28kV AL 133% EPR LCT LLDPE Primary UD

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR), 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:** 345 Mils Ethylene Propylene Rubber (EPR) 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 28kV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, 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
- UL 1072 Listed as MV 90 When Specified
- Optional CSA: CSA 68.5 and -40C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 28000 VOLTS EPR INSULATION 345 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

Table 1 – Weights and Measurements

Stock Number	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
TBA	1 (1)	0.289	1.016	345	1.076	80	1.336	843	16.0	502
TBA	1 (19)	0.322	1.049	345	1.109	80	1.369	879	16.4	502
TBA	1/0 (1)	0.325	1.052	345	1.112	80	1.372	889	16.5	634
TBA	1/0 (19)	0.352	1.079	345	1.139	80	1.399	919	16.8	634
TBA	2/0 (19)	0.395	1.122	345	1.182	80	1.442	979	17.3	799
TBA	3/0 (19)	0.443	1.170	345	1.230	80	1.490	1050	17.9	1007
TBA	4/0 (19)	0.498	1.225	345	1.285	80	1.545	1136	18.5	1270
TBA	250 (37)	0.558	1.294	345	1.354	80	1.580	1280	19.0	1500
TBA	350 (37)	0.661	1.397	345	1.457	110	1.743	1528	20.9	2100
TBA	500 (37)	0.789	1.525	345	1.585	110	1.871	1787	22.5	3000
TBA	750 (61)	0.968	1.713	345	1.773	110	2.059	2199	24.7	4500
TBA	1000 (61)	1.117	1.862	345	1.922	110	2.208	2577	26.5	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 (1)	0.211	0.265	0.064	0.054	0.254	82.257	0.525+j0.146	0.266+j0.054	4195.4	140	170
1 (19)	0.211	0.265	0.060	0.052	0.270	87.202	0.520+j0.139	0.266+j0.052	4306.6	140	170
1/0 (1)	0.168	0.211	0.060	0.052	0.271	87.649	0.466+j0.139	0.212+j0.052	4316.7	155	195
1/0 (19)	0.168	0.211	0.057	0.051	0.283	91.652	0.461+j0.134	0.212+j0.051	4407.7	155	195
2/0 (19)	0.133	0.167	0.053	0.049	0.303	97.968	0.411+j0.126	0.168+j0.049	4552.5	180	220
3/0 (19)	0.105	0.132	0.050	0.048	0.325	104.947	0.369+j0.119	0.133+j0.048	4714.2	200	250
4/0 (19)	0.0836	0.105	0.046	0.046	0.349	112.870	0.334+j0.111	0.106+j0.046	4899.5	235	285
250 (37)	0.0707	0.089	0.043	0.044	0.380	122.722	0.309+j0.102	0.090+j0.044	5131.9		
350 (37)	0.0505	0.064	0.038	0.042	0.425	137.294	0.272+j0.092	0.065+j0.042	5478.9	310	375
500 (37)	0.0354	0.045	0.034	0.040	0.480	155.241	0.239+j0.081	0.047+j0.040	5910.1	375	455
750 (61)	0.0236	0.030	0.029	0.038	0.561	181.384	0.207+j0.068	0.032+j0.038	6543.4	470	560
1000 (61)	0.0177	0.023	0.026	0.036	0.625	201.980	0.188+j0.060	0.025+j0.036	7045.4	540	645

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter
† Ampacities are based on Figure 7 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)
‡ Ampacities are based on Figure 1 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

Table 3 – Weights and Measurements (Metric)

Stock Number	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
TBA	1 (1)	7.34	25.81	8.76	27.33	2.03	33.93	1255	406.40	2234
TBA	1 (19)	8.18	26.64	8.76	28.17	2.03	34.77	1308	416.56	2234
TBA	1/0 (1)	8.25	26.72	8.76	28.24	2.03	34.85	1323	419.10	2821
TBA	1/0 (19)	8.94	27.41	8.76	28.93	2.03	35.53	1368	426.72	2821
TBA	2/0 (19)	10.03	28.50	8.76	30.02	2.03	36.63	1457	439.42	3556
TBA	3/0 (19)	11.25	29.72	8.76	31.24	2.03	37.85	1563	454.66	4481
TBA	4/0 (19)	12.65	31.12	8.76	32.64	2.03	39.24	1691	469.90	5652
TBA	250 (37)	14.17	32.87	8.76	34.39	2.03	40.13	1905	482.60	6675
TBA	350 (37)	16.79	35.48	8.76	37.01	2.79	44.27	2274	530.86	9345
TBA	500 (37)	20.04	38.73	8.76	40.26	2.79	47.52	2659	571.50	13350
TBA	750 (61)	24.59	43.51	8.76	45.03	2.79	52.30	3272	627.38	20025
TBA	1000 (61)	28.37	47.29	8.76	48.82	2.79	56.08	3835	673.10	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 (1)	0.6923	0.87	0.0195	0.1772	0.833	269.8720	0.525+j0.146	0.266+j0.054	4195.4	140	170
1 (19)	0.6923	0.87	0.0183	0.1706	0.886	286.0958	0.520+j0.139	0.266+j0.052	4306.6	140	170
1/0 (1)	0.5512	0.69	0.0183	0.1706	0.889	287.5623	0.466+j0.139	0.212+j0.052	4316.7	155	195
1/0 (19)	0.5512	0.69	0.0174	0.1673	0.928	300.6955	0.461+j0.134	0.212+j0.051	4407.7	155	195
2/0 (19)	0.4364	0.55	0.0162	0.1608	0.994	321.4173	0.411+j0.126	0.168+j0.049	4552.5	180	220
3/0 (19)	0.3445	0.43	0.0152	0.1575	1.066	344.3143	0.369+j0.119	0.133+j0.048	4714.2	200	250
4/0 (19)	0.2743	0.34	0.0140	0.1509	1.145	370.3084	0.334+j0.111	0.106+j0.046	4899.5	235	285
250 (37)	0.2320	0.29	0.0131	0.1444	1.247	402.6312	0.309+j0.102	0.090+j0.044	5131.9		
350 (37)	0.1657	0.21	0.0116	0.1378	1.394	450.4396	0.272+j0.092	0.065+j0.042	5478.9	310	375
500 (37)	0.1161	0.15	0.0104	0.1312	1.575	509.3209	0.239+j0.081	0.047+j0.040	5910.1	375	455
750 (61)	0.0774	0.10	0.0088	0.1247	1.841	595.0919	0.207+j0.068	0.032+j0.038	6543.4	470	560
1000 (61)	0.0581	0.08	0.0079	0.1181	2.051	662.6640	0.188+j0.060	0.025+j0.036	7045.4	540	645

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter
† Ampacities are based on Figure 7 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)
‡ Ampacities are based on Figure 1 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)