

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; Supersmooth conductor shield optional; 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 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
- 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] AL 15000 VOLTS EPR INSULATION 220 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
2 (Solid)	0.257	0.735	220	0.815	80	1.075	476	12.9	398
2 (7)	0.282	0.760	220	0.840	80	1.100	491	13.2	398
1 (Solid)	0.289	0.767	220	0.847	80	1.107	512	13.3	502
1 (19)	0.322	0.800	220	0.880	80	1.140	532	13.7	502
1/0 (Solid)	0.324	0.802	220	0.882	80	1.142	555	13.7	633
1/0 (19)	0.351	0.829	220	0.909	80	1.169	571	14.0	633
2/0 (19)	0.395	0.873	220	0.953	80	1.213	625	14.6	798
3/0 (19)	0.443	0.921	220	1.001	80	1.261	686	15.1	1006
4/0 (19)	0.498	0.976	220	1.056	80	1.316	762	15.8	1269
250 (37)	0.558	1.044	220	1.124	80	1.384	843	16.6	1500
350 (37)	0.661	1.147	220	1.227	80	1.487	1001	17.8	2100
500 (37)	0.789	1.275	220	1.355	80	1.615	1220	19.4	3000
750 (61)	0.968	1.464	220	1.544	110	1.864	1704	22.4	4500
1000 (61)	1.117	1.613	220	1.693	110	2.013	2045	24.2	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



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	0.204	0.054	0.055	0.091	2.99	0.258 + j0.767	0.204 + j0.053	2313	120	150
2 (7)	0.266	0.336	0.051	0.053	0.097	3.19	0.390 + j0.766	0.336 + j0.054	2383	120	150
1 (Solid)	0.129	0.162	0.050	0.053	0.098	3.23	0.216 + j0.762	0.162 + j0.050	2402	140	170
1 (19)	0.211	0.266	0.047	0.051	0.105	3.46	0.320 + j0.76	0.266 + j0.051	2494	140	170
1/0 (Solid)	0.102	0.128	0.047	0.051	0.106	3.49	0.182 + j0.758	0.128 + j0.048	2499	155	195
1/0 (19)	0.167	0.211	0.044	0.049	0.111	3.65	0.265 + j0.757	0.211 + j0.049	2574	155	195
2/0 (19)	0.133	0.167	0.041	0.047	0.120	3.95	0.221 + j0.752	0.167 + j0.047	2696	180	220
3/0 (19)	0.105	0.132	0.038	0.046	0.131	4.31	0.186 + j0.748	0.132 + j0.045	2829	200	250
4/0 (19)	0.084	0.105	0.035	0.044	0.142	4.67	0.159 + j0.743	0.105 + j0.044	2981	235	285
250 (37)	0.071	0.090	0.032	0.043	0.153	5.04	0.144 + j0.739	0.090 + j0.043	3170	256	335
350 (37)	0.050	0.065	0.028	0.040	0.174	5.73	0.119 + j0.731	0.065 + j0.040	3455	310	375
500 (37)	0.035	0.046	0.025	0.038	0.199	6.55	0.100 + j0.724	0.046 + j0.038	3810	375	450
750 (61)	0.024	0.033	0.021	0.037	0.231	7.60	0.087 + j0.712	0.033 + j0.037	4334	470	550
1000 (61)	0.018	0.026	0.019	0.035	0.261	8.59	0.080 + j0.705	0.026 + j0.035	4747		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.



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)	6.53	18.67	5.59	20.70	2.03	27.30	708	327.66	1771
2 (7)	7.16	19.30	5.59	21.34	2.03	27.94	731	335.28	1771
1 (Solid)	7.34	19.48	5.59	21.51	2.03	28.12	762	337.82	2234
1 (19)	8.18	20.32	5.59	22.35	2.03	28.96	792	347.98	2234
1/0 (Solid)	8.23	20.37	5.59	22.40	2.03	29.01	826	347.98	2817
1/0 (19)	8.92	21.06	5.59	23.09	2.03	29.69	850	355.60	2817
2/0 (19)	10.03	22.17	5.59	24.21	2.03	30.81	930	370.84	3551
3/0 (19)	11.25	23.39	5.59	25.43	2.03	32.03	1021	383.54	4477
4/0 (19)	12.65	24.79	5.59	26.82	2.03	33.43	1134	401.32	5647
250 (37)	14.17	26.52	5.59	28.55	2.03	35.15	1255	421.64	6675
350 (37)	16.79	29.13	5.59	31.17	2.03	37.77	1490	452.12	9345
500 (37)	20.04	32.39	5.59	34.42	2.03	41.02	1816	492.76	13350
750 (61)	24.59	37.19	5.59	39.22	2.79	47.35	2536	568.96	20025
1000 (61)	28.37	40.97	5.59	43.00	2.79	51.13	3043	614.68	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



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	0.67	0.0165	0.1804	0.299	9.8097	0.258 + j0.767	0.204 + j0.053	2313	120	150
2 (7)	0.8727	1.10	0.0155	0.1739	0.318	10.4659	0.390 + j0.766	0.336 + j0.054	2383	120	150
1 (Solid)	0.4232	0.53	0.0152	0.1739	0.322	10.5971	0.216 + j0.762	0.162 + j0.050	2402	140	170
1 (19)	0.6923	0.87	0.0143	0.1673	0.344	11.3517	0.320 + j0.76	0.266 + j0.051	2494	140	170
1/0 (Solid)	0.3346	0.42	0.0143	0.1673	0.348	11.4501	0.182 + j0.758	0.128 + j0.048	2499	155	195
1/0 (19)	0.5479	0.69	0.0134	0.1608	0.364	11.9751	0.265 + j0.757	0.211 + j0.049	2574	155	195
2/0 (19)	0.4364	0.55	0.0125	0.1542	0.394	12.9593	0.221 + j0.752	0.167 + j0.047	2696	180	220
3/0 (19)	0.3445	0.43	0.0116	0.1509	0.430	14.1404	0.186 + j0.748	0.132 + j0.045	2829	200	250
4/0 (19)	0.2756	0.34	0.0107	0.1444	0.466	15.3215	0.159 + j0.743	0.105 + j0.044	2981	235	285
250 (37)	0.2329	0.30	0.0098	0.1411	0.502	16.5354	0.144 + j0.739	0.090 + j0.043	3170	256	335
350 (37)	0.1640	0.21	0.0085	0.1312	0.571	18.7992	0.119 + j0.731	0.065 + j0.040	3455	310	375
500 (37)	0.1148	0.15	0.0076	0.1247	0.653	21.4895	0.100 + j0.724	0.046 + j0.038	3810	375	450
750 (61)	0.0787	0.11	0.0064	0.1214	0.758	24.9344	0.087 + j0.712	0.033 + j0.037	4334	470	550
1000 (61)	0.0591	0.09	0.0058	0.1148	0.856	28.1824	0.080 + j0.705	0.026 + j0.035	4747		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.

