25kV AL 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 Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked Optional)
2. **Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; 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 Copper 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 B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- 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] AL 25000 VOLTS EPR INSULATION 320 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	0.967	320	1.047	50	1.247	1296	15	502
1 (19)	0.322	1	320	1.08	50	1.28	1341	15.4	502
1/0 (SOLID)	0.325	1.003	320	1.083	50	1.283	1364	15.4	633
1/0 (19)	0.352	1.03	320	1.11	50	1.31	1402	15.7	633
2/0 (19)	0.395	1.073	320	1.153	50	1.353	1485	16.2	798
3/0 (19)	0.443	1.121	320	1.201	50	1.401	1583	16.8	1006
4/0 (19)	0.498	1.176	320	1.256	50	1.456	1698	17.5	1269
250 (37)	0.558	1.244	320	1.324	50	1.524	1830	18.3	1500
350 (37)	0.661	1.347	320	1.427	75	1.677	2137	20.1	2100
500 (37)	0.789	1.475	320	1.555	75	1.805	2455	21.7	3000
750 (61)	0.968	1.664	320	1.744	75	1.994	2978	23.9	4500
1000 (61)	1.117	1.813	320	1.893	75	2.143	3427	25.7	6000

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
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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)	0.129	0.177	0.057	0.055	0.26	3.7	0.439+j0.147	0.179+j0.058	4116	140	170
1 (19)	0.211	0.289	0.053	0.053	0.27	3.9	0.546+j0.143	0.291+j0.059	4228	140	170
1/0 (SOLID)	0.102	0.14	0.053	0.053	0.27	3.9	0.397+j0.140	0.142+j0.056	4238	155	195
1/0 (19)	0.167	0.229	0.051	0.052	0.28	4.1	0.482+j0.137	0.231+j0.057	4329	155	195
2/0 (19)	0.133	0.182	0.047	0.05	0.3	4.4	0.429+j0.130	0.184+j0.055	4475	180	220
3/0 (19)	0.105	0.144	0.044	0.048	0.33	4.7	0.384+j0.123	0.146+j0.053	4637	200	250
4/0 (19)	0.084	0.115	0.041	0.046	0.35	5.1	0.348+j0.115	0.117+j0.051	4823	235	285
250 (37)	0.07	0.096	0.038	0.045	0.38	5.5	0.321+j0.108	0.098+j0.050	5053	256	335
350 (37)	0.051	0.07	0.034	0.043	0.43	6.2	0.284+j0.097	0.072+j0.048	5402	310	375
500 (37)	0.036	0.05	0.03	0.041	0.49	7	0.251+j0.086	0.053+j0.046	5835	375	450
750 (61)	0.023	0.033	0.025	0.038	0.57	8.2	0.217+j0.073	0.036+j0.043	6475	470	550
1000 (61)	0.017	0.025	0.023	0.037	0.64	9.2	0.198+j0.065	0.028+j0.042	6979		630

*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.

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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	24.56	8.13	26.59	1.27	31.67	1929	381.00	2234
1 (19)	8.18	25.40	8.13	27.43	1.27	32.51	1996	391.16	2234
1/0 (SOLID)	8.25	25.48	8.13	27.51	1.27	32.59	2030	391.16	2817
1/0 (19)	8.94	26.16	8.13	28.19	1.27	33.27	2086	398.78	2817
2/0 (19)	10.03	27.25	8.13	29.29	1.27	34.37	2210	411.48	3551
3/0 (19)	11.25	28.47	8.13	30.51	1.27	35.59	2356	426.72	4477
4/0 (19)	12.65	29.87	8.13	31.90	1.27	36.98	2527	444.50	5647
250 (37)	14.17	31.60	8.13	33.63	1.27	38.71	2723	464.82	6675
350 (37)	16.79	34.21	8.13	36.25	1.91	42.60	3180	510.54	9345
500 (37)	20.04	37.47	8.13	39.50	1.91	45.85	3653	551.18	13350
750 (61)	24.59	42.27	8.13	44.30	1.91	50.65	4432	607.06	20025
1000 (61)	28.37	46.05	8.13	48.08	1.91	54.43	5100	652.78	26700

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
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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)	0.4232	0.58	0.0174	0.1804	0.853	12.1391	0.439+j0.147	0.179+j0.058	4116	140	170
1 (19)	0.6923	0.95	0.0162	0.1739	0.886	12.7953	0.546+j0.143	0.291+j0.059	4228	140	170
1/0 (SOLID)	0.3346	0.46	0.0162	0.1739	0.886	12.7953	0.397+j0.140	0.142+j0.056	4238	155	195
1/0 (19)	0.5479	0.75	0.0155	0.1706	0.919	13.4514	0.482+j0.137	0.231+j0.057	4329	155	195
2/0 (19)	0.4364	0.60	0.0143	0.1640	0.984	14.4357	0.429+j0.130	0.184+j0.055	4475	180	220
3/0 (19)	0.3445	0.47	0.0134	0.1575	1.083	15.4199	0.384+j0.123	0.146+j0.053	4637	200	250
4/0 (19)	0.2756	0.38	0.0125	0.1509	1.148	16.7323	0.348+j0.115	0.117+j0.051	4823	235	285
250 (37)	0.2297	0.31	0.0116	0.1476	1.247	18.0446	0.321+j0.108	0.098+j0.050	5053	256	335
350 (37)	0.1673	0.23	0.0104	0.1411	1.411	20.3412	0.284+j0.097	0.072+j0.048	5402	310	375
500 (37)	0.1181	0.16	0.0091	0.1345	1.608	22.9659	0.251+j0.086	0.053+j0.046	5835	375	450
750 (61)	0.0755	0.11	0.0076	0.1247	1.870	26.9029	0.217+j0.073	0.036+j0.043	6475	470	550
1000 (61)	0.0558	0.08	0.0070	0.1214	2.100	30.1837	0.198+j0.065	0.028+j0.042	6979		630

*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
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