

15kV CU 100% EPR LCT LLDPE Primary UD

Single Conductor, 175 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

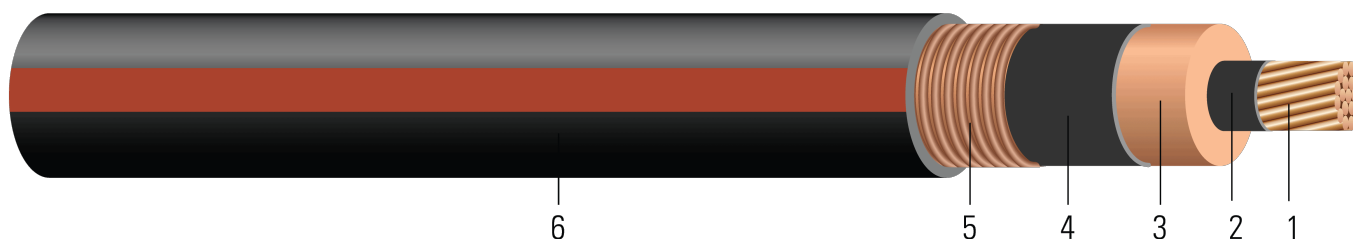


Image not to scale. See Table 1 for dimensions.

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:** 175 Mils Ethylene Propylene Rubber (EPR) 100% 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
- UL 1072 Listed as MV 90 When Specified
- Optional CSA: CSA 68.5 and -40C 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



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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	0.645	175	0.705	80	0.965	621	11.6	531
TBA	2 (7)	0.283	0.663	175	0.743	80	0.963	660	11.9	531
TBA	1 (1)	0.289	0.676	175	0.736	80	0.996	688	12.0	670
TBA	1 (19)	0.322	0.709	175	0.769	80	1.029	719	12.3	670
TBA	1/0 (1)	0.325	0.712	175	0.772	80	1.032	771	12.4	845
TBA	1/0 (19)	0.362	0.749	175	0.809	80	1.069	808	12.8	845
TBA	2/0 (19)	0.405	0.792	175	0.852	80	1.112	961	13.3	1065
TBA	3/0 (19)	0.456	0.843	175	0.903	80	1.163	1097	14.0	1342
TBA	4/0 (19)	0.512	0.899	175	0.959	80	1.219	1263	14.6	1693
TBA	250 (37)	0.558	0.954	175	1.014	80	1.274	1412	15.3	2000
TBA	350 (37)	0.661	1.057	175	1.117	80	1.377	1782	16.5	2800
TBA	500 (37)	0.789	1.185	175	1.245	80	1.505	2321	18.1	4000
TBA	750 (61)	0.968	1.373	175	1.433	80	1.659	3251	19.9	6000
TBA	1000 (61)	1.117	1.522	175	1.582	110	1.868	4189	22.4	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	0.044	0.049	0.198	34.304	0.536+j0.234	0.204+j0.049	2864.4	155	195
2 (7)	0.162	0.203	0.041	0.048	0.210	36.315	0.530+j0.223	0.204+j0.048	2946.2	155	195
1 (1)	0.129	0.161	0.041	0.047	0.212	36.796	0.487+j0.221	0.162+j0.047	2965.9	175	220
1 (19)	0.129	0.161	0.038	0.046	0.228	39.432	0.480+j0.208	0.162+j0.046	3074.0	175	220
1/0 (1)	0.102	0.128	0.038	0.046	0.229	39.671	0.446+j0.207	0.129+j0.046	3083.8	200	250
1/0 (19)	0.102	0.128	0.035	0.044	0.246	42.610	0.439+j0.194	0.129+j0.044	3205.0	200	250
2/0 (19)	0.081	0.101	0.033	0.043	0.266	46.009	0.403+j0.181	0.102+j0.043	3345.9	230	285
3/0 (19)	0.0642	0.081	0.030	0.041	0.289	50.022	0.373+j0.167	0.082+j0.041	3512.9	260	325
4/0 (19)	0.051	0.064	0.028	0.040	0.314	54.411	0.345+j0.153	0.065+j0.040	3696.4	300	365
250 (37)	0.0431	0.054	0.026	0.039	0.339	58.708	0.325+j0.141	0.055+j0.039	3876.5		
350 (37)	0.0308	0.039	0.022	0.037	0.385	66.727	0.293+j0.123	0.040+j0.037	4213.9	390	480
500 (37)	0.0216	0.028	0.020	0.035	0.443	76.657	0.263+j0.105	0.029+j0.035	4633.2	470	575
750 (61)	0.0144	0.020	0.016	0.033	0.526	91.195	0.231+j0.085	0.021+j0.033	5249.1	585	695
1000 (61)	0.0108	0.015	0.015	0.032	0.593	102.692	0.209+j0.073	0.017+j0.032	5737.1	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 T-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 T-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	16.38	4.44	17.91	2.03	24.51	924	294.64	2363
TBA	2 (7)	7.19	16.84	4.44	18.87	2.03	24.46	982	302.26	2363
TBA	1 (1)	7.34	17.17	4.44	18.69	2.03	25.30	1024	304.80	2982
TBA	1 (19)	8.18	18.01	4.44	19.53	2.03	26.14	1070	312.42	2982
TBA	1/0 (1)	8.25	18.08	4.44	19.61	2.03	26.21	1147	314.96	3760
TBA	1/0 (19)	9.19	19.02	4.44	20.55	2.03	27.15	1202	325.12	3760
TBA	2/0 (19)	10.29	20.12	4.44	21.64	2.03	28.24	1430	337.82	4739
TBA	3/0 (19)	11.58	21.41	4.44	22.94	2.03	29.54	1633	355.60	5972
TBA	4/0 (19)	13.00	22.83	4.44	24.36	2.03	30.96	1880	370.84	7534
TBA	250 (37)	14.17	24.23	4.44	25.76	2.03	32.36	2101	388.62	8900
TBA	350 (37)	16.79	26.85	4.44	28.37	2.03	34.98	2652	419.10	12460
TBA	500 (37)	20.04	30.10	4.44	31.62	2.03	38.23	3454	459.74	17800
TBA	750 (61)	24.59	34.87	4.44	36.40	2.03	42.14	4838	505.46	26700
TBA	1000 (61)	28.37	38.66	4.44	40.18	2.79	47.45	6234	568.96	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	0.0134	0.1608	0.650	112.5459	0.536+j0.234	0.204+j0.049	2864.4	155	195
2 (7)	0.5315	0.67	0.0125	0.1575	0.689	119.1437	0.530+j0.223	0.204+j0.048	2946.2	155	195
1 (1)	0.4232	0.53	0.0125	0.1542	0.696	120.7218	0.487+j0.221	0.162+j0.047	2965.9	175	220
1 (19)	0.4232	0.53	0.0116	0.1509	0.748	129.3701	0.480+j0.208	0.162+j0.046	3074.0	175	220
1/0 (1)	0.3346	0.42	0.0116	0.1509	0.751	130.1542	0.446+j0.207	0.129+j0.046	3083.8	200	250
1/0 (19)	0.3346	0.42	0.0107	0.1444	0.807	139.7966	0.439+j0.194	0.129+j0.044	3205.0	200	250
2/0 (19)	0.2657	0.33	0.0101	0.1411	0.873	150.9482	0.403+j0.181	0.102+j0.043	3345.9	230	285
3/0 (19)	0.2106	0.27	0.0091	0.1345	0.948	164.1142	0.373+j0.167	0.082+j0.041	3512.9	260	325
4/0 (19)	0.1673	0.21	0.0085	0.1312	1.030	178.5138	0.345+j0.153	0.065+j0.040	3696.4	300	365
250 (37)	0.1414	0.18	0.0079	0.1280	1.112	192.6115	0.325+j0.141	0.055+j0.039	3876.5		
350 (37)	0.1010	0.13	0.0067	0.1214	1.263	218.9206	0.293+j0.123	0.040+j0.037	4213.9	390	480
500 (37)	0.0709	0.09	0.0061	0.1148	1.453	251.4993	0.263+j0.105	0.029+j0.035	4633.2	470	575
750 (61)	0.0472	0.07	0.0049	0.1083	1.726	299.1962	0.231+j0.085	0.021+j0.033	5249.1	585	695
1000 (61)	0.0354	0.05	0.0046	0.1050	1.946	336.9160	0.209+j0.073	0.017+j0.032	5737.1	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 T-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 T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

