15kV CU 100% EPR (EAM) One-Third Neutral LLDPE

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

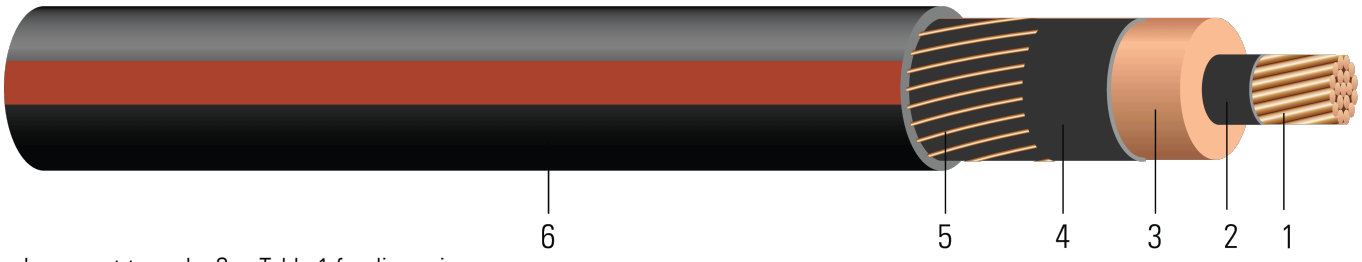

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 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 one-third concentric neutral
6. **Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, Black (red extruded stripes optional); 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 175 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)	0.258	0.646	175	0.746	6x14	0.54	50	0.974	582	6.8	530
628070	2 (7)	0.283	0.663	175	0.753	6x14	0.54	50	0.981	604	6.9	530
TBA	2 (7)	0.283	0.671	175	0.771	6x14	0.54	50	0.999	595	7	530
TBA	1 (SOLID)	0.289	0.677	175	0.777	7x14	0.463	50	1.005	664	7	669
TBA	1 (19)	0.322	0.71	175	0.81	7x14	0.463	50	1.038	681	7.3	669
TBA	1/0 (SOLID)	0.325	0.713	175	0.813	9x14	0.36	50	1.041	777	7.3	844
628074	1/0 (19)	0.362	0.742	175	0.832	9x14	0.36	50	1.06	806	7.4	844
TBA	1/0 (19)	0.362	0.75	175	0.85	9x14	0.36	50	1.078	796	7.5	844
628077	2/0 (19)	0.405	0.786	175	0.876	11x14	0.295	50	1.104	940	7.7	1064
TBA	2/0 (19)	0.405	0.793	175	0.893	11x14	0.295	50	1.121	929	7.8	1064
TBA	3/0 (19)	0.456	0.844	175	0.944	14x14	0.231	50	1.172	1102	8.2	1342
623352	4/0 (19)	0.512	0.892	175	0.982	18x14	0.18	50	1.21	1327	8.5	1692
TBA	4/0 (19)	0.512	0.9	175	1	18x14	0.18	50	1.228	1318	8.6	1692
TBA	250 (37)	0.558	0.954	175	1.054	21x14	0.154	50	1.282	1508	9	2000
628080	350 (37)	0.661	1.051	175	1.161	18x12	0.114	50	1.423	2033	10	2800
619989	500 (37)	0.789	1.179	175	1.289	26x12	0.079	50	1.551	2732	10.9	4000
628083	500 (37)	0.789	1.179	175	1.289	16x10	0.08	50	1.593	2763	11.2	4000
621464^	500 (37)	0.789	1.179	175	1.289	16x10	0.08	50	1.593	2763	11.2	4000
628084	750 (61)	0.968	1.368	175	1.478	25x10	0.051	75	1.836	4009	12.9	6000
623507	1000 (61)	1.117	1.517	175	1.627	26x9	0.039	75	2.01	5162	14.1	8000

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 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	0.221	0.041	0.052	0.21	1.8	0.564+j0.272	0.222+j0.056	2095	160	195
2 (7)	0.162	0.221	0.038	0.05	0.23	2	0.563+j0.273	0.222+j0.057	2095	160	195
2 (7)	0.162	0.221	0.038	0.051	0.23	2	0.563+j0.273	0.222+j0.057	2095	160	195
1 (SOLID)	0.128	0.175	0.038	0.05	0.23	2	0.497+j0.225	0.176+j0.053	2444	180	220
1 (19)	0.128	0.175	0.035	0.049	0.24	2.1	0.497+j0.226	0.176+j0.054	2444	180	220
1/0 (SOLID)	0.102	0.139	0.035	0.048	0.25	2.1	0.421+j0.162	0.141+j0.051	3142	200	250
1/0 (19)	0.102	0.139	0.032	0.046	0.27	2.3	0.421+j0.163	0.141+j0.052	3142	200	250
1/0 (19)	0.102	0.139	0.033	0.047	0.26	2.3	0.421+j0.163	0.141+j0.052	3142	200	250
2/0 (19)	0.082	0.112	0.03	0.045	0.29	2.5	0.359+j0.124	0.114+j0.050	3840	230	285
2/0 (19)	0.082	0.112	0.03	0.045	0.29	2.5	0.359+j0.124	0.114+j0.050	3840	230	285
3/0 (19)	0.064	0.087	0.028	0.043	0.31	2.7	0.293+j0.089	0.09+j0.0490	4887	260	320
4/0 (19)	0.051	0.07	0.025	0.041	0.34	3	0.237+j0.064	0.073+j0.047	6284	300	360
4/0 (19)	0.051	0.07	0.026	0.042	0.34	2.9	0.237+j0.064	0.073+j0.047	6284	300	360
250 (37)	0.043	0.059	0.024	0.041	0.36	3.1	0.204+j0.053	0.063+j0.046	7331	325	
350 (37)	0.031	0.043	0.021	0.039	0.42	3.6	0.153+j0.038	0.048+j0.044	9974	390	460
500 (37)	0.021	0.03	0.018	0.037	0.48	4.2	0.107+j0.027	0.037+j0.041	14406	455	525
500 (37)	0.021	0.03	0.018	0.038	0.48	4.2	0.108+j0.028	0.037+j0.041	14092	455	525
500 (37)	0.021	0.03	0.018	0.038	0.48	4.2	0.108+j0.028	0.037+j0.041	14092	455	525
750 (61)	0.014	0.021	0.015	0.036	0.57	5	0.072+j0.020	0.031+j0.037	22019	545	580
1000 (61)	0.011	0.018	0.013	0.035	0.65	5.6	0.057+j0.018	0.029+j0.033	28879		

*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)	6.55	16.41	4.44	18.95	6x14	1.77	1.27	24.74	866	172.72	2359
628070	2 (7)	7.19	16.84	4.44	19.13	6x14	1.77	1.27	24.92	899	175.26	2359
TBA	2 (7)	7.19	17.04	4.44	19.58	6x14	1.77	1.27	25.37	885	177.80	2359
TBA	1 (SOLID)	7.34	17.20	4.44	19.74	7x14	1.52	1.27	25.53	988	177.80	2977
TBA	1 (19)	8.18	18.03	4.44	20.57	7x14	1.52	1.27	26.37	1013	185.42	2977
TBA	1/0 (SOLID)	8.25	18.11	4.44	20.65	9x14	1.18	1.27	26.44	1156	185.42	3756
628074	1/0 (19)	9.19	18.85	4.44	21.13	9x14	1.18	1.27	26.92	1199	187.96	3756
TBA	1/0 (19)	9.19	19.05	4.44	21.59	9x14	1.18	1.27	27.38	1185	190.50	3756
628077	2/0 (19)	10.29	19.96	4.44	22.25	11x14	0.97	1.27	28.04	1399	195.58	4735
TBA	2/0 (19)	10.29	20.14	4.44	22.68	11x14	0.97	1.27	28.47	1383	198.12	4735
TBA	3/0 (19)	11.58	21.44	4.44	23.98	14x14	0.76	1.27	29.77	1640	208.28	5972
623352	4/0 (19)	13.00	22.66	4.44	24.94	18x14	0.59	1.27	30.73	1975	215.90	7529
TBA	4/0 (19)	13.00	22.86	4.44	25.40	18x14	0.59	1.27	31.19	1961	218.44	7529
TBA	250 (37)	14.17	24.23	4.44	26.77	21x14	0.51	1.27	32.56	2244	228.60	8900
628080	350 (37)	16.79	26.70	4.44	29.49	18x12	0.37	1.27	36.14	3025	254.00	12460
619989	500 (37)	20.04	29.95	4.44	32.74	26x12	0.26	1.27	39.40	4066	276.86	17800
628083	500 (37)	20.04	29.95	4.44	32.74	16x10	0.26	1.27	40.46	4112	284.48	17800
621464^	500 (37)	20.04	29.95	4.44	32.74	16x10	0.26	1.27	40.46	4112	284.48	17800
628084	750 (61)	24.59	34.75	4.44	37.54	25x10	0.17	1.91	46.63	5966	327.66	26700
623507	1000 (61)	28.37	38.53	4.44	41.33	26x9	0.13	1.91	51.05	7682	358.14	35600

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 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	0.73	0.0125	0.1706	0.689	5.9055	0.564+j0.272	0.222+j0.056	2095	160	195
2 (7)	0.5315	0.73	0.0116	0.1640	0.755	6.5617	0.563+j0.273	0.222+j0.057	2095	160	195
2 (7)	0.5315	0.73	0.0116	0.1673	0.755	6.5617	0.563+j0.273	0.222+j0.057	2095	160	195
1 (SOLID)	0.4199	0.57	0.0116	0.1640	0.755	6.5617	0.497+j0.225	0.176+j0.053	2444	180	220
1 (19)	0.4199	0.57	0.0107	0.1608	0.787	6.8898	0.497+j0.226	0.176+j0.054	2444	180	220
1/0 (SOLID)	0.3346	0.46	0.0107	0.1575	0.820	6.8898	0.421+j0.162	0.141+j0.051	3142	200	250
1/0 (19)	0.3346	0.46	0.0098	0.1509	0.886	7.5459	0.421+j0.163	0.141+j0.052	3142	200	250
1/0 (19)	0.3346	0.46	0.0101	0.1542	0.853	7.5459	0.421+j0.163	0.141+j0.052	3142	200	250
2/0 (19)	0.2690	0.37	0.0091	0.1476	0.951	8.2021	0.359+j0.124	0.114+j0.050	3840	230	285
2/0 (19)	0.2690	0.37	0.0091	0.1476	0.951	8.2021	0.359+j0.124	0.114+j0.050	3840	230	285
3/0 (19)	0.2100	0.29	0.0085	0.1411	1.017	8.8583	0.293+j0.089	0.09+j0.0490	4887	260	320
4/0 (19)	0.1673	0.23	0.0076	0.1345	1.115	9.8425	0.237+j0.064	0.073+j0.047	6284	300	360
4/0 (19)	0.1673	0.23	0.0079	0.1378	1.115	9.5144	0.237+j0.064	0.073+j0.047	6284	300	360
250 (37)	0.1411	0.19	0.0073	0.1345	1.181	10.1706	0.204+j0.053	0.063+j0.046	7331	325	
350 (37)	0.1017	0.14	0.0064	0.1280	1.378	11.8110	0.153+j0.038	0.048+j0.044	9974	390	460
500 (37)	0.0689	0.10	0.0055	0.1214	1.575	13.7795	0.107+j0.027	0.037+j0.041	14406	455	525
500 (37)	0.0689	0.10	0.0055	0.1247	1.575	13.7795	0.108+j0.028	0.037+j0.041	14092	455	525
500 (37)	0.0689	0.10	0.0055	0.1247	1.575	13.7795	0.108+j0.028	0.037+j0.041	14092	455	525
750 (61)	0.0459	0.07	0.0046	0.1181	1.870	16.4042	0.072+j0.020	0.031+j0.037	22019	545	580
1000 (61)	0.0361	0.06	0.0040	0.1148	2.133	18.3727	0.057+j0.018	0.029+j0.033	28879		

*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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