

## 28kV CU 133% EPR (EAM) LCT LLDPE Primary UD

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

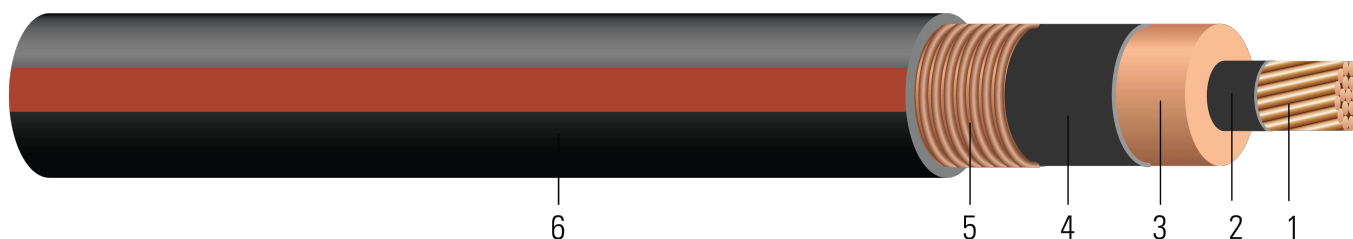


Image not to scale. See Table 1 for dimensions.

### 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:** 345 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 28kV 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 28000 VOLTS EPR INSULATION 345 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	1.016	345	1.076	80	1.336	1019	10.6	670
TBA	1 (19)	0.322	1.049	345	1.109	80	1.369	1059	10.9	670
TBA	1/0 (1)	0.325	1.052	345	1.112	80	1.372	1112	10.9	845
TBA	1/0 (19)	0.362	1.089	345	1.149	80	1.409	1159	11.2	845
TBA	2/0 (19)	0.405	1.132	345	1.192	80	1.452	1279	11.6	1065
TBA	3/0 (19)	0.456	1.183	345	1.243	80	1.503	1429	12.0	1342
TBA	4/0 (19)	0.512	1.239	345	1.299	80	1.559	1612	12.4	1693
TBA	250 (37)	0.558	1.294	345	1.354	80	1.580	1817	12.	2000
TBA	350 (37)	0.661	1.397	345	1.457	110	1.743	2280	13.9	2800
TBA	500 (37)	0.789	1.525	345	1.585	110	1.871	2860	14.9	4000
TBA	750 (61)	0.968	1.713	345	1.773	110	2.059	3809	16.4	6000
TBA	1000 (61)	1.117	1.862	345	1.922	110	2.208	4724	17.6	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	0.064	0.054	0.254	82.257	0.421+j0.146	0.162+j0.054	4195.4	175	220
1 (19)	0.129	0.161	0.060	0.052	0.270	87.202	0.416+j0.139	0.162+j0.052	4306.6	175	220
1/0 (1)	0.102	0.128	0.060	0.052	0.271	87.649	0.383+j0.139	0.129+j0.052	4316.7	200	250
1/0 (19)	0.102	0.128	0.056	0.051	0.288	93.127	0.377+j0.132	0.129+j0.051	4441.4	200	250
2/0 (19)	0.081	0.101	0.053	0.049	0.308	99.427	0.343+j0.125	0.102+j0.049	4586.2	230	285
3/0 (19)	0.0642	0.080	0.049	0.047	0.330	106.826	0.315+j0.117	0.081+j0.047	4758.0	260	325
4/0 (19)	0.051	0.064	0.046	0.046	0.355	114.876	0.291+j0.109	0.065+j0.046	4946.7	300	365
250 (37)	0.0431	0.054	0.043	0.044	0.380	122.722	0.274+j0.102	0.055+j0.044	5131.9		
350 (37)	0.0308	0.039	0.038	0.042	0.425	137.294	0.247+j0.092	0.040+j0.042	5478.9	390	480
500 (37)	0.0216	0.028	0.034	0.040	0.480	155.241	0.222+j0.081	0.030+j0.040	5910.1	470	575
750 (61)	0.0144	0.019	0.029	0.038	0.561	181.384	0.196+j0.068	0.021+j0.038	6543.4	585	695
1000 (61)	0.0108	0.015	0.026	0.036	0.625	201.980	0.180+j0.060	0.017+j0.036	7045.4	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	25.81	8.76	27.33	2.03	33.93	1516	269.24	2982
TBA	1 (19)	8.18	26.64	8.76	28.17	2.03	34.77	1576	276.86	2982
TBA	1/0 (1)	8.25	26.72	8.76	28.24	2.03	34.85	1655	276.86	3760
TBA	1/0 (19)	9.19	27.66	8.76	29.18	2.03	35.79	1725	284.48	3760
TBA	2/0 (19)	10.29	28.75	8.76	30.28	2.03	36.88	1903	294.64	4739
TBA	3/0 (19)	11.58	30.05	8.76	31.57	2.03	38.18	2127	304.80	5972
TBA	4/0 (19)	13.00	31.47	8.76	32.99	2.03	39.60	2399	314.96	7534
TBA	250 (37)	14.17	32.87	8.76	34.39	2.03	40.13	2704	304.80	8900
TBA	350 (37)	16.79	35.48	8.76	37.01	2.79	44.27	3393	353.06	12460
TBA	500 (37)	20.04	38.73	8.76	40.26	2.79	47.52	4256	378.46	17800
TBA	750 (61)	24.59	43.51	8.76	45.03	2.79	52.30	5668	416.56	26700
TBA	1000 (61)	28.37	47.29	8.76	48.82	2.79	56.08	7030	447.04	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	0.0195	0.1772	0.833	269.8720	0.421+j0.146	0.162+j0.054	4195.4	175	220
1 (19)	0.4232	0.53	0.0183	0.1706	0.886	286.0958	0.416+j0.139	0.162+j0.052	4306.6	175	220
1/0 (1)	0.3346	0.42	0.0183	0.1706	0.889	287.5623	0.383+j0.139	0.129+j0.052	4316.7	200	250
1/0 (19)	0.3346	0.42	0.0171	0.1673	0.945	305.5348	0.377+j0.132	0.129+j0.051	4441.4	200	250
2/0 (19)	0.2657	0.33	0.0162	0.1608	1.010	326.2041	0.343+j0.125	0.102+j0.049	4586.2	230	285
3/0 (19)	0.2106	0.26	0.0149	0.1542	1.083	350.4790	0.315+j0.117	0.081+j0.047	4758.0	260	325
4/0 (19)	0.1673	0.21	0.0140	0.1509	1.165	376.8898	0.291+j0.109	0.065+j0.046	4946.7	300	365
250 (37)	0.1414	0.18	0.0131	0.1444	1.247	402.6312	0.274+j0.102	0.055+j0.044	5131.9		
350 (37)	0.1010	0.13	0.0116	0.1378	1.394	450.4396	0.247+j0.092	0.040+j0.042	5478.9	390	480
500 (37)	0.0709	0.09	0.0104	0.1312	1.575	509.3209	0.222+j0.081	0.030+j0.040	5910.1	470	575
750 (61)	0.0472	0.06	0.0088	0.1247	1.841	595.0919	0.196+j0.068	0.021+j0.038	6543.4	585	695
1000 (61)	0.0354	0.05	0.0079	0.1181	2.051	662.6640	0.180+j0.060	0.017+j0.036	7045.4	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)

