

15kV CU 133% EPR LCT LLDPE Primary UD

Single Conductor, 220 Mils Ethylene Propylene Rubber (EPR), 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

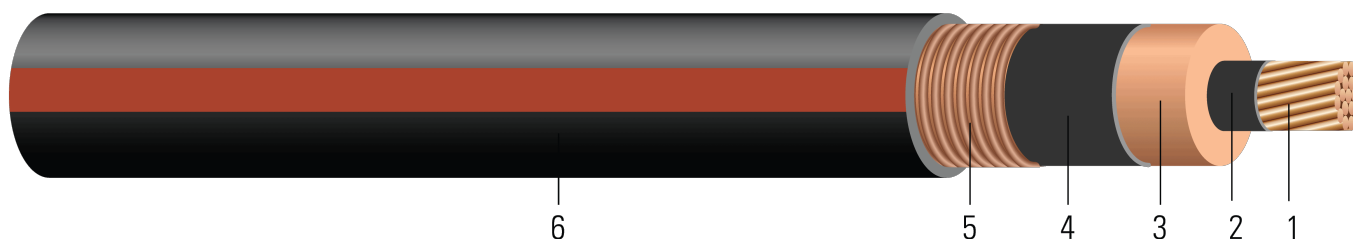


Image not to scale. See Table 1 for dimensions.

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) 133% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
- 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, troughs, trays, 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 Standard Specification for 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-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
- 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



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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	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	inch	inch	mil	inch	mil	inch	lb /1000ft	inch	lb
TBA	2 (1)	0.258	0.735	220	0.795	80	1.055	685	12.7	531
TBA	2 (7)	0.283	0.760	220	0.820	80	1.080	713	13.0	531
TBA	1 (1)	0.289	0.766	220	0.826	80	1.086	755	13.0	670
TBA	1 (19)	0.322	0.799	220	0.859	80	1.119	833	13.4	670
TBA	1/0 (1)	0.325	0.802	220	0.862	80	1.122	885	13.5	845
TBA	1/0 (19)	0.362	0.839	220	0.899	80	1.159	925	13.9	845
TBA	2/0 (19)	0.405	0.882	220	0.942	80	1.202	1036	14.4	1065
TBA	3/0 (19)	0.456	0.933	220	0.993	80	1.253	1176	15.0	1342
TBA	4/0 (19)	0.512	0.989	220	1.049	80	1.309	1346	15.7	1693
TBA	250 (37)	0.558	1.044	220	1.104	80	1.364	1499	16.4	2000
TBA	350 (37)	0.661	1.147	220	1.207	80	1.467	1877	17.6	2800
TBA	500 (37)	0.789	1.275	220	1.335	80	1.561	2466	18.7	4000
TBA	750 (61)	0.968	1.463	220	1.523	110	1.809	3437	21.7	6000
TBA	1000 (61)	1.117	1.612	220	1.672	110	1.958	4322	23.5	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 (1)	0.162	0.203	0.051	0.051	0.170	29.395	0.517+j0.205	0.204+j0.051	3159.2	155	195
2 (7)	0.162	0.203	0.048	0.050	0.179	31.023	0.511+j0.196	0.204+j0.050	3241.1	155	195
1 (1)	0.129	0.161	0.048	0.049	0.181	31.412	0.468+j0.194	0.162+j0.049	3260.7	175	220
1 (19)	0.129	0.161	0.045	0.048	0.194	33.542	0.461+j0.184	0.162+j0.048	3368.8	175	220
1/0 (1)	0.102	0.128	0.044	0.048	0.195	33.735	0.428+j0.183	0.129+j0.048	3378.6	200	250
1/0 (19)	0.102	0.128	0.042	0.046	0.208	36.105	0.420+j0.173	0.129+j0.046	3499.8	200	250
2/0 (19)	0.081	0.101	0.039	0.045	0.224	38.841	0.385+j0.161	0.102+j0.045	3640.7	230	285
3/0 (19)	0.0642	0.080	0.036	0.043	0.243	42.068	0.355+j0.150	0.081+j0.043	3807.8	260	325
4/0 (19)	0.051	0.064	0.033	0.042	0.263	45.591	0.329+j0.138	0.065+j0.042	3991.2	300	365
250 (37)	0.0431	0.054	0.031	0.040	0.283	49.037	0.310+j0.128	0.055+j0.040	4171.4		
350 (37)	0.0308	0.039	0.027	0.038	0.320	55.458	0.279+j0.112	0.040+j0.038	4508.8	390	480
500 (37)	0.0216	0.028	0.024	0.036	0.366	63.399	0.251+j0.097	0.029+j0.036	4928.0	470	575
750 (61)	0.0144	0.019	0.020	0.035	0.433	75.010	0.220+j0.079	0.021+j0.035	5543.9	585	695
1000 (61)	0.0108	0.015	0.018	0.033	0.486	84.184	0.201+j0.069	0.017+j0.033	6032.0	670	785

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Figure 7 of ICEA P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

‡ Ampacities are based on Figure 1 of ICEA P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)



Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	mm	mm	mm	mm	mm	mm	kg/km	mm	newton
TBA	2 (1)	6.55	18.67	5.59	20.19	2.03	26.80	1019	322.58	2363
TBA	2 (7)	7.19	19.30	5.59	20.83	2.03	27.43	1061	330.20	2363
TBA	1 (1)	7.34	19.46	5.59	20.98	2.03	27.58	1124	330.20	2982
TBA	1 (19)	8.18	20.29	5.59	21.82	2.03	28.42	1240	340.36	2982
TBA	1/0 (1)	8.25	20.37	5.59	21.89	2.03	28.50	1317	342.90	3760
TBA	1/0 (19)	9.19	21.31	5.59	22.83	2.03	29.44	1377	353.06	3760
TBA	2/0 (19)	10.29	22.40	5.59	23.93	2.03	30.53	1542	365.76	4739
TBA	3/0 (19)	11.58	23.70	5.59	25.22	2.03	31.83	1750	381.00	5972
TBA	4/0 (19)	13.00	25.12	5.59	26.64	2.03	33.25	2003	398.78	7534
TBA	250 (37)	14.17	26.52	5.59	28.04	2.03	34.65	2231	416.56	8900
TBA	350 (37)	16.79	29.13	5.59	30.66	2.03	37.26	2793	447.04	12460
TBA	500 (37)	20.04	32.39	5.59	33.91	2.03	39.65	3670	474.98	17800
TBA	750 (61)	24.59	37.16	5.59	38.68	2.79	45.95	5115	551.18	26700
TBA	1000 (61)	28.37	40.94	5.59	42.47	2.79	49.73	6432	596.90	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 (1)	0.5315	0.67	0.0155	0.1673	0.558	96.4403	0.517+j0.205	0.204+j0.051	3159.2	155	195
2 (7)	0.5315	0.67	0.0146	0.1640	0.587	101.7815	0.511+j0.196	0.204+j0.050	3241.1	155	195
1 (1)	0.4232	0.53	0.0146	0.1608	0.594	103.0577	0.468+j0.194	0.162+j0.049	3260.7	175	220
1 (19)	0.4232	0.53	0.0137	0.1575	0.636	110.0459	0.461+j0.184	0.162+j0.048	3368.8	175	220
1/0 (1)	0.3346	0.42	0.0134	0.1575	0.640	110.6791	0.428+j0.183	0.129+j0.048	3378.6	200	250
1/0 (19)	0.3346	0.42	0.0128	0.1509	0.682	118.4547	0.420+j0.173	0.129+j0.046	3499.8	200	250
2/0 (19)	0.2657	0.33	0.0119	0.1476	0.735	127.4311	0.385+j0.161	0.102+j0.045	3640.7	230	285
3/0 (19)	0.2106	0.26	0.0110	0.1411	0.797	138.0184	0.355+j0.150	0.081+j0.043	3807.8	260	325
4/0 (19)	0.1673	0.21	0.0101	0.1378	0.863	149.5768	0.329+j0.138	0.065+j0.042	3991.2	300	365
250 (37)	0.1414	0.18	0.0094	0.1312	0.928	160.8825	0.310+j0.128	0.055+j0.040	4171.4		
350 (37)	0.1010	0.13	0.0082	0.1247	1.050	181.9488	0.279+j0.112	0.040+j0.038	4508.8	390	480
500 (37)	0.0709	0.09	0.0073	0.1181	1.201	208.0020	0.251+j0.097	0.029+j0.036	4928.0	470	575
750 (61)	0.0472	0.06	0.0061	0.1148	1.421	246.0958	0.220+j0.079	0.021+j0.035	5543.9	585	695
1000 (61)	0.0354	0.05	0.0055	0.1083	1.594	276.1942	0.201+j0.069	0.017+j0.033	6032.0	670	785

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Figure 7 of ICEA P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

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