



25kV CU 133% EPR (EAM) Full Neutral LLDPE

Single Conductor, 320 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 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:** 320 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 25kV 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 25000 VOLTS EPR INSULATION 320 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
1 (Solid)	0.289	0.967	320	1.057	21x14	0.125	50	1.285	1085	10.3	669
1 (19)	0.322	1.000	320	1.110	21x14	0.125	50	1.338	1128	10.7	669
1/0 (Solid)	0.324	1.002	320	1.112	26x14	0.101	50	1.340	1265	10.7	844
1/0 (19)	0.361	1.039	320	1.149	26x14	0.101	50	1.377	1292	11.0	844
2/0 (19)	0.405	1.083	320	1.193	21x12	0.079	50	1.455	1499	11.6	1064
3/0 (19)	0.456	1.134	320	1.244	26x12	0.063	50	1.506	1748	12.0	1342
4/0 (19)	0.512	1.190	320	1.300	21x10	0.049	75	1.654	2168	13.2	1692
250 (37)	0.558	1.244	320	1.354	25x10	0.041	75	1.708	2465	13.7	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
1 (Solid)	0.128	0.162	0.056	0.056	0.255	31.7	0.216 + j1.205	0.162 + j0.508	7323	175	220
1 (19)	0.128	0.162	0.053	0.054	0.270	33.5	0.216 + j1.145	0.162 + j0.451	7323	175	220
1/0 (Solid)	0.102	0.128	0.052	0.054	0.272	33.8	0.182 + j1.141	0.128 + j0.447	9067	200	250
1/0 (19)	0.102	0.128	0.049	0.052	0.289	35.9	0.182 + j1.089	0.128 + j0.396	9067	200	250
2/0 (19)	0.081	0.102	0.046	0.051	0.309	38.4	0.156 + j1.038	0.102 + j0.350	11635	225	280
3/0 (19)	0.064	0.081	0.043	0.049	0.332	41.2	0.135 + j0.991	0.081 + j0.305	14406	260	315
4/0 (19)	0.051	0.065	0.040	0.049	0.358	44.4	0.119 + j0.948	0.065 + j0.268	18496	295	355
250 (37)	0.043	0.056	0.037	0.047	0.382	47.4	0.110 + j0.920	0.056 + j0.243	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
1 (Solid)	7.34	24.56	8.13	26.85	21x14	0.41	1.27	32.64	1615	261.62	2977
1 (19)	8.18	25.40	8.13	28.19	21x14	0.41	1.27	33.99	1679	271.78	2977
1/0 (Solid)	8.23	25.45	8.13	28.24	26x14	0.33	1.27	34.04	1883	271.78	3756
1/0 (19)	9.17	26.39	8.13	29.18	26x14	0.33	1.27	34.98	1923	279.40	3756
2/0 (19)	10.29	27.51	8.13	30.30	21x12	0.26	1.27	36.96	2231	294.64	4735
3/0 (19)	11.58	28.80	8.13	31.60	26x12	0.21	1.27	38.25	2601	304.80	5972
4/0 (19)	13.00	30.23	8.13	33.02	21x10	0.16	1.91	42.01	3226	335.28	7529
250 (37)	14.17	31.60	8.13	34.39	25x10	0.13	1.91	43.38	3668	347.98	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
1 (Solid)	0.4199	0.53	0.0171	0.1837	0.837	104.0026	0.216 + j1.205	0.162 + j0.508	7323	175	220
1 (19)	0.4199	0.53	0.0162	0.1772	0.886	109.9081	0.216 + j1.145	0.162 + j0.451	7323	175	220
1/0 (Solid)	0.3346	0.42	0.0158	0.1772	0.892	110.8924	0.182 + j1.141	0.128 + j0.447	9067	200	250
1/0 (19)	0.3346	0.42	0.0149	0.1706	0.948	117.7822	0.182 + j1.089	0.128 + j0.396	9067	200	250
2/0 (19)	0.2657	0.33	0.0140	0.1673	1.014	125.9843	0.156 + j1.038	0.102 + j0.350	11635	225	280
3/0 (19)	0.2100	0.27	0.0131	0.1608	1.089	135.1706	0.135 + j0.991	0.081 + j0.305	14406	260	315
4/0 (19)	0.1673	0.21	0.0122	0.1608	1.175	145.6693	0.119 + j0.948	0.065 + j0.268	18496	295	355
250 (37)	0.1411	0.18	0.0113	0.1542	1.253	155.5118	0.110 + j0.920	0.056 + j0.243	22019	318	385

*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

