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; Supersmooth conductor shield optional; 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 (Solid)	0.257	0.728	220	0.818	10x14	0.263	50	1.046	560	8.4	398
TBA	2 (Solid)	0.257	0.735	220	0.825	10x14	0.263	50	1.053	544	8.4	398
618502#	2 (7)	0.282	0.753	220	0.843	10x14	0.263	50	1.071	581	8.6	398
616131	2 (7)	0.282	0.753	220	0.843	10x14	0.263	50	1.071	581	8.6	398
TBA	1 (Solid)	0.289	0.767	220	0.857	13x14	0.202	50	1.085	617	8.7	502
TBA	1 (19)	0.322	0.800	220	0.890	13x14	0.202	50	1.118	635	8.9	502
616584#	1/0 (Solid)	0.324	0.795	220	0.885	16x14	0.164	50	1.113	708	8.9	633
617504	1/0 (Solid)	0.324	0.795	220	0.885	16x14	0.164	50	1.113	708	8.9	633
616132	1/0 (19)	0.351	0.822	220	0.912	16x14	0.164	50	1.140	733	9.1	633
661313#	1/0 (19)	0.351	0.822	220	0.912	16x14	0.164	50	1.140	733	9.1	633
625309	2/0 (19)	0.395	0.865	220	0.955	20x14	0.131	50	1.183	835	9.5	798
TBA	3/0 (19)	0.443	0.921	220	1.011	25x14	0.105	50	1.239	943	9.9	1006
616137	4/0 (19)	0.498	0.968	220	1.058	20x12	0.083	50	1.319	1134	10.6	1269
TBA	250 (37)	0.558	1.044	220	1.154	25x12	0.066	50	1.416	1297	11.3	1500
TBA	350 (37)	0.661	1.147	220	1.257	32x12	0.051	50	1.519	1595	12.2	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
# Hi-Dri-Plus® - Water blocking powder under jacket
^ Super Smooth Conductor Shield

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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 (Solid)	0.162	0.204	0.054	0.054	0.091	2.99	0.258 + j0.768	0.204 + j0.053	3487	120	150
2 (Solid)	0.162	0.204	0.054	0.054	0.091	2.99	0.258 + j0.768	0.204 + j0.053	3487	120	150
2 (7)	0.266	0.336	0.051	0.052	0.097	3.19	0.390 + j0.767	0.336 + j0.054	3487	120	150
2 (7)	0.266	0.336	0.051	0.052	0.097	3.19	0.390 + j0.767	0.336 + j0.054	3487	120	150
1 (Solid)	0.129	0.162	0.050	0.052	0.098	3.23	0.216 + j0.763	0.162 + j0.050	4533	140	170
1 (19)	0.211	0.266	0.047	0.050	0.105	3.46	0.320 + j0.761	0.266 + j0.051	4533	140	170
1/0 (Solid)	0.102	0.128	0.047	0.050	0.106	3.49	0.182 + j0.759	0.128 + j0.048	5579	155	195
1/0 (Solid)	0.102	0.128	0.047	0.050	0.106	3.49	0.182 + j0.759	0.128 + j0.048	5579	155	195
1/0 (19)	0.167	0.211	0.044	0.049	0.111	3.65	0.265 + j0.757	0.211 + j0.049	5579	155	195
1/0 (19)	0.167	0.211	0.044	0.049	0.111	3.65	0.265 + j0.757	0.211 + j0.049	5579	155	195
2/0 (19)	0.133	0.167	0.041	0.047	0.120	3.95	0.221 + j0.753	0.167 + j0.047	6974	180	220
3/0 (19)	0.105	0.132	0.038	0.045	0.131	4.31	0.186 + j0.749	0.132 + j0.045	8718	205	250
4/0 (19)	0.084	0.105	0.035	0.044	0.142	4.67	0.159 + j0.743	0.105 + j0.044	11081	235	285
250 (37)	0.071	0.090	0.032	0.043	0.153	5.04	0.144 + j0.738	0.090 + j0.043	13852	254	307
350 (37)	0.050	0.065	0.028	0.041	0.174	5.73	0.119 + j0.731	0.065 + j0.041	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
616129#	2 (Solid)	6.53	18.49	5.59	20.78	10x14	0.86	1.27	26.57	833	213.36	1771
TBA	2 (Solid)	6.53	18.67	5.59	20.96	10x14	0.86	1.27	26.75	810	213.36	1771
618502#	2 (7)	7.16	19.13	5.59	21.41	10x14	0.86	1.27	27.20	865	218.44	1771
616131	2 (7)	7.16	19.13	5.59	21.41	10x14	0.86	1.27	27.20	865	218.44	1771
TBA	1 (Solid)	7.34	19.48	5.59	21.77	13x14	0.66	1.27	27.56	918	220.98	2234
TBA	1 (19)	8.18	20.32	5.59	22.61	13x14	0.66	1.27	28.40	945	226.06	2234
616584#	1/0 (Solid)	8.23	20.19	5.59	22.48	16x14	0.54	1.27	28.27	1054	226.06	2817
617504	1/0 (Solid)	8.23	20.19	5.59	22.48	16x14	0.54	1.27	28.27	1054	226.06	2817
616132	1/0 (19)	8.92	20.88	5.59	23.16	16x14	0.54	1.27	28.96	1091	231.14	2817
661313#	1/0 (19)	8.92	20.88	5.59	23.16	16x14	0.54	1.27	28.96	1091	231.14	2817
625309	2/0 (19)	10.03	21.97	5.59	24.26	20x14	0.43	1.27	30.05	1243	241.30	3551
TBA	3/0 (19)	11.25	23.39	5.59	25.68	25x14	0.34	1.27	31.47	1403	251.46	4477
616137	4/0 (19)	12.65	24.59	5.59	26.87	20x12	0.27	1.27	33.50	1688	269.24	5647
TBA	250 (37)	14.17	26.52	5.59	29.31	25x12	0.22	1.27	35.97	1930	287.02	6675
TBA	350 (37)	16.79	29.13	5.59	31.93	32x12	0.17	1.27	38.58	2374	309.88	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
^ Super Smooth Conductor Shield

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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 (Solid)	0.5315	0.67	0.0165	0.1772	0.299	9.8097	0.258 + j0.768	0.204 + j0.053	3487	120	150
2 (Solid)	0.5315	0.67	0.0165	0.1772	0.299	9.8097	0.258 + j0.768	0.204 + j0.053	3487	120	150
2 (7)	0.8727	1.10	0.0155	0.1706	0.318	10.4659	0.390 + j0.767	0.336 + j0.054	3487	120	150
2 (7)	0.8727	1.10	0.0155	0.1706	0.318	10.4659	0.390 + j0.767	0.336 + j0.054	3487	120	150
1 (Solid)	0.4232	0.53	0.0152	0.1706	0.322	10.5971	0.216 + j0.763	0.162 + j0.050	4533	140	170
1 (19)	0.6923	0.87	0.0143	0.1640	0.344	11.3517	0.320 + j0.761	0.266 + j0.051	4533	140	170
1/0 (Solid)	0.3346	0.42	0.0143	0.1640	0.348	11.4501	0.182 + j0.759	0.128 + j0.048	5579	155	195
1/0 (Solid)	0.3346	0.42	0.0143	0.1640	0.348	11.4501	0.182 + j0.759	0.128 + j0.048	5579	155	195
1/0 (19)	0.5479	0.69	0.0134	0.1608	0.364	11.9751	0.265 + j0.757	0.211 + j0.049	5579	155	195
1/0 (19)	0.5479	0.69	0.0134	0.1608	0.364	11.9751	0.265 + j0.757	0.211 + j0.049	5579	155	195
2/0 (19)	0.4364	0.55	0.0125	0.1542	0.394	12.9593	0.221 + j0.753	0.167 + j0.047	6974	180	220
3/0 (19)	0.3445	0.43	0.0116	0.1476	0.430	14.1404	0.186 + j0.749	0.132 + j0.045	8718	205	250
4/0 (19)	0.2756	0.34	0.0107	0.1444	0.466	15.3215	0.159 + j0.743	0.105 + j0.044	11081	235	285
250 (37)	0.2329	0.30	0.0098	0.1411	0.502	16.5354	0.144 + j0.738	0.090 + j0.043	13852	254	307
350 (37)	0.1640	0.21	0.0085	0.1345	0.571	18.7992	0.119 + j0.731	0.065 + j0.041	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