



25kV CU 133% EPR (EAM) LCT LLDPE

Single Conductor, 320 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:

1. **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)
2. **Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 320 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
6. **Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 25kV 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
- Optional CSA 68.5: -40°C and MV 90°C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 25000 VOLTS EPR INSULATION 320 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
1 (Solid)	0.289	0.967	320	1.047	80	1.307	945	15.7	669
1 (19)	0.322	1.000	320	1.080	80	1.340	972	16.1	669
1/0 (Solid)	0.324	1.002	320	1.082	80	1.342	1041	16.1	844
1/0 (19)	0.361	1.039	320	1.119	80	1.379	1073	16.5	844
2/0 (19)	0.405	1.083	320	1.163	80	1.423	1195	17.1	1064
3/0 (19)	0.456	1.134	320	1.214	80	1.474	1347	17.7	1342
4/0 (19)	0.512	1.190	320	1.270	80	1.530	1529	18.4	1692
250 (37)	0.558	1.244	320	1.324	80	1.584	1697	19.0	2000
350 (37)	0.661	1.347	320	1.427	110	1.747	2197	21.0	2800
500 (37)	0.789	1.475	320	1.555	110	1.875	2778	22.5	4000
750 (61)	0.968	1.664	320	1.744	110	2.064	3731	24.8	6000
1000 (61)	1.117	1.813	320	1.893	110	2.213	4641	26.6	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
1 (Solid)	0.128	0.162	0.056	0.056	0.255	31.7	0.450 + j0.179	0.163 + j0.057	2956	175	220
1 (19)	0.128	0.162	0.053	0.054	0.270	33.5	0.445 + j0.171	0.163 + j0.055	3048	175	220
1/0 (Solid)	0.102	0.128	0.052	0.054	0.272	33.8	0.411 + j0.170	0.129 + j0.055	3053	200	250
1/0 (19)	0.102	0.128	0.049	0.052	0.289	35.9	0.405 + j0.162	0.129 + j0.053	3156	200	250
2/0 (19)	0.081	0.102	0.046	0.051	0.309	38.4	0.372 + j0.153	0.103 + j0.051	3278	230	285
3/0 (19)	0.064	0.081	0.043	0.049	0.332	41.2	0.343 + j0.143	0.082 + j0.049	3419	260	320
4/0 (19)	0.051	0.065	0.040	0.047	0.358	44.4	0.319 + j0.134	0.066 + j0.047	3574	300	365
250 (37)	0.043	0.056	0.037	0.046	0.382	47.4	0.303 + j0.126	0.057 + j0.046	3724	315	396
350 (37)	0.031	0.041	0.033	0.044	0.429	53.3	0.275 + j0.113	0.043 + j0.045	4009	390	475
500 (37)	0.022	0.030	0.029	0.042	0.486	60.3	0.249 + j0.099	0.032 + j0.042	4364	470	565
750 (61)	0.014	0.023	0.025	0.039	0.569	70.6	0.223 + j0.084	0.025 + j0.040	4888	585	680
1000 (61)	0.011	0.019	0.022	0.037	0.635	78.8	0.206 + j0.074	0.021 + j0.038	5301	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
1 (Solid)	7.34	24.56	8.13	26.59	2.03	33.20	1406	398.78	2977
1 (19)	8.18	25.40	8.13	27.43	2.03	34.04	1446	408.94	2977
1/0 (Solid)	8.23	25.45	8.13	27.48	2.03	34.09	1549	408.94	3756
1/0 (19)	9.17	26.39	8.13	28.42	2.03	35.03	1597	419.10	3756
2/0 (19)	10.29	27.51	8.13	29.54	2.03	36.14	1778	434.34	4735
3/0 (19)	11.58	28.80	8.13	30.84	2.03	37.44	2005	449.58	5972
4/0 (19)	13.00	30.23	8.13	32.26	2.03	38.86	2275	467.36	7529
250 (37)	14.17	31.60	8.13	33.63	2.03	40.23	2525	482.60	8900
350 (37)	16.79	34.21	8.13	36.25	2.79	44.37	3269	533.40	12460
500 (37)	20.04	37.47	8.13	39.50	2.79	47.63	4134	571.50	17800
750 (61)	24.59	42.27	8.13	44.30	2.79	52.43	5552	629.92	26700
1000 (61)	28.37	46.05	8.13	48.08	2.79	56.21	6907	675.64	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
1 (Solid)	0.4199	0.53	0.0171	0.1837	0.837	104.0026	0.450 + j0.179	0.163 + j0.057	2956	175	220
1 (19)	0.4199	0.53	0.0162	0.1772	0.886	109.9081	0.445 + j0.171	0.163 + j0.055	3048	175	220
1/0 (Solid)	0.3346	0.42	0.0158	0.1772	0.892	110.8924	0.411 + j0.170	0.129 + j0.055	3053	200	250
1/0 (19)	0.3346	0.42	0.0149	0.1706	0.948	117.7822	0.405 + j0.162	0.129 + j0.053	3156	200	250
2/0 (19)	0.2657	0.33	0.0140	0.1673	1.014	125.9843	0.372 + j0.153	0.103 + j0.051	3278	230	285
3/0 (19)	0.2100	0.27	0.0131	0.1608	1.089	135.1706	0.343 + j0.143	0.082 + j0.049	3419	260	320
4/0 (19)	0.1673	0.21	0.0122	0.1542	1.175	145.6693	0.319 + j0.134	0.066 + j0.047	3574	300	365
250 (37)	0.1411	0.18	0.0113	0.1509	1.253	155.5118	0.303 + j0.126	0.057 + j0.046	3724	315	396
350 (37)	0.1017	0.13	0.0101	0.1444	1.407	174.8688	0.275 + j0.113	0.043 + j0.045	4009	390	475
500 (37)	0.0722	0.10	0.0088	0.1378	1.594	197.8346	0.249 + j0.099	0.032 + j0.042	4364	470	565
750 (61)	0.0459	0.08	0.0076	0.1280	1.867	231.6273	0.223 + j0.084	0.025 + j0.040	4888	585	680
1000 (61)	0.0361	0.06	0.0067	0.1214	2.083	258.5302	0.206 + j0.074	0.021 + j0.038	5301	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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