15kV CU 100% EPR (EAM) Full Neutral LLDPE

Single Conductor, 175 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 100% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

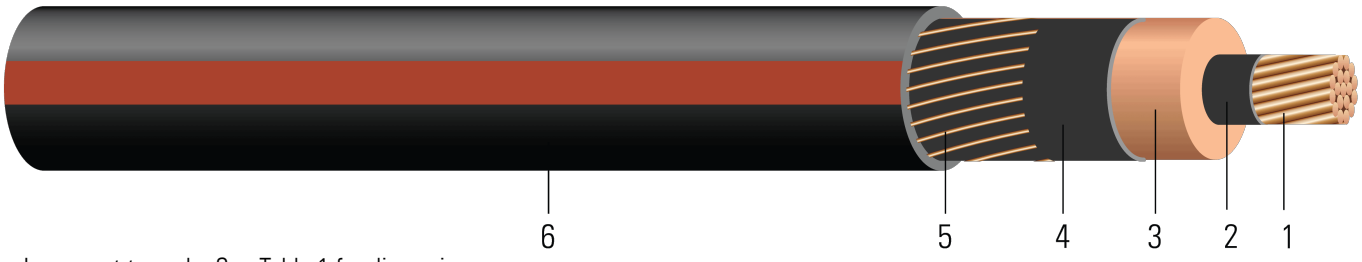


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Conductor moisture block optional and tinned copper per ASTM B33 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:** 175 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 100% 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

For information about our Cable-Rejuvenation Services please visit us at: Cable-Rejuvenation Services
You can email us at: Cable-Rejuvenation Services

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 B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- 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

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SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 15000 VOLTS EPR INSULATION 175 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

Table 1 – Weights and Measurements

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
2 (SOLID)	0.258	0.646	175	0.746	17x14	0.191	50	0.974	725	6.8	530
2 (7)	0.283	0.671	175	0.771	17x14	0.191	50	0.999	738	7	530
1 (SOLID)	0.289	0.677	175	0.777	21x14	0.154	50	1.005	846	7	669
1 (19)	0.322	0.71	175	0.81	21x14	0.154	50	1.038	863	7.3	669
1/0 (SOLID)	0.325	0.713	175	0.813	26x14	0.125	50	1.041	998	7.3	844
3/0 (19)	0.456	0.844	175	0.944	26x12	0.079	50	1.206	1443	8.4	1342
250 (37)	0.558	0.954	175	1.054	25x10	0.051	50	1.358	2042	9.5	2000

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
2 (SOLID)	0.162	0.221	0.041	0.052	0.21	1.8	0.397+j0.076	0.224+j0.056	5934	155	195
2 (7)	0.162	0.221	0.038	0.051	0.23	2	0.397+j0.077	0.224+j0.057	5934	155	195
1 (SOLID)	0.128	0.175	0.038	0.05	0.23	2	0.321+j0.058	0.179+j0.053	7331	175	220
1 (19)	0.128	0.175	0.035	0.049	0.24	2.1	0.321+j0.059	0.179+j0.054	7331	175	220
1/0 (SOLID)	0.102	0.139	0.035	0.048	0.25	2.1	0.259+j0.047	0.144+j0.051	9076	200	250
3/0 (19)	0.064	0.087	0.028	0.044	0.31	2.7	0.164+j0.033	0.094+j0.047	14406	260	315
250 (37)	0.043	0.059	0.024	0.042	0.36	3.1	0.110+j0.025	0.069+j0.043	22019	318	360

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*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)

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
2 (SOLID)	6.55	16.41	4.44	18.95	17x14	0.63	1.27	24.74	1079	172.72	2359
2 (7)	7.19	17.04	4.44	19.58	17x14	0.63	1.27	25.37	1098	177.80	2359
1 (SOLID)	7.34	17.20	4.44	19.74	21x14	0.51	1.27	25.53	1259	177.80	2977
1 (19)	8.18	18.03	4.44	20.57	21x14	0.51	1.27	26.37	1284	185.42	2977
1/0 (SOLID)	8.25	18.11	4.44	20.65	26x14	0.41	1.27	26.44	1485	185.42	3756
3/0 (19)	11.58	21.44	4.44	23.98	26x12	0.26	1.27	30.63	2147	213.36	5972
250 (37)	14.17	24.23	4.44	26.77	25x10	0.17	1.27	34.49	3039	241.30	8900

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
2 (SOLID)	0.5315	0.73	0.0125	0.1706	0.689	5.9055	0.397+j0.076	0.224+j0.056	5934	155	195
2 (7)	0.5315	0.73	0.0116	0.1673	0.755	6.5617	0.397+j0.077	0.224+j0.057	5934	155	195
1 (SOLID)	0.4199	0.57	0.0116	0.1640	0.755	6.5617	0.321+j0.058	0.179+j0.053	7331	175	220
1 (19)	0.4199	0.57	0.0107	0.1608	0.787	6.8898	0.321+j0.059	0.179+j0.054	7331	175	220
1/0 (SOLID)	0.3346	0.46	0.0107	0.1575	0.820	6.8898	0.259+j0.047	0.144+j0.051	9076	200	250
3/0 (19)	0.2100	0.29	0.0085	0.1444	1.017	8.8583	0.164+j0.033	0.094+j0.047	14406	260	315
250 (37)	0.1411	0.19	0.0073	0.1378	1.181	10.1706	0.110+j0.025	0.069+j0.043	22019	318	360

*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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