



15kV CU 133% EPR (EAM) One-Third Neutral LLDPE Patented POWERGLIDE® MV CABLE (PATENT: www.patentsw.com)

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:

- 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)
- Conductor Shield:** Conventional Semi-conducting cross-linked copolymer. A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 220 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 133% 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-97-682 Standard for Shielded Utility Cable Rated for 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 220 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	0.735	220	0.825	5x14	0.526	50	1.053	620	8.4	530
TBA	2 (7)	0.282	0.760	220	0.850	5x14	0.526	50	1.078	634	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
TBA	1/0 (19)	0.361	0.839	220	0.929	9x14	0.292	50	1.157	854	9.3	844
TBA	2/0 (19)	0.405	0.883	220	0.973	11x14	0.239	50	1.201	991	9.6	1064
TBA	3/0 (19)	0.456	0.934	220	1.024	14x14	0.187	50	1.252	1168	10.0	1342
TBA	4/0 (19)	0.512	0.990	220	1.080	17x14	0.154	50	1.308	1375	10.5	1692
TBA	250 (37)	0.558	1.044	220	1.154	20x14	0.131	50	1.382	1588	11.1	2000
TBA	350 (37)	0.661	1.147	220	1.257	28x14	0.093	50	1.485	2066	11.9	2800
TBA	500 (37)	0.789	1.275	220	1.385	26x12	0.063	75	1.697	2853	13.6	4000
661913!	750 (61)	0.968	1.458	220	1.568	25x10	0.041	75	1.925	4167	15.4	6000
TBA	1000 (61)	1.117	1.613	220	1.753	32x10	0.032	75	2.107	5196	16.9	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

! Black jacket (no red extruded stripes)





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 + j0.760	0.204 + j0.055	1876	160	195
2 (7)	0.162	0.204	0.044	0.052	0.192	14.3	0.257 + j0.757	0.204 + j0.053	1876	160	195
1 (Solid)	0.128	0.162	0.044	0.052	0.194	14.4	0.216 + j0.760	0.162 + j0.053	2367	180	220
1 (19)	0.128	0.162	0.041	0.050	0.207	15.4	0.216 + j0.756	0.162 + j0.051	2367	180	220
1/0 (Solid)	0.102	0.128	0.041	0.050	0.209	15.6	0.182 + j0.758	0.128 + j0.051	2986	200	250
1/0 (19)	0.102	0.128	0.038	0.048	0.224	16.7	0.182 + j0.754	0.128 + j0.049	2986	200	250
2/0 (19)	0.081	0.102	0.035	0.047	0.240	17.9	0.156 + j0.750	0.102 + j0.047	3764	230	285
3/0 (19)	0.064	0.081	0.033	0.045	0.260	19.4	0.135 + j0.747	0.081 + j0.045	4746	260	320
4/0 (19)	0.051	0.065	0.030	0.043	0.282	21.0	0.119 + j0.742	0.065 + j0.044	5984	300	360
250 (37)	0.043	0.056	0.028	0.043	0.303	22.6	0.110 + j0.738	0.056 + j0.043	7071	325	
350 (37)	0.031	0.041	0.025	0.040	0.343	25.5	0.095 + j0.731	0.041 + j0.041	9899	390	460
500 (37)	0.022	0.030	0.022	0.039	0.392	29.2	0.084 + j0.721	0.030 + j0.040	14142	455	525
750 (61)	0.014	0.023	0.018	0.038	0.469	34.9	0.077 + j0.710	0.023 + j0.038	22019	545	580
1000 (61)	0.011	0.019	0.016	0.036	0.521	38.8	0.073 + j0.703	0.019 + j0.037	28284		

*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.





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	5x14	1.73	1.27	26.75	923	213.36	2359
TBA	2 (7)	7.16	19.30	5.59	21.59	5x14	1.73	1.27	27.38	943	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
TBA	1/0 (19)	9.17	21.31	5.59	23.60	9x14	0.96	1.27	29.39	1271	236.22	3756
TBA	2/0 (19)	10.29	22.43	5.59	24.71	11x14	0.78	1.27	30.51	1475	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
TBA	4/0 (19)	13.00	25.15	5.59	27.43	17x14	0.51	1.27	33.22	2046	266.70	7529
TBA	250 (37)	14.17	26.52	5.59	29.31	20x14	0.43	1.27	35.10	2363	281.94	8900
TBA	350 (37)	16.79	29.13	5.59	31.93	28x14	0.31	1.27	37.72	3075	302.26	12460
TBA	500 (37)	20.04	32.39	5.59	35.18	26x12	0.21	1.91	43.10	4246	345.44	17800
661913!	750 (61)	24.59	37.03	5.59	39.83	25x10	0.13	1.91	48.89	6201	391.16	26700
TBA	1000 (61)	28.37	40.97	5.59	44.53	32x10	0.10	1.91	53.52	7732	429.26	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

! Black jacket (no red extruded stripes)





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 + j0.760	0.204 + j0.055	1876	160	195
2 (7)	0.5315	0.67	0.0134	0.1706	0.630	46.9160	0.257 + j0.757	0.204 + j0.053	1876	160	195
1 (Solid)	0.4199	0.53	0.0134	0.1706	0.636	47.2441	0.216 + j0.760	0.162 + j0.053	2367	180	220
1 (19)	0.4199	0.53	0.0125	0.1640	0.679	50.5249	0.216 + j0.756	0.162 + j0.051	2367	180	220
1/0 (Solid)	0.3346	0.42	0.0125	0.1640	0.686	51.1811	0.182 + j0.758	0.128 + j0.051	2986	200	250
1/0 (19)	0.3346	0.42	0.0116	0.1575	0.735	54.7900	0.182 + j0.754	0.128 + j0.049	2986	200	250
2/0 (19)	0.2657	0.33	0.0107	0.1542	0.787	58.7270	0.156 + j0.750	0.102 + j0.047	3764	230	285
3/0 (19)	0.2100	0.27	0.0101	0.1476	0.853	63.6483	0.135 + j0.747	0.081 + j0.045	4746	260	320
4/0 (19)	0.1673	0.21	0.0091	0.1411	0.925	68.8976	0.119 + j0.742	0.065 + j0.044	5984	300	360
250 (37)	0.1411	0.18	0.0085	0.1411	0.994	74.1470	0.110 + j0.738	0.056 + j0.043	7071	325	
350 (37)	0.1017	0.13	0.0076	0.1312	1.125	83.6614	0.095 + j0.731	0.041 + j0.041	9899	390	460
500 (37)	0.0722	0.10	0.0067	0.1280	1.286	95.8005	0.084 + j0.721	0.030 + j0.040	14142	455	525
750 (61)	0.0459	0.08	0.0055	0.1247	1.539	114.5013	0.077 + j0.710	0.023 + j0.038	22019	545	580
1000 (61)	0.0361	0.06	0.0049	0.1181	1.709	127.2966	0.073 + j0.703	0.019 + j0.037	28284		

*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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Calculator

