25kV CU 100% EPR (EAM) LCT LLDPE

Single Conductor, 260 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 100% 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:** 260 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 100% 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: -40ºC and MV 90ºC optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 25000 VOLTS EPR INSULATION 260 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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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	0.847	260	0.927	80	1.187	766	14.2	669
1 (19)	0.322	0.880	260	0.960	80	1.220	789	14.6	669
1/0 (Solid)	0.324	0.882	260	0.962	80	1.222	857	14.7	844
1/0 (19)	0.361	0.919	260	0.999	80	1.259	883	15.1	844
2/0 (19)	0.405	0.963	260	1.043	80	1.303	999	15.6	1064
3/0 (19)	0.456	1.014	260	1.094	80	1.354	1141	16.2	1342
4/0 (19)	0.512	1.070	260	1.150	80	1.410	1316	16.9	1692
250 (37)	0.558	1.124	260	1.204	80	1.464	1474	17.6	2000
350 (37)	0.661	1.227	260	1.307	80	1.567	1858	18.8	2800
500 (37)	0.789	1.355	260	1.435	110	1.755	2512	21.1	4000
750 (61)	0.968	1.544	260	1.624	110	1.944	3437	23.3	6000
1000 (61)	1.117	1.693	260	1.773	110	2.093	4324	25.1	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

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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	0.054	0.148	8.12	0.216 + j0.759	0.162 + j0.052	2624	175	220
1 (19)	0.128	0.162	0.052	0.052	0.159	8.72	0.216 + j0.757	0.162 + j0.053	2715	175	220
1/0 (Solid)	0.102	0.128	0.052	0.052	0.160	8.78	0.182 + j0.755	0.128 + j0.050	2721	200	250
1/0 (19)	0.102	0.128	0.048	0.050	0.171	9.38	0.182 + j0.753	0.128 + j0.051	2823	200	250
2/0 (19)	0.081	0.102	0.045	0.049	0.184	10.09	0.156 + j0.749	0.102 + j0.049	2945	230	285
3/0 (19)	0.064	0.081	0.041	0.047	0.200	10.97	0.135 + j0.745	0.081 + j0.047	3087	260	320
4/0 (19)	0.051	0.065	0.038	0.045	0.216	11.85	0.119 + j0.740	0.065 + j0.045	3242	300	365
250 (37)	0.043	0.056	0.036	0.044	0.228	12.51	0.110 + j0.736	0.056 + j0.044	3391	315	396
350 (37)	0.031	0.041	0.032	0.042	0.258	14.15	0.095 + j0.729	0.041 + j0.042	3677	390	475
500 (37)	0.022	0.030	0.028	0.040	0.295	16.18	0.084 + j0.720	0.030 + j0.040	4032	470	565
750 (61)	0.014	0.023	0.024	0.038	0.342	18.76	0.077 + j0.710	0.023 + j0.038	4555	585	680
1000 (61)	0.011	0.019	0.021	0.036	0.384	21.06	0.073 + j0.704	0.019 + j0.036	4968	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.

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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	21.51	6.60	23.55	2.03	30.15	1140	360.68	2977
1 (19)	8.18	22.35	6.60	24.38	2.03	30.99	1174	370.84	2977
1/0 (Solid)	8.23	22.40	6.60	24.43	2.03	31.04	1275	373.38	3756
1/0 (19)	9.17	23.34	6.60	25.37	2.03	31.98	1314	383.54	3756
2/0 (19)	10.29	24.46	6.60	26.49	2.03	33.10	1487	396.24	4735
3/0 (19)	11.58	25.76	6.60	27.79	2.03	34.39	1698	411.48	5972
4/0 (19)	13.00	27.18	6.60	29.21	2.03	35.81	1958	429.26	7529
250 (37)	14.17	28.55	6.60	30.58	2.03	37.19	2194	447.04	8900
350 (37)	16.79	31.17	6.60	33.20	2.03	39.80	2765	477.52	12460
500 (37)	20.04	34.42	6.60	36.45	2.79	44.58	3738	535.94	17800
750 (61)	24.59	39.22	6.60	41.25	2.79	49.38	5115	591.82	26700
1000 (61)	28.37	43.00	6.60	45.03	2.79	53.16	6435	637.54	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

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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	0.1772	0.486	26.6404	0.216 + j0.759	0.162 + j0.052	2624	175	220
1 (19)	0.4199	0.53	0.0158	0.1706	0.522	28.6089	0.216 + j0.757	0.162 + j0.053	2715	175	220
1/0 (Solid)	0.3346	0.42	0.0158	0.1706	0.525	28.8058	0.182 + j0.755	0.128 + j0.050	2721	200	250
1/0 (19)	0.3346	0.42	0.0146	0.1640	0.561	30.7743	0.182 + j0.753	0.128 + j0.051	2823	200	250
2/0 (19)	0.2657	0.33	0.0137	0.1608	0.604	33.1037	0.156 + j0.749	0.102 + j0.049	2945	230	285
3/0 (19)	0.2100	0.27	0.0125	0.1542	0.656	35.9908	0.135 + j0.745	0.081 + j0.047	3087	260	320
4/0 (19)	0.1673	0.21	0.0116	0.1476	0.709	38.8780	0.119 + j0.740	0.065 + j0.045	3242	300	365
250 (37)	0.1411	0.18	0.0110	0.1444	0.748	41.0433	0.110 + j0.736	0.056 + j0.044	3391	315	396
350 (37)	0.1017	0.13	0.0098	0.1378	0.846	46.4239	0.095 + j0.729	0.041 + j0.042	3677	390	475
500 (37)	0.0722	0.10	0.0085	0.1312	0.968	53.0840	0.084 + j0.720	0.030 + j0.040	4032	470	565
750 (61)	0.0459	0.08	0.0073	0.1247	1.122	61.5486	0.077 + j0.710	0.023 + j0.038	4555	585	680
1000 (61)	0.0361	0.06	0.0064	0.1181	1.260	69.0945	0.073 + j0.704	0.019 + j0.036	4968	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.