

35kV AL 100% EPR LCT LLDPE Primary UD

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

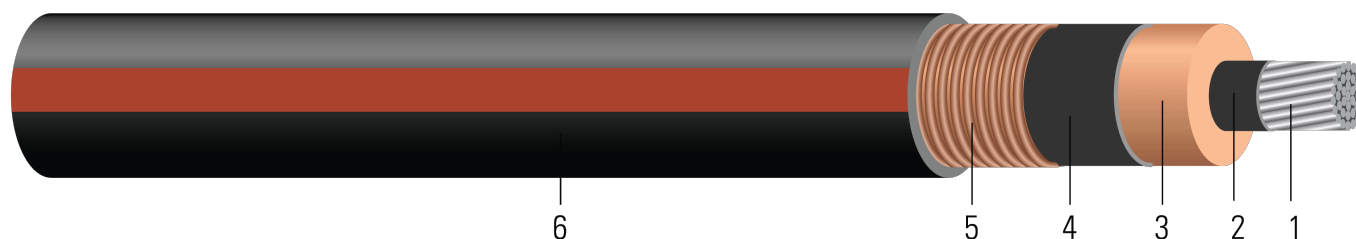


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked Optional)
- 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
- Insulation:** 345 Mils Ethylene Propylene Rubber (EPR) 100% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
- Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 35kV 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
- 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-DR(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 35000 VOLTS EPR INSULATION 345 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



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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	1/0 (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
663041#	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

Solid Black Jacket



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
1/0 (1)	0.168	0.211	0.060	0.052	0.339	136.952	0.466+j0.139	0.212+j0.052	4316.7	160	195
1/0 (19)	0.168	0.211	0.057	0.051	0.354	143.207	0.461+j0.134	0.212+j0.051	4407.7	160	195
2/0 (19)	0.133	0.167	0.053	0.049	0.379	153.075	0.411+j0.126	0.168+j0.049	4552.5	185	220
3/0 (19)	0.105	0.132	0.050	0.048	0.406	163.979	0.369+j0.119	0.133+j0.048	4714.2	210	250
4/0 (19)	0.0836	0.105	0.046	0.046	0.436	176.359	0.334+j0.111	0.106+j0.046	4899.5	235	285
250 (37)	0.0707	0.089	0.043	0.044	0.474	191.754	0.309+j0.102	0.090+j0.044	5131.9		
350 (37)	0.0505	0.064	0.038	0.042	0.531	214.523	0.272+j0.092	0.065+j0.042	5478.9	315	375
500 (37)	0.0354	0.045	0.034	0.040	0.600	242.564	0.239+j0.081	0.047+j0.040	5910.1	380	450
750 (61)	0.0236	0.030	0.029	0.038	0.701	283.412	0.207+j0.068	0.032+j0.038	6543.4	480	555
1000 (61)	0.0177	0.023	0.026	0.036	0.781	315.594	0.188+j0.060	0.025+j0.036	7045.4	550	640

* 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 P-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 P-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	1/0 (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
663041#	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

Solid Black Jacket



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
1/0 (1)	0.5512	0.69	0.0183	0.1706	1.112	449.3176	0.466+j0.139	0.212+j0.052	4316.7	160	195
1/0 (19)	0.5512	0.69	0.0174	0.1673	1.161	469.8392	0.461+j0.134	0.212+j0.051	4407.7	160	195
2/0 (19)	0.4364	0.55	0.0162	0.1608	1.243	502.2146	0.411+j0.126	0.168+j0.049	4552.5	185	220
3/0 (19)	0.3445	0.43	0.0152	0.1575	1.332	537.9888	0.369+j0.119	0.133+j0.048	4714.2	210	250
4/0 (19)	0.2743	0.34	0.0140	0.1509	1.430	578.6056	0.334+j0.111	0.106+j0.046	4899.5	235	285
250 (37)	0.2320	0.29	0.0131	0.1444	1.555	629.1142	0.309+j0.102	0.090+j0.044	5131.9		
350 (37)	0.1657	0.21	0.0116	0.1378	1.742	703.8156	0.272+j0.092	0.065+j0.042	5478.9	315	375
500 (37)	0.1161	0.15	0.0104	0.1312	1.969	795.8136	0.239+j0.081	0.047+j0.040	5910.1	380	450
750 (61)	0.0774	0.10	0.0088	0.1247	2.300	929.8294	0.207+j0.068	0.032+j0.038	6543.4	480	555
1000 (61)	0.0581	0.08	0.0079	0.1181	2.562	1035.4134	0.188+j0.060	0.025+j0.036	7045.4	550	640

* 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 P-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 P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

