25kV AL 133% EPR (EAM) Full Neutral LLDPE

Single Conductor, 320 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 133% 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:** 320 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 133% 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

For information about our Cable-Rejuvenation Services please visit us at: Cable-Rejuvenation Services
You can email us at: Cable-Rejuvenation Services

APPLICATIONS AND FEATURES:

Southwire's 25kV 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

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SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 25000 VOLTS EPR INSULATION 320 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 (SOLID)	0.289	0.967	320	1.067	13x14	0.249	50	1.295	829	9.1	502
TBA	1 (19)	0.322	1	320	1.12	13x14	0.249	50	1.348	876	9.4	502
TBA	1/0 (SOLID)	0.325	1.003	320	1.123	16x14	0.203	50	1.351	938	9.5	633
TBA	1/0 (19)	0.352	1.03	320	1.15	16x14	0.203	50	1.378	960	9.6	633
TBA	2/0 (19)	0.395	1.073	320	1.193	20x14	0.162	50	1.421	1073	9.9	798
TBA	3/0 (19)	0.443	1.121	320	1.241	25x14	0.13	50	1.469	1210	10.3	1006
616139	4/0 (19)	0.498	1.168	320	1.278	20x12	0.102	50	1.54	1389	10.8	1269
TBA	4/0 (19)	0.498	1.176	320	1.296	20x12	0.102	50	1.558	1374	10.9	1269
TBA	250 (37)	0.558	1.244	320	1.364	24x12	0.085	75	1.676	1623	11.7	1500
TBA	350 (37)	0.661	1.347	320	1.467	21x10	0.061	75	1.821	2006	12.7	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
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 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 (SOLID)	0.129	0.177	0.057	0.056	0.26	3.7	0.394+j0.110	0.179+j0.059	4538	140	170
1 (19)	0.211	0.289	0.053	0.055	0.27	3.9	0.506+j0.111	0.291+j0.060	4538	140	170
1/0 (SOLID)	0.102	0.14	0.053	0.054	0.27	3.9	0.324+j0.085	0.143+j0.058	5585	155	195
1/0 (19)	0.167	0.229	0.051	0.053	0.28	4.1	0.413+j0.086	0.232+j0.058	5585	155	195
2/0 (19)	0.133	0.182	0.047	0.051	0.3	4.4	0.334+j0.066	0.185+j0.056	6982	180	220
3/0 (19)	0.105	0.144	0.044	0.049	0.33	4.7	0.268+j0.053	0.148+j0.054	8727	205	250
4/0 (19)	0.084	0.115	0.041	0.048	0.36	5.1	0.214+j0.043	0.120+j0.051	11082	235	285
4/0 (19)	0.084	0.115	0.041	0.048	0.35	5.1	0.214+j0.043	0.120+j0.052	11082	235	285
250 (37)	0.07	0.096	0.038	0.047	0.38	5.5	0.179+j0.038	0.102+j0.050	13298	254	307
350 (37)	0.051	0.07	0.034	0.045	0.43	6.2	0.130+j0.032	0.079+j0.047	18496	305	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, Spacing: one diameter spacing center-to-center.

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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 (SOLID)	7.34	24.56	8.13	27.10	13x14	0.82	1.27	32.89	1234	231.14	2234
TBA	1 (19)	8.18	25.40	8.13	28.45	13x14	0.82	1.27	34.24	1304	238.76	2234
TBA	1/0 (SOLID)	8.25	25.48	8.13	28.52	16x14	0.67	1.27	34.32	1396	241.30	2817
TBA	1/0 (19)	8.94	26.16	8.13	29.21	16x14	0.67	1.27	35.00	1429	243.84	2817
TBA	2/0 (19)	10.03	27.25	8.13	30.30	20x14	0.53	1.27	36.09	1597	251.46	3551
TBA	3/0 (19)	11.25	28.47	8.13	31.52	25x14	0.43	1.27	37.31	1801	261.62	4477
616139	4/0 (19)	12.65	29.67	8.13	32.46	20x12	0.33	1.27	39.12	2067	274.32	5647
TBA	4/0 (19)	12.65	29.87	8.13	32.92	20x12	0.33	1.27	39.57	2045	276.86	5647
TBA	250 (37)	14.17	31.60	8.13	34.65	24x12	0.28	1.91	42.57	2415	297.18	6675
TBA	350 (37)	16.79	34.21	8.13	37.26	21x10	0.20	1.91	46.25	2985	322.58	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
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 (SOLID)	0.4232	0.58	0.0174	0.1837	0.853	12.1391	0.394+j0.110	0.179+j0.059	4538	140	170
1 (19)	0.6923	0.95	0.0162	0.1804	0.886	12.7953	0.506+j0.111	0.291+j0.060	4538	140	170
1/0 (SOLID)	0.3346	0.46	0.0162	0.1772	0.886	12.7953	0.324+j0.085	0.143+j0.058	5585	155	195
1/0 (19)	0.5479	0.75	0.0155	0.1739	0.919	13.4514	0.413+j0.086	0.232+j0.058	5585	155	195
2/0 (19)	0.4364	0.60	0.0143	0.1673	0.984	14.4357	0.334+j0.066	0.185+j0.056	6982	180	220
3/0 (19)	0.3445	0.47	0.0134	0.1608	1.083	15.4199	0.268+j0.053	0.148+j0.054	8727	205	250
4/0 (19)	0.2756	0.38	0.0125	0.1575	1.181	16.7323	0.214+j0.043	0.120+j0.051	11082	235	285
4/0 (19)	0.2756	0.38	0.0125	0.1575	1.148	16.7323	0.214+j0.043	0.120+j0.052	11082	235	285
250 (37)	0.2297	0.31	0.0116	0.1542	1.247	18.0446	0.179+j0.038	0.102+j0.050	13298	254	307
350 (37)	0.1673	0.23	0.0104	0.1476	1.411	20.3412	0.130+j0.032	0.079+j0.047	18496	305	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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