15kV CU 133% EPR (EAM) One-Third Neutral LLDPE

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

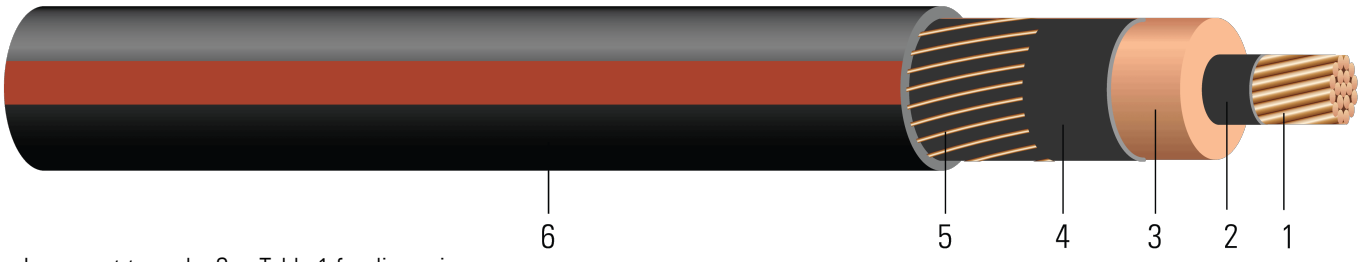

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 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 one-third 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	6x14	0.438	50	1.053	633	8.4	530
627966	2 (7)	0.282	0.753	220	0.843	6x14	0.438	50	1.071	675	8.6	530
TBA	1 (Solid)	0.289	0.767	220	0.857	7x14	0.375	50	1.085	720	8.7	669
TBA	1 (19)	0.322	0.800	220	0.890	7x14	0.375	50	1.118	739	8.9	669
TBA	1/0 (Solid)	0.324	0.802	220	0.892	9x14	0.292	50	1.120	834	9.0	844
627970	1/0 (19)	0.361	0.832	220	0.922	9x14	0.292	50	1.150	883	9.2	844
627973	2/0 (19)	0.405	0.876	220	0.966	11x14	0.239	50	1.194	1020	9.6	1064
TBA	3/0 (19)	0.456	0.934	220	1.024	14x14	0.187	50	1.252	1168	10.0	1342
627975	4/0 (19)	0.512	0.982	220	1.072	18x14	0.146	50	1.300	1415	10.4	1692
139298	4/0 (19)	0.512	0.982	220	1.072	18x14	0.146	50	1.300	1415	10.4	1692
621494	4/0 (19)	0.512	0.982	220	1.072	11x12	0.151	50	1.333	1437	10.7	1692
139148	250 (37)	0.558	1.038	220	1.198	21x14	0.125	50	1.376	1633	11.0	2000
627967	350 (37)	0.661	1.141	220	1.251	18x12	0.092	50	1.512	2135	12.1	2800
139181^	350 (37)	0.661	1.141	220	1.251	18x12	0.092	50	1.512	2135	12.1	2800
621934**	500 (37)	0.789	1.269	220	1.379	26x12	0.063	50	1.640	2844	13.1	4000
627983	500 (37)	0.789	1.269	220	1.379	17x10	0.061	75	1.736	2967	13.9	4000
606626**	750 (61)	0.968	1.458	220	1.568	25x10	0.041	75	1.925	4141	15.4	6000
627977	750 (61)	0.968	1.458	220	1.568	25x10	0.041	75	1.925	4142	15.4	6000
618572	1000 (61)	1.117	1.607	220	1.747	26x9	0.031	75	2.129	5356	17.0	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
¥ Water Block: Hi-DRI-PLUS® Water Swellable Powder under jacket
^ UL listed MV 90
** All Black PE 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	0.257 + j1.277	0.204 + j0.573	2092	160	195
2 (7)	0.162	0.204	0.044	0.052	0.194	14.4	0.257 + j1.220	0.204 + j0.516	2092	160	195
1 (Solid)	0.128	0.162	0.044	0.052	0.194	14.4	0.216 + j1.208	0.162 + j0.504	2441	180	220
1 (19)	0.128	0.162	0.041	0.050	0.207	15.4	0.216 + j1.149	0.162 + j0.447	2441	180	220
1/0 (Solid)	0.102	0.128	0.041	0.050	0.209	15.6	0.182 + j1.147	0.128 + j0.443	3138	200	250
1/0 (19)	0.102	0.128	0.038	0.048	0.226	16.8	0.182 + j1.094	0.128 + j0.392	3138	200	250
2/0 (19)	0.081	0.102	0.035	0.047	0.243	18.1	0.156 + j1.045	0.102 + j0.345	3836	230	285
3/0 (19)	0.064	0.081	0.033	0.045	0.260	19.4	0.135 + j0.999	0.081 + j0.301	4882	260	320
4/0 (19)	0.051	0.065	0.030	0.043	0.286	21.3	0.119 + j0.959	0.065 + j0.263	6277	300	360
4/0 (19)	0.051	0.065	0.030	0.043	0.286	21.3	0.119 + j0.959	0.065 + j0.263	6277	300	360
4/0 (19)	0.051	0.065	0.030	0.044	0.286	21.3	0.120 + j0.956	0.066 + j0.263	6094	300	360
250 (37)	0.043	0.056	0.028	0.043	0.303	22.6	0.110 + j0.930	0.056 + j0.238	7323		
350 (37)	0.031	0.041	0.024	0.041	0.346	25.8	0.095 + j0.880	0.041 + j0.194	9973	390	460
350 (37)	0.031	0.041	0.028	0.041	0.174	5.73	0.095 + j0.880	0.041 + j0.194	9973	390	460
500 (37)	0.022	0.030	0.021	0.039	0.396	29.5	0.084 + j0.836	0.030 + j0.156	14406	455	525
500 (37)	0.022	0.030	0.021	0.040	0.396	29.5	0.084 + j0.833	0.030 + j0.158	14973	455	525
750 (61)	0.014	0.023	0.018	0.038	0.469	34.9	0.077 + j0.791	0.023 + j0.122	22019	545	580
750 (61)	0.014	0.023	0.018	0.038	0.469	34.9	0.077 + j0.791	0.023 + j0.122	22019	545	580
1000 (61)	0.011	0.019	0.016	0.037	0.527	39.3	0.073 + j0.764	0.019 + j0.102	28878		

*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	6x14	1.44	1.27	26.75	942	213.36	2359
627966	2 (7)	7.16	19.13	5.59	21.41	6x14	1.44	1.27	27.20	1005	218.44	2359
TBA	1 (Solid)	7.34	19.48	5.59	21.77	7x14	1.23	1.27	27.56	1071	220.98	2977
TBA	1 (19)	8.18	20.32	5.59	22.61	7x14	1.23	1.27	28.40	1100	226.06	2977
TBA	1/0 (Solid)	8.23	20.37	5.59	22.66	9x14	0.96	1.27	28.45	1241	228.60	3756
627970	1/0 (19)	9.17	21.13	5.59	23.42	9x14	0.96	1.27	29.21	1314	233.68	3756
627973	2/0 (19)	10.29	22.25	5.59	24.54	11x14	0.78	1.27	30.33	1518	243.84	4735
TBA	3/0 (19)	11.58	23.72	5.59	26.01	14x14	0.61	1.27	31.80	1738	254.00	5972
627975	4/0 (19)	13.00	24.94	5.59	27.23	18x14	0.48	1.27	33.02	2106	264.16	7529
139298	4/0 (19)	13.00	24.94	5.59	27.23	18x14	0.48	1.27	33.02	2106	264.16	7529
621494	4/0 (19)	13.00	24.94	5.59	27.23	11x12	0.50	1.27	33.86	2138	271.78	7529
139148	250 (37)	14.17	26.37	5.59	30.43	21x14	0.41	1.27	34.95	2430	279.40	8900
627967	350 (37)	16.79	28.98	5.59	31.78	18x12	0.30	1.27	38.40	3177	307.34	12460
139181^	350 (37)	16.79	28.98	5.59	31.78	18x12	0.30	1.27	38.40	3177	307.34	12460
621934**	500 (37)	20.04	32.23	5.59	35.03	26x12	0.21	1.27	41.66	4232	332.74	17800
627983	500 (37)	20.04	32.23	5.59	35.03	17x10	0.20	1.91	44.09	4415	353.06	17800
606626**	750 (61)	24.59	37.03	5.59	39.83	25x10	0.13	1.91	48.89	6162	391.16	26700
627977	750 (61)	24.59	37.03	5.59	39.83	25x10	0.13	1.91	48.89	6164	391.16	26700
618572	1000 (61)	28.37	40.82	5.59	44.37	26x9	0.10	1.91	54.08	7971	431.80	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
¥ Water Block: Hi-DRI-PLUS® Water Swellable Powder under jacket
^ UL listed MV 90
** All Black PE 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	0.257 + j1.277	0.204 + j0.573	2092	160	195
2 (7)	0.5315	0.67	0.0134	0.1706	0.636	47.2441	0.257 + j1.220	0.204 + j0.516	2092	160	195
1 (Solid)	0.4199	0.53	0.0134	0.1706	0.636	47.2441	0.216 + j1.208	0.162 + j0.504	2441	180	220
1 (19)	0.4199	0.53	0.0125	0.1640	0.679	50.5249	0.216 + j1.149	0.162 + j0.447	2441	180	220
1/0 (Solid)	0.3346	0.42	0.0125	0.1640	0.686	51.1811	0.182 + j1.147	0.128 + j0.443	3138	200	250
1/0 (19)	0.3346	0.42	0.0116	0.1575	0.741	55.1181	0.182 + j1.094	0.128 + j0.392	3138	200	250
2/0 (19)	0.2657	0.33	0.0107	0.1542	0.797	59.3832	0.156 + j1.045	0.102 + j0.345	3836	230	285
3/0 (19)	0.2100	0.27	0.0101	0.1476	0.853	63.6483	0.135 + j0.999	0.081 + j0.301	4882	260	320
4/0 (19)	0.1673	0.21	0.0091	0.1411	0.938	69.8819	0.119 + j0.959	0.065 + j0.263	6277	300	360
4/0 (19)	0.1673	0.21	0.0091	0.1411	0.938	69.8819	0.119 + j0.959	0.065 + j0.263	6277	300	360
4/0 (19)	0.1673	0.21	0.0091	0.1444	0.938	69.8819	0.120 + j0.956	0.066 + j0.263	6094	300	360
250 (37)	0.1411	0.18	0.0085	0.1411	0.994	74.1470	0.110 + j0.930	0.056 + j0.238	7323		
350 (37)	0.1017	0.13	0.0073	0.1345	1.135	84.6457	0.095 + j0.880	0.041 + j0.194	9973	390	460
350 (37)	0.1017	0.13	0.0085	0.1345	0.571	18.7992	0.095 + j0.880	0.041 + j0.194	9973	390	460
500 (37)	0.0722	0.10	0.0064	0.1280	1.299	96.7848	0.084 + j0.836	0.030 + j0.156	14406	455	525
500 (37)	0.0722	0.10	0.0064	0.1312	1.299	96.7848	0.084 + j0.833	0.030 + j0.158	14973	455	525
750 (61)	0.0459	0.08	0.0055	0.1247	1.539	114.5013	0.077 + j0.791	0.023 + j0.122	22019	545	580
750 (61)	0.0459	0.08	0.0055	0.1247	1.539	114.5013	0.077 + j0.791	0.023 + j0.122	22019	545	580
1000 (61)	0.0361	0.06	0.0049	0.1214	1.729	128.9370	0.073 + j0.764	0.019 + j0.102	28878		

*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.
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Concentric Neutral Calculator

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