15kV CU 133% EPR (EAM) Full Neutral LLDPE

Single Conductor, 220 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 133% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

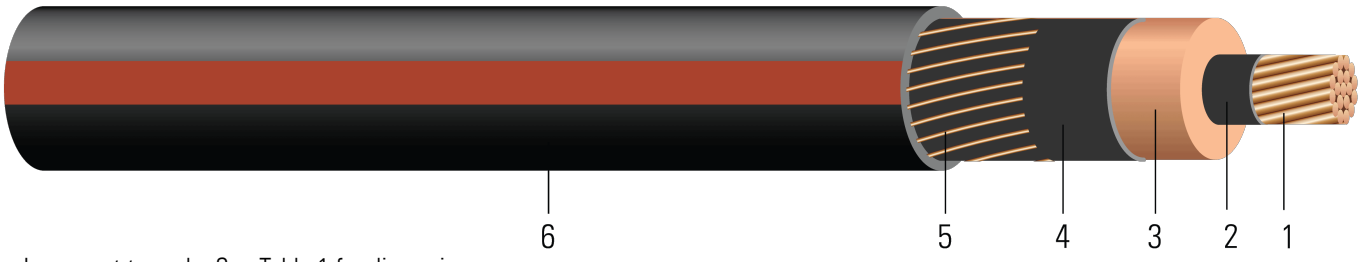

Image not to scale. See Table 1 for dimensions.

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:** 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 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 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

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 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)	0.257	0.735	220	0.825	17x14	0.154	50	1.053	782	8.4	530
617699	2 (7)	0.282	0.753	220	0.843	16x14	0.164	50	1.071	795	8.6	530
661908**	2 (7)	0.282	0.753	220	0.843	16x14	0.164	55	1.081	802	8.6	530
TBA	1 (Solid)	0.289	0.767	220	0.857	21x14	0.125	50	1.085	909	8.7	669
TBA	1 (19)	0.322	0.800	220	0.890	21x14	0.125	50	1.118	928	8.9	669
TBA	1/0 (Solid)	0.324	0.802	220	0.892	26x14	0.101	50	1.120	1063	9.0	844
628027	1/0 (19)	0.361	0.832	220	0.922	16x12	0.103	50	1.183	1104	9.5	844
628029	2/0 (19)	0.405	0.876	220	0.966	13x10	0.080	50	1.269	1340	10.2	1064
TBA	3/0 (19)	0.456	0.934	220	1.024	26x12	0.063	50	1.286	1523	10.3	1342
628023	4/0 (19)	0.512	0.982	220	1.072	20x10	0.052	50	1.375	1867	11.0	1692
TBA	250 (37)	0.558	1.044	220	1.154	25x10	0.041	50	1.458	2157	11.7	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
** Solid Black color jacket
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.

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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	0.204	0.047	0.054	0.182	13.6	0.258 + j1.283	0.204 + j0.573	5928	155	195
2 (7)	0.162	0.204	0.044	0.052	0.194	14.4	0.258 + j1.225	0.204 + j0.516	5579	155	195
2 (7)	0.162	0.204	0.044	0.053	0.194	14.4	0.258 + j1.225	0.204 + j0.517	5579	155	195
1 (Solid)	0.128	0.162	0.044	0.052	0.194	14.4	0.216 + j1.212	0.162 + j0.504	7323	175	220
1 (19)	0.128	0.162	0.041	0.050	0.207	15.4	0.216 + j1.154	0.162 + j0.447	7323	175	220
1/0 (Solid)	0.102	0.128	0.041	0.050	0.209	15.6	0.182 + j1.149	0.128 + j0.443	9067	200	250
1/0 (19)	0.102	0.128	0.038	0.049	0.226	16.8	0.182 + j1.095	0.128 + j0.393	8865	200	250
2/0 (19)	0.081	0.102	0.035	0.048	0.243	18.1	0.156 + j1.043	0.102 + j0.346	11450	225	280
3/0 (19)	0.064	0.081	0.033	0.046	0.260	19.4	0.135 + j0.999	0.081 + j0.302	14406	260	315
4/0 (19)	0.051	0.065	0.030	0.044	0.286	21.3	0.119 + j0.956	0.065 + j0.264	17615	295	355
250 (37)	0.043	0.056	0.028	0.044	0.303	22.6	0.110 + j0.927	0.056 + j0.239	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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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	17x14	0.51	1.27	26.75	1164	213.36	2359
617699	2 (7)	7.16	19.13	5.59	21.41	16x14	0.54	1.27	27.20	1183	218.44	2359
661908**	2 (7)	7.16	19.13	5.59	21.41	16x14	0.54	1.40	27.46	1194	218.44	2359
TBA	1 (Solid)	7.34	19.48	5.59	21.77	21x14	0.41	1.27	27.56	1353	220.98	2977
TBA	1 (19)	8.18	20.32	5.59	22.61	21x14	0.41	1.27	28.40	1381	226.06	2977
TBA	1/0 (Solid)	8.23	20.37	5.59	22.66	26x14	0.33	1.27	28.45	1582	228.60	3756
628027	1/0 (19)	9.17	21.13	5.59	23.42	16x12	0.34	1.27	30.05	1643	241.30	3756
628029	2/0 (19)	10.29	22.25	5.59	24.54	13x10	0.26	1.27	32.23	1994	259.08	4735
TBA	3/0 (19)	11.58	23.72	5.59	26.01	26x12	0.21	1.27	32.66	2266	261.62	5972
628023	4/0 (19)	13.00	24.94	5.59	27.23	20x10	0.17	1.27	34.93	2778	279.40	7529
TBA	250 (37)	14.17	26.52	5.59	29.31	25x10	0.13	1.27	37.03	3210	297.18	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
** Solid Black color jacket
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.

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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	0.67	0.0143	0.1772	0.597	44.6194	0.258 + j1.283	0.204 + j0.573	5928	155	195
2 (7)	0.5315	0.67	0.0134	0.1706	0.636	47.2441	0.258 + j1.225	0.204 + j0.516	5579	155	195
2 (7)	0.5315	0.67	0.0134	0.1739	0.636	47.2441	0.258 + j1.225	0.204 + j0.517	5579	155	195
1 (Solid)	0.4199	0.53	0.0134	0.1706	0.636	47.2441	0.216 + j1.212	0.162 + j0.504	7323	175	220
1 (19)	0.4199	0.53	0.0125	0.1640	0.679	50.5249	0.216 + j1.154	0.162 + j0.447	7323	175	220
1/0 (Solid)	0.3346	0.42	0.0125	0.1640	0.686	51.1811	0.182 + j1.149	0.128 + j0.443	9067	200	250
1/0 (19)	0.3346	0.42	0.0116	0.1608	0.741	55.1181	0.182 + j1.095	0.128 + j0.393	8865	200	250
2/0 (19)	0.2657	0.33	0.0107	0.1575	0.797	59.3832	0.156 + j1.043	0.102 + j0.346	11450	225	280
3/0 (19)	0.2100	0.27	0.0101	0.1509	0.853	63.6483	0.135 + j0.999	0.081 + j0.302	14406	260	315
4/0 (19)	0.1673	0.21	0.0091	0.1444	0.938	69.8819	0.119 + j0.956	0.065 + j0.264	17615	295	355
250 (37)	0.1411	0.18	0.0085	0.1444	0.994	74.1470	0.110 + j0.927	0.056 + j0.239	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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