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; 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 (1)	0.325	1.045	345	1.155	16x14	0.203	50	1.383	972	9.7	633
618505#	1/0 (19)	0.352	1.072	345	1.182	16x14	0.203	50	1.41	1003	9.9	633
619194	1/0 (19)	0.352	1.072	345	1.182	16x14	0.203	50	1.41	1002	9.9	633
TBA	2/0 (19)	0.395	1.123	345	1.243	20x14	0.162	50	1.471	1131	10.3	798
TBA	3/0 (19)	0.443	1.171	345	1.291	25x14	0.13	50	1.519	1271	10.6	1006
623232	4/0 (19)	0.498	1.218	345	1.328	20x12	0.102	50	1.59	1450	11.1	1269
TBA	250 (37)	0.558	1.294	345	1.414	24x12	0.085	75	1.726	1691	12.1	1500
TBA	350 (37)	0.661	1.397	345	1.517	21x10	0.061	75	1.871	2079	13.1	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
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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)	0.102	0.14	0.055	0.055	0.37	7.4	0.324+j0.086	0.143+j0.058	5585	160	195
1/0 (19)	0.167	0.229	0.053	0.054	0.38	7.7	0.413+j0.086	0.232+j0.058	5585	160	195
1/0 (19)	0.167	0.229	0.053	0.054	0.38	7.7	0.413+j0.086	0.232+j0.058	5585	160	195
2/0 (19)	0.133	0.182	0.05	0.052	0.41	8.2	0.333+j0.067	0.185+j0.056	6982	185	220
3/0 (19)	0.105	0.144	0.046	0.05	0.44	8.8	0.268+j0.054	0.148+j0.054	8727	210	250
4/0 (19)	0.084	0.115	0.043	0.048	0.47	9.5	0.214+j0.044	0.120+j0.052	11082	240	280
250 (37)	0.07	0.096	0.04	0.048	0.51	10.3	0.179+j0.039	0.103+j0.051	13298	261	302
350 (37)	0.051	0.07	0.036	0.046	0.57	11.5	0.130+j0.032	0.079+j0.047	18496	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, Spacing: one diameter spacing center-to-center.

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	26.54	8.76	29.34	16x14	0.67	1.27	35.13	1446	246.38	2817
618505#	1/0 (19)	8.94	27.23	8.76	30.02	16x14	0.67	1.27	35.81	1493	251.46	2817
619194	1/0 (19)	8.94	27.23	8.76	30.02	16x14	0.67	1.27	35.81	1491	251.46	2817
TBA	2/0 (19)	10.03	28.52	8.76	31.57	20x14	0.53	1.27	37.36	1683	261.62	3551
TBA	3/0 (19)	11.25	29.74	8.76	32.79	25x14	0.43	1.27	38.58	1891	269.24	4477
623232	4/0 (19)	12.65	30.94	8.76	33.73	20x12	0.33	1.27	40.39	2158	281.94	5647
TBA	250 (37)	14.17	32.87	8.76	35.92	24x12	0.28	1.91	43.84	2516	307.34	6675
TBA	350 (37)	16.79	35.48	8.76	38.53	21x10	0.20	1.91	47.52	3094	332.74	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
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 (1)	0.3346	0.46	0.0168	0.1804	1.214	24.2782	0.324+j0.086	0.143+j0.058	5585	160	195
1/0 (19)	0.5479	0.75	0.0162	0.1772	1.247	25.2625	0.413+j0.086	0.232+j0.058	5585	160	195
1/0 (19)	0.5479	0.75	0.0162	0.1772	1.247	25.2625	0.413+j0.086	0.232+j0.058	5585	160	195
2/0 (19)	0.4364	0.60	0.0152	0.1706	1.345	26.9029	0.333+j0.067	0.185+j0.056	6982	185	220
3/0 (19)	0.3445	0.47	0.0140	0.1640	1.444	28.8714	0.268+j0.054	0.148+j0.054	8727	210	250
4/0 (19)	0.2756	0.38	0.0131	0.1575	1.542	31.1680	0.214+j0.044	0.120+j0.052	11082	240	280
250 (37)	0.2297	0.31	0.0122	0.1575	1.673	33.7927	0.179+j0.039	0.103+j0.051	13298	261	302
350 (37)	0.1673	0.23	0.0110	0.1509	1.870	37.7297	0.130+j0.032	0.079+j0.047	18496	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.
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Concentric Neutral Calculator

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