15kV CU 100% EPR (EAM) One-Third Neutral LLDPE Patented POWERGLIDE® MV CABLE (PATENT: www.patentsw.com)

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 with PowerGlide® Technology. Black with red extruded stripes

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
- 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

We've got it MADE IN AMERICA

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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
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
TBA	1/0 (19)	0.362	0.75	175	0.85	9x14	0.36	50	1.078	796	7.5	844
TBA	2/0 (19)	0.405	0.793	175	0.893	11x14	0.295	50	1.121	929	7.8	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
TBA	4/0 (19)	0.512	0.9	175	1	18x14	0.18	50	1.228	1318	8.6	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
TBA	350 (37)	0.661	1.057	175	1.177	29x14	0.112	50	1.405	1998	9.8	2800
TBA	500 (37)	0.789	1.185	175	1.305	26x12	0.079	50	1.567	2677	11	4000
628688	500 (37)	0.789	1.179	175	1.289	16x10	0.08	50	1.593	2782	11.2	4000
TBA	750 (61)	0.968	1.374	175	1.494	25x10	0.051	75	1.848	3925	12.9	6000
TBA	1000 (61)	1.117	1.523	175	1.673	21x8	0.038	75	2.081	5113	14.6	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
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	0.051	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	0.033	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	0.026	0.042	0.34	2.9	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	0.41	3.6	0.151+j0.037	0.048+j0.044	10123	390	460
500 (37)	0.021	0.03	0.018	0.037	0.47	4.1	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
750 (61)	0.014	0.021	0.015	0.037	0.56	4.9	0.072+j0.021	0.031+j0.037	22019	545	580
1000 (61)	0.011	0.018	0.014	0.036	0.64	5.5	0.056+j0.018	0.029+j0.034	29419		

*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
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
TBA	1/0 (19)	9.19	19.05	4.44	21.59	9x14	1.18	1.27	27.38	1185	190.50	3756
TBA	2/0 (19)	10.29	20.14	4.44	22.68	11x14	0.97	1.27	28.47	1383	198.12	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
TBA	4/0 (19)	13.00	22.86	4.44	25.40	18x14	0.59	1.27	31.19	1961	218.44	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
TBA	350 (37)	16.79	26.85	4.44	29.90	29x14	0.37	1.27	35.69	2973	248.92	12460
TBA	500 (37)	20.04	30.10	4.44	33.15	26x12	0.26	1.27	39.80	3984	279.40	17800
628688	500 (37)	20.04	29.95	4.44	32.74	16x10	0.26	1.27	40.46	4140	284.48	17800
TBA	750 (61)	24.59	34.90	4.44	37.95	25x10	0.17	1.91	46.94	5841	327.66	26700
TBA	1000 (61)	28.37	38.68	4.44	42.49	21x8	0.12	1.91	52.86	7609	370.84	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
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	0.1673	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	0.0101	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	0.0079	0.1378	1.115	9.5144	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	1.345	11.8110	0.151+j0.037	0.048+j0.044	10123	390	460
500 (37)	0.0689	0.10	0.0055	0.1214	1.542	13.4514	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
750 (61)	0.0459	0.07	0.0046	0.1214	1.837	16.0761	0.072+j0.021	0.031+j0.037	22019	545	580
1000 (61)	0.0361	0.06	0.0043	0.1181	2.100	18.0446	0.056+j0.018	0.029+j0.034	29419		

*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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