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; Supersmooth conductor shield optional; 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	1.057	13x14	0.202	50	1.285	794	10.3	502
TBA	1 (19)	0.322	1.000	320	1.110	13x14	0.202	50	1.338	837	10.7	502
TBA	1/0 (Solid)	0.324	1.002	320	1.112	16x14	0.164	50	1.340	900	10.7	633
TBA	1/0 (19)	0.351	1.029	320	1.139	16x14	0.164	50	1.367	920	10.9	633
TBA	2/0 (19)	0.395	1.073	320	1.183	20x14	0.131	50	1.411	1031	11.3	798
TBA	3/0 (19)	0.443	1.121	320	1.231	25x14	0.105	50	1.459	1167	11.7	1006
TBA	4/0 (19)	0.498	1.176	320	1.286	32x14	0.082	50	1.514	1341	12.1	1269
616139	4/0 (19)	0.498	1.168	320	1.278	20x12	0.083	50	1.539	1389	12.3	1269
TBA	250 (37)	0.558	1.244	320	1.354	25x12	0.066	75	1.666	1602	13.3	1500
TBA	350 (37)	0.661	1.347	320	1.457	32x12	0.051	75	1.769	1923	14.2	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

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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	0.162	0.062	0.056	0.132	7.24	0.216 + j0.755	0.162 + j0.054	4533	140	170
1 (19)	0.211	0.266	0.059	0.054	0.141	7.73	0.320 + j0.753	0.266 + j0.055	4533	140	170
1/0 (Solid)	0.102	0.128	0.058	0.054	0.141	7.73	0.182 + j0.750	0.128 + j0.052	5579	155	195
1/0 (19)	0.167	0.211	0.055	0.053	0.149	8.17	0.265 + j0.749	0.211 + j0.053	5579	155	195
2/0 (19)	0.133	0.167	0.052	0.051	0.160	8.78	0.221 + j0.745	0.167 + j0.051	6974	180	220
3/0 (19)	0.105	0.132	0.048	0.049	0.172	9.43	0.186 + j0.741	0.132 + j0.049	8718	205	250
4/0 (19)	0.084	0.105	0.044	0.047	0.186	10.20	0.159 + j0.737	0.105 + j0.047	11159	235	285
4/0 (19)	0.084	0.105	0.044	0.048	0.186	10.20	0.159 + j0.736	0.105 + j0.047	11081	235	285
250 (37)	0.071	0.090	0.041	0.047	0.199	10.92	0.144 + j0.730	0.090 + j0.047	13852	254	307
350 (37)	0.050	0.065	0.037	0.044	0.224	12.29	0.119 + j0.724	0.065 + j0.044	17730	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.

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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	26.85	13x14	0.66	1.27	32.64	1182	261.62	2234
TBA	1 (19)	8.18	25.40	8.13	28.19	13x14	0.66	1.27	33.99	1246	271.78	2234
TBA	1/0 (Solid)	8.23	25.45	8.13	28.24	16x14	0.54	1.27	34.04	1339	271.78	2817
TBA	1/0 (19)	8.92	26.14	8.13	28.93	16x14	0.54	1.27	34.72	1369	276.86	2817
TBA	2/0 (19)	10.03	27.25	8.13	30.05	20x14	0.43	1.27	35.84	1534	287.02	3551
TBA	3/0 (19)	11.25	28.47	8.13	31.27	25x14	0.34	1.27	37.06	1737	297.18	4477
TBA	4/0 (19)	12.65	29.87	8.13	32.66	32x14	0.27	1.27	38.46	1996	307.34	5647
616139	4/0 (19)	12.65	29.67	8.13	32.46	20x12	0.27	1.27	39.09	2067	312.42	5647
TBA	250 (37)	14.17	31.60	8.13	34.39	25x12	0.22	1.91	42.32	2384	337.82	6675
TBA	350 (37)	16.79	34.21	8.13	37.01	32x12	0.17	1.91	44.93	2862	360.68	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

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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	0.53	0.0189	0.1837	0.433	23.7533	0.216 + j0.755	0.162 + j0.054	4533	140	170
1 (19)	0.6923	0.87	0.0180	0.1772	0.463	25.3609	0.320 + j0.753	0.266 + j0.055	4533	140	170
1/0 (Solid)	0.3346	0.42	0.0177	0.1772	0.463	25.3609	0.182 + j0.750	0.128 + j0.052	5579	155	195
1/0 (19)	0.5479	0.69	0.0168	0.1739	0.489	26.8045	0.265 + j0.749	0.211 + j0.053	5579	155	195
2/0 (19)	0.4364	0.55	0.0158	0.1673	0.525	28.8058	0.221 + j0.745	0.167 + j0.051	6974	180	220
3/0 (19)	0.3445	0.43	0.0146	0.1608	0.564	30.9383	0.186 + j0.741	0.132 + j0.049	8718	205	250
4/0 (19)	0.2756	0.34	0.0134	0.1542	0.610	33.4646	0.159 + j0.737	0.105 + j0.047	11159	235	285
4/0 (19)	0.2756	0.34	0.0134	0.1575	0.610	33.4646	0.159 + j0.736	0.105 + j0.047	11081	235	285
250 (37)	0.2329	0.30	0.0125	0.1542	0.653	35.8268	0.144 + j0.730	0.090 + j0.047	13852	254	307
350 (37)	0.1640	0.21	0.0113	0.1444	0.735	40.3215	0.119 + j0.724	0.065 + j0.044	17730	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.

CN Calculator