



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

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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: -40°C and MV 90°C optional marking available upon request



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)	0.257	0.645	175	0.735	17x14	0.154	50	0.963	717	7.7	530
2 (7)	0.282	0.670	175	0.760	17x14	0.154	50	0.988	730	7.9	530
1 (Solid)	0.289	0.677	175	0.767	21x14	0.125	50	0.995	840	8.0	669
1 (19)	0.322	0.710	175	0.800	21x14	0.125	50	1.028	857	8.2	669
1/0 (Solid)	0.324	0.712	175	0.802	26x14	0.101	50	1.030	992	8.2	844
3/0 (19)	0.456	0.844	175	0.934	26x12	0.063	50	1.196	1442	9.6	1342
250 (37)	0.558	0.954	175	1.044	25x10	0.041	50	1.348	2047	10.8	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

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	0.040	0.052	0.212	15.8	0.258 + j1.287	0.204 + j0.571	5928	155	195
2 (7)	0.162	0.204	0.038	0.050	0.225	16.8	0.258 + j1.229	0.204 + j0.514	5928	155	195
1 (Solid)	0.128	0.162	0.037	0.050	0.228	17.0	0.216 + j1.216	0.162 + j0.502	7323	175	220
1 (19)	0.128	0.162	0.035	0.048	0.244	18.2	0.216 + j1.158	0.162 + j0.445	7323	175	220
1/0 (Solid)	0.102	0.128	0.035	0.048	0.246	18.3	0.182 + j1.153	0.128 + j0.441	9067	200	250
3/0 (19)	0.064	0.081	0.027	0.044	0.309	23.0	0.135 + j1.002	0.081 + j0.300	14406	260	315
250 (37)	0.043	0.056	0.023	0.042	0.363	27.0	0.110 + j0.931	0.056 + j0.237	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.



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)	6.53	16.38	4.44	18.67	17x14	0.51	1.27	24.46	1067	195.58	2359
2 (7)	7.16	17.02	4.44	19.30	17x14	0.51	1.27	25.10	1086	200.66	2359
1 (Solid)	7.34	17.20	4.44	19.48	21x14	0.41	1.27	25.27	1250	203.20	2977
1 (19)	8.18	18.03	4.44	20.32	21x14	0.41	1.27	26.11	1275	208.28	2977
1/0 (Solid)	8.23	18.08	4.44	20.37	26x14	0.33	1.27	26.16	1476	208.28	3756
3/0 (19)	11.58	21.44	4.44	23.72	26x12	0.21	1.27	30.38	2146	243.84	5972
250 (37)	14.17	24.23	4.44	26.52	25x10	0.13	1.27	34.24	3046	274.32	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

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	0.0122	0.1706	0.696	51.8373	0.258 + j1.287	0.204 + j0.571	5928	155	195
2 (7)	0.5315	0.67	0.0116	0.1640	0.738	55.1181	0.258 + j1.229	0.204 + j0.514	5928	155	195
1 (Solid)	0.4199	0.53	0.0113	0.1640	0.748	55.7743	0.216 + j1.216	0.162 + j0.502	7323	175	220
1 (19)	0.4199	0.53	0.0107	0.1575	0.801	59.7113	0.216 + j1.158	0.162 + j0.445	7323	175	220
1/0 (Solid)	0.3346	0.42	0.0107	0.1575	0.807	60.0394	0.182 + j1.153	0.128 + j0.441	9067	200	250
3/0 (19)	0.2100	0.27	0.0082	0.1444	1.014	75.4593	0.135 + j1.002	0.081 + j0.300	14406	260	315
250 (37)	0.1411	0.18	0.0070	0.1378	1.191	88.5827	0.110 + j0.931	0.056 + j0.237	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.

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Calculator

