28kV CU 133% EPR (EAM) LCT LLDPE

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:

1. **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)
2. **Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 345 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Tape Shield:** 10 mils Longitudinally Corrugated Copper Tape Shield
6. **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, 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 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 (Qualification Test Requirements)
- 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

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 28000 VOLTS EPR INSULATION 345 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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UPDATED: Aug. 10, 2025, 11:33 p.m.UTC REVISION: 1.000.002

Table 1 – Weights and Measurements

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
1 (SOLID)	0.289	1.017	345	1.097	50	1.297	1559	15.6	669
1 (19)	0.322	1.05	345	1.13	50	1.33	1605	16	669
1/0 (SOLID)	0.325	1.053	345	1.133	50	1.333	1678	16	844
1/0 (19)	0.362	1.09	345	1.17	50	1.37	1729	16.4	844
2/0 (19)	0.405	1.133	345	1.213	50	1.413	1875	17	1064
3/0 (19)	0.456	1.184	345	1.264	50	1.464	2054	17.6	1342
4/0 (19)	0.512	1.24	345	1.32	50	1.52	2268	18.2	1692
250 (37)	0.558	1.294	345	1.374	50	1.574	2467	18.9	2000
350 (37)	0.661	1.397	345	1.477	75	1.727	2997	20.7	2800
500 (37)	0.789	1.525	345	1.605	75	1.855	3647	22.3	4000
750 (61)	0.968	1.714	345	1.794	75	2.044	4704	24.5	6000
1000 (61)	1.117	1.863	345	1.943	75	2.193	5695	26.3	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
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 (SOLID)	0.128	0.175	0.059	0.056	0.27	4.4	0.430+j0.141	0.177+j0.059	4285	175	220
1 (19)	0.128	0.175	0.056	0.054	0.29	4.7	0.425+j0.138	0.177+j0.060	4397	175	220
1/0 (SOLID)	0.102	0.139	0.056	0.054	0.29	4.7	0.389+j0.135	0.141+j0.057	4407	200	250
1/0 (19)	0.102	0.139	0.052	0.052	0.31	5	0.384+j0.131	0.141+j0.058	4532	200	250
2/0 (19)	0.082	0.112	0.049	0.05	0.33	5.3	0.351+j0.124	0.114+j0.056	4678	230	285
3/0 (19)	0.064	0.087	0.046	0.049	0.35	5.7	0.319+j0.117	0.089+j0.054	4850	260	320
4/0 (19)	0.051	0.07	0.042	0.047	0.38	6.2	0.296+j0.110	0.072+j0.052	5040	300	365
250 (37)	0.043	0.059	0.04	0.046	0.41	6.6	0.279+j0.104	0.061+j0.051	5223	315	396
350 (37)	0.031	0.043	0.036	0.044	0.45	7.4	0.251+j0.094	0.046+j0.049	5571	390	475
500 (37)	0.021	0.03	0.031	0.041	0.51	8.3	0.226+j0.084	0.033+j0.046	6004	470	565
750 (61)	0.014	0.021	0.027	0.039	0.6	9.7	0.201+j0.072	0.024+j0.044	6644	585	680
1000 (61)	0.011	0.018	0.024	0.037	0.67	10.8	0.187+j0.064	0.021+j0.042	7148	670	750

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center.

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Table 3 – Weights and Measurements (Metric)

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
1 (SOLID)	7.34	25.83	8.76	27.86	1.27	32.94	2320	396.24	2977
1 (19)	8.18	26.67	8.76	28.70	1.27	33.78	2389	406.40	2977
1/0 (SOLID)	8.25	26.75	8.76	28.78	1.27	33.86	2497	406.40	3756
1/0 (19)	9.19	27.69	8.76	29.72	1.27	34.80	2573	416.56	3756
2/0 (19)	10.29	28.78	8.76	30.81	1.27	35.89	2790	431.80	4735
3/0 (19)	11.58	30.07	8.76	32.11	1.27	37.19	3057	447.04	5972
4/0 (19)	13.00	31.50	8.76	33.53	1.27	38.61	3375	462.28	7529
250 (37)	14.17	32.87	8.76	34.90	1.27	39.98	3671	480.06	8900
350 (37)	16.79	35.48	8.76	37.52	1.91	43.87	4460	525.78	12460
500 (37)	20.04	38.73	8.76	40.77	1.91	47.12	5427	566.42	17800
750 (61)	24.59	43.54	8.76	45.57	1.91	51.92	7000	622.30	26700
1000 (61)	28.37	47.32	8.76	49.35	1.91	55.70	8475	668.02	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
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 (SOLID)	0.4199	0.57	0.0180	0.1837	0.886	14.4357	0.430+j0.141	0.177+j0.059	4285	175	220
1 (19)	0.4199	0.57	0.0171	0.1772	0.951	15.4199	0.425+j0.138	0.177+j0.060	4397	175	220
1/0 (SOLID)	0.3346	0.46	0.0171	0.1772	0.951	15.4199	0.389+j0.135	0.141+j0.057	4407	200	250
1/0 (19)	0.3346	0.46	0.0158	0.1706	1.017	16.4042	0.384+j0.131	0.141+j0.058	4532	200	250
2/0 (19)	0.2690	0.37	0.0149	0.1640	1.083	17.3885	0.351+j0.124	0.114+j0.056	4678	230	285
3/0 (19)	0.2100	0.29	0.0140	0.1608	1.148	18.7008	0.319+j0.117	0.089+j0.054	4850	260	320
4/0 (19)	0.1673	0.23	0.0128	0.1542	1.247	20.3412	0.296+j0.110	0.072+j0.052	5040	300	365
250 (37)	0.1411	0.19	0.0122	0.1509	1.345	21.6535	0.279+j0.104	0.061+j0.051	5223	315	396
350 (37)	0.1017	0.14	0.0110	0.1444	1.476	24.2782	0.251+j0.094	0.046+j0.049	5571	390	475
500 (37)	0.0689	0.10	0.0094	0.1345	1.673	27.2310	0.226+j0.084	0.033+j0.046	6004	470	565
750 (61)	0.0459	0.07	0.0082	0.1280	1.969	31.8241	0.201+j0.072	0.024+j0.044	6644	585	680
1000 (61)	0.0361	0.06	0.0073	0.1214	2.198	35.4331	0.187+j0.064	0.021+j0.042	7148	670	750

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
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