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 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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	80	1.227	804	14.7	669
1 (19)	0.322	0.920	280	1.000	80	1.260	828	15.1	669
1/0 (Solid)	0.324	0.922	280	1.002	80	1.262	896	15.1	844
1/0 (19)	0.361	0.959	280	1.039	80	1.299	923	15.6	844
2/0 (19)	0.405	1.003	280	1.083	80	1.343	1041	16.1	1064
3/0 (19)	0.456	1.054	280	1.134	80	1.394	1185	16.7	1342
4/0 (19)	0.512	1.110	280	1.190	80	1.450	1362	17.4	1692
250 (37)	0.558	1.164	280	1.244	80	1.504	1523	18.0	2000
350 (37)	0.661	1.267	280	1.347	80	1.607	1909	19.3	2800
500 (37)	0.789	1.395	280	1.475	110	1.795	2571	21.5	4000
750 (61)	0.968	1.584	280	1.664	110	1.984	3500	23.8	6000
1000 (61)	1.117	1.733	280	1.813	110	2.133	4393	25.6	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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.162	0.076	0.055	0.122	1.97	0.216 + j0.757	0.162 + j0.053	2735	175	220
1 (19)	0.128	0.162	0.071	0.053	0.130	2.10	0.216 + j0.756	0.162 + j0.053	2826	175	220
1/0 (Solid)	0.102	0.128	0.070	0.053	0.131	2.12	0.182 + j0.753	0.128 + j0.051	2832	200	250
1/0 (19)	0.102	0.128	0.066	0.051	0.140	2.26	0.182 + j0.752	0.128 + j0.051	2934	200	250
2/0 (19)	0.081	0.102	0.061	0.049	0.151	2.44	0.156 + j0.748	0.102 + j0.050	3056	230	285
3/0 (19)	0.064	0.081	0.057	0.047	0.163	2.64	0.135 + j0.743	0.081 + j0.048	3198	260	320
4/0 (19)	0.051	0.065	0.052	0.046	0.177	2.86	0.119 + j0.739	0.065 + j0.046	3353	300	365
250 (37)	0.043	0.056	0.050	0.044	0.186	3.01	0.110 + j0.735	0.056 + j0.045	3502	315	396
350 (37)	0.031	0.041	0.044	0.042	0.211	3.41	0.095 + j0.728	0.041 + j0.042	3788	390	475
500 (37)	0.022	0.030	0.038	0.041	0.240	3.88	0.084 + j0.719	0.030 + j0.041	4143	470	565
750 (61)	0.014	0.023	0.033	0.038	0.278	4.49	0.077 + j0.709	0.023 + j0.038	4666	585	680
1000 (61)	0.011	0.019	0.029	0.037	0.312	5.04	0.073 + j0.703	0.019 + j0.037	5079	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.

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	2.03	31.17	1196	373.38	2977
1 (19)	8.18	23.37	7.11	25.40	2.03	32.00	1232	383.54	2977
1/0 (Solid)	8.23	23.42	7.11	25.45	2.03	32.05	1333	383.54	3756
1/0 (19)	9.17	24.36	7.11	26.39	2.03	32.99	1374	396.24	3756
2/0 (19)	10.29	25.48	7.11	27.51	2.03	34.11	1549	408.94	4735
3/0 (19)	11.58	26.77	7.11	28.80	2.03	35.41	1763	424.18	5972
4/0 (19)	13.00	28.19	7.11	30.23	2.03	36.83	2027	441.96	7529
250 (37)	14.17	29.57	7.11	31.60	2.03	38.20	2266	457.20	8900
350 (37)	16.79	32.18	7.11	34.21	2.03	40.82	2841	490.22	12460
500 (37)	20.04	35.43	7.11	37.47	2.79	45.59	3826	546.10	17800
750 (61)	24.59	40.23	7.11	42.27	2.79	50.39	5209	604.52	26700
1000 (61)	28.37	44.02	7.11	46.05	2.79	54.18	6538	650.24	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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.53	0.0232	0.1804	0.400	6.4633	0.216 + j0.757	0.162 + j0.053	2735	175	220
1 (19)	0.4199	0.53	0.0216	0.1739	0.427	6.8898	0.216 + j0.756	0.162 + j0.053	2826	175	220
1/0 (Solid)	0.3346	0.42	0.0213	0.1739	0.430	6.9554	0.182 + j0.753	0.128 + j0.051	2832	200	250
1/0 (19)	0.3346	0.42	0.0201	0.1673	0.459	7.4147	0.182 + j0.752	0.128 + j0.051	2934	200	250
2/0 (19)	0.2657	0.33	0.0186	0.1608	0.495	8.0052	0.156 + j0.748	0.102 + j0.050	3056	230	285
3/0 (19)	0.2100	0.27	0.0174	0.1542	0.535	8.6614	0.135 + j0.743	0.081 + j0.048	3198	260	320
4/0 (19)	0.1673	0.21	0.0158	0.1509	0.581	9.3832	0.119 + j0.739	0.065 + j0.046	3353	300	365
250 (37)	0.1411	0.18	0.0152	0.1444	0.610	9.8753	0.110 + j0.735	0.056 + j0.045	3502	315	396
350 (37)	0.1017	0.13	0.0134	0.1378	0.692	11.1877	0.095 + j0.728	0.041 + j0.042	3788	390	475
500 (37)	0.0722	0.10	0.0116	0.1345	0.787	12.7297	0.084 + j0.719	0.030 + j0.041	4143	470	565
750 (61)	0.0459	0.08	0.0101	0.1247	0.912	14.7310	0.077 + j0.709	0.023 + j0.038	4666	585	680
1000 (61)	0.0361	0.06	0.0088	0.1214	1.024	16.5354	0.073 + j0.703	0.019 + j0.037	5079	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.