35kV AL 100% EPR (EAM) Full Neutral LLDPE

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 100% Insulation Level, Full Concentric Neutral, 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) / Ethylene Alkene Copolymer (EAM) 100% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Concentric Neutral:** Helically applied soft drawn bare copper full 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, 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 (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
- Optional CSA 68.5: -40ºC and MV 90ºC 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 (Solid)	0.324	1.045	345	1.155	16x14	0.164	50	1.383	971	11.1	633
618505#	1/0 (19)	0.351	1.072	345	1.182	16x14	0.164	50	1.410	1003	11.3	633
619194	1/0 (19)	0.351	1.072	345	1.182	16x14	0.164	50	1.410	1002	11.3	633
TBA	2/0 (19)	0.395	1.123	345	1.233	20x14	0.131	50	1.461	1086	11.7	798
TBA	3/0 (19)	0.443	1.171	345	1.281	25x14	0.105	50	1.509	1223	12.1	1006
TBA	4/0 (19)	0.498	1.226	345	1.336	32x14	0.082	50	1.564	1400	12.5	1269
TBA	250 (37)	0.558	1.294	345	1.404	25x12	0.066	75	1.716	1666	13.7	1500
TBA	350 (37)	0.661	1.397	345	1.507	32x12	0.051	75	1.819	1991	14.6	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 (Solid)	0.102	0.128	0.061	0.055	0.190	14.6	0.182 + j0.749	0.128 + j0.053	5579	160	195
1/0 (19)	0.167	0.211	0.058	0.054	0.199	15.3	0.265 + j0.748	0.211 + j0.053	5579	160	195
1/0 (19)	0.167	0.211	0.058	0.054	0.199	15.3	0.265 + j0.748	0.211 + j0.053	5579	160	195
2/0 (19)	0.133	0.167	0.054	0.052	0.214	16.4	0.221 + j0.744	0.167 + j0.051	6974	185	220
3/0 (19)	0.105	0.132	0.050	0.050	0.230	17.7	0.186 + j0.740	0.132 + j0.050	8718	210	250
4/0 (19)	0.084	0.105	0.047	0.048	0.248	19.0	0.159 + j0.735	0.105 + j0.048	11159	240	280
250 (37)	0.071	0.090	0.043	0.048	0.266	20.4	0.144 + j0.729	0.090 + j0.048	13852	261	
350 (37)	0.050	0.065	0.039	0.045	0.299	23.0	0.119 + j0.722	0.065 + j0.045	17730	315	365

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*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.

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 (Solid)	8.23	26.54	8.76	29.34	16x14	0.54	1.27	35.13	1445	281.94	2817
618505#	1/0 (19)	8.92	27.23	8.76	30.02	16x14	0.54	1.27	35.81	1493	287.02	2817
619194	1/0 (19)	8.92	27.23	8.76	30.02	16x14	0.54	1.27	35.81	1491	287.02	2817
TBA	2/0 (19)	10.03	28.52	8.76	31.32	20x14	0.43	1.27	37.11	1616	297.18	3551
TBA	3/0 (19)	11.25	29.74	8.76	32.54	25x14	0.34	1.27	38.33	1820	307.34	4477
TBA	4/0 (19)	12.65	31.14	8.76	33.93	32x14	0.27	1.27	39.73	2083	317.50	5647
TBA	250 (37)	14.17	32.87	8.76	35.66	25x12	0.22	1.91	43.59	2479	347.98	6675
TBA	350 (37)	16.79	35.48	8.76	38.28	32x12	0.17	1.91	46.20	2963	370.84	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

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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 (Solid)	0.3346	0.42	0.0186	0.1804	0.623	47.9003	0.182 + j0.749	0.128 + j0.053	5579	160	195
1/0 (19)	0.5479	0.69	0.0177	0.1772	0.653	50.1969	0.265 + j0.748	0.211 + j0.053	5579	160	195
1/0 (19)	0.5479	0.69	0.0177	0.1772	0.653	50.1969	0.265 + j0.748	0.211 + j0.053	5579	160	195
2/0 (19)	0.4364	0.55	0.0165	0.1706	0.702	53.8058	0.221 + j0.744	0.167 + j0.051	6974	185	220
3/0 (19)	0.3445	0.43	0.0152	0.1640	0.755	58.0709	0.186 + j0.740	0.132 + j0.050	8718	210	250
4/0 (19)	0.2756	0.34	0.0143	0.1575	0.814	62.3360	0.159 + j0.735	0.105 + j0.048	11159	240	280
250 (37)	0.2329	0.30	0.0131	0.1575	0.873	66.9291	0.144 + j0.729	0.090 + j0.048	13852	261	
350 (37)	0.1640	0.21	0.0119	0.1476	0.981	75.4593	0.119 + j0.722	0.065 + j0.045	17730	315	365

*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.

CN Calculator