15kV AL 133% EPR (EAM) Full Neutral LLDPE

Single Conductor, 220 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:** 220 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

APPLICATIONS AND FEATURES:

Southwire's 15kV 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 15000 VOLTS EPR INSULATION 220 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
616129#	2 (1)	0.258	0.728	220	0.818	10x14	0.324	50	1.046	561	7.3	398
TBA	2 (SOLID)	0.258	0.736	220	0.836	10x14	0.324	50	1.064	565	7.4	398
618502#	2 (7)	0.283	0.753	220	0.843	10x14	0.324	50	1.071	581	7.5	398
616131	2 (7)	0.283	0.753	220	0.843	10x14	0.324	50	1.071	581	7.5	398
TBA	1 (SOLID)	0.289	0.767	220	0.867	13x14	0.249	50	1.095	640	7.7	502
TBA	1 (19)	0.322	0.8	220	0.9	13x14	0.249	50	1.128	659	7.9	502
617504	1/0 (1)	0.325	0.795	220	0.885	16x14	0.203	50	1.113	709	7.8	633
616584#	1/0 (1)	0.325	0.795	220	0.885	16x14	0.203	50	1.113	709	7.8	633
616132	1/0 (19)	0.352	0.822	220	0.912	16x14	0.203	50	1.14	733	8	633
661313#	1/0 (19)	0.352	0.822	220	0.912	16x14	0.203	50	1.14	733	8	633
625309	2/0 (19)	0.395	0.865	220	0.955	20x14	0.162	50	1.183	835	8.3	798
TBA	3/0 (19)	0.443	0.921	220	1.021	25x14	0.13	50	1.249	970	8.7	1006
616137	4/0 (19)	0.498	0.968	220	1.058	20x12	0.102	50	1.32	1143	9.2	1269
629557	4/0 (19)	0.498	0.968	220	1.058	13x10	0.099	50	1.362	1191	9.5	1269
TBA	250 (37)	0.558	1.044	220	1.164	24x12	0.085	50	1.426	1308	10	1500
TBA	350 (37)	0.661	1.147	220	1.267	21x10	0.061	50	1.571	1666	11	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 under jacket
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
2 (1)	0.162	0.222	0.047	0.054	0.18	1.6	0.486+j0.148	0.224+j0.058	3491	120	150
2 (SOLID)	0.162	0.222	0.048	0.054	0.18	1.6	0.486+j0.148	0.224+j0.058	3491	120	150
2 (7)	0.266	0.365	0.044	0.052	0.19	1.7	0.629+j0.149	0.367+j0.059	3491	120	150
2 (7)	0.266	0.365	0.044	0.052	0.19	1.7	0.629+j0.149	0.367+j0.059	3491	120	150
1 (SOLID)	0.129	0.177	0.044	0.052	0.19	1.7	0.395+j0.104	0.179+j0.055	4538	140	170
1 (19)	0.211	0.289	0.042	0.051	0.21	1.8	0.507+j0.105	0.291+j0.056	4538	140	170
1/0 (1)	0.102	0.14	0.041	0.05	0.21	1.8	0.325+j0.079	0.143+j0.053	5585	155	195
1/0 (1)	0.102	0.14	0.041	0.05	0.21	1.8	0.325+j0.079	0.143+j0.053	5585	155	195
1/0 (19)	0.167	0.229	0.039	0.049	0.22	1.9	0.413+j0.080	0.232+j0.053	5585	155	195
1/0 (19)	0.167	0.229	0.039	0.049	0.22	1.9	0.413+j0.080	0.232+j0.053	5585	155	195
2/0 (19)	0.133	0.182	0.036	0.047	0.24	2.1	0.334+j0.061	0.186+j0.051	6982	180	220
3/0 (19)	0.105	0.144	0.034	0.046	0.26	2.2	0.268+j0.048	0.148+j0.050	8727	205	250
4/0 (19)	0.084	0.115	0.031	0.044	0.28	2.4	0.214+j0.038	0.121+j0.048	11082	235	285
4/0 (19)	0.084	0.115	0.031	0.045	0.28	2.4	0.211+j0.038	0.121+j0.048	11450	235	285
250 (37)	0.07	0.096	0.029	0.043	0.3	2.6	0.179+j0.034	0.103+j0.047	13298	254	307
350 (37)	0.051	0.07	0.025	0.042	0.34	3	0.130+j0.030	0.079+j0.044	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
616129#	2 (1)	6.55	18.49	5.59	20.78	10x14	1.06	1.27	26.57	835	185.42	1771
TBA	2 (SOLID)	6.55	18.69	5.59	21.23	10x14	1.06	1.27	27.03	841	187.96	1771
618502#	2 (7)	7.19	19.13	5.59	21.41	10x14	1.06	1.27	27.20	865	190.50	1771
616131	2 (7)	7.19	19.13	5.59	21.41	10x14	1.06	1.27	27.20	865	190.50	1771
TBA	1 (SOLID)	7.34	19.48	5.59	22.02	13x14	0.82	1.27	27.81	952	195.58	2234
TBA	1 (19)	8.18	20.32	5.59	22.86	13x14	0.82	1.27	28.65	981	200.66	2234
617504	1/0 (1)	8.25	20.19	5.59	22.48	16x14	0.67	1.27	28.27	1055	198.12	2817
616584#	1/0 (1)	8.25	20.19	5.59	22.48	16x14	0.67	1.27	28.27	1055	198.12	2817
616132	1/0 (19)	8.94	20.88	5.59	23.16	16x14	0.67	1.27	28.96	1091	203.20	2817
661313#	1/0 (19)	8.94	20.88	5.59	23.16	16x14	0.67	1.27	28.96	1091	203.20	2817
625309	2/0 (19)	10.03	21.97	5.59	24.26	20x14	0.53	1.27	30.05	1243	210.82	3551
TBA	3/0 (19)	11.25	23.39	5.59	25.93	25x14	0.43	1.27	31.72	1444	220.98	4477
616137	4/0 (19)	12.65	24.59	5.59	26.87	20x12	0.33	1.27	33.53	1701	233.68	5647
629557	4/0 (19)	12.65	24.59	5.59	26.87	13x10	0.32	1.27	34.59	1772	241.30	5647
TBA	250 (37)	14.17	26.52	5.59	29.57	24x12	0.28	1.27	36.22	1947	254.00	6675
TBA	350 (37)	16.79	29.13	5.59	32.18	21x10	0.20	1.27	39.90	2479	279.40	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 under jacket
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
2 (1)	0.5315	0.73	0.0143	0.1772	0.591	5.2493	0.486+j0.148	0.224+j0.058	3491	120	150
2 (SOLID)	0.5315	0.73	0.0146	0.1772	0.591	5.2493	0.486+j0.148	0.224+j0.058	3491	120	150
2 (7)	0.8727	1.20	0.0134	0.1706	0.623	5.5774	0.629+j0.149	0.367+j0.059	3491	120	150
2 (7)	0.8727	1.20	0.0134	0.1706	0.623	5.5774	0.629+j0.149	0.367+j0.059	3491	120	150
1 (SOLID)	0.4232	0.58	0.0134	0.1706	0.623	5.5774	0.395+j0.104	0.179+j0.055	4538	140	170
1 (19)	0.6923	0.95	0.0128	0.1673	0.689	5.9055	0.507+j0.105	0.291+j0.056	4538	140	170
1/0 (1)	0.3346	0.46	0.0125	0.1640	0.689	5.9055	0.325+j0.079	0.143+j0.053	5585	155	195
1/0 (1)	0.3346	0.46	0.0125	0.1640	0.689	5.9055	0.325+j0.079	0.143+j0.053	5585	155	195
1/0 (19)	0.5479	0.75	0.0119	0.1608	0.722	6.2336	0.413+j0.080	0.232+j0.053	5585	155	195
1/0 (19)	0.5479	0.75	0.0119	0.1608	0.722	6.2336	0.413+j0.080	0.232+j0.053	5585	155	195
2/0 (19)	0.4364	0.60	0.0110	0.1542	0.787	6.8898	0.334+j0.061	0.186+j0.051	6982	180	220
3/0 (19)	0.3445	0.47	0.0104	0.1509	0.853	7.2178	0.268+j0.048	0.148+j0.050	8727	205	250
4/0 (19)	0.2756	0.38	0.0094	0.1444	0.919	7.8740	0.214+j0.038	0.121+j0.048	11082	235	285
4/0 (19)	0.2756	0.38	0.0094	0.1476	0.919	7.8740	0.211+j0.038	0.121+j0.048	11450	235	285
250 (37)	0.2297	0.31	0.0088	0.1411	0.984	8.5302	0.179+j0.034	0.103+j0.047	13298	254	307
350 (37)	0.1673	0.23	0.0076	0.1378	1.115	9.8425	0.130+j0.030	0.079+j0.044	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.

Concentric Neutral Calculator

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