

25kV CU 100% EPR (EAM) LCT LLDPE Primary UD

Single Conductor, 260 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 100% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

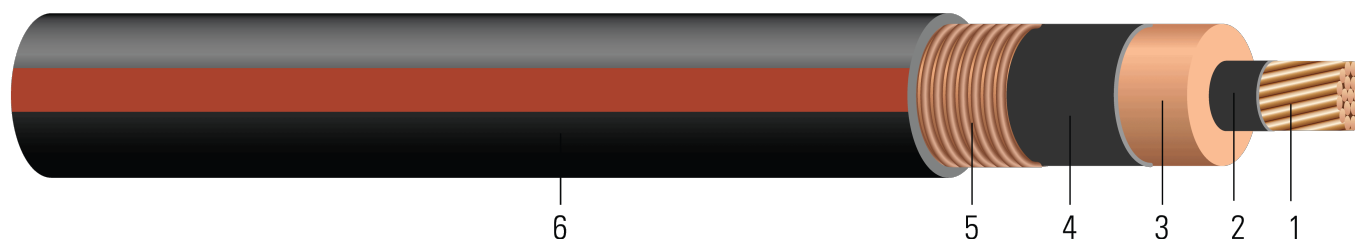


Image not to scale. See Table 1 for dimensions.

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; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 260 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 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 25kV 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 25000 VOLTS EPR INSULATION 260 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	1 (1)	0.289	0.846	260	0.906	80	1.166	864	9.3	670
TBA	1 (19)	0.322	0.879	260	0.939	80	1.199	900	9.5	670
TBA	1/0 (1)	0.325	0.882	260	0.942	80	1.202	952	9.6	845
TBA	1/0 (19)	0.362	0.919	260	0.979	80	1.239	994	9.9	845
TBA	2/0 (19)	0.405	0.962	260	1.022	80	1.282	1108	10.2	1065
TBA	3/0 (19)	0.456	1.013	260	1.073	80	1.333	1251	10.6	1342
TBA	4/0 (19)	0.512	1.069	260	1.129	80	1.389	1426	11.1	1693
TBA	250 (37)	0.558	1.124	260	1.184	80	1.444	1582	11.5	2000
TBA	350 (37)	0.661	1.227	260	1.287	80	1.547	1966	12.3	2800
TBA	500 (37)	0.789	1.355	260	1.415	80	1.641	2564	13.1	4000
TBA	750 (61)	0.968	1.543	260	1.603	110	1.889	3550	15.1	6000
TBA	1000 (61)	1.117	1.692	260	1.752	110	2.038	4445	16.3	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
1 (1)	0.129	0.161	0.053	0.051	0.271	78.166	0.452+j0.176	0.162+j0.051	3622.8	175	220
1 (19)	0.129	0.161	0.050	0.049	0.288	83.243	0.446+j0.167	0.162+j0.049	3733.9	175	220
1/0 (1)	0.102	0.128	0.050	0.049	0.290	83.703	0.412+j0.166	0.129+j0.049	3744.0	200	250
1/0 (19)	0.102	0.128	0.047	0.048	0.309	89.343	0.405+j0.157	0.129+j0.048	3868.7	200	250
2/0 (19)	0.081	0.101	0.043	0.046	0.332	95.848	0.371+j0.147	0.102+j0.046	4013.5	230	285
3/0 (19)	0.0642	0.080	0.040	0.045	0.359	103.506	0.341+j0.137	0.081+j0.044	4185.3	260	325
4/0 (19)	0.051	0.064	0.037	0.043	0.387	111.860	0.316+j0.127	0.065+j0.043	4374.0	300	365
250 (37)	0.0431	0.054	0.035	0.042	0.416	120.020	0.297+j0.118	0.055+j0.042	4559.3		
350 (37)	0.0308	0.039	0.031	0.040	0.468	135.211	0.268+j0.104	0.040+j0.040	4906.2	390	480
500 (37)	0.0216	0.028	0.027	0.037	0.533	153.971	0.241+j0.091	0.029+j0.037	5337.4	470	575
750 (61)	0.0144	0.019	0.023	0.036	0.628	181.370	0.211+j0.075	0.021+j0.036	5970.7	585	695
1000 (61)	0.0108	0.015	0.021	0.034	0.703	202.999	0.194+j0.066	0.017+j0.034	6472.7	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	1 (1)	7.34	21.49	6.60	23.01	2.03	29.62	1286	236.22	2982
TBA	1 (19)	8.18	22.33	6.60	23.85	2.03	30.45	1339	241.30	2982
TBA	1/0 (1)	8.25	22.40	6.60	23.93	2.03	30.53	1417	243.84	3760
TBA	1/0 (19)	9.19	23.34	6.60	24.87	2.03	31.47	1479	251.46	3760
TBA	2/0 (19)	10.29	24.43	6.60	25.96	2.03	32.56	1649	259.08	4739
TBA	3/0 (19)	11.58	25.73	6.60	27.25	2.03	33.86	1862	269.24	5972
TBA	4/0 (19)	13.00	27.15	6.60	28.68	2.03	35.28	2122	281.94	7534
TBA	250 (37)	14.17	28.55	6.60	30.07	2.03	36.68	2354	292.10	8900
TBA	350 (37)	16.79	31.17	6.60	32.69	2.03	39.29	2926	312.42	12460
TBA	500 (37)	20.04	34.42	6.60	35.94	2.03	41.68	3816	332.74	17800
TBA	750 (61)	24.59	39.19	6.60	40.72	2.79	47.98	5283	383.54	26700
TBA	1000 (61)	28.37	42.98	6.60	44.50	2.79	51.77	6615	414.02	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
1 (1)	0.4232	0.53	0.0162	0.1673	0.889	256.4501	0.452+j0.176	0.162+j0.051	3622.8	175	220
1 (19)	0.4232	0.53	0.0152	0.1608	0.945	273.1070	0.446+j0.167	0.162+j0.049	3733.9	175	220
1/0 (1)	0.3346	0.42	0.0152	0.1608	0.951	274.6161	0.412+j0.166	0.129+j0.049	3744.0	200	250
1/0 (19)	0.3346	0.42	0.0143	0.1575	1.014	293.1201	0.405+j0.157	0.129+j0.048	3868.7	200	250
2/0 (19)	0.2657	0.33	0.0131	0.1509	1.089	314.4619	0.371+j0.147	0.102+j0.046	4013.5	230	285
3/0 (19)	0.2106	0.26	0.0122	0.1476	1.178	339.5866	0.341+j0.137	0.081+j0.044	4185.3	260	325
4/0 (19)	0.1673	0.21	0.0113	0.1411	1.270	366.9948	0.316+j0.127	0.065+j0.043	4374.0	300	365
250 (37)	0.1414	0.18	0.0107	0.1378	1.365	393.7664	0.297+j0.118	0.055+j0.042	4559.3		
350 (37)	0.1010	0.13	0.0094	0.1312	1.535	443.6056	0.268+j0.104	0.040+j0.040	4906.2	390	480
500 (37)	0.0709	0.09	0.0082	0.1214	1.749	505.1542	0.241+j0.091	0.029+j0.037	5337.4	470	575
750 (61)	0.0472	0.06	0.0070	0.1181	2.060	595.0459	0.211+j0.075	0.021+j0.036	5970.7	585	695
1000 (61)	0.0354	0.05	0.0064	0.1115	2.306	666.0072	0.194+j0.066	0.017+j0.034	6472.7	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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