25kV AL 133% EPR (EAM) One-Third Neutral LLDPE

Single Conductor, 320 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 133% Insulation Level, One-third 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 one-third 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 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

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

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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
TBA	1 (SOLID)	0.289	0.967	320	1.067	6x14	0.54	50	1.295	735	9.1	502
TBA	1 (19)	0.322	1	320	1.12	6x14	0.54	50	1.348	782	9.4	502
TBA	1/0 (SOLID)	0.325	1.003	320	1.123	6x14	0.54	50	1.351	804	9.5	633
TBA	1/0 (19)	0.352	1.03	320	1.15	6x14	0.54	50	1.378	826	9.6	633
TBA	2/0 (19)	0.395	1.073	320	1.193	7x14	0.463	50	1.421	899	9.9	798
TBA	3/0 (19)	0.443	1.121	320	1.241	9x14	0.36	50	1.469	996	10.3	1006
TBA	4/0 (19)	0.498	1.176	320	1.296	11x14	0.295	50	1.524	1106	10.7	1269
TBA	250 (37)	0.558	1.244	320	1.364	13x14	0.249	50	1.592	1227	11.1	1500
663870	350 (37)	0.661	1.341	320	1.451	18x14	0.18	75	1.733	1533	12.1	2100
TBA	500 (37)	0.789	1.475	320	1.595	25x14	0.13	75	1.873	1884	13.1	3000
TBA	750 (61)	0.968	1.664	320	1.814	24x12	0.085	75	2.126	2515	14.9	4500
TBA	1000 (61)	1.117	1.813	320	1.963	20x10	0.064	75	2.317	3052	16.2	6000

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	0.512+j0.278	0.178+j0.059	2095	140	175
1 (19)	0.211	0.289	0.053	0.055	0.27	3.9	0.623+j0.279	0.29+j0.060	2095	140	175
1/0 (SOLID)	0.102	0.14	0.053	0.054	0.27	3.9	0.474+j0.276	0.141+j0.058	2095	155	195
1/0 (19)	0.167	0.229	0.051	0.053	0.28	4.1	0.562+j0.277	0.230+j0.058	2095	155	195
2/0 (19)	0.133	0.182	0.047	0.051	0.3	4.4	0.497+j0.231	0.183+j0.056	2444	180	220
3/0 (19)	0.105	0.144	0.044	0.049	0.33	4.7	0.421+j0.169	0.146+j0.054	3142	200	250
4/0 (19)	0.084	0.115	0.041	0.047	0.35	5.1	0.359+j0.129	0.117+j0.052	3840	235	285
250 (37)	0.07	0.096	0.038	0.046	0.38	5.5	0.312+j0.104	0.098+j0.051	4538	256	309
350 (37)	0.051	0.07	0.033	0.044	0.43	6.2	0.236+j0.068	0.073+j0.049	6284	310	370
500 (37)	0.036	0.05	0.03	0.042	0.49	7	0.173+j0.046	0.054+j0.046	8727	370	445
750 (61)	0.023	0.033	0.025	0.04	0.57	8.2	0.116+j0.032	0.039+j0.043	13298	460	525
1000 (61)	0.017	0.025	0.023	0.038	0.64	9.2	0.088+j0.026	0.033+j0.041	17615	520	575

*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	6x14	1.77	1.27	32.89	1094	231.14	2234
TBA	1 (19)	8.18	25.40	8.13	28.45	6x14	1.77	1.27	34.24	1164	238.76	2234
TBA	1/0 (SOLID)	8.25	25.48	8.13	28.52	6x14	1.77	1.27	34.32	1196	241.30	2817
TBA	1/0 (19)	8.94	26.16	8.13	29.21	6x14	1.77	1.27	35.00	1229	243.84	2817
TBA	2/0 (19)	10.03	27.25	8.13	30.30	7x14	1.52	1.27	36.09	1338	251.46	3551
TBA	3/0 (19)	11.25	28.47	8.13	31.52	9x14	1.18	1.27	37.31	1482	261.62	4477
TBA	4/0 (19)	12.65	29.87	8.13	32.92	11x14	0.97	1.27	38.71	1646	271.78	5647
TBA	250 (37)	14.17	31.60	8.13	34.65	13x14	0.82	1.27	40.44	1826	281.94	6675
663870	350 (37)	16.79	34.06	8.13	36.86	18x14	0.59	1.91	44.02	2281	307.34	9345
TBA	500 (37)	20.04	37.47	8.13	40.51	25x14	0.43	1.91	47.57	2804	332.74	13350
TBA	750 (61)	24.59	42.27	8.13	46.08	24x12	0.28	1.91	54.00	3743	378.46	20025
TBA	1000 (61)	28.37	46.05	8.13	49.86	20x10	0.21	1.91	58.85	4542	411.48	26700

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	0.512+j0.278	0.178+j0.059	2095	140	175
1 (19)	0.6923	0.95	0.0162	0.1804	0.886	12.7953	0.623+j0.279	0.29+j0.060	2095	140	175
1/0 (SOLID)	0.3346	0.46	0.0162	0.1772	0.886	12.7953	0.474+j0.276	0.141+j0.058	2095	155	195
1/0 (19)	0.5479	0.75	0.0155	0.1739	0.919	13.4514	0.562+j0.277	0.230+j0.058	2095	155	195
2/0 (19)	0.4364	0.60	0.0143	0.1673	0.984	14.4357	0.497+j0.231	0.183+j0.056	2444	180	220
3/0 (19)	0.3445	0.47	0.0134	0.1608	1.083	15.4199	0.421+j0.169	0.146+j0.054	3142	200	250
4/0 (19)	0.2756	0.38	0.0125	0.1542	1.148	16.7323	0.359+j0.129	0.117+j0.052	3840	235	285
250 (37)	0.2297	0.31	0.0116	0.1509	1.247	18.0446	0.312+j0.104	0.098+j0.051	4538	256	309
350 (37)	0.1673	0.23	0.0101	0.1444	1.411	20.3412	0.236+j0.068	0.073+j0.049	6284	310	370
500 (37)	0.1181	0.16	0.0091	0.1378	1.608	22.9659	0.173+j0.046	0.054+j0.046	8727	370	445
750 (61)	0.0755	0.11	0.0076	0.1312	1.870	26.9029	0.116+j0.032	0.039+j0.043	13298	460	525
1000 (61)	0.0558	0.08	0.0070	0.1247	2.100	30.1837	0.088+j0.026	0.033+j0.041	17615	520	575

*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.

Concentric Neutral Calculator

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