28kV CU 100% TRXLPE LCT LLDPE

Single Conductor, 280 Mils Tree Retardant Cross Linked Polyethylene, 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:

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; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 280 Mils Tree Retardant Cross Linked Polyethylene 100% 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 90°C for normal operation. 130°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
- Optional CSA 68.5: -40ºC and MV 90ºC optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 28000 VOLTS TRXLPE INSULATION 280 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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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	0.887	280	0.967	50	1.167	1349	14	669
1 (19)	0.322	0.92	280	1	50	1.2	1392	14.4	669
1/0 (SOLID)	0.325	0.923	280	1.003	50	1.203	1464	14.4	844
1/0 (19)	0.362	0.96	280	1.04	50	1.24	1512	14.9	844
2/0 (19)	0.405	1.003	280	1.083	50	1.283	1652	15.4	1064
3/0 (19)	0.456	1.054	280	1.134	50	1.334	1825	16	1342
4/0 (19)	0.512	1.11	280	1.19	50	1.39	2033	16.7	1692
250 (37)	0.558	1.164	280	1.244	50	1.444	2226	17.3	2000
350 (37)	0.661	1.267	280	1.347	50	1.547	2669	18.6	2800
500 (37)	0.789	1.395	280	1.475	75	1.725	3374	20.7	4000
750 (61)	0.968	1.584	280	1.664	75	1.914	4409	23	6000
1000 (61)	1.117	1.733	280	1.813	75	2.063	5383	24.8	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	0.068	0.054	0.24	3.9	0.449+j0.158	0.177+j0.057	3845	175	220
1 (19)	0.128	0.175	0.064	0.052	0.25	4.1	0.444+j0.153	0.177+j0.057	3957	175	220
1/0 (SOLID)	0.102	0.139	0.064	0.052	0.25	4.1	0.408+j0.150	0.141+j0.055	3967	200	250
1/0 (19)	0.102	0.139	0.06	0.05	0.27	4.4	0.402+j0.146	0.141+j0.055	4092	200	250
2/0 (19)	0.082	0.112	0.056	0.048	0.29	4.7	0.369+j0.138	0.114+j0.054	4238	230	285
3/0 (19)	0.064	0.087	0.052	0.046	0.31	5.1	0.336+j0.129	0.089+j0.052	4410	260	320
4/0 (19)	0.051	0.07	0.048	0.045	0.34	5.5	0.312+j0.121	0.072+j0.050	4600	300	365
250 (37)	0.043	0.059	0.045	0.044	0.36	5.9	0.294+j0.114	0.061+j0.049	4783	315	396
350 (37)	0.031	0.043	0.04	0.041	0.41	6.6	0.266+j0.102	0.045+j0.046	5131	390	475
500 (37)	0.021	0.03	0.035	0.04	0.46	7.5	0.239+j0.090	0.033+j0.045	5564	470	565
750 (61)	0.014	0.021	0.03	0.037	0.54	8.8	0.212+j0.076	0.024+j0.042	6204	585	680
1000 (61)	0.011	0.018	0.027	0.036	0.61	9.8	0.197+j0.068	0.021+j0.041	6708	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	22.53	7.11	24.56	1.27	29.64	2008	355.60	2977
1 (19)	8.18	23.37	7.11	25.40	1.27	30.48	2072	365.76	2977
1/0 (SOLID)	8.25	23.44	7.11	25.48	1.27	30.56	2179	365.76	3756
1/0 (19)	9.19	24.38	7.11	26.42	1.27	31.50	2250	378.46	3756
2/0 (19)	10.29	25.48	7.11	27.51	1.27	32.59	2458	391.16	4735
3/0 (19)	11.58	26.77	7.11	28.80	1.27	33.88	2716	406.40	5972
4/0 (19)	13.00	28.19	7.11	30.23	1.27	35.31	3025	424.18	7529
250 (37)	14.17	29.57	7.11	31.60	1.27	36.68	3313	439.42	8900
350 (37)	16.79	32.18	7.11	34.21	1.27	39.29	3972	472.44	12460
500 (37)	20.04	35.43	7.11	37.47	1.91	43.82	5021	525.78	17800
750 (61)	24.59	40.23	7.11	42.27	1.91	48.62	6561	584.20	26700
1000 (61)	28.37	44.02	7.11	46.05	1.91	52.40	8011	629.92	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	0.0207	0.1772	0.787	12.7953	0.449+j0.158	0.177+j0.057	3845	175	220
1 (19)	0.4199	0.57	0.0195	0.1706	0.820	13.4514	0.444+j0.153	0.177+j0.057	3957	175	220
1/0 (SOLID)	0.3346	0.46	0.0195	0.1706	0.820	13.4514	0.408+j0.150	0.141+j0.055	3967	200	250
1/0 (19)	0.3346	0.46	0.0183	0.1640	0.886	14.4357	0.402+j0.146	0.141+j0.055	4092	200	250
2/0 (19)	0.2690	0.37	0.0171	0.1575	0.951	15.4199	0.369+j0.138	0.114+j0.054	4238	230	285
3/0 (19)	0.2100	0.29	0.0158	0.1509	1.017	16.7323	0.336+j0.129	0.089+j0.052	4410	260	320
4/0 (19)	0.1673	0.23	0.0146	0.1476	1.115	18.0446	0.312+j0.121	0.072+j0.050	4600	300	365
250 (37)	0.1411	0.19	0.0137	0.1444	1.181	19.3570	0.294+j0.114	0.061+j0.049	4783	315	396
350 (37)	0.1017	0.14	0.0122	0.1345	1.345	21.6535	0.266+j0.102	0.045+j0.046	5131	390	475
500 (37)	0.0689	0.10	0.0107	0.1312	1.509	24.6063	0.239+j0.090	0.033+j0.045	5564	470	565
750 (61)	0.0459	0.07	0.0091	0.1214	1.772	28.8714	0.212+j0.076	0.024+j0.042	6204	585	680
1000 (61)	0.0361	0.06	0.0082	0.1181	2.001	32.1522	0.197+j0.068	0.021+j0.041	6708	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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