

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:

- Conductor:** Moisture blocked class B compressed Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked Optional)
- Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 220 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 133% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Concentric Neutral:** Helically applied soft drawn bare copper one-third concentric neutral
- 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: -40°C and MV 90°C 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





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)	0.257	0.735	220	0.825	6x14	0.438	50	1.053	490	8.4	398
629560	2 (7)	0.282	0.753	220	0.843	6x14	0.438	50	1.071	533	8.6	398
TBA	1 (Solid)	0.289	0.767	220	0.857	6x14	0.438	50	1.085	525	8.7	502
TBA	1 (19)	0.322	0.800	220	0.890	6x14	0.438	50	1.118	543	8.9	502
604399	1/0 (Solid)	0.324	0.795	220	0.885	6x14	0.438	50	1.113	588	8.9	633
617875	1/0 (19)	0.351	0.822	220	0.912	6x14	0.438	50	1.140	613	9.1	633
TBA	2/0 (19)	0.395	0.873	220	0.963	7x14	0.375	50	1.191	643	9.5	798
TBA	3/0 (19)	0.443	0.921	220	1.011	9x14	0.292	50	1.239	729	9.9	1006
616135	4/0 (19)	0.498	0.968	220	1.058	11x14	0.239	50	1.286	867	10.3	1269
TBA	250 (37)	0.558	1.044	220	1.154	13x14	0.202	50	1.382	952	11.1	1500
629565	350 (37)	0.661	1.147	220	1.257	18x14	0.146	50	1.485	1225	11.9	2100
616186	500 (37)	0.789	1.269	220	1.379	16x12	0.103	75	1.640	1580	13.1	3000
617104	750 (61)	0.968	1.458	220	1.568	24x12	0.069	75	1.883	2168	15.1	4500
660002	750 (61)	0.968	1.458	220	1.568	15x10	0.069	75	1.925	2216	15.4	4500
616837	1000 (61)	1.117	1.607	220	1.747	20x10	0.052	75	2.104	2789	16.8	6000
625181	1500 (91)	1.370	1.870	220	2.010	30x10	0.034	75	2.367	3806	18.9	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



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	0.047	0.054	0.182	13.6	0.257 + j1.277	0.204 + j0.573	2092	120	150
2 (7)	0.266	0.336	0.044	0.052	0.194	14.4	0.389 + j1.220	0.336 + j0.516	2092	120	150
1 (Solid)	0.129	0.162	0.044	0.052	0.194	14.4	0.215 + j1.207	0.162 + j0.504	2092	140	175
1 (19)	0.211	0.266	0.041	0.050	0.207	15.4	0.319 + j1.148	0.266 + j0.447	2092	140	175
1/0 (Solid)	0.102	0.128	0.040	0.050	0.211	15.7	0.181 + j1.144	0.128 + j0.443	2092	155	195
1/0 (19)	0.167	0.211	0.038	0.049	0.222	16.5	0.264 + j1.104	0.211 + j0.405	2092	155	195
2/0 (19)	0.133	0.167	0.036	0.047	0.236	17.6	0.221 + j1.053	0.167 + j0.355	2441	180	220
3/0 (19)	0.105	0.132	0.033	0.045	0.255	19.0	0.186 + j1.008	0.132 + j0.311	3138	200	250
4/0 (19)	0.084	0.105	0.030	0.044	0.280	20.9	0.159 + j0.967	0.105 + j0.271	3836	235	285
250 (37)	0.071	0.090	0.028	0.043	0.303	22.6	0.144 + j0.929	0.090 + j0.238	4533	256	309
350 (37)	0.050	0.065	0.025	0.040	0.343	25.5	0.119 + j0.881	0.065 + j0.194	6277	310	370
500 (37)	0.035	0.046	0.021	0.039	0.396	29.5	0.100 + j0.836	0.046 + j0.156	8865	370	445
750 (61)	0.024	0.033	0.018	0.037	0.469	34.9	0.087 + j0.792	0.033 + j0.121	13298	460	525
750 (61)	0.024	0.033	0.018	0.038	0.469	34.9	0.087 + j0.790	0.033 + j0.122	13211	460	525
1000 (61)	0.018	0.026	0.016	0.036	0.527	39.3	0.080 + j0.764	0.026 + j0.101	17615	520	575
1500 (91)	0.012	0.021	0.013	0.034	0.618	46.0	0.075 + j0.732	0.021 + j0.077	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.





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)	6.53	18.67	5.59	20.96	6x14	1.44	1.27	26.75	729	213.36	1771
629560	2 (7)	7.16	19.13	5.59	21.41	6x14	1.44	1.27	27.20	793	218.44	1771
TBA	1 (Solid)	7.34	19.48	5.59	21.77	6x14	1.44	1.27	27.56	781	220.98	2234
TBA	1 (19)	8.18	20.32	5.59	22.61	6x14	1.44	1.27	28.40	808	226.06	2234
604399	1/0 (Solid)	8.23	20.19	5.59	22.48	6x14	1.44	1.27	28.27	875	226.06	2817
617875	1/0 (19)	8.92	20.88	5.59	23.16	6x14	1.44	1.27	28.96	912	231.14	2817
TBA	2/0 (19)	10.03	22.17	5.59	24.46	7x14	1.23	1.27	30.25	957	241.30	3551
TBA	3/0 (19)	11.25	23.39	5.59	25.68	9x14	0.96	1.27	31.47	1085	251.46	4477
616135	4/0 (19)	12.65	24.59	5.59	26.87	11x14	0.78	1.27	32.66	1290	261.62	5647
TBA	250 (37)	14.17	26.52	5.59	29.31	13x14	0.66	1.27	35.10	1417	281.94	6675
629565	350 (37)	16.79	29.13	5.59	31.93	18x14	0.48	1.27	37.72	1823	302.26	9345
616186	500 (37)	20.04	32.23	5.59	35.03	16x12	0.34	1.91	41.66	2351	332.74	13350
617104	750 (61)	24.59	37.03	5.59	39.83	24x12	0.23	1.91	47.83	3226	383.54	20025
660002	750 (61)	24.59	37.03	5.59	39.83	15x10	0.23	1.91	48.89	3298	391.16	20025
616837	1000 (61)	28.37	40.82	5.59	44.37	20x10	0.17	1.91	53.44	4150	426.72	26700
625181	1500 (91)	34.80	47.50	5.59	51.05	30x10	0.11	1.91	60.12	5664	480.06	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





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	0.0143	0.1772	0.597	44.6194	0.257 + j1.277	0.204 + j0.573	2092	120	150
2 (7)	0.8727	1.10	0.0134	0.1706	0.636	47.2441	0.389 + j1.220	0.336 + j0.516	2092	120	150
1 (Solid)	0.4232	0.53	0.0134	0.1706	0.636	47.2441	0.215 + j1.207	0.162 + j0.504	2092	140	175
1 (19)	0.6923	0.87	0.0125	0.1640	0.679	50.5249	0.319 + j1.148	0.266 + j0.447	2092	140	175
1/0 (Solid)	0.3346	0.42	0.0122	0.1640	0.692	51.5092	0.181 + j1.144	0.128 + j0.443	2092	155	195
1/0 (19)	0.5479	0.69	0.0116	0.1608	0.728	54.1339	0.264 + j1.104	0.211 + j0.405	2092	155	195
2/0 (19)	0.4364	0.55	0.0110	0.1542	0.774	57.7428	0.221 + j1.053	0.167 + j0.355	2441	180	220
3/0 (19)	0.3445	0.43	0.0101	0.1476	0.837	62.3360	0.186 + j1.008	0.132 + j0.311	3138	200	250
4/0 (19)	0.2756	0.34	0.0091	0.1444	0.919	68.5696	0.159 + j0.967	0.105 + j0.271	3836	235	285
250 (37)	0.2329	0.30	0.0085	0.1411	0.994	74.1470	0.144 + j0.929	0.090 + j0.238	4533	256	309
350 (37)	0.1640	0.21	0.0076	0.1312	1.125	83.6614	0.119 + j0.881	0.065 + j0.194	6277	310	370
500 (37)	0.1148	0.15	0.0064	0.1280	1.299	96.7848	0.100 + j0.836	0.046 + j0.156	8865	370	445
750 (61)	0.0787	0.11	0.0055	0.1214	1.539	114.5013	0.087 + j0.792	0.033 + j0.121	13298	460	525
750 (61)	0.0787	0.11	0.0055	0.1247	1.539	114.5013	0.087 + j0.790	0.033 + j0.122	13211	460	525
1000 (61)	0.0591	0.09	0.0049	0.1181	1.729	128.9370	0.080 + j0.764	0.026 + j0.101	17615	520	575
1500 (91)	0.0394	0.07	0.0040	0.1115	2.028	150.9186	0.075 + j0.732	0.021 + j0.077	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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Calculator

