15kV AL 133% EPR (EAM) One-Third Neutral LLDPE

Single Conductor, 220 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:** 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 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 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
TBA	2 (SOLID)	0.258	0.736	220	0.836	6x14	0.54	50	1.064	511	7.4	398
629560	2 (7)	0.283	0.753	220	0.843	6x14	0.54	50	1.071	533	7.5	398
TBA	1 (SOLID)	0.289	0.767	220	0.867	6x14	0.54	50	1.095	546	7.7	502
TBA	1 (19)	0.322	0.8	220	0.9	6x14	0.54	50	1.128	565	7.9	502
604399	1/0 (1)	0.325	0.795	220	0.885	6x14	0.54	50	1.113	589	7.8	633
617875	1/0 (19)	0.352	0.822	220	0.912	6x14	0.54	50	1.14	613	8	633
629562	2/0 (19)	0.395	0.865	220	0.955	7x14	0.463	50	1.183	759	8.3	798
TBA	3/0 (19)	0.443	0.921	220	1.021	9x14	0.36	50	1.249	756	8.7	1006
604040#	4/0 (19)	0.498	0.968	220	1.058	11x14	0.295	50	1.286	867	9	1269
616135	4/0 (19)	0.498	0.968	220	1.058	11x14	0.295	50	1.286	867	9	1269
TBA	250 (37)	0.558	1.044	220	1.164	13x14	0.249	50	1.392	985	9.7	1500
629565	350 (37)	0.661	1.141	220	1.251	18x14	0.18	50	1.479	1225	10.4	2100
616186	500 (37)	0.789	1.269	220	1.379	16x12	0.128	75	1.641	1579	11.5	3000
617104	750 (61)	0.968	1.458	220	1.568	24x12	0.085	75	1.884	2179	13.2	4500
660002	750 (61)	0.968	1.458	220	1.568	15x10	0.085	75	1.926	2228	13.5	4500
616837	1000 (61)	1.117	1.607	220	1.747	20x10	0.064	75	2.105	2787	14.7	6000
625181	1500 (91)	1.37	1.87	220	2.01	30x10	0.043	75	2.368	3806	16.6	9000

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.
Hi-Dri-Plus® water blocking powder under jacket

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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	0.222	0.048	0.054	0.18	1.6	0.562+j0.275	0.223+j0.059	2095	120	150
2 (7)	0.266	0.365	0.044	0.052	0.19	1.7	0.705+j0.276	0.366+j0.059	2095	120	150
1 (SOLID)	0.129	0.177	0.044	0.052	0.19	1.7	0.517+j0.272	0.178+j0.055	2095	140	175
1 (19)	0.211	0.289	0.042	0.051	0.21	1.8	0.628+j0.273	0.290+j0.056	2095	140	175
1/0 (1)	0.102	0.14	0.041	0.05	0.21	1.8	0.479+j0.270	0.141+j0.053	2095	155	195
1/0 (19)	0.167	0.229	0.039	0.049	0.22	1.9	0.567+j0.271	0.230+j0.054	2095	155	195
2/0 (19)	0.133	0.182	0.036	0.047	0.24	2.1	0.501+j0.225	0.183+j0.052	2444	180	220
3/0 (19)	0.105	0.144	0.034	0.046	0.26	2.2	0.424+j0.163	0.146+j0.050	3142	200	250
4/0 (19)	0.084	0.115	0.031	0.044	0.28	2.4	0.361+j0.123	0.117+j0.048	3840	235	285
4/0 (19)	0.084	0.115	0.031	0.044	0.28	2.4	0.361+j0.123	0.117+j0.048	3840	235	285
250 (37)	0.07	0.096	0.029	0.043	0.3	2.6	0.313+j0.099	0.098+j0.048	4538	256	309
350 (37)	0.051	0.07	0.025	0.04	0.35	3	0.236+j0.064	0.073+j0.045	6284	310	370
500 (37)	0.036	0.05	0.022	0.039	0.4	3.4	0.172+j0.043	0.054+j0.043	8865	370	445
750 (61)	0.023	0.033	0.018	0.037	0.47	4.1	0.116+j0.028	0.039+j0.040	13298	460	525
750 (61)	0.023	0.033	0.018	0.038	0.47	4.1	0.116+j0.029	0.040+j0.041	13212	460	525
1000 (61)	0.017	0.025	0.016	0.036	0.53	4.6	0.088+j0.023	0.033+j0.038	17615	520	575
1500 (91)	0.012	0.02	0.014	0.034	0.62	5.4	0.062+j0.018	0.030+j0.034	26423		

*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	2 (SOLID)	6.55	18.69	5.59	21.23	6x14	1.77	1.27	27.03	760	187.96	1771
629560	2 (7)	7.19	19.13	5.59	21.41	6x14	1.77	1.27	27.20	793	190.50	1771
TBA	1 (SOLID)	7.34	19.48	5.59	22.02	6x14	1.77	1.27	27.81	813	195.58	2234
TBA	1 (19)	8.18	20.32	5.59	22.86	6x14	1.77	1.27	28.65	841	200.66	2234
604399	1/0 (1)	8.25	20.19	5.59	22.48	6x14	1.77	1.27	28.27	877	198.12	2817
617875	1/0 (19)	8.94	20.88	5.59	23.16	6x14	1.77	1.27	28.96	912	203.20	2817
629562	2/0 (19)	10.03	21.97	5.59	24.26	7x14	1.52	1.27	30.05	1130	210.82	3551
TBA	3/0 (19)	11.25	23.39	5.59	25.93	9x14	1.18	1.27	31.72	1125	220.98	4477
604040#	4/0 (19)	12.65	24.59	5.59	26.87	11x14	0.97	1.27	32.66	1290	228.60	5647
616135	4/0 (19)	12.65	24.59	5.59	26.87	11x14	0.97	1.27	32.66	1290	228.60	5647
TBA	250 (37)	14.17	26.52	5.59	29.57	13x14	0.82	1.27	35.36	1466	246.38	6675
629565	350 (37)	16.79	28.98	5.59	31.78	18x14	0.59	1.27	37.57	1823	264.16	9345
616186	500 (37)	20.04	32.23	5.59	35.03	16x12	0.42	1.91	41.68	2350	292.10	13350
617104	750 (61)	24.59	37.03	5.59	39.83	24x12	0.28	1.91	47.85	3243	335.28	20025
660002	750 (61)	24.59	37.03	5.59	39.83	15x10	0.28	1.91	48.92	3316	342.90	20025
616837	1000 (61)	28.37	40.82	5.59	44.37	20x10	0.21	1.91	53.47	4148	373.38	26700
625181	1500 (91)	34.80	47.50	5.59	51.05	30x10	0.14	1.91	60.15	5664	421.64	40050

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.
Hi-Dri-Plus® water blocking powder under jacket

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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	0.73	0.0146	0.1772	0.591	5.2493	0.562+j0.275	0.223+j0.059	2095	120	150
2 (7)	0.8727	1.20	0.0134	0.1706	0.623	5.5774	0.705+j0.276	0.366+j0.059	2095	120	150
1 (SOLID)	0.4232	0.58	0.0134	0.1706	0.623	5.5774	0.517+j0.272	0.178+j0.055	2095	140	175
1 (19)	0.6923	0.95	0.0128	0.1673	0.689	5.9055	0.628+j0.273	0.290+j0.056	2095	140	175
1/0 (1)	0.3346	0.46	0.0125	0.1640	0.689	5.9055	0.479+j0.270	0.141+j0.053	2095	155	195
1/0 (19)	0.5479	0.75	0.0119	0.1608	0.722	6.2336	0.567+j0.271	0.230+j0.054	2095	155	195
2/0 (19)	0.4364	0.60	0.0110	0.1542	0.787	6.8898	0.501+j0.225	0.183+j0.052	2444	180	220
3/0 (19)	0.3445	0.47	0.0104	0.1509	0.853	7.2178	0.424+j0.163	0.146+j0.050	3142	200	250
4/0 (19)	0.2756	0.38	0.0094	0.1444	0.919	7.8740	0.361+j0.123	0.117+j0.048	3840	235	285
4/0 (19)	0.2756	0.38	0.0094	0.1444	0.919	7.8740	0.361+j0.123	0.117+j0.048	3840	235	285
250 (37)	0.2297	0.31	0.0088	0.1411	0.984	8.5302	0.313+j0.099	0.098+j0.048	4538	256	309
350 (37)	0.1673	0.23	0.0076	0.1312	1.148	9.8425	0.236+j0.064	0.073+j0.045	6284	310	370
500 (37)	0.1181	0.16	0.0067	0.1280	1.312	11.1549	0.172+j0.043	0.054+j0.043	8865	370	445
750 (61)	0.0755	0.11	0.0055	0.1214	1.542	13.4514	0.116+j0.028	0.039+j0.040	13298	460	525
750 (61)	0.0755	0.11	0.0055	0.1247	1.542	13.4514	0.116+j0.029	0.040+j0.041	13212	460	525
1000 (61)	0.0558	0.08	0.0049	0.1181	1.739	15.0919	0.088+j0.023	0.033+j0.038	17615	520	575
1500 (91)	0.0394	0.07	0.0043	0.1115	2.034	17.7165	0.062+j0.018	0.030+j0.034	26423		

*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
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Concentric Neutral Calculator

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