33.1	25.9
2250	Open	45.0	38.0	38.6	31.2	33.8	26.4
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	43.8	37.2	37.7	30.6	33.1	26.0
2250	Open	45.0	38.0	38.6	31.1	33.8	26.3
2500	Open	45.6	38.5	39.1	31.5	34.1	26.6
2750	Open	46.5	39.1	39.7	31.9	34.6	26.9
3000	Open	47.0	39.5	40.1	32.1	34.9	27.0

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69 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%	Re @ 90 Rho & loss factor 100%
85°C - Copper Conductor - Hollow Core Concentric Strand												
4/0	Open	1.790	5.06	0.24	62.74	1.000	1.59	0.28	2.21	0.24	2.11	3.30
250	Open	1.833	5.06	0.24	53.14	1.000	1.54	0.27	2.16	0.24	2.11	3.30
350	Open	2.050	5.06	0.29	37.94	1.000	1.29	0.24	1.94	0.24	2.11	3.30
500	Open	2.148	5.06	0.31	26.60	1.000	1.20	0.23	1.85	0.24	2.11	3.30
750	Open	2.291	5.06	0.34	17.78	1.001	1.10	0.21	1.74	0.24	2.11	3.30
1000	Open	2.423	5.06	0.36	13.41	1.001	1.01	0.20	1.65	0.24	2.11	3.30
1250	Open	2.580	5.06	0.39	10.83	1.002	0.95	0.23	1.55	0.24	2.11	3.30
1500	Open	2.698	5.06	0.41	9.14	1.003	0.89	0.22	1.48	0.24	2.11	3.30
1750	Open	2.825	5.06	0.44	7.97	1.004	0.84	0.21	1.42	0.24	2.11	3.30
2000	Open	2.896	5.06	0.45	7.11	1.005	0.81	0.21	1.39	0.24	2.11	3.30
2250	Open	3.016	5.06	0.48	6.46	1.006	0.77	0.20	1.33	0.24	2.11	3.30
85°C - Copper Conductor - Hollow Core Segmental Strand												
2000	Open	2.893	5.06	0.45	6.90	1.005	0.81	0.21	1.39	0.24	2.11	3.30
2250	Open	3.016	5.06	0.48	6.25	1.006	0.77	0.20	1.33	0.24	2.11	3.30
2500	Open	3.085	5.06	0.49	5.69	1.007	0.75	0.19	1.30	0.24	2.11	3.30
2750	Open	3.180	5.06	0.51	5.23	1.009	0.72	0.19	1.26	0.24	2.11	3.30
3000	Open	3.291	5.06	0.53	4.89	1.011	0.70	0.21	1.22	0.24	2.11	3.30

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2132

69 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 - Copper Conductor - Hollow Core Concentric Strand										
4/0	Open	366	332	334	295	309	268	1.8	2.3	2.8
250	Open	401	363	365	322	337	292	1.8	2.3	2.9
350	Open	491	443	444	390	408	351	2.1	2.7	3.3
500	Open	595	535	537	469	491	422	2.2	2.8	3.5
750	Open	741	663	665	579	607	519	2.3	3.0	3.8
1000	Open	865	772	775	672	705	601	2.5	3.2	4.0
1250	Open	973	866	868	751	789	671	2.6	3.4	4.3
1500	Open	1070	949	953	822	863	733	2.7	3.6	4.5
1750	Open	1158	1024	1028	884	929	787	2.8	3.8	4.7
2000	Open	1233	1089	1093	939	986	835	2.9	3.9	4.9
2250	Open	1304	1149	1151	988	1038	877	3.0	4.0	5.1
85°C - Copper Conductor - Hollow Core Segmental Strand										
2000	Open	1251	1105	1109	952	1001	847	2.9	3.9	4.9
2250	Open	1325	1168	1170	1004	1055	891	3.0	4.0	5.1
2500	Open	1396	1228	1231	1055	1108	935	3.1	4.1	5.2
2750	Open	1464	1286	1288	1102	1158	976	3.2	4.3	5.4
3000	Open	1517	1331	1333	1140	1198	1009	3.3	4.4	5.5

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	51.8	42.9	43.4	34.2	37.4	28.4
250	Open	52.7	43.5	43.9	34.5	37.7	28.6
350	Open	56.6	46.4	46.6	36.3	39.6	29.8
500	Open	58.4	47.6	47.9	37.0	40.4	30.3
750	Open	60.7	49.0	49.2	37.8	41.4	30.8
1000	Open	62.5	50.2	50.6	38.6	42.3	31.3
1250	Open	64.0	51.2	51.4	39.1	42.9	31.6
1500	Open	65.5	52.0	52.5	39.7	43.5	32.0
1750	Open	67.1	53.0	53.4	40.2	44.1	32.4
2000	Open	67.9	53.6	54.0	40.5	44.4	32.6
2250	Open	69.3	54.4	54.6	41.0	44.9	32.9
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	67.9	53.6	54.0	40.5	44.5	32.6
2250	Open	69.3	54.5	54.6	41.0	45.0	32.9
2500	Open	70.0	54.9	55.1	41.3	45.2	33.1
2750	Open	71.1	55.5	55.7	41.6	45.6	33.3
3000	Open	71.6	55.9	56.0	41.8	45.9	33.5

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2134

69 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 - Copper Conductor - Hollow Core Concentric Strand												
4/0	Open	1.790	5.06	0.24	62.74	1.000	1.59	0.28	2.14	0.24	4.00	6.34
250	Open	1.833	5.06	0.24	53.14	1.000	1.54	0.27	2.09	0.24	4.00	6.34
350	Open	2.050	5.06	0.29	37.94	1.000	1.29	0.24	1.88	0.24	4.00	6.34
500	Open	2.148	5.06	0.31	26.60	1.000	1.20	0.23	1.80	0.24	4.00	6.34
750	Open	2.291	5.06	0.34	17.78	1.001	1.10	0.21	1.69	0.24	4.00	6.34
1000	Open	2.423	5.06	0.36	13.41	1.001	1.01	0.20	1.60	0.24	4.00	6.34
1250	Open	2.580	5.06	0.39	10.83	1.002	0.95	0.23	1.50	0.24	4.00	6.34
1500	Open	2.698	5.06	0.41	9.14	1.003	0.89	0.22	1.44	0.24	4.00	6.34
1750	Open	2.825	5.06	0.44	7.97	1.004	0.84	0.21	1.38	0.24	4.00	6.34
2000	Open	2.896	5.06	0.45	7.11	1.005	0.81	0.21	1.34	0.24	4.00	6.34
2250	Open	3.016	5.06	0.48	6.46	1.007	0.77	0.20	1.29	0.24	4.00	6.34
85°C - Copper Conductor - Hollow Core Segmental Strand												
2000	Open	2.893	5.06	0.45	6.90	1.005	0.81	0.21	1.34	0.24	4.00	6.34
2250	Open	3.016	5.06	0.48	6.25	1.007	0.77	0.20	1.29	0.24	4.00	6.34
2500	Open	3.085	5.06	0.49	5.69	1.008	0.75	0.19	1.26	0.24	4.00	6.34
2750	Open	3.180	5.06	0.51	5.23	1.010	0.72	0.19	1.23	0.24	4.00	6.34
3000	Open	3.291	5.06	0.53	4.89	1.012	0.70	0.21	1.18	0.24	4.00	6.34

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69 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		°C	w/ft²		°C	w/ft²				
						75% LF							
						85°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	55	35.4	510	61	28.6	458	64	24.1	419	0.8	1.1	1.4
250	Open	55	35.2	560	61	28.3	502	65	23.8	459	0.9	1.2	1.5
350	Open	57	34.5	692	63	27.4	616	67	22.7	561	1.0	1.3	1.7
500	Open	58	34.1	842	64	27.0	747	68	22.4	678	1.0	1.4	1.8
750	Open	59	33.5	1053	65	26.3	930	69	21.7	842	1.1	1.5	1.9
1000	Open	60	32.9	1234	66	25.7	1087	69	21.1	982	1.1	1.6	2.0
1250	Open	60	31.5	1386	66	24.6	1219	70	20.1	1101	1.2	1.7	2.1
1500	Open	61	31.0	1528	67	24.1	1342	70	19.7	1209	1.3	1.8	2.2
1750	Open	62	30.6	1658	67	23.5	1452	71	19.2	1307	1.3	1.8	2.3
2000	Open	62	30.3	1769	68	23.3	1547	71	19.0	1391	1.4	1.9	2.4
2250	Open	63	29.8	1875	68	22.9	1636	72	18.5	1469	1.4	2.0	2.5
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	62	30.2	1794	68	23.4	1569	71	19.0	1411	1.4	1.9	2.4
2250	Open	63	29.9	1906	68	22.9	1663	72	18.5	1493	1.4	2.0	2.5
2500	Open	63	29.6	2010	69	22.7	1752	72	18.3	1572	1.4	2.0	2.6
2750	Open	64	29.3	2112	69	22.3	1838	72	18.0	1647	1.5	2.1	2.7
3000	Open	64	28.6	2186	69	21.7	1902	72	17.5	1705	1.5	2.1	2.7

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69 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 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							
4/0	Open	464	60	29.4	408	66	22.8	368	69	18.8	0.8	1.1	1.4
250	Open	508	60	29.2	446	66	22.5	402	70	18.3	0.9	1.2	1.5
350	Open	624	62	28.1	544	68	21.4	488	71	17.3	1.0	1.3	1.7
500	Open	756	63	27.6	657	69	21.0	588	72	16.9	1.0	1.4	1.8
750	Open	941	64	26.8	815	70	20.3	727	73	16.3	1.1	1.5	1.9
1000	Open	1099	65	26.2	948	70	19.7	845	73	15.8	1.1	1.6	2.0
1250	Open	1231	66	25.0	1061	71	18.8	945	74	15.0	1.2	1.7	2.1
1500	Open	1354	66	24.5	1164	71	18.3	1035	74	14.6	1.3	1.8	2.2
1750	Open	1464	67	23.9	1257	72	17.7	1116	75	14.2	1.3	1.8	2.3
2000	Open	1560	67	23.6	1336	72	17.5	1185	75	14.0	1.4	1.9	2.4
2250	Open	1648	68	23.2	1409	73	17.1	1249	75	13.6	1.4	2.0	2.5
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1582	67	23.6	1355	72	17.6	1202	75	14.0	1.4	1.9	2.4
2250	Open	1675	68	23.2	1433	73	17.1	1269	75	13.6	1.4	2.0	2.5
2500	Open	1764	68	22.9	1507	73	17.0	1334	75	13.4	1.4	2.0	2.6
2750	Open	1850	69	22.6	1578	73	16.6	1395	76	13.1	1.5	2.1	2.7
3000	Open	1913	69	21.9	1631	73	16.1	1443	76	12.8	1.5	2.1	2.7

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69 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
						75% LF							
						75°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	473	50	29.4	424	55	23.9	388	58	20.1	0.8	1.1	1.4
250	Open	518	50	29.4	464	55	23.5	424	58	19.8	0.9	1.2	1.5
350	Open	641	52	28.7	570	57	22.9	518	60	19.0	1.0	1.3	1.7
500	Open	780	53	28.5	691	57	22.4	627	61	18.7	1.0	1.4	1.8
750	Open	975	54	27.8	861	58	21.8	779	61	18.0	1.1	1.5	1.9
1000	Open	1142	54	27.4	1005	59	21.4	908	62	17.5	1.1	1.6	2.0
1250	Open	1282	55	26.2	1127	59	20.4	1017	62	16.7	1.2	1.7	2.1
1500	Open	1413	55	25.9	1239	60	20.0	1116	63	16.4	1.3	1.8	2.2
1750	Open	1532	56	25.4	1341	60	19.6	1205	63	16.0	1.3	1.8	2.3
2000	Open	1634	56	25.2	1427	61	19.4	1282	63	15.8	1.4	1.9	2.4
2250	Open	1730	57	24.8	1508	61	19.0	1353	64	15.5	1.4	2.0	2.5
						75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1658	56	25.2	1449	61	19.4	1301	63	15.8	1.4	1.9	2.4
2250	Open	1760	57	24.8	1535	61	19.0	1377	64	15.5	1.4	2.0	2.5
2500	Open	1856	57	24.6	1616	61	18.8	1448	64	15.2	1.4	2.0	2.6
2750	Open	1949	57	24.4	1694	62	18.6	1517	64	15.0	1.5	2.1	2.7
3000	Open	2016	57	23.8	1753	62	18.1	1569	64	14.6	1.5	2.1	2.7

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69 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							
						75°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	430	54	24.5	378	59	19.0	341	62	15.6	0.8	1.1	1.4
250	Open	471	54	24.4	413	59	18.8	372	62	15.4	0.9	1.2	1.5
350	Open	578	56	23.5	503	61	17.9	451	64	14.5	1.0	1.3	1.7
500	Open	700	57	23.1	608	61	17.4	544	64	14.0	1.0	1.4	1.8
750	Open	871	58	22.3	753	62	16.8	672	65	13.5	1.1	1.5	1.9
1000	Open	1017	59	21.9	877	63	16.4	781	65	13.1	1.1	1.6	2.0
1250	Open	1139	59	20.9	981	63	15.5	873	66	12.4	1.2	1.7	2.1
1500	Open	1252	60	20.4	1075	64	15.3	955	66	12.2	1.3	1.8	2.2
1750	Open	1353	60	20.0	1160	64	14.9	1029	66	11.8	1.3	1.8	2.3
2000	Open	1440	60	19.8	1233	64	14.6	1092	67	11.6	1.4	1.9	2.4
2250	Open	1521	61	19.4	1299	65	14.3	1150	67	11.3	1.4	2.0	2.5
						75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1462	60	19.8	1251	64	14.7	1109	67	11.6	1.4	1.9	2.4
2250	Open	1547	61	19.4	1322	65	14.3	1170	67	11.3	1.4	2.0	2.5
2500	Open	1629	61	19.2	1390	65	14.1	1229	67	11.1	1.4	2.0	2.6
2750	Open	1707	62	18.9	1454	65	13.8	1285	67	10.9	1.5	2.1	2.7
3000	Open	1765	62	18.3	1503	65	13.5	1328	67	10.7	1.5	2.1	2.7

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	45	23.7	429	49	19.0	385	52	16.0	351	0.8	1.1	1.4
250	Open	45	23.5	470	49	19.0	421	52	15.8	384	0.9	1.2	1.5
350	Open	47	22.9	582	51	18.3	517	53	15.1	469	1.0	1.3	1.7
500	Open	47	22.8	707	51	18.0	626	54	14.8	567	1.0	1.4	1.8
750	Open	48	22.3	883	52	17.5	779	54	14.3	704	1.1	1.5	1.9
1000	Open	49	21.9	1035	52	17.0	910	55	14.0	821	1.1	1.6	2.0
1250	Open	49	21.0	1161	53	16.3	1019	55	13.3	918	1.2	1.7	2.1
1500	Open	49	20.7	1279	53	16.0	1120	55	13.0	1008	1.3	1.8	2.2
1750	Open	50	20.3	1386	53	15.7	1211	56	12.7	1087	1.3	1.8	2.3
2000	Open	50	20.2	1477	54	15.6	1288	56	12.5	1155	1.4	1.9	2.4
2250	Open	51	19.9	1563	54	15.2	1360	56	12.3	1218	1.4	2.0	2.5
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	50	20.2	1500	54	15.4	1309	56	12.5	1174	1.4	1.9	2.4
2250	Open	51	19.9	1592	54	15.2	1386	56	12.3	1241	1.4	2.0	2.5
2500	Open	51	19.7	1677	54	15.1	1458	56	12.1	1305	1.4	2.0	2.6
2750	Open	51	19.6	1761	55	14.9	1528	57	12.0	1366	1.5	2.1	2.7
3000	Open	51	19.0	1820	55	14.5	1580	57	11.7	1412	1.5	2.1	2.7

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69 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 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
						100% LF							
						65°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	390	48	19.6	343	52	15.2	309	55	12.4	0.8	1.1	1.4
250	Open	427	49	19.4	375	52	15.0	337	55	12.3	0.9	1.2	1.5
350	Open	524	50	18.8	456	54	14.3	408	56	11.6	1.0	1.3	1.7
500	Open	635	51	18.5	551	54	14.0	492	56	11.4	1.0	1.4	1.8
750	Open	790	51	18.0	682	55	13.5	608	57	10.8	1.1	1.5	1.9
1000	Open	922	52	17.5	794	55	13.1	706	57	10.6	1.1	1.6	2.0
1250	Open	1032	52	16.7	887	56	12.6	789	58	10.1	1.2	1.7	2.1
1500	Open	1133	53	16.4	972	56	12.2	863	58	9.8	1.3	1.8	2.2
1750	Open	1224	53	16.0	1048	56	11.9	928	58	9.5	1.3	1.8	2.3
2000	Open	1302	53	15.8	1113	57	11.7	985	58	9.4	1.4	1.9	2.4
2250	Open	1374	54	15.5	1172	57	11.4	1036	59	9.1	1.4	2.0	2.5
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1322	53	15.8	1130	57	11.8	1000	58	9.4	1.4	1.9	2.4
2250	Open	1400	54	15.5	1194	57	11.4	1055	59	9.1	1.4	2.0	2.5
2500	Open	1472	54	15.4	1254	57	11.3	1108	59	8.9	1.4	2.0	2.6
2750	Open	1543	54	15.1	1312	57	11.1	1157	59	8.8	1.5	2.1	2.7
3000	Open	1594	54	14.7	1355	57	10.8	1195	59	8.6	1.5	2.1	2.7

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69 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		°C	w/ft²		°C	w/ft²				
75% LF													
50°C - Copper Conductor - Hollow Core Concentric Strand													
4/0	Open	346	38	14.7	309	40	11.9	282	42	10.0	0.8	1.1	1.4
250	Open	379	38	14.6	338	40	11.9	308	42	9.8	0.9	1.2	1.5
350	Open	468	39	14.3	415	41	11.4	376	43	9.5	1.0	1.3	1.7
500	Open	569	39	14.2	502	42	11.2	454	43	9.2	1.0	1.4	1.8
750	Open	710	40	14.0	625	42	10.8	563	43	9.0	1.1	1.5	1.9
1000	Open	832	40	13.7	729	42	10.6	654	44	8.7	1.1	1.6	2.0
1250	Open	932	40	13.2	815	42	10.2	731	44	8.3	1.2	1.7	2.1
1500	Open	1025	40	12.9	894	43	9.9	801	44	8.1	1.3	1.8	2.2
1750	Open	1109	41	12.7	965	43	9.7	863	44	7.8	1.3	1.8	2.3
2000	Open	1181	41	12.5	1025	43	9.6	915	45	7.8	1.4	1.9	2.4
2250	Open	1248	41	12.4	1081	43	9.5	964	45	7.6	1.4	2.0	2.5
50°C - Copper Conductor - Hollow Core Segmental Strand													
2000	Open	1201	41	12.5	1043	43	9.6	931	45	7.8	1.4	1.9	2.4
2250	Open	1273	41	12.4	1103	43	9.5	983	45	7.6	1.4	2.0	2.5
2500	Open	1340	41	12.3	1160	44	9.4	1032	45	7.6	1.4	2.0	2.6
2750	Open	1406	42	12.1	1214	44	9.2	1079	45	7.4	1.5	2.1	2.7
3000	Open	1452	42	11.8	1253	44	8.9	1114	45	7.2	1.5	2.1	2.7

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69 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 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							
4/0	Open	315	40	12.4	276	42	9.6	248	44	7.9	0.8	1.1	1.4
250	Open	344	40	12.1	301	42	9.4	270	44	7.7	0.9	1.2	1.5
350	Open	422	41	11.7	366	43	8.9	327	45	7.3	1.0	1.3	1.7
500	Open	511	41	11.6	442	43	8.7	394	45	7.1	1.0	1.4	1.8
750	Open	635	42	11.2	547	44	8.5	486	45	6.8	1.1	1.5	1.9
1000	Open	740	42	11.0	635	44	8.2	563	45	6.6	1.1	1.6	2.0
1250	Open	828	42	10.5	709	44	7.8	628	46	6.2	1.2	1.7	2.1
1500	Open	908	42	10.2	776	45	7.6	686	46	6.1	1.3	1.8	2.2
1750	Open	980	43	10.0	835	45	7.4	736	46	5.9	1.3	1.8	2.3
2000	Open	1041	43	9.9	886	45	7.4	780	46	5.8	1.4	1.9	2.4
2250	Open	1097	43	9.8	931	45	7.2	819	46	5.7	1.4	2.0	2.5
						50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1059	43	9.9	901	45	7.4	793	46	5.8	1.4	1.9	2.4
2250	Open	1119	43	9.8	950	45	7.2	835	46	5.7	1.4	2.0	2.5
2500	Open	1176	43	9.7	997	45	7.1	876	46	5.6	1.4	2.0	2.6
2750	Open	1231	44	9.5	1042	45	7.0	914	46	5.5	1.5	2.1	2.7
3000	Open	1271	44	9.2	1075	45	6.7	943	46	5.3	1.5	2.1	2.7

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	49.7	41.2	40.2	32.0	33.7	26.2
250	Open	50.7	41.9	40.9	32.4	34.3	26.5
350	Open	55.4	45.2	44.1	34.5	36.7	28.0
500	Open	57.6	46.6	45.5	35.4	37.6	28.5
750	Open	60.2	48.3	47.2	36.5	38.9	29.2
1000	Open	62.5	49.8	48.7	37.3	40.0	29.9
1250	Open	63.8	50.5	49.6	37.8	40.7	30.3
1500	Open	65.5	51.7	50.8	38.6	41.5	30.7
1750	Open	67.4	52.8	52.0	39.3	42.4	31.3
2000	Open	68.5	53.6	52.7	39.6	42.9	31.5
2250	Open	70.1	54.5	53.7	40.2	43.6	31.9
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	68.4	53.5	52.7	39.6	42.8	31.5
2250	Open	70.1	54.5	53.7	40.3	43.6	31.9
2500	Open	71.1	55.1	54.4	40.6	44.1	32.1
2750	Open	72.3	55.9	55.2	41.1	44.6	32.4
3000	Open	72.7	56.1	55.4	41.2	44.9	32.6

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	41.5	34.4	33.5	26.8	28.2	21.9
250	Open	42.2	35.0	34.0	27.1	28.5	22.1
350	Open	46.2	37.7	36.7	28.8	30.5	23.3
500	Open	48.0	38.8	37.9	29.5	31.3	23.8
750	Open	50.2	40.3	39.4	30.4	32.4	24.4
1000	Open	52.1	41.5	40.6	31.1	33.3	24.9
1250	Open	53.1	42.2	41.3	31.6	33.9	25.3
1500	Open	54.6	43.1	42.3	32.1	34.5	25.6
1750	Open	56.1	44.1	43.3	32.7	35.2	26.0
2000	Open	57.0	44.6	43.8	33.1	35.6	26.2
2250	Open	58.4	45.4	44.7	33.5	36.3	26.6
75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	57.0	44.6	43.9	33.0	35.6	26.3
2250	Open	58.4	45.4	44.8	33.6	36.3	26.6
2500	Open	59.2	45.9	45.2	33.8	36.6	26.8
2750	Open	60.2	46.6	45.9	34.2	37.1	27.1
3000	Open	60.5	46.8	46.2	34.4	37.3	27.2

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	33.2	27.6	26.9	21.5	22.5	17.6
250	Open	33.7	28.0	27.2	21.7	22.8	17.7
350	Open	37.0	30.2	29.4	23.1	24.3	18.6
500	Open	38.3	31.1	30.3	23.7	25.0	19.0
750	Open	40.1	32.3	31.4	24.3	25.8	19.5
1000	Open	41.6	33.3	32.4	25.0	26.6	20.0
1250	Open	42.4	33.8	33.0	25.3	27.0	20.2
1500	Open	43.6	34.5	33.7	25.7	27.6	20.5
1750	Open	44.9	35.3	34.6	26.2	28.1	20.9
2000	Open	45.6	35.7	35.0	26.5	28.4	21.0
2250	Open	46.7	36.4	35.7	26.9	28.9	21.3
65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	45.6	35.7	35.0	26.4	28.4	21.0
2250	Open	46.7	36.4	35.7	26.9	28.9	21.3
2500	Open	47.3	36.8	36.1	27.1	29.2	21.5
2750	Open	48.1	37.3	36.6	27.4	29.6	21.7
3000	Open	48.4	37.5	36.8	27.5	29.7	21.7

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	20.8	17.3	16.7	13.5	14.0	11.0
250	Open	21.1	17.5	16.9	13.6	14.2	11.1
350	Open	23.1	18.9	18.3	14.5	15.2	11.7
500	Open	24.0	19.5	18.9	14.8	15.6	12.0
750	Open	25.0	20.2	19.6	15.3	16.1	12.3
1000	Open	26.0	20.8	20.2	15.6	16.5	12.5
1250	Open	26.5	21.2	20.5	15.8	16.7	12.7
1500	Open	27.2	21.6	21.0	16.1	17.1	12.9
1750	Open	28.0	22.1	21.5	16.4	17.5	13.1
2000	Open	28.5	22.4	21.8	16.6	17.6	13.2
2250	Open	29.1	22.8	22.2	16.8	17.9	13.4
50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	28.4	22.4	21.8	16.6	17.6	13.2
2250	Open	29.1	22.8	22.2	16.8	17.9	13.3
2500	Open	29.5	23.0	22.5	17.0	18.1	13.4
2750	Open	30.0	23.4	22.8	17.2	18.3	13.6
3000	Open	30.1	23.5	22.8	17.2	18.4	13.6

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69 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 - Copper Conductor - Hollow Core Concentric Strand						
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	10.83	1.004	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	9.14	1.005	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	7.97	1.007	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	7.11	1.008	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.46	1.011	0.77	0.20	2.36	3.51
			85°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	6.90	1.009	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.25	1.011	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	5.69	1.013	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	5.23	1.016	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	4.89	1.019	0.70	0.21	2.32	3.47

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69 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 - Copper Conductor - Hollow Core Concentric Strand						
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	10.83	1.004	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	9.14	1.005	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	7.97	1.007	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	7.11	1.008	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.46	1.011	0.77	0.20	2.36	3.51
			75°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	6.90	1.009	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.25	1.011	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	5.69	1.013	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	5.23	1.016	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	4.89	1.019	0.70	0.21	2.32	3.47

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69 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 - Copper Conductor - Hollow Core Concentric Strand					
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	10.83	1.004	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	9.14	1.005	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	7.97	1.007	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	7.11	1.008	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.46	1.011	0.77	0.20	2.36	3.51
				65°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	2.893	0.45	6.90	1.009	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.25	1.011	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	5.69	1.013	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	5.23	1.016	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	4.89	1.019	0.70	0.21	2.32	3.47

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2150

69 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%	Re @ 90 Rho & loss factor 100%
			50°C - Copper Conductor - Hollow Core Concentric Strand						
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	10.83	1.004	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	9.14	1.005	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	7.97	1.007	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	7.11	1.008	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.46	1.011	0.77	0.20	2.36	3.51
			50°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	6.90	1.009	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	6.25	1.011	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	5.69	1.013	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	5.23	1.016	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	4.89	1.019	0.70	0.21	2.32	3.47

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	486	57	32.0	431	63	25.4	392	67	21.1	1.0	1.3	1.7
250	Open	532	58	31.9	472	64	25.2	428	67	20.8	1.0	1.4	1.8
350	Open	655	60	30.9	577	66	24.0	521	69	19.8	1.1	1.6	2.0
500	Open	795	61	30.6	698	67	23.7	629	70	19.2	1.2	1.7	2.1
750	Open	992	62	29.8	867	68	22.8	779	71	18.7	1.3	1.8	2.3
1000	Open	1160	63	29.2	1011	68	22.2	907	72	18.0	1.4	1.9	2.5
1250	Open	1301	63	27.8	1132	69	21.3	1014	72	17.2	1.4	2.0	2.6
1500	Open	1432	64	27.3	1244	69	20.8	1113	72	16.7	1.5	2.1	2.7
1750	Open	1552	65	26.8	1344	70	20.3	1201	73	16.4	1.6	2.2	2.9
2000	Open	1654	65	26.6	1431	70	20.0	1277	73	16.1	1.6	2.3	3.0
2250	Open	1750	66	26.1	1511	71	19.6	1347	74	15.7	1.7	2.4	3.1
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1677	65	26.5	1451	70	20.1	1295	73	16.1	1.6	2.3	3.0
2250	Open	1779	66	26.1	1536	71	19.6	1369	74	15.7	1.7	2.4	3.1
2500	Open	1875	66	25.9	1616	71	19.4	1439	74	15.5	1.7	2.4	3.2
2750	Open	1967	67	25.6	1694	71	19.1	1507	74	15.3	1.8	2.5	3.3
3000	Open	2035	67	24.8	1751	71	18.6	1558	74	14.9	1.8	2.6	3.3

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	435	63	25.8	379	68	19.6	339	72	16.0	1.0	1.3	1.7
250	Open	476	63	25.6	414	69	19.4	370	72	15.6	1.0	1.4	1.8
350	Open	581	65	24.4	502	70	18.3	447	73	14.7	1.1	1.6	2.0
500	Open	703	66	24.0	605	71	18.0	538	74	14.2	1.2	1.7	2.1
750	Open	873	67	23.2	748	72	17.2	664	75	13.7	1.3	1.8	2.3
1000	Open	1017	68	22.5	869	73	16.6	770	75	13.1	1.4	1.9	2.5
1250	Open	1138	68	21.5	972	73	15.8	860	76	12.4	1.4	2.0	2.6
1500	Open	1249	69	21.0	1064	74	15.4	941	76	12.2	1.5	2.1	2.7
1750	Open	1351	70	20.4	1147	74	14.9	1012	76	11.8	1.6	2.2	2.9
2000	Open	1436	70	20.2	1218	74	14.6	1074	77	11.6	1.6	2.3	3.0
2250	Open	1515	71	19.8	1283	75	14.3	1130	77	11.3	1.7	2.4	3.1
						85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1456	70	20.2	1236	74	14.7	1090	77	11.6	1.6	2.3	3.0
2250	Open	1540	71	19.8	1305	75	14.3	1149	77	11.3	1.7	2.4	3.1
2500	Open	1620	71	19.6	1371	75	14.1	1207	77	11.1	1.7	2.4	3.2
2750	Open	1697	71	19.2	1434	75	13.9	1261	78	10.9	1.8	2.5	3.3
3000	Open	1755	71	18.7	1483	75	13.5	1303	78	10.6	1.8	2.6	3.3

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69 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								
		75°C - Copper Conductor - Hollow Core Concentric Strand											
4/0	Open	52	26.7	450	57	21.1	399	60	17.5	362	1.0	1.3	1.7
250	Open	52	26.5	493	57	21.0	437	60	17.3	396	1.0	1.4	1.8
350	Open	54	25.7	607	59	20.1	534	62	16.4	481	1.1	1.6	2.0
500	Open	55	25.4	736	60	19.7	646	63	16.0	581	1.2	1.7	2.1
750	Open	56	24.8	918	61	19.0	802	63	15.5	721	1.3	1.8	2.3
1000	Open	57	24.3	1073	61	18.6	934	64	15.0	838	1.4	1.9	2.5
1250	Open	57	23.2	1203	61	17.8	1046	64	14.4	938	1.4	2.0	2.6
1500	Open	58	22.8	1324	62	17.3	1148	65	14.0	1028	1.5	2.1	2.7
1750	Open	58	22.3	1433	63	16.9	1240	65	13.5	1106	1.6	2.2	2.9
2000	Open	59	22.2	1526	63	16.6	1319	65	13.3	1176	1.6	2.3	3.0
2250	Open	59	21.8	1614	63	16.3	1392	66	13.0	1239	1.7	2.4	3.1
		75°C - Copper Conductor - Hollow Core Segmental Strand											
2000	Open	59	22.2	1549	63	16.6	1339	65	13.3	1193	1.6	2.3	3.0
2250	Open	59	21.8	1642	63	16.3	1416	66	13.0	1260	1.7	2.4	3.1
2500	Open	59	21.5	1730	63	16.2	1490	66	12.9	1325	1.7	2.4	3.2
2750	Open	60	21.3	1814	64	15.9	1560	66	12.7	1386	1.8	2.5	3.3
3000	Open	60	20.8	1876	64	15.4	1612	66	12.3	1432	1.8	2.6	3.3

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69 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							
						75°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	403	57	21.6	350	61	16.4	314	64	13.2	1.0	1.3	1.7
250	Open	441	57	21.3	383	61	16.3	342	64	13.1	1.0	1.4	1.8
350	Open	538	59	20.3	464	63	15.3	413	65	12.3	1.1	1.6	2.0
500	Open	651	59	19.9	559	64	14.9	497	66	11.9	1.2	1.7	2.1
750	Open	808	60	19.3	692	64	14.3	613	67	11.3	1.3	1.8	2.3
1000	Open	941	61	18.8	803	65	13.9	711	67	11.0	1.4	1.9	2.5
1250	Open	1052	61	17.9	897	65	13.2	793	67	10.4	1.4	2.0	2.6
1500	Open	1156	62	17.6	982	66	12.9	867	68	10.1	1.5	2.1	2.7
1750	Open	1246	62	17.0	1058	66	12.4	932	68	9.7	1.6	2.2	2.9
2000	Open	1325	63	16.9	1123	66	12.3	989	68	9.6	1.6	2.3	3.0
2250	Open	1397	63	16.5	1182	67	11.9	1040	68	9.4	1.7	2.4	3.1
						75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1345	63	16.9	1140	66	12.3	1004	68	9.6	1.6	2.3	3.0
2250	Open	1422	63	16.5	1202	67	11.9	1058	68	9.4	1.7	2.4	3.1
2500	Open	1495	63	16.2	1264	67	11.8	1111	69	9.3	1.7	2.4	3.2
2750	Open	1566	64	16.0	1321	67	11.5	1160	69	9.1	1.8	2.5	3.3
3000	Open	1618	64	15.6	1365	67	11.3	1198	69	8.8	1.8	2.6	3.3

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69 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	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
						75% LF							
						65°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	408	47	21.3	362	51	16.9	328	53	14.1	1.0	1.3	1.7
250	Open	447	47	21.3	396	51	16.7	358	53	13.8	1.0	1.4	1.8
350	Open	550	49	20.7	483	52	16.0	436	55	13.2	1.1	1.6	2.0
500	Open	667	49	20.3	584	53	15.6	526	55	12.8	1.2	1.7	2.1
750	Open	831	50	19.8	725	54	15.2	651	56	12.3	1.3	1.8	2.3
1000	Open	972	51	19.4	845	54	14.8	756	56	12.0	1.4	1.9	2.5
1250	Open	1089	51	18.5	946	54	14.1	845	56	11.4	1.4	2.0	2.6
1500	Open	1197	51	18.3	1037	55	13.9	926	57	11.2	1.5	2.1	2.7
1750	Open	1295	52	17.8	1119	55	13.5	997	57	10.8	1.6	2.2	2.9
2000	Open	1379	52	17.7	1189	55	13.3	1058	57	10.7	1.6	2.3	3.0
2250	Open	1457	52	17.4	1254	56	13.0	1114	58	10.4	1.7	2.4	3.1
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1400	52	17.7	1208	55	13.3	1075	57	10.7	1.6	2.3	3.0
2250	Open	1485	52	17.5	1277	56	13.0	1135	58	10.4	1.7	2.4	3.1
2500	Open	1562	53	17.2	1343	56	12.9	1192	58	10.3	1.7	2.4	3.2
2750	Open	1638	53	17.1	1406	56	12.7	1247	58	10.1	1.8	2.5	3.3
3000	Open	1692	53	16.6	1452	56	12.3	1287	58	9.9	1.8	2.6	3.3

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69 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 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
						100% LF							
						65°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	366	50	17.3	318	54	13.2	284	56	10.7	1.0	1.3	1.7
250	Open	400	51	17.1	347	54	12.9	310	56	10.4	1.0	1.4	1.8
350	Open	488	52	16.4	420	55	12.3	374	57	9.9	1.1	1.6	2.0
500	Open	590	53	16.0	506	56	11.9	449	58	9.6	1.2	1.7	2.1
750	Open	732	53	15.5	626	57	11.5	554	58	9.2	1.3	1.8	2.3
1000	Open	852	54	15.0	726	57	11.0	642	59	8.8	1.4	1.9	2.5
1250	Open	952	54	14.4	811	57	10.5	715	59	8.3	1.4	2.0	2.6
1500	Open	1044	55	14.0	887	57	10.2	781	59	8.1	1.5	2.1	2.7
1750	Open	1126	55	13.7	954	58	10.0	839	59	7.8	1.6	2.2	2.9
2000	Open	1196	55	13.5	1013	58	9.8	891	60	7.8	1.6	2.3	3.0
2250	Open	1261	56	13.2	1065	58	9.6	935	60	7.5	1.7	2.4	3.1
						65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1215	55	13.5	1029	58	9.8	905	60	7.8	1.6	2.3	3.0
2250	Open	1285	56	13.2	1085	58	9.6	952	60	7.5	1.7	2.4	3.1
2500	Open	1351	56	13.0	1139	58	9.4	999	60	7.4	1.7	2.4	3.2
2750	Open	1413	56	12.9	1190	59	9.2	1042	60	7.2	1.8	2.5	3.3
3000	Open	1459	56	12.4	1229	59	9.1	1076	60	7.1	1.8	2.6	3.3

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69 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 - Copper Conductor - Hollow Core Concentric Strand											
4/0	Open	328	39	13.4	290	41	10.5	263	43	8.7	1.0	1.3	1.7
250	Open	360	39	13.3	317	41	10.4	287	43	8.5	1.0	1.4	1.8
350	Open	442	40	12.9	387	42	10.1	348	44	8.2	1.1	1.6	2.0
500	Open	536	40	12.6	468	43	9.8	419	44	8.0	1.2	1.7	2.1
750	Open	668	41	12.3	580	43	9.5	518	44	7.7	1.3	1.8	2.3
1000	Open	779	41	12.1	675	43	9.1	601	45	7.4	1.4	1.9	2.5
1250	Open	872	41	11.5	754	44	8.7	670	45	7.1	1.4	2.0	2.6
1500	Open	958	42	11.3	825	44	8.6	732	45	6.9	1.5	2.1	2.7
1750	Open	1035	42	11.1	889	44	8.4	787	45	6.6	1.6	2.2	2.9
2000	Open	1100	42	11.1	943	44	8.3	834	45	6.6	1.6	2.3	3.0
2250	Open	1161	42	10.9	993	44	8.1	876	46	6.5	1.7	2.4	3.1
		50°C - Copper Conductor - Hollow Core Segmental Strand											
2000	Open	1119	42	11.1	960	44	8.3	849	45	6.6	1.6	2.3	3.0
2250	Open	1184	42	10.9	1013	44	8.1	894	46	6.5	1.7	2.4	3.1
2500	Open	1245	43	10.8	1064	45	8.0	938	46	6.3	1.7	2.4	3.2
2750	Open	1304	43	10.6	1112	45	7.9	979	46	6.2	1.8	2.5	3.3
3000	Open	1346	43	10.3	1147	45	7.7	1009	46	6.0	1.8	2.6	3.3

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69 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 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							
						50°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	294	41	10.9	255	43	8.3	227	45	6.6	1.0	1.3	1.7
250	Open	322	41	10.6	278	43	8.1	248	45	6.7	1.0	1.4	1.8
350	Open	393	42	10.2	337	44	7.6	298	45	6.1	1.1	1.6	2.0
500	Open	474	42	10.0	405	44	7.5	358	46	6.0	1.2	1.7	2.1
750	Open	588	43	9.7	500	45	7.2	441	46	5.7	1.3	1.8	2.3
1000	Open	683	43	9.5	580	45	6.9	510	46	5.5	1.4	1.9	2.5
1250	Open	763	43	9.0	647	45	6.7	568	46	5.2	1.4	2.0	2.6
1500	Open	836	44	8.8	706	45	6.4	619	47	5.1	1.5	2.1	2.7
1750	Open	900	44	8.5	758	46	6.2	663	47	4.9	1.6	2.2	2.9
2000	Open	955	44	8.4	803	46	6.2	702	47	4.9	1.6	2.3	3.0
2250	Open	1005	44	8.2	843	46	6.0	735	47	4.7	1.7	2.4	3.1
						50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	971	44	8.5	817	46	6.2	714	47	4.9	1.6	2.3	3.0
2250	Open	1025	44	8.2	861	46	6.0	750	47	4.7	1.7	2.4	3.1
2500	Open	1077	44	8.2	902	46	5.9	786	47	4.7	1.7	2.4	3.2
2750	Open	1126	45	8.0	941	46	5.8	819	47	4.6	1.8	2.5	3.3
3000	Open	1161	45	7.8	971	46	5.7	844	47	4.4	1.8	2.6	3.3

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	90.3	72.6	71.3	55.5	59.3	44.7
250	Open	91.7	73.7	72.5	56.1	59.9	45.1
350	Open	99.4	78.6	77.5	59.1	63.5	47.2
500	Open	102.8	80.8	79.7	60.3	65.1	48.1
750	Open	107.1	83.4	82.3	61.8	66.8	49.1
1000	Open	110.7	85.6	84.6	63.1	68.5	50.0
1250	Open	112.6	86.7	85.8	63.9	69.3	50.5
1500	Open	115.4	88.4	87.7	64.8	70.7	51.2
1750	Open	118.5	90.5	89.6	65.9	72.0	51.9
2000	Open	120.2	91.3	90.6	66.4	72.7	52.3
2250	Open	122.7	92.7	92.2	67.3	73.9	52.8
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	120.0	91.1	90.5	66.4	72.7	52.3
2250	Open	122.8	92.7	92.3	67.4	73.9	52.9
2500	Open	124.2	93.5	93.0	67.8	74.4	53.2
2750	Open	126.1	94.7	94.4	68.5	75.3	53.7
3000	Open	126.7	95.1	94.6	68.8	75.6	53.8

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69 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					
75°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	75.3	60.7	59.5	46.1	49.2	37.4
250	Open	76.5	61.5	60.4	46.8	49.9	37.6
350	Open	83.0	65.6	64.7	49.2	52.8	39.4
500	Open	85.7	67.4	66.4	50.2	54.1	40.1
750	Open	89.3	69.6	68.6	51.6	55.8	40.9
1000	Open	92.2	71.4	70.4	52.6	57.1	41.7
1250	Open	93.8	72.3	71.5	53.2	58.0	42.1
1500	Open	96.2	73.9	72.9	54.0	59.0	42.7
1750	Open	98.6	75.2	74.5	55.0	59.8	43.2
2000	Open	100.0	76.1	75.4	55.4	60.5	43.6
2250	Open	102.2	77.3	76.7	56.1	61.4	44.1
75°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	99.9	76.0	75.4	55.4	60.4	43.6
2250	Open	102.1	77.3	76.7	56.0	61.3	44.1
2500	Open	103.4	78.0	77.5	56.6	61.9	44.4
2750	Open	105.1	79.1	78.5	57.2	62.6	44.8
3000	Open	105.5	79.3	78.7	57.3	62.8	44.9

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69 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					
65°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	60.2	48.7	47.7	37.1	39.4	29.9
250	Open	61.2	49.3	48.3	37.4	39.7	30.2
350	Open	66.3	52.6	51.5	39.4	42.3	31.6
500	Open	68.5	54.0	52.9	40.2	43.3	32.0
750	Open	71.2	55.7	54.7	41.3	44.5	32.8
1000	Open	73.7	57.1	56.2	42.1	45.4	33.4
1250	Open	75.0	57.8	57.1	42.6	46.1	33.6
1500	Open	76.8	59.0	58.3	43.3	47.0	34.1
1750	Open	78.8	60.2	59.5	44.0	47.8	34.6
2000	Open	79.9	60.8	60.1	44.4	48.2	35.0
2250	Open	81.6	61.8	61.2	44.9	48.9	35.3
65°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	79.8	60.8	60.1	44.4	48.2	34.9
2250	Open	81.7	61.9	61.2	45.0	48.9	35.3
2500	Open	82.6	62.5	61.8	45.3	49.3	35.5
2750	Open	83.9	63.2	62.6	45.7	49.9	35.8
3000	Open	84.2	63.4	62.8	45.9	50.0	35.9

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69 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					
50°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	37.5	30.4	29.6	23.2	24.6	18.7
250	Open	38.3	30.9	30.0	23.4	24.8	18.9
350	Open	41.4	33.1	32.1	24.8	26.3	19.7
500	Open	42.7	33.8	33.0	25.2	26.8	20.1
750	Open	44.5	35.0	34.1	25.8	27.6	20.6
1000	Open	45.9	35.8	35.0	26.4	28.2	20.9
1250	Open	46.7	36.3	35.5	26.8	28.5	21.2
1500	Open	47.9	37.1	36.2	27.1	29.0	21.4
1750	Open	49.1	37.8	36.9	27.6	29.5	21.7
2000	Open	49.8	38.2	37.3	27.8	29.8	21.9
2250	Open	50.8	38.8	37.9	28.2	30.2	22.1
50°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	49.7	38.1	37.3	27.8	29.8	21.9
2250	Open	50.8	38.8	37.9	28.2	30.2	22.1
2500	Open	51.4	39.2	38.3	28.4	30.4	22.3
2750	Open	52.2	39.7	38.8	28.7	30.8	22.5
3000	Open	52.4	39.8	38.9	28.8	30.8	22.5

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69 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%	Re @ 90 Rho & loss factor 100%
			85°C - Copper Conductor - Hollow Core Concentric Strand						
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	10.83	1.003	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	9.14	1.004	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	7.97	1.005	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	7.11	1.006	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.46	1.008	0.77	0.20	2.91	4.40
			85°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	6.90	1.007	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.25	1.009	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	5.69	1.010	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	5.23	1.018	0.72	0.19	2.87	4.38
3000	Open	3.291	0.53	4.89	1.021	0.70	0.21	2.85	4.36

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69 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 - Copper Conductor - Hollow Core Concentric Strand									
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	10.83	1.003	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	9.14	1.004	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	7.97	1.005	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	7.11	1.006	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.46	1.008	0.77	0.20	2.91	4.40
75°C - Copper Conductor - Hollow Core Segmental Strand									
2000	Open	2.893	0.45	6.90	1.007	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.25	1.009	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	5.69	1.010	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	5.23	1.018	0.72	0.19	2.87	4.38
3000	Open	3.291	0.53	4.89	1.021	0.70	0.21	2.85	4.36

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69 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 - Copper Conductor - Hollow Core Concentric Strand						
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	10.83	1.003	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	9.14	1.004	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	7.97	1.005	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	7.11	1.006	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.46	1.008	0.77	0.20	2.91	4.40
			65°C - Copper Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	6.90	1.007	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.25	1.009	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	5.69	1.010	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	5.23	1.018	0.72	0.19	2.87	4.38
3000	Open	3.291	0.53	4.89	1.021	0.70	0.21	2.85	4.36

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69 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%	Re @ 90 Rho & loss factor 100%
50°C - Copper Conductor - Hollow Core Concentric Strand									
4/0	Open	1.790	0.24	62.74	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	53.14	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	37.94	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	26.60	1.001	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	17.78	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	13.41	1.002	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	10.83	1.003	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	9.14	1.004	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	7.97	1.005	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	7.11	1.006	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.46	1.008	0.77	0.20	2.91	4.40
50°C - Copper Conductor - Hollow Core Segmental Strand									
2000	Open	2.893	0.45	6.90	1.007	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	6.25	1.009	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	5.69	1.010	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	5.23	1.018	0.72	0.19	2.87	4.38
3000	Open	3.291	0.53	4.89	1.021	0.70	0.21	2.85	4.36

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	341	352	230	270	1.2	1.1
250	Open	374	386	252	296	1.2	1.2
350	Open	463	480	312	367	1.4	1.3
500	Open	564	585	380	447	1.4	1.3
750	Open	706	734	476	561	1.5	1.4
1000	Open	855	883	567	662	1.4	1.3
1250	Open	968	1000	642	749	1.5	1.4
1500	Open	1072	1109	711	830	1.5	1.4
1750	Open	1168	1210	775	906	1.6	1.5
2000	Open	1250	1295	829	969	1.6	1.5
2250	Open	1325	1374	878	1028	1.6	1.5
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1265	1310	839	981	1.6	1.5
2250	Open	1349	1399	894	1047	1.6	1.5
2500	Open	1427	1480	946	1107	1.7	1.5
2750	Open	1505	1562	997	1168	1.7	1.6
3000	Open	1609	1661	1052	1220	1.6	1.5

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69 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 - Copper Conductor - Hollow Core Concentric Strand					
4/0	Open	22.6	24.0	10.7	14.4
250	Open	23.0	24.5	10.9	14.7
350	Open	25.3	27.1	11.9	16.2
500	Open	26.3	28.2	12.4	16.9
750	Open	27.6	29.7	13.1	17.8
1000	Open	30.5	32.4	14.0	18.7
1250	Open	31.5	33.6	14.5	19.4
1500	Open	32.6	34.8	15.0	20.1
1750	Open	33.8	36.1	15.6	20.8
2000	Open	34.4	36.8	15.9	21.2
2250	Open	35.5	38.0	16.4	21.9
85°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	34.4	36.8	15.9	21.2
2250	Open	35.5	38.0	16.4	21.9
2500	Open	36.1	38.7	16.7	22.3
2750	Open	36.9	39.6	17.1	22.8
3000	Open	39.4	41.9	17.7	23.3

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69 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 No Sun 2 fps
85°C - Copper Conductor - Hollow Core Concentric Strand												
4/0	Open	1.790	3.07	0.24	62.74	1.000	1.59	0.28	2.61	0.41	1.13	0.74
250	Open	1.833	3.07	0.24	53.14	1.000	1.54	0.27	2.55	0.41	1.12	0.74
350	Open	2.050	3.07	0.29	37.94	1.000	1.29	0.24	2.31	0.41	1.11	0.74
500	Open	2.148	3.07	0.31	26.58	1.000	1.20	0.23	2.21	0.41	1.11	0.74
750	Open	2.291	3.07	0.34	17.78	1.000	1.10	0.21	2.09	0.41	1.10	0.74
1000	Open	2.423	4.03	0.36	13.40	1.000	1.01	0.20	2.00	0.35	0.89	0.61
1250	Open	2.580	4.03	0.39	10.80	1.000	0.95	0.23	1.89	0.35	0.89	0.61
1500	Open	2.698	4.03	0.41	9.11	1.000	0.89	0.22	1.81	0.35	0.88	0.61
1750	Open	2.825	4.03	0.44	7.92	1.000	0.84	0.21	1.73	0.35	0.88	0.61
2000	Open	2.896	4.03	0.45	7.05	1.000	0.81	0.21	1.69	0.35	0.88	0.61
2250	Open	3.016	4.03	0.48	6.46	1.000	0.77	0.20	1.63	0.35	0.87	0.60
85°C - Copper Conductor - Hollow Core Segmental Strand												
2000	Open	2.893	4.03	0.45	6.88	1.000	0.81	0.21	1.70	0.35	0.88	0.61
2250	Open	3.016	4.03	0.48	6.23	1.000	0.77	0.20	1.63	0.35	0.87	0.60
2500	Open	3.085	4.03	0.49	5.66	1.000	0.75	0.19	1.60	0.35	0.87	0.60
2750	Open	3.180	4.03	0.51	5.20	1.000	0.72	0.19	1.55	0.35	0.87	0.60
3000	Open	3.291	5.05	0.53	4.86	1.000	0.70	0.21	1.51	0.31	0.73	0.51

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2170

69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	439	482	313	388	0.7	0.5
250	Open	483	530	344	426	0.7	0.5
350	Open	612	670	433	534	0.7	0.6
500	Open	752	822	531	653	0.7	0.6
750	Open	953	1042	671	823	0.7	0.6
1000	Open	1133	1237	795	974	0.8	0.6
1250	Open	1288	1403	900	1099	0.8	0.6
1500	Open	1437	1564	1002	1222	0.8	0.6
1750	Open	1579	1717	1098	1336	0.8	0.6
2000	Open	1697	1845	1179	1433	0.8	0.7
2250	Open	1812	1967	1256	1524	0.8	0.7
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1717	1866	1193	1450	0.8	0.7
2250	Open	1845	2003	1279	1552	0.8	0.7
2500	Open	1959	2127	1356	1645	0.8	0.7
2750	Open	2078	2255	1436	1740	0.8	0.7
3000	Open	2167	2347	1494	1806	0.8	0.7

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69 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 - Copper Conductor - Hollow Core Concentric Strand					
4/0	Open	12.3	14.8	6.4	9.7
250	Open	12.6	15.2	6.5	9.9
350	Open	14.5	17.3	7.4	11.1
500	Open	15.3	18.3	7.8	11.6
750	Open	16.5	19.6	8.3	12.4
1000	Open	17.6	20.9	8.8	13.1
1250	Open	18.3	21.7	9.1	13.4
1500	Open	19.2	22.7	9.6	14.0
1750	Open	20.2	23.8	10.0	14.6
2000	Open	20.8	24.5	10.3	14.9
2250	Open	21.7	25.5	10.7	15.5
85°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	20.7	24.4	10.2	14.9
2250	Open	21.7	25.5	10.7	15.5
2500	Open	22.2	26.1	10.9	15.8
2750	Open	23.0	27.0	11.2	16.3
3000	Open	23.4	27.3	11.4	16.4

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2172

69 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 No Sun 2 fps
85°C - Copper Conductor - Hollow Core Concentric Strand												
4/0	Open	1.790	9.99	0.24	62.74	1.000	1.59	0.28	0.00	0.00	1.80	1.19
250	Open	1.833	9.99	0.24	53.14	1.000	1.54	0.27	0.00	0.00	1.76	1.17
350	Open	2.050	9.99	0.29	37.94	1.000	1.29	0.24	0.00	0.00	1.59	1.08
500	Open	2.148	9.99	0.31	26.58	1.000	1.20	0.23	0.00	0.00	1.52	1.04
750	Open	2.291	9.99	0.34	17.78	1.000	1.10	0.21	0.00	0.00	1.43	0.99
1000	Open	2.423	9.99	0.36	13.40	1.000	1.01	0.20	0.00	0.00	1.36	0.95
1250	Open	2.580	9.99	0.39	10.80	1.000	0.95	0.23	0.00	0.00	1.29	0.91
1500	Open	2.698	9.99	0.41	9.11	1.000	0.89	0.22	0.00	0.00	1.24	0.88
1750	Open	2.825	9.99	0.44	7.92	1.000	0.84	0.21	0.00	0.00	1.18	0.85
2000	Open	2.896	9.99	0.45	7.05	1.000	0.81	0.21	0.00	0.00	1.16	0.83
2250	Open	3.016	9.99	0.48	6.46	1.000	0.77	0.20	0.00	0.00	1.12	0.80
85°C - Copper Conductor - Hollow Core Segmental Strand												
2000	Open	2.893	9.99	0.45	6.88	1.000	0.81	0.21	0.00	0.00	1.16	0.83
2250	Open	3.016	9.99	0.48	6.23	1.000	0.77	0.20	0.00	0.00	1.12	0.80
2500	Open	3.085	9.99	0.49	5.66	1.000	0.75	0.19	0.00	0.00	1.09	0.79
2750	Open	3.180	9.99	0.51	5.20	1.000	0.72	0.19	0.00	0.00	1.06	0.77
3000	Open	3.291	9.99	0.53	4.86	1.000	0.70	0.21	0.00	0.00	1.03	0.75

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69 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 - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	354	369	273	310	1.1	1.0
250	Open	389	405	300	341	1.1	1.0
350	Open	482	505	372	424	1.2	1.1
500	Open	588	616	453	517	1.3	1.2
750	Open	737	773	568	649	1.3	1.2
1000	Open	900	937	693	777	1.3	1.2
1250	Open	1018	1060	784	880	1.3	1.2
1500	Open	1128	1176	869	975	1.4	1.3
1750	Open	1229	1283	947	1064	1.4	1.3
2000	Open	1316	1373	1014	1139	1.4	1.3
2250	Open	1394	1457	1074	1208	1.5	1.3
85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	1331	1389	1025	1152	1.4	1.3
2250	Open	1420	1484	1094	1230	1.5	1.3
2500	Open	1501	1570	1157	1302	1.5	1.4
2750	Open	1583	1656	1220	1373	1.5	1.4
3000	Open	1704	1768	1311	1451	1.4	1.3

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69 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 - Copper Conductor - Hollow Core Concentric Strand					
4/0	Open	8.1	8.8	4.9	6.3
250	Open	8.3	9.0	5.0	6.4
350	Open	9.1	10.0	5.5	7.1
500	Open	9.5	10.4	5.8	7.4
750	Open	10.0	11.0	6.1	7.8
1000	Open	11.2	12.1	6.8	8.5
1250	Open	11.6	12.5	7.0	8.8
1500	Open	12.0	13.0	7.3	9.1
1750	Open	12.4	13.5	7.5	9.4
2000	Open	12.7	13.7	7.7	9.6
2250	Open	13.0	14.2	7.9	9.9
85°C - Copper Conductor - Hollow Core Segmental Strand					
2000	Open	12.6	13.7	7.7	9.6
2250	Open	13.0	14.2	7.9	9.9
2500	Open	13.3	14.5	8.1	10.1
2750	Open	13.5	14.8	8.3	10.3
3000	Open	14.7	15.7	8.9	10.8

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69 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 No Sun 2 fps
					85°C - Copper Conductor - Hollow Core Concentric Strand							
4/0	Open	1.790	3.07	0.24	62.74	1.000	1.59	0.28	2.13	0.41	1.17	0.74
250	Open	1.833	3.07	0.24	53.14	1.000	1.54	0.27	2.08	0.41	1.16	0.74
350	Open	2.050	3.07	0.29	37.94	1.000	1.29	0.24	1.86	0.41	1.15	0.73
500	Open	2.148	3.07	0.31	26.58	1.000	1.20	0.23	1.78	0.41	1.15	0.73
750	Open	2.291	3.07	0.34	17.78	1.000	1.10	0.21	1.67	0.41	1.14	0.73
1000	Open	2.423	4.03	0.36	13.40	1.000	1.01	0.20	1.56	0.35	0.90	0.61
1250	Open	2.580	4.03	0.39	10.80	1.000	0.95	0.23	1.47	0.35	0.90	0.60
1500	Open	2.698	4.03	0.41	9.11	1.000	0.89	0.22	1.41	0.35	0.89	0.60
1750	Open	2.825	4.03	0.44	7.92	1.000	0.84	0.21	1.35	0.35	0.89	0.60
2000	Open	2.896	4.03	0.45	7.05	1.000	0.81	0.21	1.32	0.35	0.89	0.60
2250	Open	3.016	4.03	0.48	6.46	1.000	0.77	0.20	1.26	0.35	0.89	0.60
					85°C - Copper Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	4.03	0.45	6.88	1.000	0.81	0.21	1.32	0.35	0.89	0.60
2250	Open	3.016	4.03	0.48	6.23	1.000	0.77	0.20	1.26	0.35	0.89	0.60
2500	Open	3.085	4.03	0.49	5.66	1.000	0.75	0.19	1.24	0.35	0.88	0.60
2750	Open	3.180	4.03	0.51	5.20	1.000	0.72	0.19	1.20	0.35	0.88	0.60
3000	Open	3.291	5.05	0.53	4.86	1.000	0.70	0.21	1.15	0.31	0.72	0.51

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2176

69 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	90	120
		85°C - Aluminum Conductor - Hollow Core Concentric Strand								
4/0	Open	313	295	297	273	282	256	1.4	1.6	1.8
250	Open	343	323	325	299	309	280	1.4	1.6	1.9
350	Open	425	397	400	366	379	340	1.5	1.8	2.1
500	Open	517	482	485	442	459	411	1.6	1.9	2.2
750	Open	647	602	606	550	572	510	1.7	2.0	2.4
1000	Open	761	706	711	643	669	594	1.8	2.1	2.5
1250	Open	862	797	803	725	754	668	1.8	2.3	2.7
1500	Open	956	882	888	800	833	736	1.9	2.3	2.8
1750	Open	1044	961	968	869	905	798	2.0	2.5	2.9
2000	Open	1120	1030	1037	930	969	853	2.0	2.5	3.0
2250	Open	1193	1094	1102	986	1028	903	2.1	2.6	3.1
		85°C - Aluminum Conductor - Hollow Core Segmental Strand								
2000	Open	1129	1038	1045	937	977	860	2.0	2.5	3.0
2250	Open	1205	1105	1113	996	1039	912	2.1	2.6	3.1
2500	Open	1277	1170	1178	1053	1098	963	2.1	2.7	3.2
2750	Open	1349	1234	1243	1108	1157	1013	2.2	2.7	3.3
3000	Open	1407	1285	1295	1154	1204	1053	2.3	2.8	3.4

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69 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							
4/0	Open	31.1	27.7	28.1	23.8	25.4	21.0
250	Open	31.6	28.1	28.5	24.2	25.8	21.3
350	Open	34.8	30.4	30.9	26.0	27.8	22.6
500	Open	36.0	31.4	31.8	26.6	28.6	23.1
750	Open	37.8	32.8	33.2	27.6	29.7	23.8
1000	Open	39.3	34.0	34.4	28.4	30.6	24.4
1250	Open	40.5	34.8	35.3	29.0	31.3	24.8
1500	Open	41.8	35.8	36.2	29.6	32.0	25.3
1750	Open	43.1	36.7	37.2	30.2	32.7	25.7
2000	Open	43.7	37.2	37.7	30.6	33.1	25.9
2250	Open	44.9	38.0	38.5	31.1	33.7	26.3
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	43.7	37.2	37.7	30.5	33.1	25.9
2250	Open	44.9	38.0	38.5	31.1	33.8	26.3
2500	Open	45.5	38.5	39.0	31.4	34.1	26.5
2750	Open	46.5	39.1	39.7	31.9	34.6	26.9
3000	Open	47.0	39.5	40.0	32.1	34.8	27.0

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69 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%	Re @ 90 Rho & loss factor 100%
					85°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	1.790	5.06	0.24	103.44	1.000	1.59	0.28	2.21	0.24	2.11	3.30
250	Open	1.833	5.06	0.24	87.53	1.000	1.54	0.27	2.16	0.24	2.11	3.30
350	Open	2.050	5.06	0.29	62.55	1.000	1.29	0.24	1.94	0.24	2.11	3.30
500	Open	2.148	5.06	0.31	43.77	1.000	1.20	0.23	1.85	0.24	2.11	3.30
750	Open	2.291	5.06	0.34	29.22	1.000	1.10	0.21	1.74	0.24	2.11	3.30
1000	Open	2.423	5.06	0.36	21.96	1.001	1.01	0.20	1.65	0.24	2.11	3.30
1250	Open	2.580	5.06	0.39	17.62	1.001	0.95	0.23	1.55	0.24	2.11	3.30
1500	Open	2.698	5.06	0.41	14.76	1.002	0.89	0.22	1.48	0.24	2.11	3.30
1750	Open	2.825	5.06	0.44	12.73	1.002	0.84	0.21	1.42	0.24	2.11	3.30
2000	Open	2.896	5.06	0.45	11.22	1.003	0.81	0.21	1.39	0.24	2.11	3.30
2250	Open	3.016	5.06	0.48	10.14	1.004	0.77	0.20	1.33	0.24	2.11	3.30
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	5.06	0.45	11.05	1.003	0.81	0.21	1.39	0.24	2.11	3.30
2250	Open	3.016	5.06	0.48	9.93	1.004	0.77	0.20	1.33	0.24	2.11	3.30
2500	Open	3.085	5.06	0.49	8.96	1.005	0.75	0.19	1.30	0.24	2.11	3.30
2750	Open	3.180	5.06	0.51	8.17	1.006	0.72	0.19	1.26	0.24	2.11	3.30
3000	Open	3.291	5.06	0.53	7.58	1.007	0.70	0.21	1.22	0.24	2.11	3.30

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69 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										
4/0	Open	285	259	260	230	240	209	1.8	2.3	2.8
250	Open	312	283	284	251	263	228	1.8	2.3	2.9
350	Open	383	345	346	303	318	273	2.1	2.7	3.3
500	Open	464	417	418	366	383	329	2.2	2.8	3.5
750	Open	578	518	519	452	474	405	2.3	3.0	3.8
1000	Open	676	604	606	525	551	470	2.5	3.2	4.0
1250	Open	763	679	681	589	618	526	2.6	3.4	4.3
1500	Open	843	747	751	647	680	577	2.7	3.6	4.5
1750	Open	917	811	814	700	736	623	2.8	3.8	4.7
2000	Open	982	867	871	748	785	665	2.9	3.9	4.9
2250	Open	1042	918	920	789	829	701	3.0	4.0	5.1
85°C - Aluminum Conductor - Hollow Core Segmental Strand										
2000	Open	990	874	877	754	791	670	2.9	3.9	4.9
2250	Open	1052	928	930	798	838	708	3.0	4.0	5.1
2500	Open	1113	980	982	841	884	746	3.1	4.1	5.2
2750	Open	1172	1030	1032	883	928	782	3.2	4.3	5.4
3000	Open	1221	1071	1073	917	964	812	3.3	4.4	5.5

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69 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							
4/0	Open	51.8	43.0	43.4	34.2	37.2	28.5
250	Open	52.6	43.5	43.8	34.5	37.8	28.8
350	Open	56.8	46.4	46.7	36.2	39.7	29.7
500	Open	58.4	47.5	47.7	37.0	40.4	30.3
750	Open	60.7	49.1	49.3	37.9	41.5	30.8
1000	Open	62.4	50.3	50.6	38.5	42.2	31.3
1250	Open	63.9	51.1	51.4	39.1	42.8	31.6
1500	Open	65.5	52.0	52.5	39.6	43.5	32.0
1750	Open	67.1	53.0	53.4	40.2	44.1	32.4
2000	Open	67.9	53.5	54.0	40.6	44.4	32.6
2250	Open	69.2	54.4	54.6	40.9	44.9	32.9
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	67.9	53.5	53.9	40.6	44.4	32.6
2250	Open	69.2	54.5	54.7	41.0	44.9	32.9
2500	Open	70.0	54.9	55.1	41.2	45.2	33.1
2750	Open	70.9	55.5	55.7	41.6	45.6	33.3
3000	Open	71.6	55.8	56.0	41.7	45.8	33.4

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69 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							
4/0	Open	1.790	5.06	0.24	103.44	1.000	1.59	0.28	2.14	0.24	4.00	6.34
250	Open	1.833	5.06	0.24	87.53	1.000	1.54	0.27	2.09	0.24	4.00	6.34
350	Open	2.050	5.06	0.29	62.55	1.000	1.29	0.24	1.88	0.24	4.00	6.34
500	Open	2.148	5.06	0.31	43.77	1.000	1.20	0.23	1.80	0.24	4.00	6.34
750	Open	2.291	5.06	0.34	29.22	1.001	1.10	0.21	1.69	0.24	4.00	6.34
1000	Open	2.423	5.06	0.36	21.96	1.001	1.01	0.20	1.60	0.24	4.00	6.34
1250	Open	2.580	5.06	0.39	17.62	1.001	0.95	0.23	1.50	0.24	4.00	6.34
1500	Open	2.698	5.06	0.41	14.76	1.002	0.89	0.22	1.44	0.24	4.00	6.34
1750	Open	2.825	5.06	0.44	12.73	1.003	0.84	0.21	1.38	0.24	4.00	6.34
2000	Open	2.896	5.06	0.45	11.22	1.003	0.81	0.21	1.34	0.24	4.00	6.34
2250	Open	3.016	5.06	0.48	10.14	1.004	0.77	0.20	1.29	0.24	4.00	6.34
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	5.06	0.45	11.05	1.003	0.81	0.21	1.34	0.24	4.00	6.34
2250	Open	3.016	5.06	0.48	9.93	1.004	0.77	0.20	1.29	0.24	4.00	6.34
2500	Open	3.085	5.06	0.49	8.96	1.005	0.75	0.19	1.26	0.24	4.00	6.34
2750	Open	3.180	5.06	0.51	8.17	1.006	0.72	0.19	1.23	0.24	4.00	6.34
3000	Open	3.291	5.06	0.53	7.58	1.008	0.70	0.21	1.18	0.24	4.00	6.34

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69 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
						75% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	398	55	35.4	357	61	28.6	327	64	24.1	0.8	1.1	1.4
250	Open	436	55	35.2	391	61	28.3	357	65	23.8	0.9	1.2	1.5
350	Open	540	57	34.5	480	63	27.4	437	67	22.7	1.0	1.3	1.7
500	Open	656	58	34.1	582	64	27.0	529	68	22.4	1.0	1.4	1.8
750	Open	821	59	33.5	726	65	26.3	657	69	21.7	1.1	1.5	1.9
1000	Open	965	60	32.9	850	66	25.7	768	69	21.0	1.1	1.6	2.0
1250	Open	1087	60	31.5	956	66	24.6	863	70	20.1	1.2	1.7	2.1
1500	Open	1204	61	31.0	1057	67	24.1	953	70	19.7	1.3	1.8	2.2
1750	Open	1313	62	30.4	1150	67	23.5	1035	71	19.2	1.3	1.8	2.3
2000	Open	1409	62	30.2	1233	68	23.2	1108	71	18.9	1.4	1.9	2.4
2250	Open	1499	63	29.8	1308	68	22.8	1175	71	18.5	1.4	2.0	2.5
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1420	62	30.2	1242	68	23.2	1117	71	18.9	1.4	1.9	2.4
2250	Open	1514	63	29.8	1322	68	22.8	1187	71	18.5	1.4	2.0	2.5
2500	Open	1604	63	29.5	1398	69	22.5	1254	72	18.3	1.4	2.0	2.6
2750	Open	1693	64	29.2	1474	69	22.2	1321	72	18.0	1.5	2.1	2.7
3000	Open	1760	64	28.3	1532	69	21.6	1373	72	17.5	1.5	2.1	2.7

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69 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 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
						100% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	362	60	29.4	318	66	22.8	287	69	18.8	0.8	1.1	1.4
250	Open	396	60	29.2	348	66	22.5	313	70	18.3	0.9	1.2	1.5
350	Open	486	62	28.1	424	68	21.4	380	71	17.3	1.0	1.3	1.7
500	Open	589	63	27.6	512	69	21.0	458	72	16.9	1.0	1.4	1.8
750	Open	734	64	26.8	636	70	20.3	568	73	16.3	1.1	1.5	1.9
1000	Open	859	65	26.2	741	70	19.7	661	73	15.8	1.1	1.6	2.0
1250	Open	966	66	25.0	832	71	18.7	741	74	15.0	1.2	1.7	2.1
1500	Open	1066	66	24.5	917	71	18.3	815	74	14.6	1.3	1.8	2.2
1750	Open	1160	67	23.9	995	72	17.7	884	75	14.1	1.3	1.8	2.3
2000	Open	1242	67	23.6	1065	72	17.5	944	75	13.8	1.4	1.9	2.4
2250	Open	1318	68	23.2	1127	73	17.1	998	75	13.6	1.4	2.0	2.5
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1252	67	23.6	1073	72	17.6	952	75	13.9	1.4	1.9	2.4
2250	Open	1331	68	23.2	1138	73	17.1	1009	75	13.6	1.4	2.0	2.5
2500	Open	1408	68	22.9	1202	73	16.8	1065	75	13.4	1.4	2.0	2.6
2750	Open	1483	69	22.6	1265	73	16.6	1119	76	13.1	1.5	2.1	2.7
3000	Open	1540	69	21.9	1314	73	16.1	1162	76	12.8	1.5	2.1	2.7

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69 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	Flux	---- 90 Rho--- Interface Temp	Flux	----120 Rho--- Interface Temp	Flux	delta Td for .0033 pf & Rho 60	90	120
		Amps	°C w/ft²	Amps	°C w/ft²	Amps	°C w/ft²			
					75% LF					
					75°C - Aluminum Conductor - Hollow Core Concentric Strand					
4/0	Open	368	50 29.4	331	55 23.9	302	58 20.1	0.8	1.1	1.4
250	Open	404	50 29.4	362	55 23.5	331	58 19.8	0.9	1.2	1.5
350	Open	500	52 28.7	444	57 22.7	404	60 19.0	1.0	1.3	1.7
500	Open	608	53 28.5	539	57 22.4	489	61 18.5	1.0	1.4	1.8
750	Open	761	54 27.8	672	58 21.8	608	61 18.0	1.1	1.5	1.9
1000	Open	893	54 27.4	786	59 21.3	710	62 17.5	1.1	1.6	2.0
1250	Open	1006	55 26.2	885	59 20.4	798	62 16.7	1.2	1.7	2.1
1500	Open	1114	55 25.8	977	60 20.0	880	63 16.3	1.3	1.8	2.2
1750	Open	1215	56 25.4	1063	60 19.6	956	63 16.0	1.3	1.8	2.3
2000	Open	1303	56 25.2	1139	61 19.4	1023	63 15.7	1.4	1.9	2.4
2250	Open	1386	57 24.8	1208	61 19.0	1084	64 15.5	1.4	2.0	2.5
					75°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	1314	56 25.2	1148	61 19.4	1031	63 15.7	1.4	1.9	2.4
2250	Open	1401	57 24.8	1221	61 19.0	1096	64 15.5	1.4	2.0	2.5
2500	Open	1483	57 24.6	1292	61 18.8	1158	64 15.2	1.4	2.0	2.6
2750	Open	1566	57 24.3	1361	62 18.5	1219	64 15.0	1.5	2.1	2.7
3000	Open	1627	57 23.7	1414	62 18.0	1266	64 14.5	1.5	2.1	2.7

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69 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 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							
4/0	Open	335	54	24.5	295	59	19.0	266	62	15.6	0.8	1.1	1.4
250	Open	367	54	24.4	322	59	18.8	290	62	15.4	0.9	1.2	1.5
350	Open	450	56	23.5	392	61	17.9	352	64	14.5	1.0	1.3	1.7
500	Open	546	57	22.9	474	61	17.4	424	64	14.0	1.0	1.4	1.8
750	Open	680	58	22.3	588	62	16.8	525	65	13.5	1.1	1.5	1.9
1000	Open	796	59	21.9	686	63	16.4	611	65	13.1	1.1	1.6	2.0
1250	Open	894	59	20.9	770	63	15.5	685	66	12.4	1.2	1.7	2.1
1500	Open	987	60	20.4	848	64	15.1	753	66	12.2	1.3	1.8	2.2
1750	Open	1073	60	19.9	920	64	14.7	816	66	11.8	1.3	1.8	2.3
2000	Open	1149	60	19.7	984	64	14.6	872	67	11.6	1.4	1.9	2.4
2250	Open	1218	61	19.3	1041	65	14.2	921	67	11.3	1.4	2.0	2.5
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1158	60	19.7	992	64	14.7	879	67	11.6	1.4	1.9	2.4
2250	Open	1231	61	19.3	1052	65	14.2	931	67	11.3	1.4	2.0	2.5
2500	Open	1302	61	19.1	1111	65	14.1	983	67	11.1	1.4	2.0	2.6
2750	Open	1371	62	18.7	1168	65	13.8	1032	67	10.9	1.5	2.1	2.7
3000	Open	1424	62	18.2	1213	65	13.5	1072	67	10.6	1.5	2.1	2.7

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69 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 Flux °C w/ft²		90 Rho Interface Temp Amps	90 Rho Interface Flux °C w/ft²		120 Rho Interface Temp Amps	120 Rho Interface Flux °C w/ft²		delta Td for .0033 pf & Rho 60	90	120
						75% LF							
						65°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	334	45	23.7	300	49	19.0	274	52	16.0	0.8	1.1	1.4
250	Open	367	45	23.5	328	49	19.0	300	52	15.8	0.9	1.2	1.5
350	Open	453	47	22.9	403	51	18.3	366	53	15.1	1.0	1.3	1.7
500	Open	551	47	22.8	488	51	18.0	443	54	14.8	1.0	1.4	1.8
750	Open	690	48	22.3	609	52	17.5	550	54	14.3	1.1	1.5	1.9
1000	Open	810	49	21.9	712	52	17.0	642	55	14.0	1.1	1.6	2.0
1250	Open	912	49	21.0	801	53	16.3	721	55	13.3	1.2	1.7	2.1
1500	Open	1009	49	20.7	884	53	16.0	795	55	13.0	1.3	1.8	2.2
1750	Open	1100	50	20.3	962	53	15.7	863	56	12.7	1.3	1.8	2.3
2000	Open	1180	50	20.2	1030	54	15.4	924	56	12.5	1.4	1.9	2.4
2250	Open	1254	50	19.8	1092	54	15.2	978	56	12.3	1.4	2.0	2.5
						65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1190	50	20.1	1039	54	15.4	932	56	12.5	1.4	1.9	2.4
2250	Open	1269	51	19.8	1105	54	15.2	989	56	12.3	1.4	2.0	2.5
2500	Open	1343	51	19.7	1168	54	15.0	1045	56	12.1	1.4	2.0	2.6
2750	Open	1417	51	19.5	1230	55	14.8	1099	57	11.9	1.5	2.1	2.7
3000	Open	1472	51	18.9	1278	55	14.4	1142	57	11.6	1.5	2.1	2.7

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69 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
						100% LF							
						65°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	304	48	19.6	267	52	15.2	241	55	12.4	0.8	1.1	1.4
250	Open	333	49	19.4	292	52	15.0	263	55	12.3	0.9	1.2	1.5
350	Open	409	50	18.8	356	54	14.3	318	56	11.6	1.0	1.3	1.7
500	Open	495	51	18.5	430	54	14.0	384	56	11.4	1.0	1.4	1.8
750	Open	617	51	18.0	533	55	13.5	475	57	10.8	1.1	1.5	1.9
1000	Open	721	52	17.5	621	55	13.1	553	57	10.6	1.1	1.6	2.0
1250	Open	810	52	16.7	697	56	12.4	619	58	9.9	1.2	1.7	2.1
1500	Open	894	53	16.3	767	56	12.2	681	58	9.8	1.3	1.8	2.2
1750	Open	972	53	16.0	832	56	11.9	737	58	9.5	1.3	1.8	2.3
2000	Open	1040	53	15.8	889	57	11.7	787	58	9.2	1.4	1.9	2.4
2250	Open	1103	54	15.5	941	57	11.4	831	59	9.0	1.4	2.0	2.5
						65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1050	53	15.8	897	57	11.8	794	58	9.2	1.4	1.9	2.4
2250	Open	1116	54	15.5	952	57	11.4	841	59	9.0	1.4	2.0	2.5
2500	Open	1179	54	15.2	1005	57	11.3	887	59	8.9	1.4	2.0	2.6
2750	Open	1242	54	15.0	1056	57	11.1	932	59	8.8	1.5	2.1	2.7
3000	Open	1289	54	14.6	1096	57	10.8	967	59	8.5	1.5	2.1	2.7

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69 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 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							
						50°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	270	38	14.7	241	40	11.9	220	42	10.0	0.8	1.1	1.4
250	Open	296	38	14.6	264	40	11.9	240	42	9.8	0.9	1.2	1.5
350	Open	365	39	14.3	324	41	11.4	293	43	9.5	1.0	1.3	1.7
500	Open	444	39	14.2	392	42	11.2	354	43	9.2	1.0	1.4	1.8
750	Open	555	40	14.0	488	42	10.8	440	43	9.0	1.1	1.5	1.9
1000	Open	652	40	13.7	571	42	10.6	513	44	8.7	1.1	1.6	2.0
1250	Open	733	40	13.0	641	42	10.2	575	44	8.3	1.2	1.7	2.1
1500	Open	811	40	12.9	707	43	9.9	633	44	8.1	1.3	1.8	2.2
1750	Open	883	41	12.7	768	43	9.7	687	44	7.8	1.3	1.8	2.3
2000	Open	946	41	12.5	822	43	9.6	734	45	7.8	1.4	1.9	2.4
2250	Open	1005	41	12.4	871	43	9.4	776	45	7.6	1.4	2.0	2.5
						50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	955	41	12.5	830	43	9.6	741	45	7.8	1.4	1.9	2.4
2250	Open	1017	41	12.4	882	43	9.4	786	45	7.6	1.4	2.0	2.5
2500	Open	1077	41	12.3	932	44	9.3	829	45	7.6	1.4	2.0	2.6
2750	Open	1135	42	12.1	981	44	9.2	872	45	7.4	1.5	2.1	2.7
3000	Open	1179	42	11.8	1018	44	8.9	905	45	7.2	1.5	2.1	2.7

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69 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													
4/0	Open	245	40	12.4	215	42	9.6	193	44	7.9	0.8	1.1	1.4
250	Open	268	40	12.1	235	42	9.4	211	44	7.7	0.9	1.2	1.5
350	Open	329	41	11.7	286	43	8.9	255	45	7.3	1.0	1.3	1.7
500	Open	399	41	11.6	345	43	8.7	307	45	7.1	1.0	1.4	1.8
750	Open	496	42	11.2	427	44	8.5	380	45	6.8	1.1	1.5	1.9
1000	Open	580	42	11.0	498	44	8.2	441	45	6.6	1.1	1.6	2.0
1250	Open	651	42	10.5	558	44	7.8	494	46	6.2	1.2	1.7	2.1
1500	Open	718	42	10.2	614	45	7.6	542	46	6.1	1.3	1.8	2.2
1750	Open	780	43	10.0	665	45	7.4	586	46	5.9	1.3	1.8	2.3
2000	Open	834	43	9.9	710	45	7.4	625	46	5.8	1.4	1.9	2.4
2250	Open	883	43	9.6	750	45	7.1	659	46	5.7	1.4	2.0	2.5
50°C - Aluminum Conductor - Hollow Core Segmental Strand													
2000	Open	842	43	9.9	717	45	7.4	631	46	5.8	1.4	1.9	2.4
2250	Open	894	43	9.6	759	45	7.1	668	46	5.7	1.4	2.0	2.5
2500	Open	945	43	9.5	801	45	7.1	704	46	5.6	1.4	2.0	2.6
2750	Open	995	44	9.5	842	45	7.0	738	46	5.5	1.5	2.1	2.7
3000	Open	1032	44	9.2	873	45	6.7	766	46	5.3	1.5	2.1	2.7

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69 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							
4/0	Open	49.9	41.4	40.3	32.1	33.9	26.3
250	Open	50.6	41.9	40.9	32.5	34.2	26.5
350	Open	55.6	45.2	44.1	34.6	36.7	28.0
500	Open	57.4	46.5	45.4	35.4	37.7	28.5
750	Open	60.2	48.3	47.3	36.5	38.9	29.3
1000	Open	62.5	49.7	48.7	37.3	40.0	29.9
1250	Open	63.8	50.6	49.6	37.8	40.6	30.3
1500	Open	65.6	51.7	50.8	38.6	41.5	30.7
1750	Open	67.4	52.9	52.0	39.2	42.4	31.3
2000	Open	68.5	53.5	52.8	39.7	42.9	31.5
2250	Open	70.1	54.5	53.7	40.2	43.6	31.9
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	68.4	53.5	52.7	39.7	42.9	31.5
2250	Open	70.1	54.5	53.8	40.2	43.6	31.9
2500	Open	71.1	55.1	54.3	40.6	44.0	32.2
2750	Open	72.3	55.9	55.2	41.1	44.6	32.5
3000	Open	72.7	56.0	55.5	41.2	44.9	32.6

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69 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							
4/0	Open	41.4	34.4	33.6	26.8	28.1	21.9
250	Open	42.2	35.0	34.1	27.1	28.6	22.1
350	Open	46.3	37.6	36.7	28.8	30.5	23.4
500	Open	47.9	38.8	37.9	29.5	31.3	23.8
750	Open	50.2	40.3	39.4	30.4	32.4	24.4
1000	Open	52.0	41.6	40.5	31.1	33.3	24.9
1250	Open	53.1	42.2	41.3	31.6	33.8	25.2
1500	Open	54.6	43.1	42.3	32.1	34.5	25.6
1750	Open	56.1	44.1	43.3	32.7	35.3	26.0
2000	Open	57.0	44.6	43.9	33.1	35.7	26.3
2250	Open	58.4	45.4	44.7	33.6	36.3	26.6
75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	57.0	44.6	43.8	33.1	35.6	26.3
2250	Open	58.4	45.4	44.7	33.5	36.3	26.6
2500	Open	59.2	46.0	45.3	33.9	36.7	26.8
2750	Open	60.3	46.6	45.9	34.2	37.2	27.1
3000	Open	60.6	46.8	46.1	34.4	37.3	27.2

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69 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							
4/0	Open	33.1	27.6	26.9	21.4	22.5	17.6
250	Open	33.8	28.0	27.2	21.7	22.9	17.7
350	Open	36.9	30.2	29.4	23.1	24.4	18.6
500	Open	38.2	31.0	30.2	23.7	25.1	19.1
750	Open	40.1	32.3	31.5	24.4	25.9	19.6
1000	Open	41.6	33.2	32.4	24.9	26.6	20.0
1250	Open	42.5	33.7	33.0	25.3	27.0	20.2
1500	Open	43.6	34.5	33.8	25.7	27.5	20.5
1750	Open	44.8	35.3	34.6	26.2	28.1	20.9
2000	Open	45.6	35.7	35.0	26.4	28.5	21.0
2250	Open	46.7	36.4	35.8	26.9	29.0	21.3
65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	45.5	35.7	35.0	26.4	28.4	21.0
2250	Open	46.7	36.4	35.7	26.9	28.9	21.3
2500	Open	47.3	36.8	36.1	27.1	29.2	21.5
2750	Open	48.1	37.3	36.7	27.4	29.6	21.7
3000	Open	48.3	37.4	36.8	27.5	29.7	21.8

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69 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							
4/0	Open	20.8	17.2	16.7	13.4	14.0	11.0
250	Open	21.2	17.5	17.0	13.6	14.2	11.1
350	Open	23.1	18.9	18.4	14.5	15.2	11.7
500	Open	23.9	19.5	18.9	14.8	15.6	11.9
750	Open	25.0	20.2	19.6	15.2	16.1	12.3
1000	Open	26.0	20.8	20.2	15.6	16.5	12.5
1250	Open	26.5	21.2	20.5	15.9	16.8	12.7
1500	Open	27.3	21.6	21.0	16.1	17.1	12.9
1750	Open	28.0	22.1	21.5	16.4	17.5	13.1
2000	Open	28.4	22.4	21.8	16.6	17.6	13.2
2250	Open	29.1	22.8	22.2	16.8	17.9	13.3
50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	28.4	22.4	21.8	16.6	17.6	13.2
2250	Open	29.0	22.8	22.2	16.8	17.9	13.3
2500	Open	29.5	23.1	22.5	17.0	18.1	13.5
2750	Open	30.0	23.4	22.8	17.2	18.3	13.6
3000	Open	30.1	23.5	22.9	17.2	18.4	13.6

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69 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%	Re @ 90 Rho & loss factor 100%
			85°C - Aluminum Conductor - Hollow Core Concentric Strand						
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	14.76	1.003	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	12.73	1.004	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	11.22	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	10.14	1.007	0.77	0.20	2.36	3.51
			85°C - Aluminum Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	11.05	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	9.93	1.007	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	8.96	1.008	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	8.17	1.010	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	7.58	1.012	0.70	0.21	2.32	3.47

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69 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							
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	14.76	1.003	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	12.73	1.004	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	11.22	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	10.14	1.007	0.77	0.20	2.36	3.51
		75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	0.45	11.05	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	9.93	1.007	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	8.96	1.008	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	8.17	1.010	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	7.58	1.012	0.70	0.21	2.32	3.47

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69 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							
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	14.76	1.003	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	12.73	1.004	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	11.22	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	10.14	1.007	0.77	0.20	2.36	3.51
		65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	0.45	11.05	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	9.93	1.007	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	8.96	1.008	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	8.17	1.010	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	7.58	1.012	0.70	0.21	2.32	3.47

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69 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						
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	2.60	3.76
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	2.59	3.75
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	2.54	3.69
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	2.52	3.67
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	2.49	3.64
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	2.46	3.62
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.43	3.59
1500	Open	2.698	0.41	14.76	1.003	0.89	0.22	2.41	3.57
1750	Open	2.825	0.44	12.73	1.004	0.84	0.21	2.39	3.54
2000	Open	2.896	0.45	11.22	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	10.14	1.007	0.77	0.20	2.36	3.51
			50°C - Aluminum Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	11.05	1.005	0.81	0.21	2.38	3.53
2250	Open	3.016	0.48	9.93	1.007	0.77	0.20	2.36	3.51
2500	Open	3.085	0.49	8.96	1.008	0.75	0.19	2.35	3.50
2750	Open	3.180	0.51	8.17	1.010	0.72	0.19	2.33	3.49
3000	Open	3.291	0.53	7.58	1.012	0.70	0.21	2.32	3.47

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69 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						
							85°C - Aluminum Conductor - Hollow Core Concentric Strand						
4/0	Open	378	57	32.0	336	63	25.4	305	67	21.1	1.0	1.3	1.7
250	Open	414	58	31.9	368	64	25.2	334	67	20.8	1.0	1.4	1.8
350	Open	510	60	30.9	450	66	24.0	406	69	19.8	1.1	1.6	2.0
500	Open	620	61	30.4	544	67	23.7	490	70	19.2	1.2	1.7	2.1
750	Open	774	62	29.8	677	68	22.8	608	71	18.7	1.3	1.8	2.3
1000	Open	907	63	29.2	791	68	22.2	709	72	18.0	1.4	1.9	2.5
1250	Open	1020	63	27.8	888	69	21.2	796	72	17.2	1.4	2.0	2.6
1500	Open	1128	64	27.3	979	69	20.7	876	72	16.7	1.5	2.1	2.7
1750	Open	1229	65	26.8	1064	70	20.3	950	73	16.2	1.6	2.2	2.9
2000	Open	1317	65	26.5	1139	70	19.9	1017	73	16.1	1.6	2.3	3.0
2250	Open	1399	66	26.0	1208	71	19.5	1076	74	15.7	1.7	2.4	3.1
							85°C - Aluminum Conductor - Hollow Core Segmental Strand						
2000	Open	1327	65	26.5	1148	70	19.9	1025	73	16.1	1.6	2.3	3.0
2250	Open	1413	66	26.0	1220	71	19.5	1087	74	15.6	1.7	2.4	3.1
2500	Open	1495	66	25.8	1289	71	19.3	1148	74	15.5	1.7	2.4	3.2
2750	Open	1577	67	25.5	1357	71	19.0	1208	74	15.1	1.8	2.5	3.3
3000	Open	1639	67	24.7	1411	71	18.5	1255	74	14.7	1.8	2.6	3.4

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69 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
						100% LF							
						85°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	339	63	25.8	295	68	19.6	264	72	16.0	1.0	1.3	1.7
250	Open	371	63	25.6	322	69	19.4	289	72	15.6	1.0	1.4	1.8
350	Open	453	65	24.4	391	70	18.3	348	73	14.7	1.1	1.6	2.0
500	Open	548	66	24.0	471	71	17.8	419	74	14.2	1.2	1.7	2.1
750	Open	681	67	23.2	584	72	17.2	518	75	13.7	1.3	1.8	2.3
1000	Open	795	68	22.5	680	73	16.6	602	75	13.1	1.4	1.9	2.5
1250	Open	893	68	21.5	762	73	15.8	674	76	12.4	1.4	2.0	2.6
1500	Open	984	69	21.0	838	73	15.3	741	76	12.2	1.5	2.1	2.7
1750	Open	1068	70	20.4	908	74	14.9	801	76	11.8	1.6	2.2	2.9
2000	Open	1145	70	20.2	971	74	14.6	856	77	11.5	1.6	2.3	3.0
2250	Open	1211	71	19.6	1026	75	14.3	904	77	11.3	1.7	2.4	3.1
						85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1154	70	20.2	978	74	14.7	863	77	11.5	1.6	2.3	3.0
2250	Open	1224	71	19.6	1037	75	14.3	913	77	11.3	1.7	2.4	3.1
2500	Open	1293	71	19.4	1094	75	14.1	963	77	11.0	1.7	2.4	3.2
2750	Open	1360	71	19.1	1149	75	13.8	1016	78	10.9	1.8	2.5	3.3
3000	Open	1413	71	18.6	1193	75	13.5	1055	78	10.6	1.8	2.6	3.4

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69 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		°C	w/ft²		°C	w/ft²				
						75% LF							
					75°C - Aluminum Conductor - Hollow Core Concentric Strand								
4/0	Open	52	26.7	350	57	21.1	311	60	17.5	282	1.0	1.3	1.7
250	Open	52	26.5	384	57	21.0	340	60	17.3	309	1.0	1.4	1.8
350	Open	54	25.7	473	59	20.1	416	62	16.4	375	1.1	1.6	2.0
500	Open	55	25.4	574	60	19.7	503	63	16.0	453	1.2	1.7	2.1
750	Open	56	24.8	716	61	19.0	626	63	15.5	562	1.3	1.8	2.3
1000	Open	57	24.3	839	61	18.6	731	64	15.0	656	1.4	1.9	2.5
1250	Open	57	23.2	944	61	17.6	821	64	14.4	735	1.4	2.0	2.6
1500	Open	58	22.8	1043	62	17.3	905	65	13.9	810	1.5	2.1	2.7
1750	Open	58	22.3	1136	63	16.9	983	65	13.5	878	1.6	2.2	2.9
2000	Open	59	22.0	1217	63	16.6	1052	65	13.3	938	1.6	2.3	3.0
2250	Open	59	21.7	1292	63	16.2	1114	66	13.0	992	1.7	2.4	3.1
					75°C - Aluminum Conductor - Hollow Core Segmental Strand								
2000	Open	59	22.0	1227	63	16.6	1061	65	13.3	946	1.6	2.3	3.0
2250	Open	59	21.7	1307	63	16.2	1126	66	13.0	1003	1.7	2.4	3.1
2500	Open	59	21.4	1382	63	16.1	1190	66	12.9	1059	1.7	2.4	3.2
2750	Open	60	21.1	1458	64	15.9	1253	66	12.6	1113	1.8	2.5	3.3
3000	Open	60	20.7	1514	64	15.4	1302	66	12.3	1156	1.8	2.6	3.4

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69 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							
						75°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	314	57	21.6	273	61	16.4	245	64	13.2	1.0	1.3	1.7
250	Open	344	57	21.3	298	61	16.3	267	64	13.1	1.0	1.4	1.8
350	Open	419	59	20.3	362	63	15.3	322	65	12.3	1.1	1.6	2.0
500	Open	507	59	19.9	436	64	14.9	388	66	11.9	1.2	1.7	2.1
750	Open	630	60	19.3	540	64	14.3	479	67	11.3	1.3	1.8	2.3
1000	Open	736	61	18.8	628	65	13.9	556	67	11.0	1.4	1.9	2.5
1250	Open	826	61	17.9	704	65	13.2	623	67	10.4	1.4	2.0	2.6
1500	Open	910	62	17.4	774	65	12.7	684	68	10.1	1.5	2.1	2.7
1750	Open	988	62	17.0	839	66	12.4	739	68	9.7	1.6	2.2	2.9
2000	Open	1057	63	16.8	896	66	12.3	789	68	9.6	1.6	2.3	3.0
2250	Open	1119	63	16.3	947	67	11.9	833	68	9.4	1.7	2.4	3.1
						75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1066	63	16.8	904	66	12.3	796	68	9.6	1.6	2.3	3.0
2250	Open	1131	63	16.3	957	67	11.9	842	68	9.4	1.7	2.4	3.1
2500	Open	1195	63	16.2	1010	67	11.8	888	69	9.2	1.7	2.4	3.2
2750	Open	1257	64	16.0	1061	67	11.5	932	69	9.0	1.8	2.5	3.3
3000	Open	1305	64	15.4	1101	67	11.1	967	69	8.8	1.8	2.6	3.4

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69 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
						75% LF							
						65°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	318	47	21.3	282	51	16.9	256	53	14.1	1.0	1.3	1.7
250	Open	348	47	21.3	308	51	16.7	279	53	13.8	1.0	1.4	1.8
350	Open	429	49	20.7	377	52	16.0	340	55	13.2	1.1	1.6	2.0
500	Open	520	49	20.3	456	53	15.6	410	55	12.8	1.2	1.7	2.1
750	Open	649	50	19.8	566	54	15.2	508	56	12.3	1.3	1.8	2.3
1000	Open	760	51	19.4	661	54	14.8	592	56	12.0	1.4	1.9	2.5
1250	Open	855	51	18.5	743	54	14.1	664	56	11.4	1.4	2.0	2.6
1500	Open	945	51	18.1	819	55	13.7	730	57	11.0	1.5	2.1	2.7
1750	Open	1028	52	17.8	889	55	13.4	791	57	10.8	1.6	2.2	2.9
2000	Open	1102	52	17.7	950	55	13.3	846	57	10.7	1.6	2.3	3.0
2250	Open	1169	52	17.4	1006	56	13.0	894	58	10.4	1.7	2.4	3.1
						65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1111	52	17.7	959	55	13.3	853	57	10.7	1.6	2.3	3.0
2250	Open	1182	52	17.4	1018	56	13.0	904	58	10.4	1.7	2.4	3.1
2500	Open	1251	53	17.2	1075	56	12.9	954	58	10.3	1.7	2.4	3.2
2750	Open	1318	53	16.9	1131	56	12.6	1003	58	10.1	1.8	2.5	3.3
3000	Open	1369	53	16.5	1175	56	12.3	1041	58	9.7	1.8	2.6	3.4

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69 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							
						65°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	285	50	17.3	248	54	13.2	221	56	10.7	1.0	1.3	1.7
250	Open	312	51	17.1	270	54	12.9	242	56	10.4	1.0	1.4	1.8
350	Open	380	52	16.4	327	55	12.3	291	57	9.9	1.1	1.6	2.0
500	Open	460	53	16.0	395	56	11.9	350	58	9.4	1.2	1.7	2.1
750	Open	571	53	15.5	489	57	11.5	433	58	9.2	1.3	1.8	2.3
1000	Open	667	54	15.0	569	57	11.0	502	59	8.8	1.4	1.9	2.5
1250	Open	748	54	14.4	637	57	10.5	562	59	8.3	1.4	2.0	2.6
1500	Open	824	55	14.0	700	57	10.2	617	59	8.1	1.5	2.1	2.7
1750	Open	894	55	13.7	758	58	9.9	666	59	7.8	1.6	2.2	2.9
2000	Open	956	55	13.5	809	58	9.8	712	60	7.8	1.6	2.3	3.0
2250	Open	1012	56	13.2	854	58	9.5	750	60	7.5	1.7	2.4	3.1
						65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	965	55	13.5	816	58	9.8	719	60	7.8	1.6	2.3	3.0
2250	Open	1024	56	13.2	864	58	9.5	759	60	7.5	1.7	2.4	3.1
2500	Open	1081	56	13.0	912	58	9.4	800	60	7.4	1.7	2.4	3.2
2750	Open	1137	56	12.7	958	59	9.2	839	60	7.2	1.8	2.5	3.3
3000	Open	1180	56	12.4	994	59	8.9	870	60	7.1	1.8	2.6	3.4

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69 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
						75% LF							
						50°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	256	39	13.4	226	41	10.5	205	43	8.7	1.0	1.3	1.7
250	Open	280	39	13.3	248	41	10.4	224	43	8.5	1.0	1.4	1.8
350	Open	345	40	12.9	302	42	10.1	271	44	8.2	1.1	1.6	2.0
500	Open	418	40	12.6	365	43	9.8	327	44	8.0	1.2	1.7	2.1
750	Open	522	41	12.3	453	43	9.5	405	44	7.7	1.3	1.8	2.3
1000	Open	611	41	12.1	529	43	9.1	470	45	7.4	1.4	1.9	2.5
1250	Open	686	41	11.5	593	44	8.7	527	45	7.1	1.4	2.0	2.6
1500	Open	757	42	11.3	652	44	8.5	579	45	6.8	1.5	2.1	2.7
1750	Open	823	42	11.1	707	44	8.4	626	45	6.6	1.6	2.2	2.9
2000	Open	881	42	10.9	756	44	8.2	668	45	6.6	1.6	2.3	3.0
2250	Open	934	42	10.8	799	44	8.1	705	46	6.5	1.7	2.4	3.1
						50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	890	42	11.0	763	44	8.2	675	45	6.6	1.6	2.3	3.0
2250	Open	946	42	10.8	809	44	8.1	714	46	6.5	1.7	2.4	3.1
2500	Open	1000	43	10.6	854	45	7.9	753	46	6.3	1.7	2.4	3.2
2750	Open	1053	43	10.6	898	45	7.8	791	46	6.2	1.8	2.5	3.3
3000	Open	1093	43	10.2	932	45	7.7	820	46	6.0	1.8	2.6	3.4

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69 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											
4/0	Open	230	41	10.9	199	43	8.3	177	45	6.6	1.0	1.3	1.7
250	Open	251	41	10.6	217	43	8.1	193	45	6.7	1.0	1.4	1.8
350	Open	306	42	10.2	263	44	7.6	233	45	6.1	1.1	1.6	2.0
500	Open	370	42	10.0	316	44	7.5	280	46	6.0	1.2	1.7	2.1
750	Open	459	43	9.7	391	45	7.2	345	46	5.7	1.3	1.8	2.3
1000	Open	535	43	9.5	454	45	6.9	400	46	5.5	1.4	1.9	2.5
1250	Open	600	43	9.0	508	45	6.7	447	46	5.2	1.4	2.0	2.6
1500	Open	661	44	8.8	558	45	6.4	489	47	5.1	1.5	2.1	2.7
1750	Open	716	44	8.5	603	46	6.2	528	47	4.9	1.6	2.2	2.9
2000	Open	765	44	8.4	644	46	6.2	562	47	4.9	1.6	2.3	3.0
2250	Open	809	44	8.2	679	46	6.0	592	47	4.7	1.7	2.4	3.1
		50°C - Aluminum Conductor - Hollow Core Segmental Strand											
2000	Open	773	44	8.5	650	46	6.2	568	47	4.9	1.6	2.3	3.0
2250	Open	819	44	8.2	687	46	6.0	599	47	4.7	1.7	2.4	3.1
2500	Open	865	44	8.2	725	46	5.9	631	47	4.6	1.7	2.4	3.2
2750	Open	909	45	8.0	760	46	5.8	661	47	4.6	1.8	2.5	3.3
3000	Open	943	45	7.8	788	46	5.6	685	47	4.4	1.8	2.6	3.4

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69 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							
4/0	Open	90.1	72.7	71.5	55.4	59.1	44.7
250	Open	91.5	73.7	72.6	55.9	60.0	45.3
350	Open	99.3	78.7	77.7	59.1	63.6	47.2
500	Open	102.8	80.7	79.6	60.1	64.9	48.0
750	Open	107.2	83.4	82.5	61.9	66.9	49.1
1000	Open	110.7	85.5	84.7	63.2	68.5	50.0
1250	Open	112.5	86.8	85.9	63.8	69.5	50.5
1500	Open	115.5	88.5	87.6	64.9	70.6	51.3
1750	Open	118.5	90.1	89.5	65.9	71.8	51.8
2000	Open	120.1	91.5	90.5	66.5	72.7	52.3
2250	Open	122.6	92.6	92.1	67.3	73.7	52.9
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	120.0	91.4	90.5	66.4	72.7	52.3
2250	Open	122.6	92.7	92.1	67.4	73.7	52.9
2500	Open	124.0	93.5	92.9	67.8	74.3	53.2
2750	Open	126.2	94.6	94.2	68.4	75.3	54.2
3000	Open	126.8	95.0	94.8	68.6	75.6	54.4

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69 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					
75°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	75.0	60.6	59.5	46.2	49.2	37.5
250	Open	76.5	61.6	60.3	46.6	50.0	37.7
350	Open	83.0	65.5	64.6	49.3	52.8	39.4
500	Open	85.7	67.2	66.2	50.2	54.1	40.1
750	Open	89.2	69.5	68.6	51.6	55.7	41.0
1000	Open	92.1	71.4	70.4	52.6	57.1	41.7
1250	Open	93.8	72.3	71.5	53.2	57.8	42.2
1500	Open	96.1	73.7	72.9	54.0	58.9	42.7
1750	Open	98.6	75.2	74.5	55.0	59.9	43.2
2000	Open	99.9	76.0	75.3	55.4	60.5	43.6
2250	Open	102.0	77.2	76.5	56.1	61.3	44.1
75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	99.8	76.0	75.3	55.4	60.5	43.6
2250	Open	102.1	77.2	76.5	56.1	61.3	44.0
2500	Open	103.3	78.0	77.4	56.6	61.9	44.4
2750	Open	105.1	78.9	78.4	57.1	62.5	44.8
3000	Open	105.4	79.1	78.8	57.2	62.8	44.9

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69 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					
65°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	60.2	48.6	47.6	37.1	39.5	29.8
250	Open	61.0	49.3	48.1	37.3	39.7	30.2
350	Open	66.4	52.5	51.7	39.3	42.3	31.5
500	Open	68.3	53.9	53.0	40.2	43.2	32.0
750	Open	71.2	55.6	54.7	41.3	44.4	32.8
1000	Open	73.6	57.2	56.2	42.2	45.5	33.3
1250	Open	74.9	57.9	57.1	42.6	46.1	33.7
1500	Open	76.8	59.0	58.3	43.3	46.8	34.2
1750	Open	78.7	60.1	59.5	44.0	47.6	34.5
2000	Open	79.9	60.8	60.1	44.3	48.2	34.9
2250	Open	81.6	61.9	61.2	44.9	48.9	35.3
65°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	79.8	60.8	60.1	44.3	48.1	35.0
2250	Open	81.5	61.8	61.2	44.9	48.8	35.3
2500	Open	82.5	62.4	61.7	45.2	49.2	35.5
2750	Open	83.8	63.2	62.5	45.7	49.8	35.8
3000	Open	84.2	63.4	62.9	45.9	50.0	35.9

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69 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					
50°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	37.5	30.6	29.6	23.2	24.6	18.7
250	Open	38.0	30.9	30.2	23.4	24.9	18.8
350	Open	41.4	32.9	32.1	24.8	26.2	19.8
500	Open	42.6	33.8	32.9	25.2	26.8	20.2
750	Open	44.5	34.9	34.0	25.9	27.6	20.6
1000	Open	46.0	35.8	35.0	26.4	28.1	21.0
1250	Open	46.7	36.3	35.5	26.7	28.5	21.2
1500	Open	47.8	37.0	36.1	27.1	29.0	21.4
1750	Open	49.0	37.7	36.9	27.5	29.5	21.7
2000	Open	49.7	38.1	37.3	27.8	29.7	21.8
2250	Open	50.7	38.8	37.9	28.2	30.1	22.1
50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	49.7	38.2	37.3	27.8	29.7	21.9
2250	Open	50.7	38.8	37.9	28.1	30.1	22.1
2500	Open	51.3	39.1	38.2	28.4	30.4	22.2
2750	Open	52.1	39.6	38.8	28.6	30.8	22.4
3000	Open	52.4	39.8	38.9	28.7	30.9	22.5

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69 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%	Re @ 90 Rho & loss factor 100%
		85°C - Aluminum Conductor - Hollow Core Concentric Strand							
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	14.76	1.002	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	12.73	1.003	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	11.22	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	10.14	1.005	0.77	0.20	2.91	4.40
		85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	0.45	11.05	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	9.93	1.005	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	8.96	1.007	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	8.17	1.008	0.72	0.19	2.88	4.38
3000	Open	3.291	0.53	7.58	1.010	0.70	0.21	2.87	4.36

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69 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							
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	14.76	1.002	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	12.73	1.003	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	11.22	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	10.14	1.005	0.77	0.20	2.91	4.40
		75°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	0.45	11.05	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	9.93	1.005	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	8.96	1.007	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	8.17	1.008	0.72	0.19	2.88	4.38
3000	Open	3.291	0.53	7.58	1.010	0.70	0.21	2.87	4.36

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69 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						
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	14.76	1.002	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	12.73	1.003	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	11.22	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	10.14	1.005	0.77	0.20	2.91	4.40
			65°C - Aluminum Conductor - Hollow Core Segmental Strand						
2000	Open	2.893	0.45	11.05	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	9.93	1.005	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	8.96	1.007	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	8.17	1.008	0.72	0.19	2.88	4.38
3000	Open	3.291	0.53	7.58	1.010	0.70	0.21	2.87	4.36

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69 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							
4/0	Open	1.790	0.24	103.44	1.000	1.59	0.28	3.15	4.65
250	Open	1.833	0.24	87.53	1.000	1.54	0.27	3.14	4.64
350	Open	2.050	0.29	62.55	1.000	1.29	0.24	3.09	4.58
500	Open	2.148	0.31	43.77	1.000	1.20	0.23	3.07	4.56
750	Open	2.291	0.34	29.22	1.001	1.10	0.21	3.04	4.53
1000	Open	2.423	0.36	21.96	1.001	1.01	0.20	3.01	4.50
1250	Open	2.580	0.39	17.62	1.002	0.95	0.23	2.98	4.48
1500	Open	2.698	0.41	14.76	1.002	0.89	0.22	2.96	4.45
1750	Open	2.825	0.44	12.73	1.003	0.84	0.21	2.94	4.43
2000	Open	2.896	0.45	11.22	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	10.14	1.005	0.77	0.20	2.91	4.40
		50°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	0.45	11.05	1.004	0.81	0.21	2.93	4.42
2250	Open	3.016	0.48	9.93	1.005	0.77	0.20	2.91	4.40
2500	Open	3.085	0.49	8.96	1.007	0.75	0.19	2.90	4.39
2750	Open	3.180	0.51	8.17	1.008	0.72	0.19	2.88	4.38
3000	Open	3.291	0.53	7.58	1.010	0.70	0.21	2.87	4.36

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69 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							
4/0	Open	265	274	179	210	1.2	1.1
250	Open	291	301	196	230	1.2	1.2
350	Open	361	374	243	286	1.4	1.3
500	Open	439	456	296	348	1.4	1.3
750	Open	551	572	371	437	1.5	1.4
1000	Open	668	690	443	517	1.4	1.3
1250	Open	758	783	503	587	1.5	1.4
1500	Open	842	871	559	653	1.5	1.4
1750	Open	923	955	612	715	1.6	1.5
2000	Open	992	1028	658	769	1.6	1.5
2250	Open	1058	1097	701	821	1.6	1.5
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	999	1035	662	775	1.6	1.5
2250	Open	1069	1109	709	830	1.6	1.5
2500	Open	1135	1178	752	881	1.7	1.5
2750	Open	1202	1248	796	933	1.7	1.6
3000	Open	1290	1331	843	978	1.6	1.5

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69 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					
4/0	Open	22.5	24.0	10.6	14.4
250	Open	23.0	24.5	10.8	14.6
350	Open	25.3	27.1	11.9	16.2
500	Open	26.2	28.2	12.4	16.8
750	Open	27.6	29.7	13.1	17.8
1000	Open	30.5	32.5	14.0	18.7
1250	Open	31.5	33.6	14.5	19.4
1500	Open	32.6	34.8	15.1	20.1
1750	Open	33.8	36.1	15.6	20.8
2000	Open	34.4	36.9	15.9	21.2
2250	Open	35.5	38.0	16.4	21.9
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	34.4	36.8	15.9	21.2
2250	Open	35.5	38.1	16.4	21.9
2500	Open	36.1	38.8	16.7	22.3
2750	Open	36.9	39.7	17.0	22.8
3000	Open	39.4	41.8	17.7	23.3

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69 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							
4/0	Open	1.790	3.07	0.24	103.44	1.000	1.59	0.28	2.61	0.41	1.13	0.74
250	Open	1.833	3.07	0.24	87.53	1.000	1.54	0.27	2.55	0.41	1.12	0.74
350	Open	2.050	3.07	0.29	62.55	1.000	1.29	0.24	2.31	0.41	1.11	0.74
500	Open	2.148	3.07	0.31	43.77	1.000	1.20	0.23	2.21	0.41	1.11	0.74
750	Open	2.291	3.07	0.34	29.22	1.000	1.10	0.21	2.09	0.41	1.10	0.74
1000	Open	2.423	4.03	0.36	21.96	1.000	1.01	0.20	2.00	0.35	0.89	0.61
1250	Open	2.580	4.03	0.39	17.62	1.000	0.95	0.23	1.89	0.35	0.89	0.61
1500	Open	2.698	4.03	0.41	14.75	1.000	0.89	0.22	1.81	0.35	0.88	0.61
1750	Open	2.825	4.03	0.44	12.72	1.000	0.84	0.21	1.73	0.35	0.88	0.61
2000	Open	2.896	4.03	0.45	11.20	1.000	0.81	0.21	1.69	0.35	0.88	0.61
2250	Open	3.016	4.03	0.48	10.14	1.000	0.77	0.20	1.63	0.35	0.87	0.60
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	4.03	0.45	11.03	1.000	0.81	0.21	1.70	0.35	0.88	0.61
2250	Open	3.016	4.03	0.48	9.92	1.000	0.77	0.20	1.63	0.35	0.87	0.60
2500	Open	3.085	4.03	0.49	8.95	1.000	0.75	0.19	1.60	0.35	0.87	0.60
2750	Open	3.180	4.03	0.51	8.16	1.000	0.72	0.19	1.55	0.35	0.87	0.60
3000	Open	3.291	5.05	0.53	7.57	1.000	0.70	0.21	1.51	0.31	0.73	0.51

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69 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							
4/0	Open	342	375	244	302	0.7	0.5
250	Open	377	413	268	332	0.7	0.5
350	Open	477	522	337	416	0.7	0.6
500	Open	586	641	414	509	0.7	0.6
750	Open	744	813	523	642	0.7	0.6
1000	Open	885	966	621	760	0.8	0.6
1250	Open	1009	1098	705	861	0.8	0.6
1500	Open	1130	1229	788	960	0.8	0.6
1750	Open	1247	1356	867	1055	0.8	0.6
2000	Open	1347	1464	936	1137	0.8	0.7
2250	Open	1447	1571	1003	1217	0.8	0.7
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1356	1474	942	1145	0.8	0.7
2250	Open	1462	1588	1013	1230	0.8	0.7
2500	Open	1559	1692	1079	1309	0.8	0.7
2750	Open	1660	1801	1147	1389	0.8	0.7
3000	Open	1737	1881	1198	1448	0.8	0.7

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69 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					
4/0	Open	12.3	14.8	6.4	9.7
250	Open	12.7	15.2	6.5	9.9
350	Open	14.5	17.3	7.4	11.1
500	Open	15.3	18.3	7.8	11.6
750	Open	16.5	19.7	8.3	12.4
1000	Open	17.6	20.9	8.8	13.0
1250	Open	18.3	21.6	9.1	13.5
1500	Open	19.2	22.7	9.6	14.0
1750	Open	20.2	23.8	10.0	14.6
2000	Open	20.8	24.5	10.3	14.9
2250	Open	21.7	25.5	10.7	15.5
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	20.7	24.4	10.2	14.9
2250	Open	21.7	25.5	10.7	15.5
2500	Open	22.3	26.1	10.9	15.8
2750	Open	23.0	27.0	11.2	16.3
3000	Open	23.4	27.3	11.4	16.4

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69 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												
4/0	Open	1.790	9.99	0.24	103.44	1.000	1.59	0.28	0.00	0.00	1.80	1.19
250	Open	1.833	9.99	0.24	87.53	1.000	1.54	0.27	0.00	0.00	1.76	1.17
350	Open	2.050	9.99	0.29	62.55	1.000	1.29	0.24	0.00	0.00	1.59	1.08
500	Open	2.148	9.99	0.31	43.77	1.000	1.20	0.23	0.00	0.00	1.52	1.04
750	Open	2.291	9.99	0.34	29.22	1.000	1.10	0.21	0.00	0.00	1.43	0.99
1000	Open	2.423	9.99	0.36	21.96	1.000	1.01	0.20	0.00	0.00	1.36	0.95
1250	Open	2.580	9.99	0.39	17.62	1.000	0.95	0.23	0.00	0.00	1.29	0.91
1500	Open	2.698	9.99	0.41	14.75	1.000	0.89	0.22	0.00	0.00	1.24	0.88
1750	Open	2.825	9.99	0.44	12.72	1.000	0.84	0.21	0.00	0.00	1.18	0.85
2000	Open	2.896	9.99	0.45	11.20	1.000	0.81	0.21	0.00	0.00	1.16	0.83
2250	Open	3.016	9.99	0.48	10.14	1.000	0.77	0.20	0.00	0.00	1.12	0.80
85°C - Aluminum Conductor - Hollow Core Segmental Strand												
2000	Open	2.893	9.99	0.45	11.03	1.000	0.81	0.21	0.00	0.00	1.16	0.83
2250	Open	3.016	9.99	0.48	9.92	1.000	0.77	0.20	0.00	0.00	1.12	0.80
2500	Open	3.085	9.99	0.49	8.95	1.000	0.75	0.19	0.00	0.00	1.09	0.79
2750	Open	3.180	9.99	0.51	8.16	1.000	0.72	0.19	0.00	0.00	1.06	0.77
3000	Open	3.291	9.99	0.53	7.57	1.000	0.70	0.21	0.00	0.00	1.03	0.75

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2220

69 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							
4/0	Open	276	288	213	242	1.1	1.0
250	Open	303	316	233	265	1.1	1.0
350	Open	376	393	290	330	1.2	1.1
500	Open	458	480	353	403	1.3	1.2
750	Open	575	603	443	506	1.3	1.2
1000	Open	703	732	542	607	1.3	1.2
1250	Open	797	830	614	689	1.3	1.2
1500	Open	886	924	683	766	1.4	1.3
1750	Open	971	1013	748	840	1.4	1.3
2000	Open	1044	1090	804	904	1.4	1.3
2250	Open	1113	1163	858	965	1.5	1.3
85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	1051	1098	810	910	1.4	1.3
2250	Open	1125	1176	867	975	1.5	1.3
2500	Open	1194	1249	920	1035	1.5	1.4
2750	Open	1264	1323	974	1097	1.5	1.4
3000	Open	1366	1417	1051	1163	1.4	1.3

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69 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					
4/0	Open	8.1	8.8	4.9	6.3
250	Open	8.3	9.0	5.0	6.4
350	Open	9.1	9.9	5.5	7.1
500	Open	9.5	10.4	5.8	7.4
750	Open	10.0	11.0	6.1	7.8
1000	Open	11.2	12.1	6.8	8.5
1250	Open	11.6	12.5	7.0	8.8
1500	Open	12.0	13.0	7.3	9.1
1750	Open	12.4	13.5	7.6	9.4
2000	Open	12.7	13.8	7.7	9.6
2250	Open	13.0	14.2	7.9	9.9
85°C - Aluminum Conductor - Hollow Core Segmental Strand					
2000	Open	12.6	13.8	7.7	9.6
2250	Open	13.0	14.2	7.9	9.9
2500	Open	13.3	14.5	8.1	10.1
2750	Open	13.5	14.8	8.3	10.3
3000	Open	14.7	15.7	8.9	10.8

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2222

69 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							
4/0	Open	1.790	3.07	0.24	103.44	1.000	1.59	0.28	2.13	0.41	1.17	0.74
250	Open	1.833	3.07	0.24	87.53	1.000	1.54	0.27	2.08	0.41	1.16	0.74
350	Open	2.050	3.07	0.29	62.55	1.000	1.29	0.24	1.86	0.41	1.15	0.73
500	Open	2.148	3.07	0.31	43.77	1.000	1.20	0.23	1.78	0.41	1.15	0.73
750	Open	2.291	3.07	0.34	29.22	1.000	1.10	0.21	1.67	0.41	1.14	0.73
1000	Open	2.423	4.03	0.36	21.96	1.000	1.01	0.20	1.56	0.35	0.90	0.61
1250	Open	2.580	4.03	0.39	17.62	1.000	0.95	0.23	1.47	0.35	0.90	0.60
1500	Open	2.698	4.03	0.41	14.75	1.000	0.89	0.22	1.41	0.35	0.89	0.60
1750	Open	2.825	4.03	0.44	12.72	1.000	0.84	0.21	1.35	0.35	0.89	0.60
2000	Open	2.896	4.03	0.45	11.20	1.000	0.81	0.21	1.32	0.35	0.89	0.60
2250	Open	3.016	4.03	0.48	10.14	1.000	0.77	0.20	1.26	0.35	0.89	0.60
					85°C - Aluminum Conductor - Hollow Core Segmental Strand							
2000	Open	2.893	4.03	0.45	11.03	1.000	0.81	0.21	1.32	0.35	0.89	0.60
2250	Open	3.016	4.03	0.48	9.92	1.000	0.77	0.20	1.26	0.35	0.89	0.60
2500	Open	3.085	4.03	0.49	8.95	1.000	0.75	0.19	1.24	0.35	0.88	0.60
2750	Open	3.180	4.03	0.51	8.16	1.000	0.72	0.19	1.20	0.35	0.88	0.60
3000	Open	3.291	5.05	0.53	7.57	1.000	0.70	0.21	1.15	0.31	0.72	0.51

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