35kV AL 100% EPR One-Third Neutral LLDPE Primary UD

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

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) 100% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Concentric Neutral:** Helically applied soft drawn bare copper one-third concentric neutral
6. **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-94-649 Standard for Concentric Neutral Cables Rated 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV
- UL 1072 - Listed Listed as MV 90 When Specified

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 35000 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	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	inch	inch	mil	inch	No. x AWG	Ω /1000ft	mil	inch	lb /1000ft	inch	lb
TBA	1/0 (1)	0.325	1.052	345	1.152	6x14	0.438	50	1.380	844	16.6	634
TBA	1/0 (19)	0.352	1.079	345	1.179	6x14	0.438	50	1.407	876	16.9	634
TBA	2/0 (19)	0.395	1.122	345	1.222	7x14	0.376	50	1.450	951	17.4	799
TBA	3/0 (19)	0.443	1.170	345	1.270	9x14	0.292	50	1.498	1048	18.0	1007
TBA	4/0 (19)	0.498	1.225	345	1.325	11x14	0.239	50	1.553	1159	18.6	1270
TBA	250 (37)	0.558	1.294	345	1.394	13x14	0.202	50	1.622	1290	19.5	1500
TBA	350 (37)	0.661	1.397	345	1.497	18x14	0.146	80	1.785	1603	21.4	2100
TBA	500 (37)	0.789	1.525	345	1.625	16x12	0.104	80	1.945	1994	23.3	3000
660962	750 (61)	0.968	1.713	345	1.843	24x12	0.069	80	2.163	2616	26.0	4500
661920	1000 (61)	1.117	1.862	345	1.992	20x10	0.052	80	2.356	3214	28.3	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
1/0 (1)	0.168	0.211	0.060	0.052	0.339	136.952	0.523+j0.238	0.212+j0.052	2083.1	160	195
1/0 (19)	0.168	0.211	0.057	0.051	0.354	143.207	0.522+j0.237	0.212+j0.051	2083.1	160	195
2/0 (19)	0.133	0.167	0.053	0.050	0.379	153.075	0.456+j0.197	0.168+j0.049	2430.3	185	220
3/0 (19)	0.105	0.132	0.050	0.048	0.406	163.979	0.381+j0.144	0.133+j0.048	3124.7	210	250
4/0 (19)	0.0836	0.105	0.046	0.046	0.436	176.359	0.320+j0.112	0.106+j0.046	3819.1	235	285
250 (37)	0.0707	0.089	0.043	0.044	0.474	191.754	0.278+j0.090	0.091+j0.044	4513.5		
350 (37)	0.0505	0.064	0.038	0.043	0.531	214.523	0.207+j0.062	0.066+j0.043	6249.4	315	370
500 (37)	0.0354	0.045	0.034	0.041	0.600	242.564	0.151+j0.046	0.048+j0.040	8825.9	380	450
750 (61)	0.0236	0.030	0.029	0.039	0.701	283.412	0.102+j0.033	0.035+j0.037	13238.9	470	545
1000 (61)	0.0177	0.023	0.026	0.038	0.781	315.594	0.077+j0.029	0.029+j0.035	17537.0	530	620

* Calculations are based on three cables triplexed / concentric 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	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	mm	mm	mm	mm	No. x AWG	Ω/km	mm	mm	kg/km	mm	newton
TBA	1/0 (1)	8.25	26.72	8.76	29.26	6x14	1.44	1.27	35.05	1256	421.64	2821
TBA	1/0 (19)	8.94	27.41	8.76	29.95	6x14	1.44	1.27	35.74	1304	429.26	2821
TBA	2/0 (19)	10.03	28.50	8.76	31.04	7x14	1.23	1.27	36.83	1415	441.96	3556
TBA	3/0 (19)	11.25	29.72	8.76	32.26	9x14	0.96	1.27	38.05	1560	457.20	4481
TBA	4/0 (19)	12.65	31.12	8.76	33.65	11x14	0.78	1.27	39.45	1725	472.44	5652
TBA	250 (37)	14.17	32.87	8.76	35.41	13x14	0.66	1.27	41.20	1920	495.30	6675
TBA	350 (37)	16.79	35.48	8.76	38.02	18x14	0.48	2.03	45.34	2386	543.56	9345
TBA	500 (37)	20.04	38.73	8.76	41.28	16x12	0.34	2.03	49.40	2967	591.82	13350
660962	750 (61)	24.59	43.51	8.76	46.81	24x12	0.23	2.03	54.94	3893	660.40	20025
661920	1000 (61)	28.37	47.29	8.76	50.60	20x10	0.17	2.03	59.84	4783	718.82	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
1/0 (1)	0.5512	0.69	0.0183	0.1706	1.112	449.3176	0.523+j0.238	0.212+j0.052	2083.1	160	195
1/0 (19)	0.5512	0.69	0.0174	0.1673	1.161	469.8392	0.522+j0.237	0.212+j0.051	2083.1	160	195
2/0 (19)	0.4364	0.55	0.0162	0.1640	1.243	502.2146	0.456+j0.197	0.168+j0.049	2430.3	185	220
3/0 (19)	0.3445	0.43	0.0152	0.1575	1.332	537.9888	0.381+j0.144	0.133+j0.048	3124.7	210	250
4/0 (19)	0.2743	0.34	0.0140	0.1509	1.430	578.6056	0.320+j0.112	0.106+j0.046	3819.1	235	285
250 (37)	0.2320	0.29	0.0131	0.1444	1.555	629.1142	0.278+j0.090	0.091+j0.044	4513.5		
350 (37)	0.1657	0.21	0.0116	0.1411	1.742	703.8156	0.207+j0.062	0.066+j0.043	6249.4	315	370
500 (37)	0.1161	0.15	0.0104	0.1345	1.969	795.8136	0.151+j0.046	0.048+j0.040	8825.9	380	450
750 (61)	0.0774	0.10	0.0088	0.1280	2.300	929.8294	0.102+j0.033	0.035+j0.037	13238.9	470	545
1000 (61)	0.0581	0.08	0.0079	0.1247	2.562	1035.4134	0.077+j0.029	0.029+j0.035	17537.0	530	620

* Calculations are based on three cables triplexed / concentric 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)