



15kV CU 133% EPR (EAM) LCT LLDPE

Single Conductor, 220 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Conductor moisture block optional and tinned copper per ASTM B33 optional)
- Conductor Shield:** Conventional Semi-conducting cross-linked copolymer. A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 220 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 133% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
- Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 15kV cables are suited for use in wet and dry areas, conduits, ducts, direct burial, sunlight, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 105°C for normal operation, 140°C for emergency overload, and 250°C for short circuit conditions. Jacket types available that can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- Rural Utility Standard RUS 1728F-U1 or 1728.204 (Electric standards and specifications for materials and construction)
- UL 1072 Listed as MV 90 When Specified

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 15000 VOLTS EPR INSULATION 220 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET





Table 1 – Weights and Measurements

Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
AWG/ Kcmil	inch	inch	mil	inch	mil	inch	lb /1000ft	inch	lb
2 (Solid)	0.257	0.735	220	0.815	80	1.075	666	12.9	530
2 (7)	0.282	0.760	220	0.840	80	1.100	684	13.2	530
1 (Solid)	0.289	0.767	220	0.847	80	1.107	743	13.3	669
1 (19)	0.322	0.800	220	0.880	80	1.140	766	13.7	669
1/0 (Solid)	0.324	0.802	220	0.882	80	1.142	834	13.7	844
1/0 (19)	0.361	0.839	220	0.919	80	1.179	860	14.1	844
2/0 (19)	0.405	0.883	220	0.963	80	1.223	975	14.7	1064
3/0 (19)	0.456	0.934	220	1.014	80	1.274	1118	15.3	1342
4/0 (19)	0.512	0.990	220	1.070	80	1.330	1291	16.0	1692
250 (37)	0.558	1.044	220	1.124	80	1.384	1450	16.6	2000
350 (37)	0.661	1.147	220	1.227	80	1.487	1832	17.8	2800
500 (37)	0.789	1.275	220	1.355	80	1.615	2384	19.4	4000
750 (61)	0.968	1.464	220	1.544	110	1.864	3404	22.4	6000
1000 (61)	1.117	1.613	220	1.693	110	2.013	4289	24.2	8000

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Pulling tension based on pulling eye directly connected to conductor



Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance	Positive Sequence Impedance	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	A/1000ft	W/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2 (Solid)	0.162	0.204	0.047	0.055	0.182	13.6	0.534 + j0.236	0.205 + j0.055	3332	155	195
2 (7)	0.162	0.204	0.044	0.053	0.192	14.3	0.529 + j0.227	0.205 + j0.053	3417	155	195
1 (Solid)	0.128	0.162	0.044	0.053	0.194	14.4	0.486 + j0.224	0.163 + j0.053	3440	175	220
1 (19)	0.128	0.162	0.041	0.051	0.207	15.4	0.480 + j0.213	0.163 + j0.051	3552	175	220
1/0 (Solid)	0.102	0.128	0.041	0.051	0.209	15.6	0.446 + j0.212	0.129 + j0.051	3559	200	250
1/0 (19)	0.102	0.128	0.038	0.049	0.224	16.7	0.439 + j0.201	0.129 + j0.049	3684	200	250
2/0 (19)	0.081	0.102	0.035	0.047	0.240	17.9	0.405 + j0.188	0.103 + j0.048	3833	230	285
3/0 (19)	0.064	0.081	0.033	0.045	0.260	19.4	0.375 + j0.175	0.082 + j0.046	4006	260	320
4/0 (19)	0.051	0.065	0.030	0.044	0.282	21.0	0.350 + j0.162	0.066 + j0.044	4195	300	365
250 (37)	0.043	0.056	0.028	0.043	0.303	22.6	0.332 + j0.151	0.057 + j0.043	4378	315	396
350 (37)	0.031	0.041	0.025	0.040	0.343	25.5	0.301 + j0.133	0.042 + j0.041	4727	390	475
500 (37)	0.022	0.030	0.022	0.038	0.392	29.2	0.273 + j0.115	0.031 + j0.039	5160	470	565
750 (61)	0.014	0.023	0.018	0.037	0.464	34.6	0.243 + j0.095	0.025 + j0.037	5800	585	680
1000 (61)	0.011	0.019	0.016	0.035	0.521	38.8	0.224 + j0.083	0.021 + j0.036	6304	670	750

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center.





Table 3 – Weights and Measurements (Metric)

Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
AWG/ Kcmil	mm	mm	mm	mm	mm	mm	kg/km	mm	newton
2 (Solid)	6.53	18.67	5.59	20.70	2.03	27.30	991	327.66	2359
2 (7)	7.16	19.30	5.59	21.34	2.03	27.94	1018	335.28	2359
1 (Solid)	7.34	19.48	5.59	21.51	2.03	28.12	1106	337.82	2977
1 (19)	8.18	20.32	5.59	22.35	2.03	28.96	1140	347.98	2977
1/0 (Solid)	8.23	20.37	5.59	22.40	2.03	29.01	1241	347.98	3756
1/0 (19)	9.17	21.31	5.59	23.34	2.03	29.95	1280	358.14	3756
2/0 (19)	10.29	22.43	5.59	24.46	2.03	31.06	1451	373.38	4735
3/0 (19)	11.58	23.72	5.59	25.76	2.03	32.36	1664	388.62	5972
4/0 (19)	13.00	25.15	5.59	27.18	2.03	33.78	1921	406.40	7529
250 (37)	14.17	26.52	5.59	28.55	2.03	35.15	2158	421.64	8900
350 (37)	16.79	29.13	5.59	31.17	2.03	37.77	2726	452.12	12460
500 (37)	20.04	32.39	5.59	34.42	2.03	41.02	3548	492.76	17800
750 (61)	24.59	37.19	5.59	39.22	2.79	47.35	5066	568.96	26700
1000 (61)	28.37	40.97	5.59	43.00	2.79	51.13	6383	614.68	35600

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Pulling tension based on pulling eye directly connected to conductor





Table 4 – Electrical and Engineering Data (Metric)

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/Kcmil	Ω/km	Ω/km	MΩ*km	Ω/km	A/km	W/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2 (Solid)	0.5315	0.67	0.0143	0.1804	0.597	44.6194	0.534 + j0.236	0.205 + j0.055	3332	155	195
2 (7)	0.5315	0.67	0.0134	0.1739	0.630	46.9160	0.529 + j0.227	0.205 + j0.053	3417	155	195
1 (Solid)	0.4199	0.53	0.0134	0.1739	0.636	47.2441	0.486 + j0.224	0.163 + j0.053	3440	175	220
1 (19)	0.4199	0.53	0.0125	0.1673	0.679	50.5249	0.480 + j0.213	0.163 + j0.051	3552	175	220
1/0 (Solid)	0.3346	0.42	0.0125	0.1673	0.686	51.1811	0.446 + j0.212	0.129 + j0.051	3559	200	250
1/0 (19)	0.3346	0.42	0.0116	0.1608	0.735	54.7900	0.439 + j0.201	0.129 + j0.049	3684	200	250
2/0 (19)	0.2657	0.33	0.0107	0.1542	0.787	58.7270	0.405 + j0.188	0.103 + j0.048	3833	230	285
3/0 (19)	0.2100	0.27	0.0101	0.1476	0.853	63.6483	0.375 + j0.175	0.082 + j0.046	4006	260	320
4/0 (19)	0.1673	0.21	0.0091	0.1444	0.925	68.8976	0.350 + j0.162	0.066 + j0.044	4195	300	365
250 (37)	0.1411	0.18	0.0085	0.1411	0.994	74.1470	0.332 + j0.151	0.057 + j0.043	4378	315	396
350 (37)	0.1017	0.13	0.0076	0.1312	1.125	83.6614	0.301 + j0.133	0.042 + j0.041	4727	390	475
500 (37)	0.0722	0.10	0.0067	0.1247	1.286	95.8005	0.273 + j0.115	0.031 + j0.039	5160	470	565
750 (61)	0.0459	0.08	0.0055	0.1214	1.522	113.5171	0.243 + j0.095	0.025 + j0.037	5800	585	680
1000 (61)	0.0361	0.06	0.0049	0.1148	1.709	127.2966	0.224 + j0.083	0.021 + j0.036	6304	670	750

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

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