

25kV CU 133% EPR (EAM) LCT LLDPE Primary UD

Single Conductor, 320 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

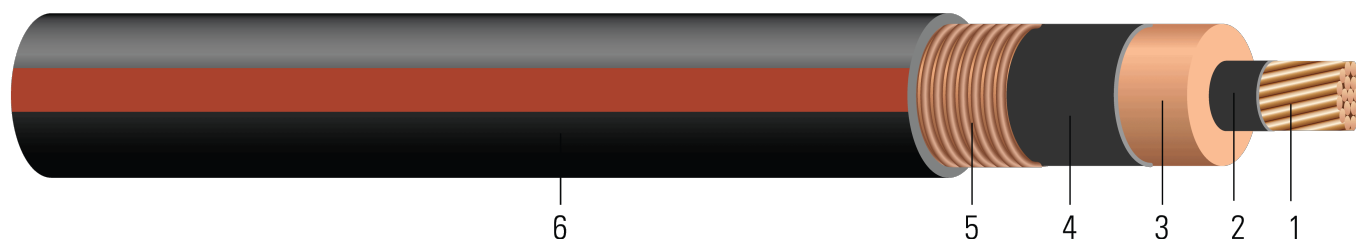


Image not to scale. See Table 1 for dimensions.

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; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 320 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 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 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 320 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	0.966	320	1.026	80	1.286	971	10.2	670
TBA	1 (19)	0.322	0.999	320	1.059	80	1.319	1010	10.5	670
TBA	1/0 (1)	0.325	1.002	320	1.062	80	1.322	1062	10.5	845
TBA	1/0 (19)	0.362	1.039	320	1.099	80	1.359	1108	10.8	845
TBA	2/0 (19)	0.405	1.082	320	1.142	80	1.402	1226	11.2	1065
TBA	3/0 (19)	0.456	1.133	320	1.193	80	1.453	1375	11.6	1342
TBA	4/0 (19)	0.512	1.189	320	1.249	80	1.509	1554	12.0	1693
TBA	250 (37)	0.558	1.244	320	1.304	80	1.530	1757	12.	2000
TBA	350 (37)	0.661	1.347	320	1.407	80	1.633	2152	13.0	2800
TBA	500 (37)	0.789	1.475	320	1.535	110	1.821	2789	14.5	4000
TBA	750 (61)	0.968	1.663	320	1.723	110	2.009	3730	16.0	6000
TBA	1000 (61)	1.117	1.812	320	1.872	110	2.158	4639	17.2	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	0.061	0.053	0.238	68.622	0.430+j0.154	0.162+j0.053	4027.0	175	220
1 (19)	0.129	0.161	0.057	0.052	0.252	72.835	0.424+j0.146	0.162+j0.051	4138.2	175	220
1/0 (1)	0.102	0.128	0.057	0.051	0.254	73.215	0.391+j0.146	0.129+j0.051	4148.3	200	250
1/0 (19)	0.102	0.128	0.053	0.050	0.270	77.886	0.385+j0.138	0.129+j0.050	4272.9	200	250
2/0 (19)	0.081	0.101	0.050	0.048	0.288	83.262	0.351+j0.130	0.102+j0.048	4417.8	230	285
3/0 (19)	0.0642	0.080	0.047	0.047	0.310	89.581	0.322+j0.122	0.081+j0.046	4589.6	260	325
4/0 (19)	0.051	0.064	0.043	0.045	0.334	96.460	0.298+j0.114	0.065+j0.045	4778.2	300	365
250 (37)	0.0431	0.054	0.040	0.043	0.357	103.169	0.281+j0.107	0.055+j0.043	4963.5		
350 (37)	0.0308	0.039	0.036	0.041	0.401	115.639	0.253+j0.095	0.040+j0.041	5310.5	390	480
500 (37)	0.0216	0.028	0.032	0.040	0.454	131.008	0.227+j0.083	0.030+j0.039	5741.7	470	575
750 (61)	0.0144	0.019	0.027	0.037	0.531	153.414	0.200+j0.070	0.021+j0.037	6375.0	585	695
1000 (61)	0.0108	0.015	0.024	0.036	0.593	171.076	0.184+j0.062	0.017+j0.036	6876.9	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	24.54	8.13	26.06	2.03	32.66	1445	259.08	2982
TBA	1 (19)	8.18	25.37	8.13	26.90	2.03	33.50	1503	266.70	2982
TBA	1/0 (1)	8.25	25.45	8.13	26.97	2.03	33.58	1580	266.70	3760
TBA	1/0 (19)	9.19	26.39	8.13	27.91	2.03	34.52	1649	274.32	3760
TBA	2/0 (19)	10.29	27.48	8.13	29.01	2.03	35.61	1824	284.48	4739
TBA	3/0 (19)	11.58	28.78	8.13	30.30	2.03	36.91	2046	294.64	5972
TBA	4/0 (19)	13.00	30.20	8.13	31.72	2.03	38.33	2313	304.80	7534
TBA	250 (37)	14.17	31.60	8.13	33.12	2.03	38.86	2615	304.80	8900
TBA	350 (37)	16.79	34.21	8.13	35.74	2.03	41.48	3203	330.20	12460
TBA	500 (37)	20.04	37.47	8.13	38.99	2.79	46.25	4150	368.30	17800
TBA	750 (61)	24.59	42.24	8.13	43.76	2.79	51.03	5551	406.40	26700
TBA	1000 (61)	28.37	46.02	8.13	47.55	2.79	54.81	6904	436.88	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	0.0186	0.1739	0.781	225.1378	0.430+j0.154	0.162+j0.053	4027.0	175	220
1 (19)	0.4232	0.53	0.0174	0.1706	0.827	238.9600	0.424+j0.146	0.162+j0.051	4138.2	175	220
1/0 (1)	0.3346	0.42	0.0174	0.1673	0.833	240.2067	0.391+j0.146	0.129+j0.051	4148.3	200	250
1/0 (19)	0.3346	0.42	0.0162	0.1640	0.886	255.5315	0.385+j0.138	0.129+j0.050	4272.9	200	250
2/0 (19)	0.2657	0.33	0.0152	0.1575	0.945	273.1693	0.351+j0.130	0.102+j0.048	4417.8	230	285
3/0 (19)	0.2106	0.26	0.0143	0.1542	1.017	293.9009	0.322+j0.122	0.081+j0.046	4589.6	260	325
4/0 (19)	0.1673	0.21	0.0131	0.1476	1.096	316.4698	0.298+j0.114	0.065+j0.045	4778.2	300	365
250 (37)	0.1414	0.18	0.0122	0.1411	1.171	338.4810	0.281+j0.107	0.055+j0.043	4963.5		
350 (37)	0.1010	0.13	0.0110	0.1345	1.316	379.3930	0.253+j0.095	0.040+j0.041	5310.5	390	480
500 (37)	0.0709	0.09	0.0098	0.1312	1.490	429.8163	0.227+j0.083	0.030+j0.039	5741.7	470	575
750 (61)	0.0472	0.06	0.0082	0.1214	1.742	503.3268	0.200+j0.070	0.021+j0.037	6375.0	585	695
1000 (61)	0.0354	0.05	0.0073	0.1181	1.946	561.2730	0.184+j0.062	0.017+j0.036	6876.9	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)

