15kV AL 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:

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:** 220 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 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 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

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 15000 VOLTS EPR INSULATION 220 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
2 (SOLID)	0.258	0.736	220	0.816	50	1.016	936	12.2	398
2 (7)	0.283	0.761	220	0.841	50	1.041	966	12.5	398
1 (SOLID)	0.289	0.767	220	0.847	50	1.047	989	12.6	502
1 (19)	0.322	0.8	220	0.88	50	1.08	1028	13	502
1/0 (SOLID)	0.325	0.803	220	0.883	50	1.083	1051	13	633
1/0 (19)	0.352	0.83	220	0.91	50	1.11	1084	13.3	633
2/0 (19)	0.395	0.873	220	0.953	50	1.153	1160	13.8	798
3/0 (19)	0.443	0.921	220	1.001	50	1.201	1249	14.4	1006
4/0 (19)	0.498	0.976	220	1.056	50	1.256	1354	15.1	1269
250 (37)	0.558	1.044	220	1.124	50	1.324	1475	15.9	1500
350 (37)	0.661	1.147	220	1.227	50	1.427	1690	17.1	2100
500 (37)	0.789	1.275	220	1.355	50	1.555	1980	18.7	3000
750 (61)	0.968	1.464	220	1.544	75	1.794	2539	21.5	4500
1000 (61)	1.117	1.613	220	1.693	75	1.943	2961	23.3	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
2 (SOLID)	0.162	0.222	0.048	0.053	0.18	1.6	0.522+j0.188	0.224+j0.057	3334	120	150
2 (7)	0.266	0.365	0.045	0.052	0.19	1.7	0.661+j0.183	0.367+j0.058	3419	120	150
1 (SOLID)	0.129	0.177	0.044	0.051	0.19	1.7	0.472+j0.178	0.179+j0.054	3439	140	170
1 (19)	0.211	0.289	0.042	0.05	0.21	1.8	0.578+j0.172	0.291+j0.055	3551	140	170
1/0 (SOLID)	0.102	0.14	0.041	0.049	0.21	1.8	0.428+j0.169	0.142+j0.052	3561	155	195
1/0 (19)	0.167	0.229	0.039	0.048	0.22	1.9	0.513+j0.165	0.231+j0.053	3653	155	195
2/0 (19)	0.133	0.182	0.037	0.046	0.24	2.1	0.459+j0.155	0.184+j0.051	3798	180	220
3/0 (19)	0.105	0.144	0.034	0.045	0.26	2.2	0.413+j0.145	0.146+j0.049	3960	200	250
4/0 (19)	0.084	0.115	0.031	0.043	0.28	2.4	0.376+j0.136	0.117+j0.048	4147	235	285
250 (37)	0.07	0.096	0.029	0.042	0.3	2.6	0.347+j0.126	0.098+j0.047	4377	256	335
350 (37)	0.051	0.07	0.025	0.039	0.34	3	0.307+j0.112	0.072+j0.045	4725	310	375
500 (37)	0.036	0.05	0.022	0.037	0.39	3.4	0.272+j0.098	0.052+j0.043	5158	375	450
750 (61)	0.023	0.033	0.019	0.036	0.46	4	0.235+j0.082	0.036+j0.040	5798	470	550
1000 (61)	0.017	0.025	0.017	0.034	0.52	4.5	0.213+j0.072	0.028+j0.039	6302		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
2 (SOLID)	6.55	18.69	5.59	20.73	1.27	25.81	1393	309.88	1771
2 (7)	7.19	19.33	5.59	21.36	1.27	26.44	1438	317.50	1771
1 (SOLID)	7.34	19.48	5.59	21.51	1.27	26.59	1472	320.04	2234
1 (19)	8.18	20.32	5.59	22.35	1.27	27.43	1530	330.20	2234
1/0 (SOLID)	8.25	20.40	5.59	22.43	1.27	27.51	1564	330.20	2817
1/0 (19)	8.94	21.08	5.59	23.11	1.27	28.19	1613	337.82	2817
2/0 (19)	10.03	22.17	5.59	24.21	1.27	29.29	1726	350.52	3551
3/0 (19)	11.25	23.39	5.59	25.43	1.27	30.51	1859	365.76	4477
4/0 (19)	12.65	24.79	5.59	26.82	1.27	31.90	2015	383.54	5647
250 (37)	14.17	26.52	5.59	28.55	1.27	33.63	2195	403.86	6675
350 (37)	16.79	29.13	5.59	31.17	1.27	36.25	2515	434.34	9345
500 (37)	20.04	32.39	5.59	34.42	1.27	39.50	2947	474.98	13350
750 (61)	24.59	37.19	5.59	39.22	1.91	45.57	3778	546.10	20025
1000 (61)	28.37	40.97	5.59	43.00	1.91	49.35	4406	591.82	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
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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
2 (SOLID)	0.5315	0.73	0.0146	0.1739	0.591	5.2493	0.522+j0.188	0.224+j0.057	3334	120	150
2 (7)	0.8727	1.20	0.0137	0.1706	0.623	5.5774	0.661+j0.183	0.367+j0.058	3419	120	150
1 (SOLID)	0.4232	0.58	0.0134	0.1673	0.623	5.5774	0.472+j0.178	0.179+j0.054	3439	140	170
1 (19)	0.6923	0.95	0.0128	0.1640	0.689	5.9055	0.578+j0.172	0.291+j0.055	3551	140	170
1/0 (SOLID)	0.3346	0.46	0.0125	0.1608	0.689	5.9055	0.428+j0.169	0.142+j0.052	3561	155	195
1/0 (19)	0.5479	0.75	0.0119	0.1575	0.722	6.2336	0.513+j0.165	0.231+j0.053	3653	155	195
2/0 (19)	0.4364	0.60	0.0113	0.1509	0.787	6.8898	0.459+j0.155	0.184+j0.051	3798	180	220
3/0 (19)	0.3445	0.47	0.0104	0.1476	0.853	7.2178	0.413+j0.145	0.146+j0.049	3960	200	250
4/0 (19)	0.2756	0.38	0.0094	0.1411	0.919	7.8740	0.376+j0.136	0.117+j0.048	4147	235	285
250 (37)	0.2297	0.31	0.0088	0.1378	0.984	8.5302	0.347+j0.126	0.098+j0.047	4377	256	335
350 (37)	0.1673	0.23	0.0076	0.1280	1.115	9.8425	0.307+j0.112	0.072+j0.045	4725	310	375
500 (37)	0.1181	0.16	0.0067	0.1214	1.280	11.1549	0.272+j0.098	0.052+j0.043	5158	375	450
750 (61)	0.0755	0.11	0.0058	0.1181	1.509	13.1234	0.235+j0.082	0.036+j0.040	5798	470	550
1000 (61)	0.0558	0.08	0.0052	0.1115	1.706	14.7638	0.213+j0.072	0.028+j0.039	6302		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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