



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:

- 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)
- Conductor Shield:** Conventional Semi-conducting cross-linked copolymer. A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 175 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 100% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Concentric Neutral:** Helically applied soft drawn bare copper one-third concentric neutral
- 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: -40°C and MV 90°C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DR(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 15000 VOLTS EPR INSULATION 175 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET





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	0.645	175	0.735	6x14	0.438	50	0.963	566	7.7	530
TBA	2 (7)	0.282	0.670	175	0.760	6x14	0.438	50	0.988	577	7.9	530
TBA	1 (Solid)	0.289	0.677	175	0.767	7x14	0.375	50	0.995	649	8.0	669
TBA	1 (19)	0.322	0.710	175	0.800	7x14	0.375	50	1.028	665	8.2	669
TBA	1/0 (Solid)	0.324	0.712	175	0.802	9x14	0.292	50	1.030	759	8.2	844
TBA	1/0 (19)	0.361	0.749	175	0.839	9x14	0.292	50	1.067	778	8.5	844
TBA	2/0 (19)	0.405	0.793	175	0.883	11x14	0.239	50	1.111	912	8.9	1064
TBA	2/0 (19)	0.405	0.793	175	0.883	11x14	0.239	50	1.111	912	8.9	1064
TBA	3/0 (19)	0.456	0.844	175	0.934	14x14	0.187	50	1.162	1085	9.3	1342
TBA	4/0 (19)	0.512	0.900	175	0.990	18x14	0.146	50	1.218	1302	9.7	1692
TBA	4/0 (19)	0.512	0.900	175	0.990	18x14	0.146	50	1.218	1302	9.7	1692
TBA	250 (37)	0.558	0.954	175	1.044	21x14	0.125	50	1.272	1490	10.2	2000
TBA	350 (37)	0.661	1.057	175	1.167	29x14	0.090	50	1.395	1980	11.2	2800
TBA	500 (37)	0.789	1.185	175	1.295	26x12	0.063	50	1.557	2660	12.5	4000
628688	500 (37)	0.789	1.179	175	1.289	17x10	0.061	50	1.592	2800	12.7	4000
TBA	750 (61)	0.968	1.374	175	1.484	25x10	0.041	75	1.838	3921	14.7	6000
TBA	1000 (61)	1.117	1.523	175	1.663	32x10	0.032	75	2.017	5055	16.1	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



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	0.052	0.104	3.42	0.258 + j0.772	0.204 + j0.051	2092	160	195
2 (7)	0.162	0.204	0.044	0.050	0.111	3.65	0.258 + j0.771	0.204 + j0.052	2092	160	195
1 (Solid)	0.128	0.162	0.044	0.050	0.112	3.69	0.216 + j0.767	0.162 + j0.048	2441	180	220
1 (19)	0.128	0.162	0.041	0.048	0.121	3.98	0.216 + j0.765	0.162 + j0.049	2441	180	220
1/0 (Solid)	0.102	0.128	0.040	0.048	0.122	4.02	0.182 + j0.762	0.128 + j0.046	3138	200	250
1/0 (19)	0.102	0.128	0.037	0.047	0.131	4.31	0.182 + j0.761	0.128 + j0.047	3138	200	250
2/0 (19)	0.081	0.102	0.035	0.045	0.142	4.67	0.156 + j0.756	0.102 + j0.045	3836	230	285
2/0 (19)	0.081	0.102	0.035	0.045	0.142	4.67	0.156 + j0.756	0.102 + j0.045	3836	230	285
3/0 (19)	0.064	0.081	0.032	0.043	0.155	5.10	0.135 + j0.752	0.081 + j0.044	4882	260	320
4/0 (19)	0.051	0.065	0.029	0.042	0.170	5.59	0.119 + j0.747	0.065 + j0.042	6277	300	360
4/0 (19)	0.051	0.065	0.029	0.042	0.170	5.59	0.119 + j0.747	0.065 + j0.042	6277	300	360
250 (37)	0.043	0.056	0.027	0.041	0.178	5.86	0.111 + j0.743	0.056 + j0.041	7323	325	
350 (37)	0.031	0.041	0.024	0.039	0.204	6.71	0.095 + j0.734	0.041 + j0.039	10113	390	460
500 (37)	0.022	0.030	0.021	0.037	0.235	7.73	0.084 + j0.725	0.030 + j0.037	14406	455	525
500 (37)	0.022	0.030	0.021	0.038	0.235	7.73	0.084 + j0.724	0.030 + j0.038	14973	455	525
750 (61)	0.014	0.023	0.018	0.036	0.273	8.98	0.077 + j0.713	0.023 + j0.036	22019	545	580
1000 (61)	0.011	0.019	0.016	0.035	0.309	10.17	0.073 + j0.705	0.019 + j0.035	28184		

*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.





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	16.38	4.44	18.67	6x14	1.44	1.27	24.46	842	195.58	2359
TBA	2 (7)	7.16	17.02	4.44	19.30	6x14	1.44	1.27	25.10	859	200.66	2359
TBA	1 (Solid)	7.34	17.20	4.44	19.48	7x14	1.23	1.27	25.27	966	203.20	2977
TBA	1 (19)	8.18	18.03	4.44	20.32	7x14	1.23	1.27	26.11	990	208.28	2977
TBA	1/0 (Solid)	8.23	18.08	4.44	20.37	9x14	0.96	1.27	26.16	1130	208.28	3756
TBA	1/0 (19)	9.17	19.02	4.44	21.31	9x14	0.96	1.27	27.10	1158	215.90	3756
TBA	2/0 (19)	10.29	20.14	4.44	22.43	11x14	0.78	1.27	28.22	1357	226.06	4735
TBA	2/0 (19)	10.29	20.14	4.44	22.43	11x14	0.78	1.27	28.22	1357	226.06	4735
TBA	3/0 (19)	11.58	21.44	4.44	23.72	14x14	0.61	1.27	29.51	1615	236.22	5972
TBA	4/0 (19)	13.00	22.86	4.44	25.15	18x14	0.48	1.27	30.94	1938	246.38	7529
TBA	4/0 (19)	13.00	22.86	4.44	25.15	18x14	0.48	1.27	30.94	1938	246.38	7529
TBA	250 (37)	14.17	24.23	4.44	26.52	21x14	0.41	1.27	32.31	2217	259.08	8900
TBA	350 (37)	16.79	26.85	4.44	29.64	29x14	0.30	1.27	35.43	2947	284.48	12460
TBA	500 (37)	20.04	30.10	4.44	32.89	26x12	0.21	1.27	39.55	3959	317.50	17800
628688	500 (37)	20.04	29.95	4.44	32.74	17x10	0.20	1.27	40.44	4167	322.58	17800
TBA	750 (61)	24.59	34.90	4.44	37.69	25x10	0.13	1.91	46.69	5835	373.38	26700
TBA	1000 (61)	28.37	38.68	4.44	42.24	32x10	0.10	1.91	51.23	7523	408.94	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





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	0.1706	0.341	11.2205	0.258 + j0.772	0.204 + j0.051	2092	160	195
2 (7)	0.5315	0.67	0.0134	0.1640	0.364	11.9751	0.258 + j0.771	0.204 + j0.052	2092	160	195
1 (Solid)	0.4199	0.53	0.0134	0.1640	0.367	12.1063	0.216 + j0.767	0.162 + j0.048	2441	180	220
1 (19)	0.4199	0.53	0.0125	0.1575	0.397	13.0577	0.216 + j0.765	0.162 + j0.049	2441	180	220
1/0 (Solid)	0.3346	0.42	0.0122	0.1575	0.400	13.1890	0.182 + j0.762	0.128 + j0.046	3138	200	250
1/0 (19)	0.3346	0.42	0.0113	0.1542	0.430	14.1404	0.182 + j0.761	0.128 + j0.047	3138	200	250
2/0 (19)	0.2657	0.33	0.0107	0.1476	0.466	15.3215	0.156 + j0.756	0.102 + j0.045	3836	230	285
2/0 (19)	0.2657	0.33	0.0107	0.1476	0.466	15.3215	0.156 + j0.756	0.102 + j0.045	3836	230	285
3/0 (19)	0.2100	0.27	0.0098	0.1411	0.509	16.7323	0.135 + j0.752	0.081 + j0.044	4882	260	320
4/0 (19)	0.1673	0.21	0.0088	0.1378	0.558	18.3399	0.119 + j0.747	0.065 + j0.042	6277	300	360
4/0 (19)	0.1673	0.21	0.0088	0.1378	0.558	18.3399	0.119 + j0.747	0.065 + j0.042	6277	300	360
250 (37)	0.1411	0.18	0.0082	0.1345	0.584	19.2257	0.111 + j0.743	0.056 + j0.041	7323	325	
350 (37)	0.1017	0.13	0.0073	0.1280	0.669	22.0144	0.095 + j0.734	0.041 + j0.039	10113	390	460
500 (37)	0.0722	0.10	0.0064	0.1214	0.771	25.3609	0.084 + j0.725	0.030 + j0.037	14406	455	525
500 (37)	0.0722	0.10	0.0064	0.1247	0.771	25.3609	0.084 + j0.724	0.030 + j0.038	14973	455	525
750 (61)	0.0459	0.08	0.0055	0.1181	0.896	29.4619	0.077 + j0.713	0.023 + j0.036	22019	545	580
1000 (61)	0.0361	0.06	0.0049	0.1148	1.014	33.3661	0.073 + j0.705	0.019 + j0.035	28184		

*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.

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Calculator

