15kV AL 100% EPR (EAM) LCT LLDPE

Single Conductor, 175 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 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:** 175 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 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 175 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	0.646	175	0.726	50	0.926	812	11.1	398
2 (7)	0.283	0.671	175	0.751	50	0.951	840	11.4	398
1 (SOLID)	0.289	0.677	175	0.757	50	0.957	862	11.5	502
1 (19)	0.322	0.71	175	0.79	50	0.99	899	11.9	502
1/0 (SOLID)	0.325	0.713	175	0.793	50	0.993	922	11.9	633
1/0 (19)	0.352	0.74	175	0.82	50	1.02	952	12.2	633
2/0 (19)	0.395	0.783	175	0.863	50	1.063	1025	12.8	798
3/0 (19)	0.443	0.831	175	0.911	50	1.111	1110	13.3	1006
4/0 (19)	0.498	0.886	175	0.966	50	1.166	1211	14	1269
250 (37)	0.558	0.954	175	1.034	50	1.234	1327	14.8	1500
350 (37)	0.661	1.057	175	1.137	50	1.337	1533	16	2100
500 (37)	0.789	1.185	175	1.265	50	1.465	1813	17.6	3000
750 (61)	0.968	1.374	175	1.454	75	1.704	2354	20.4	4500
1000 (61)	1.117	1.523	175	1.603	75	1.853	2763	22.2	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	0.041	0.051	0.21	1.8	0.539+j0.209	0.224+j0.055	3030	120	150
2 (7)	0.266	0.365	0.038	0.05	0.23	2	0.677+j0.203	0.367+j0.056	3115	120	150
1 (SOLID)	0.129	0.177	0.038	0.049	0.23	2	0.488+j0.198	0.179+j0.052	3135	140	170
1 (19)	0.211	0.289	0.035	0.048	0.24	2.1	0.594+j0.190	0.291+j0.053	3246	140	170
1/0 (SOLID)	0.102	0.14	0.035	0.047	0.25	2.1	0.444+j0.187	0.142+j0.050	3257	155	195
1/0 (19)	0.167	0.229	0.033	0.046	0.26	2.2	0.528+j0.181	0.231+j0.051	3348	155	195
2/0 (19)	0.133	0.182	0.031	0.044	0.28	2.4	0.474+j0.170	0.184+j0.049	3493	180	220
3/0 (19)	0.105	0.144	0.029	0.043	0.3	2.6	0.428+j0.159	0.146+j0.048	3656	200	250
4/0 (19)	0.084	0.115	0.026	0.041	0.33	2.9	0.39+j0.148	0.117+j0.046	3842	235	285
250 (37)	0.07	0.096	0.024	0.04	0.36	3.1	0.360+j0.136	0.098+j0.045	4072	256	335
350 (37)	0.051	0.07	0.021	0.038	0.41	3.6	0.319+j0.120	0.072+j0.043	4421	310	375
500 (37)	0.036	0.05	0.018	0.036	0.47	4.1	0.282+j0.104	0.052+j0.041	4854	375	450
750 (61)	0.023	0.033	0.015	0.035	0.56	4.9	0.244+j0.087	0.035+j0.039	5493	470	550
1000 (61)	0.017	0.025	0.014	0.033	0.64	5.5	0.221+j0.076	0.028+j0.038	5997		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	16.41	4.44	18.44	1.27	23.52	1208	281.94	1771
2 (7)	7.19	17.04	4.44	19.08	1.27	24.16	1250	289.56	1771
1 (SOLID)	7.34	17.20	4.44	19.23	1.27	24.31	1283	292.10	2234
1 (19)	8.18	18.03	4.44	20.07	1.27	25.15	1338	302.26	2234
1/0 (SOLID)	8.25	18.11	4.44	20.14	1.27	25.22	1372	302.26	2817
1/0 (19)	8.94	18.80	4.44	20.83	1.27	25.91	1417	309.88	2817
2/0 (19)	10.03	19.89	4.44	21.92	1.27	27.00	1525	325.12	3551
3/0 (19)	11.25	21.11	4.44	23.14	1.27	28.22	1652	337.82	4477
4/0 (19)	12.65	22.50	4.44	24.54	1.27	29.62	1802	355.60	5647
250 (37)	14.17	24.23	4.44	26.26	1.27	31.34	1975	375.92	6675
350 (37)	16.79	26.85	4.44	28.88	1.27	33.96	2281	406.40	9345
500 (37)	20.04	30.10	4.44	32.13	1.27	37.21	2698	447.04	13350
750 (61)	24.59	34.90	4.44	36.93	1.91	43.28	3503	518.16	20025
1000 (61)	28.37	38.68	4.44	40.72	1.91	47.07	4112	563.88	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	0.0125	0.1673	0.689	5.9055	0.539+j0.209	0.224+j0.055	3030	120	150
2 (7)	0.8727	1.20	0.0116	0.1640	0.755	6.5617	0.677+j0.203	0.367+j0.056	3115	120	150
1 (SOLID)	0.4232	0.58	0.0116	0.1608	0.755	6.5617	0.488+j0.198	0.179+j0.052	3135	140	170
1 (19)	0.6923	0.95	0.0107	0.1575	0.787	6.8898	0.594+j0.190	0.291+j0.053	3246	140	170
1/0 (SOLID)	0.3346	0.46	0.0107	0.1542	0.820	6.8898	0.444+j0.187	0.142+j0.050	3257	155	195
1/0 (19)	0.5479	0.75	0.0101	0.1509	0.853	7.2178	0.528+j0.181	0.231+j0.051	3348	155	195
2/0 (19)	0.4364	0.60	0.0094	0.1444	0.919	7.8740	0.474+j0.170	0.184+j0.049	3493	180	220
3/0 (19)	0.3445	0.47	0.0088	0.1411	0.984	8.5302	0.428+j0.159	0.146+j0.048	3656	200	250
4/0 (19)	0.2756	0.38	0.0079	0.1345	1.083	9.5144	0.39+j0.148	0.117+j0.046	3842	235	285
250 (37)	0.2297	0.31	0.0073	0.1312	1.181	10.1706	0.360+j0.136	0.098+j0.045	4072	256	335
350 (37)	0.1673	0.23	0.0064	0.1247	1.345	11.8110	0.319+j0.120	0.072+j0.043	4421	310	375
500 (37)	0.1181	0.16	0.0055	0.1181	1.542	13.4514	0.282+j0.104	0.052+j0.041	4854	375	450
750 (61)	0.0755	0.11	0.0046	0.1148	1.837	16.0761	0.244+j0.087	0.035+j0.039	5493	470	550
1000 (61)	0.0558	0.08	0.0043	0.1083	2.100	18.0446	0.221+j0.076	0.028+j0.038	5997		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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