

35kV AL 100% EPR Full Neutral LLDPE Primary UD

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

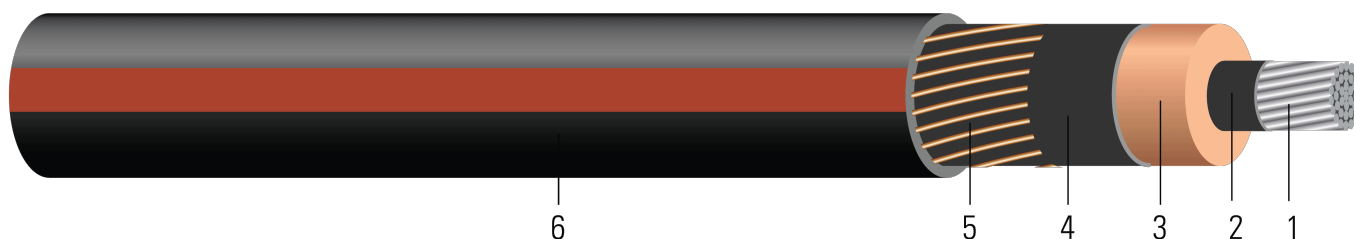


Image not to scale. See Table 1 for dimensions.

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
- Concentric Neutral:** Helically applied soft drawn bare copper full concentric neutral
- 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 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 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	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
607453	1/0 (1)	0.325	1.052	345	1.152	16x14	0.164	50	1.380	955	16.6	634
618505#	1/0 (19)	0.352	1.079	345	1.179	16x14	0.164	50	1.407	987	16.9	634
619194	1/0 (19)	0.352	1.079	345	1.179	16x14	0.164	50	1.407	987	16.9	634
TBA	2/0 (19)	0.395	1.122	345	1.222	13x12	0.128	50	1.482	1133	17.8	799
TBA	3/0 (19)	0.443	1.170	345	1.270	16x12	0.104	50	1.530	1262	18.4	1007
TBA	4/0 (19)	0.498	1.225	345	1.325	13x10	0.080	50	1.629	1480	19.5	1270
TBA	250 (37)	0.558	1.294	345	1.394	16x10	0.065	80	1.758	1741	21.1	1500
TBA	350 (37)	0.661	1.397	345	1.497	16x9	0.052	80	1.886	2088	22.6	2100

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

Hi-Dri-Plus® - Water Blocking Powder

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	0.371+j0.078	0.213+j0.052	5555.1	160	195
1/0 (19)	0.168	0.211	0.057	0.051	0.354	143.207	0.371+j0.077	0.213+j0.051	5555.1	160	195
1/0 (19)	0.168	0.211	0.057	0.051	0.354	143.207	0.371+j0.077	0.213+j0.051	5555.1	160	195
2/0 (19)	0.133	0.167	0.053	0.050	0.379	153.075	0.295+j0.063	0.170+j0.049	7171.1	185	220
3/0 (19)	0.105	0.132	0.050	0.048	0.406	163.979	0.238+j0.053	0.135+j0.047	8825.9	210	250
4/0 (19)	0.0836	0.105	0.046	0.047	0.436	176.359	0.186+j0.045	0.109+j0.046	11399.0	240	285
250 (37)	0.0707	0.089	0.043	0.046	0.474	191.754	0.156+j0.039	0.094+j0.044	14029.6		
350 (37)	0.0505	0.064	0.038	0.044	0.531	214.523	0.117+j0.035	0.070+j0.041	17692.4	315	370

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohm-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
607453	1/0 (1)	8.25	26.72	8.76	29.26	16x14	0.54	1.27	35.05	1421	421.64	2821
618505#	1/0 (19)	8.94	27.41	8.76	29.95	16x14	0.54	1.27	35.74	1469	429.26	2821
619194	1/0 (19)	8.94	27.41	8.76	29.95	16x14	0.54	1.27	35.74	1469	429.26	2821
TBA	2/0 (19)	10.03	28.50	8.76	31.04	13x12	0.42	1.27	37.64	1686	452.12	3556
TBA	3/0 (19)	11.25	29.72	8.76	32.26	16x12	0.34	1.27	38.86	1878	467.36	4481
TBA	4/0 (19)	12.65	31.12	8.76	33.65	13x10	0.26	1.27	41.38	2202	495.30	5652
TBA	250 (37)	14.17	32.87	8.76	35.41	16x10	0.21	2.03	44.65	2591	535.94	6675
TBA	350 (37)	16.79	35.48	8.76	38.02	16x9	0.17	2.03	47.90	3107	574.04	9345

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

Hi-Dri-Plus® - Water Blocking Powder

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	0.371+j0.078	0.213+j0.052	5555.1	160	195
1/0 (19)	0.5512	0.69	0.0174	0.1673	1.161	469.8392	0.371+j0.077	0.213+j0.051	5555.1	160	195
1/0 (19)	0.5512	0.69	0.0174	0.1673	1.161	469.8392	0.371+j0.077	0.213+j0.051	5555.1	160	195
2/0 (19)	0.4364	0.55	0.0162	0.1640	1.243	502.2146	0.295+j0.063	0.170+j0.049	7171.1	185	220
3/0 (19)	0.3445	0.43	0.0152	0.1575	1.332	537.9888	0.238+j0.053	0.135+j0.047	8825.9	210	250
4/0 (19)	0.2743	0.34	0.0140	0.1542	1.430	578.6056	0.186+j0.045	0.109+j0.046	11399.0	240	285
250 (37)	0.2320	0.29	0.0131	0.1509	1.555	629.1142	0.156+j0.039	0.094+j0.044	14029.6		
350 (37)	0.1657	0.21	0.0116	0.1444	1.742	703.8156	0.117+j0.035	0.070+j0.041	17692.4	315	370



* 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)

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