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	1.057	6x14	0.438	50	1.285	701	10.3	502
TBA	1 (19)	0.322	1.000	320	1.110	6x14	0.438	50	1.338	743	10.7	502
TBA	1/0 (Solid)	0.324	1.002	320	1.112	6x14	0.438	50	1.340	767	10.7	633
TBA	1/0 (19)	0.351	1.029	320	1.139	6x14	0.438	50	1.367	786	10.9	633
TBA	2/0 (19)	0.395	1.073	320	1.183	7x14	0.375	50	1.411	858	11.3	798
TBA	3/0 (19)	0.443	1.121	320	1.231	9x14	0.292	50	1.459	952	11.7	1006
TBA	4/0 (19)	0.498	1.176	320	1.286	11x14	0.239	50	1.514	1060	12.1	1269
TBA	250 (37)	0.558	1.244	320	1.354	13x14	0.202	50	1.582	1176	12.7	1500
663870	350 (37)	0.661	1.341	320	1.451	18x14	0.146	75	1.733	1533	13.9	2100
TBA	500 (37)	0.789	1.475	320	1.585	25x14	0.105	75	1.863	1831	14.9	3000
TBA	750 (61)	0.968	1.664	320	1.804	24x12	0.069	75	2.116	2451	16.9	4500
TBA	1000 (61)	1.117	1.813	320	1.953	20x10	0.052	75	2.307	2981	18.5	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.

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	0.056	0.056	0.255	31.7	0.215 + j1.199	0.162 + j0.508	2092	140	175
1 (19)	0.211	0.266	0.053	0.054	0.270	33.5	0.319 + j1.140	0.266 + j0.451	2092	140	175
1/0 (Solid)	0.102	0.128	0.052	0.054	0.272	33.8	0.181 + j1.135	0.128 + j0.447	2092	155	195
1/0 (19)	0.167	0.211	0.050	0.053	0.285	35.4	0.264 + j1.095	0.211 + j0.409	2092	155	195
2/0 (19)	0.133	0.167	0.047	0.051	0.304	37.7	0.221 + j1.045	0.167 + j0.359	2441	180	220
3/0 (19)	0.105	0.132	0.044	0.049	0.326	40.5	0.186 + j1.001	0.132 + j0.315	3138	200	250
4/0 (19)	0.084	0.105	0.040	0.047	0.352	43.7	0.159 + j0.959	0.105 + j0.275	3836	235	285
250 (37)	0.071	0.090	0.037	0.046	0.382	47.4	0.144 + j0.922	0.090 + j0.241	4533	256	309
350 (37)	0.050	0.065	0.033	0.044	0.432	53.6	0.119 + j0.874	0.065 + j0.198	6277	310	370
500 (37)	0.035	0.046	0.029	0.041	0.486	60.3	0.100 + j0.831	0.046 + j0.159	8718	370	445
750 (61)	0.024	0.033	0.025	0.040	0.569	70.6	0.087 + j0.786	0.033 + j0.124	13298	460	525
1000 (61)	0.018	0.026	0.022	0.038	0.635	78.8	0.080 + j0.760	0.026 + j0.103	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.

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	6x14	1.44	1.27	32.64	1043	261.62	2234
TBA	1 (19)	8.18	25.40	8.13	28.19	6x14	1.44	1.27	33.99	1106	271.78	2234
TBA	1/0 (Solid)	8.23	25.45	8.13	28.24	6x14	1.44	1.27	34.04	1141	271.78	2817
TBA	1/0 (19)	8.92	26.14	8.13	28.93	6x14	1.44	1.27	34.72	1170	276.86	2817
TBA	2/0 (19)	10.03	27.25	8.13	30.05	7x14	1.23	1.27	35.84	1277	287.02	3551
TBA	3/0 (19)	11.25	28.47	8.13	31.27	9x14	0.96	1.27	37.06	1417	297.18	4477
TBA	4/0 (19)	12.65	29.87	8.13	32.66	11x14	0.78	1.27	38.46	1577	307.34	5647
TBA	250 (37)	14.17	31.60	8.13	34.39	13x14	0.66	1.27	40.18	1750	322.58	6675
663870	350 (37)	16.79	34.06	8.13	36.86	18x14	0.48	1.91	44.02	2281	353.06	9345
TBA	500 (37)	20.04	37.47	8.13	40.26	25x14	0.34	1.91	47.32	2725	378.46	13350
TBA	750 (61)	24.59	42.27	8.13	45.82	24x12	0.23	1.91	53.75	3647	429.26	20025
TBA	1000 (61)	28.37	46.05	8.13	49.61	20x10	0.17	1.91	58.60	4436	469.90	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.

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	0.0171	0.1837	0.837	104.0026	0.215 + j1.199	0.162 + j0.508	2092	140	175
1 (19)	0.6923	0.87	0.0162	0.1772	0.886	109.9081	0.319 + j1.140	0.266 + j0.451	2092	140	175
1/0 (Solid)	0.3346	0.42	0.0158	0.1772	0.892	110.8924	0.181 + j1.135	0.128 + j0.447	2092	155	195
1/0 (19)	0.5479	0.69	0.0152	0.1739	0.935	116.1417	0.264 + j1.095	0.211 + j0.409	2092	155	195
2/0 (19)	0.4364	0.55	0.0143	0.1673	0.997	123.6877	0.221 + j1.045	0.167 + j0.359	2441	180	220
3/0 (19)	0.3445	0.43	0.0134	0.1608	1.070	132.8740	0.186 + j1.001	0.132 + j0.315	3138	200	250
4/0 (19)	0.2756	0.34	0.0122	0.1542	1.155	143.3727	0.159 + j0.959	0.105 + j0.275	3836	235	285
250 (37)	0.2329	0.30	0.0113	0.1509	1.253	155.5118	0.144 + j0.922	0.090 + j0.241	4533	256	309
350 (37)	0.1640	0.21	0.0101	0.1444	1.417	175.8530	0.119 + j0.874	0.065 + j0.198	6277	310	370
500 (37)	0.1148	0.15	0.0088	0.1345	1.594	197.8346	0.100 + j0.831	0.046 + j0.159	8718	370	445
750 (61)	0.0787	0.11	0.0076	0.1312	1.867	231.6273	0.087 + j0.786	0.033 + j0.124	13298	460	525
1000 (61)	0.0591	0.09	0.0067	0.1247	2.083	258.5302	0.080 + j0.760	0.026 + j0.103	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