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; Supersmooth conductor shield optional; 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 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: -40ºC and MV 90ºC optional marking available upon request

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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.645	175	0.725	80	0.985	404	11.8	398
2 (7)	0.282	0.670	175	0.750	80	1.010	416	12.1	398
1 (Solid)	0.289	0.677	175	0.757	80	1.017	438	12.2	502
1 (19)	0.322	0.710	175	0.790	80	1.050	455	12.6	502
1/0 (Solid)	0.324	0.712	175	0.792	80	1.052	476	12.6	633
1/0 (19)	0.351	0.739	175	0.819	80	1.079	493	12.9	633
2/0 (19)	0.395	0.783	175	0.863	80	1.123	542	13.5	798
3/0 (19)	0.443	0.831	175	0.911	80	1.171	600	14.1	1006
4/0 (19)	0.498	0.886	175	0.966	80	1.226	671	14.7	1269
250 (37)	0.558	0.954	175	1.034	80	1.294	748	15.5	1500
350 (37)	0.661	1.057	175	1.137	80	1.397	898	16.8	2100
500 (37)	0.789	1.185	175	1.265	80	1.525	1108	18.3	3000
750 (61)	0.968	1.374	175	1.454	110	1.774	1574	21.3	4500
1000 (61)	1.117	1.523	175	1.603	110	1.923	1902	23.1	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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.053	0.104	3.42	0.258 + j0.771	0.204 + j0.051	2064	120	150
2 (7)	0.266	0.336	0.044	0.051	0.111	3.65	0.390 + j0.77	0.336 + j0.052	2133	120	150
1 (Solid)	0.129	0.162	0.044	0.051	0.112	3.69	0.216 + j0.766	0.162 + j0.048	2153	140	170
1 (19)	0.211	0.266	0.041	0.049	0.121	3.98	0.320 + j0.764	0.266 + j0.049	2244	140	170
1/0 (Solid)	0.102	0.128	0.040	0.049	0.122	4.02	0.182 + j0.761	0.128 + j0.047	2250	155	195
1/0 (19)	0.167	0.211	0.038	0.047	0.129	4.25	0.265 + j0.76	0.211 + j0.047	2325	155	195
2/0 (19)	0.133	0.167	0.035	0.046	0.140	4.61	0.221 + j0.756	0.167 + j0.045	2446	180	220
3/0 (19)	0.105	0.132	0.032	0.044	0.152	5.00	0.186 + j0.751	0.132 + j0.044	2580	200	250
4/0 (19)	0.084	0.105	0.030	0.042	0.166	5.46	0.159 + j0.746	0.105 + j0.042	2732	235	285
250 (37)	0.071	0.090	0.027	0.041	0.178	5.86	0.144 + j0.742	0.090 + j0.041	2920	256	335
350 (37)	0.050	0.065	0.024	0.039	0.204	6.71	0.119 + j0.734	0.065 + j0.039	3206	310	375
500 (37)	0.035	0.046	0.021	0.037	0.235	7.73	0.100 + j0.726	0.046 + j0.037	3561	375	450
750 (61)	0.024	0.033	0.018	0.036	0.273	8.98	0.087 + j0.714	0.033 + j0.036	4084	470	550
1000 (61)	0.018	0.026	0.016	0.034	0.309	10.17	0.080 + j0.707	0.026 + j0.034	4497		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.

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	16.38	4.44	18.42	2.03	25.02	601	299.72	1771
2 (7)	7.16	17.02	4.44	19.05	2.03	25.65	619	307.34	1771
1 (Solid)	7.34	17.20	4.44	19.23	2.03	25.83	652	309.88	2234
1 (19)	8.18	18.03	4.44	20.07	2.03	26.67	677	320.04	2234
1/0 (Solid)	8.23	18.08	4.44	20.12	2.03	26.72	708	320.04	2817
1/0 (19)	8.92	18.77	4.44	20.80	2.03	27.41	734	327.66	2817
2/0 (19)	10.03	19.89	4.44	21.92	2.03	28.52	807	342.90	3551
3/0 (19)	11.25	21.11	4.44	23.14	2.03	29.74	893	358.14	4477
4/0 (19)	12.65	22.50	4.44	24.54	2.03	31.14	999	373.38	5647
250 (37)	14.17	24.23	4.44	26.26	2.03	32.87	1113	393.70	6675
350 (37)	16.79	26.85	4.44	28.88	2.03	35.48	1336	426.72	9345
500 (37)	20.04	30.10	4.44	32.13	2.03	38.73	1649	464.82	13350
750 (61)	24.59	34.90	4.44	36.93	2.79	45.06	2342	541.02	20025
1000 (61)	28.37	38.68	4.44	40.72	2.79	48.84	2830	586.74	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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.1739	0.341	11.2205	0.258 + j0.771	0.204 + j0.051	2064	120	150
2 (7)	0.8727	1.10	0.0134	0.1673	0.364	11.9751	0.390 + j0.77	0.336 + j0.052	2133	120	150
1 (Solid)	0.4232	0.53	0.0134	0.1673	0.367	12.1063	0.216 + j0.766	0.162 + j0.048	2153	140	170
1 (19)	0.6923	0.87	0.0125	0.1608	0.397	13.0577	0.320 + j0.764	0.266 + j0.049	2244	140	170
1/0 (Solid)	0.3346	0.42	0.0122	0.1608	0.400	13.1890	0.182 + j0.761	0.128 + j0.047	2250	155	195
1/0 (19)	0.5479	0.69	0.0116	0.1542	0.423	13.9436	0.265 + j0.76	0.211 + j0.047	2325	155	195
2/0 (19)	0.4364	0.55	0.0107	0.1509	0.459	15.1247	0.221 + j0.756	0.167 + j0.045	2446	180	220
3/0 (19)	0.3445	0.43	0.0098	0.1444	0.499	16.4042	0.186 + j0.751	0.132 + j0.044	2580	200	250
4/0 (19)	0.2756	0.34	0.0091	0.1378	0.545	17.9134	0.159 + j0.746	0.105 + j0.042	2732	235	285
250 (37)	0.2329	0.30	0.0082	0.1345	0.584	19.2257	0.144 + j0.742	0.090 + j0.041	2920	256	335
350 (37)	0.1640	0.21	0.0073	0.1280	0.669	22.0144	0.119 + j0.734	0.065 + j0.039	3206	310	375
500 (37)	0.1148	0.15	0.0064	0.1214	0.771	25.3609	0.100 + j0.726	0.046 + j0.037	3561	375	450
750 (61)	0.0787	0.11	0.0055	0.1181	0.896	29.4619	0.087 + j0.714	0.033 + j0.036	4084	470	550
1000 (61)	0.0591	0.09	0.0049	0.1115	1.014	33.3661	0.080 + j0.707	0.026 + j0.034	4497		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.