



28kV AL 100% EPR (EAM) LCT LLDPE

Single Conductor, 280 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:** 280 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 28kV 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 28000 VOLTS EPR INSULATION 280 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
1 (Solid)	0.289	0.887	280	0.967	80	1.227	679	14.7	502
1 (19)	0.322	0.920	280	1.000	80	1.260	704	15.1	502
1/0 (Solid)	0.324	0.922	280	1.002	80	1.262	726	15.1	633
1/0 (19)	0.351	0.949	280	1.029	80	1.289	748	15.5	633
2/0 (19)	0.395	0.993	280	1.073	80	1.333	808	16.0	798
3/0 (19)	0.443	1.041	280	1.121	80	1.381	878	16.6	1006
4/0 (19)	0.498	1.096	280	1.176	80	1.436	961	17.2	1269
250 (37)	0.558	1.164	280	1.244	80	1.504	1052	18.0	1500
350 (37)	0.661	1.267	280	1.347	80	1.607	1226	19.3	2100
500 (37)	0.789	1.395	280	1.475	110	1.795	1570	21.5	3000
750 (61)	0.968	1.584	280	1.664	110	1.984	1987	23.8	4500
1000 (61)	1.117	1.733	280	1.813	110	2.133	2349	25.6	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
1 (Solid)	0.129	0.162	0.052	0.055	0.310	43.1	0.464 + j0.195	0.163 + j0.055	3847	140	170
1 (19)	0.211	0.266	0.048	0.053	0.330	45.9	0.562 + j0.186	0.267 + j0.054	3958	140	170
1/0 (Solid)	0.102	0.128	0.048	0.053	0.332	46.2	0.424 + j0.185	0.129 + j0.053	3965	155	195
1/0 (19)	0.167	0.211	0.046	0.052	0.348	48.4	0.502 + j0.178	0.212 + j0.052	4057	155	195
2/0 (19)	0.133	0.167	0.043	0.050	0.373	51.9	0.451 + j0.167	0.168 + j0.050	4206	180	220
3/0 (19)	0.105	0.132	0.040	0.048	0.401	55.8	0.408 + j0.157	0.133 + j0.048	4368	200	250
4/0 (19)	0.084	0.105	0.037	0.046	0.433	60.2	0.373 + j0.146	0.106 + j0.047	4554	235	285
250 (37)	0.071	0.090	0.034	0.044	0.472	65.6	0.348 + j0.135	0.091 + j0.045	4784	256	335
350 (37)	0.050	0.065	0.030	0.042	0.531	73.8	0.309 + j0.120	0.066 + j0.043	5133	310	375
500 (37)	0.035	0.046	0.026	0.041	0.603	83.8	0.274 + j0.105	0.048 + j0.041	5566	375	450
750 (61)	0.024	0.033	0.022	0.038	0.710	98.7	0.241 + j0.088	0.035 + j0.039	6206	470	550
1000 (61)	0.018	0.026	0.020	0.037	0.793	110.3	0.220 + j0.077	0.028 + j0.037	6711		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
1 (Solid)	7.34	22.53	7.11	24.56	2.03	31.17	1010	373.38	2234
1 (19)	8.18	23.37	7.11	25.40	2.03	32.00	1048	383.54	2234
1/0 (Solid)	8.23	23.42	7.11	25.45	2.03	32.05	1080	383.54	2817
1/0 (19)	8.92	24.10	7.11	26.14	2.03	32.74	1113	393.70	2817
2/0 (19)	10.03	25.22	7.11	27.25	2.03	33.86	1202	406.40	3551
3/0 (19)	11.25	26.44	7.11	28.47	2.03	35.08	1307	421.64	4477
4/0 (19)	12.65	27.84	7.11	29.87	2.03	36.47	1430	436.88	5647
250 (37)	14.17	29.57	7.11	31.60	2.03	38.20	1566	457.20	6675
350 (37)	16.79	32.18	7.11	34.21	2.03	40.82	1824	490.22	9345
500 (37)	20.04	35.43	7.11	37.47	2.79	45.59	2336	546.10	13350
750 (61)	24.59	40.23	7.11	42.27	2.79	50.39	2957	604.52	20025
1000 (61)	28.37	44.02	7.11	46.05	2.79	54.18	3496	650.24	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
1 (Solid)	0.4232	0.53	0.0158	0.1804	1.017	141.4042	0.464 + j0.195	0.163 + j0.055	3847	140	170
1 (19)	0.6923	0.87	0.0146	0.1739	1.083	150.5906	0.562 + j0.186	0.267 + j0.054	3958	140	170
1/0 (Solid)	0.3346	0.42	0.0146	0.1739	1.089	151.5748	0.424 + j0.185	0.129 + j0.053	3965	155	195
1/0 (19)	0.5479	0.69	0.0140	0.1706	1.142	158.7927	0.502 + j0.178	0.212 + j0.052	4057	155	195
2/0 (19)	0.4364	0.55	0.0131	0.1640	1.224	170.2756	0.451 + j0.167	0.168 + j0.050	4206	180	220
3/0 (19)	0.3445	0.43	0.0122	0.1575	1.316	183.0709	0.408 + j0.157	0.133 + j0.048	4368	200	250
4/0 (19)	0.2756	0.34	0.0113	0.1509	1.421	197.5066	0.373 + j0.146	0.106 + j0.047	4554	235	285
250 (37)	0.2329	0.30	0.0104	0.1444	1.549	215.2231	0.348 + j0.135	0.091 + j0.045	4784	256	335
350 (37)	0.1640	0.21	0.0091	0.1378	1.742	242.1260	0.309 + j0.120	0.066 + j0.043	5133	310	375
500 (37)	0.1148	0.15	0.0079	0.1345	1.978	274.9344	0.274 + j0.105	0.048 + j0.041	5566	375	450
750 (61)	0.0787	0.11	0.0067	0.1247	2.329	323.8189	0.241 + j0.088	0.035 + j0.039	6206	470	550
1000 (61)	0.0591	0.09	0.0061	0.1214	2.602	361.8766	0.220 + j0.077	0.028 + j0.037	6711		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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