



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 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





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	523	12.9	398
2 (7)	0.282	0.760	220	0.840	80	1.100	540	13.2	398
1 (Solid)	0.289	0.767	220	0.847	80	1.107	562	13.3	502
1 (19)	0.322	0.800	220	0.880	80	1.140	584	13.7	502
1/0 (Solid)	0.324	0.802	220	0.882	80	1.142	606	13.7	633
1/0 (19)	0.351	0.829	220	0.909	80	1.169	624	14.0	633
2/0 (19)	0.395	0.873	220	0.953	80	1.213	680	14.6	798
3/0 (19)	0.443	0.921	220	1.001	80	1.261	745	15.1	1006
4/0 (19)	0.498	0.976	220	1.056	80	1.316	823	15.8	1269
250 (37)	0.558	1.044	220	1.124	80	1.384	908	16.6	1500
350 (37)	0.661	1.147	220	1.227	80	1.487	1072	17.8	2100
500 (37)	0.789	1.275	220	1.355	80	1.615	1299	19.4	3000
750 (61)	0.968	1.464	220	1.544	110	1.864	1794	22.4	4500
1000 (61)	1.117	1.613	220	1.693	110	2.013	2142	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	0.047	0.055	0.182	13.6	0.534 + j0.236	0.205 + j0.055	3332	120	150
2 (7)	0.266	0.336	0.044	0.053	0.192	14.3	0.661 + j0.227	0.337 + j0.053	3417	120	150
1 (Solid)	0.129	0.162	0.044	0.053	0.194	14.4	0.486 + j0.224	0.163 + j0.053	3440	140	170
1 (19)	0.211	0.266	0.041	0.051	0.207	15.4	0.584 + j0.213	0.267 + j0.051	3552	140	170
1/0 (Solid)	0.102	0.128	0.041	0.051	0.209	15.6	0.446 + j0.212	0.129 + j0.051	3559	155	195
1/0 (19)	0.167	0.211	0.039	0.049	0.220	16.4	0.524 + j0.204	0.212 + j0.050	3650	155	195
2/0 (19)	0.133	0.167	0.036	0.047	0.236	17.6	0.472 + j0.191	0.168 + j0.048	3799	180	220
3/0 (19)	0.105	0.132	0.033	0.046	0.255	19.0	0.428 + j0.178	0.133 + j0.046	3962	200	250
4/0 (19)	0.084	0.105	0.031	0.044	0.276	20.6	0.392 + j0.165	0.106 + j0.045	4148	235	285
250 (37)	0.071	0.090	0.028	0.043	0.303	22.6	0.366 + j0.151	0.091 + j0.043	4378	256	335
350 (37)	0.050	0.065	0.025	0.040	0.343	25.5	0.325 + j0.133	0.066 + j0.041	4727	310	375
500 (37)	0.035	0.046	0.022	0.038	0.392	29.2	0.289 + j0.115	0.047 + j0.039	5160	375	450
750 (61)	0.024	0.033	0.018	0.037	0.464	34.6	0.253 + j0.095	0.035 + j0.037	5800	470	550
1000 (61)	0.018	0.026	0.016	0.035	0.521	38.8	0.231 + j0.083	0.028 + j0.036	6304		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.





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	778	327.66	1771
2 (7)	7.16	19.30	5.59	21.34	2.03	27.94	804	335.28	1771
1 (Solid)	7.34	19.48	5.59	21.51	2.03	28.12	836	337.82	2234
1 (19)	8.18	20.32	5.59	22.35	2.03	28.96	869	347.98	2234
1/0 (Solid)	8.23	20.37	5.59	22.40	2.03	29.01	902	347.98	2817
1/0 (19)	8.92	21.06	5.59	23.09	2.03	29.69	929	355.60	2817
2/0 (19)	10.03	22.17	5.59	24.21	2.03	30.81	1012	370.84	3551
3/0 (19)	11.25	23.39	5.59	25.43	2.03	32.03	1109	383.54	4477
4/0 (19)	12.65	24.79	5.59	26.82	2.03	33.43	1225	401.32	5647
250 (37)	14.17	26.52	5.59	28.55	2.03	35.15	1351	421.64	6675
350 (37)	16.79	29.13	5.59	31.17	2.03	37.77	1595	452.12	9345
500 (37)	20.04	32.39	5.59	34.42	2.03	41.02	1933	492.76	13350
750 (61)	24.59	37.19	5.59	39.22	2.79	47.35	2670	568.96	20025
1000 (61)	28.37	40.97	5.59	43.00	2.79	51.13	3188	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	0.0143	0.1804	0.597	44.6194	0.534 + j0.236	0.205 + j0.055	3332	120	150
2 (7)	0.8727	1.10	0.0134	0.1739	0.630	46.9160	0.661 + j0.227	0.337 + j0.053	3417	120	150
1 (Solid)	0.4232	0.53	0.0134	0.1739	0.636	47.2441	0.486 + j0.224	0.163 + j0.053	3440	140	170
1 (19)	0.6923	0.87	0.0125	0.1673	0.679	50.5249	0.584 + j0.213	0.267 + j0.051	3552	140	170
1/0 (Solid)	0.3346	0.42	0.0125	0.1673	0.686	51.1811	0.446 + j0.212	0.129 + j0.051	3559	155	195
1/0 (19)	0.5479	0.69	0.0119	0.1608	0.722	53.8058	0.524 + j0.204	0.212 + j0.050	3650	155	195
2/0 (19)	0.4364	0.55	0.0110	0.1542	0.774	57.7428	0.472 + j0.191	0.168 + j0.048	3799	180	220
3/0 (19)	0.3445	0.43	0.0101	0.1509	0.837	62.3360	0.428 + j0.178	0.133 + j0.046	3962	200	250
4/0 (19)	0.2756	0.34	0.0094	0.1444	0.906	67.5853	0.392 + j0.165	0.106 + j0.045	4148	235	285
250 (37)	0.2329	0.30	0.0085	0.1411	0.994	74.1470	0.366 + j0.151	0.091 + j0.043	4378	256	335
350 (37)	0.1640	0.21	0.0076	0.1312	1.125	83.6614	0.325 + j0.133	0.066 + j0.041	4727	310	375
500 (37)	0.1148	0.15	0.0067	0.1247	1.286	95.8005	0.289 + j0.115	0.047 + j0.039	5160	375	450
750 (61)	0.0787	0.11	0.0055	0.1214	1.522	113.5171	0.253 + j0.095	0.035 + j0.037	5800	470	550
1000 (61)	0.0591	0.09	0.0049	0.1148	1.709	127.2966	0.231 + j0.083	0.028 + j0.036	6304		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.

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