25kV CU 133% TRXLPE One-Third Neutral LLDPE

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, One-third Concentric Neutral, 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:** 320 Mils Tree Retardant Cross Linked Polyethylene 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Concentric Neutral:** Helically applied soft drawn bare copper one-third concentric neutral
6. **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, 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-94-649 Standard for Concentric Neutral Cables Rated 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 25000 VOLTS TRXLPE INSULATION 320 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	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
AWG/ Kcmil	inch	inch	mil	inch	No. x AWG	Ω /1000ft	mil	inch	lb / 1000ft	inch	lb
1 (SOLID)	0.289	0.967	320	1.067	7x14	0.463	50	1.295	927	9.1	669
1 (19)	0.322	1	320	1.12	7x14	0.463	50	1.348	974	9.4	669
1/0 (SOLID)	0.325	1.003	320	1.123	9x14	0.36	50	1.351	1070	9.5	844
1/0 (19)	0.362	1.04	320	1.16	9x14	0.36	50	1.388	1100	9.7	844
2/0 (19)	0.405	1.083	320	1.203	11x14	0.295	50	1.431	1245	10	1064
3/0 (19)	0.456	1.134	320	1.254	14x14	0.231	50	1.482	1431	10.4	1342
4/0 (19)	0.512	1.19	320	1.31	18x14	0.18	50	1.538	1663	10.8	1692
250 (37)	0.558	1.244	320	1.364	21x14	0.154	50	1.592	1868	11.1	2000
350 (37)	0.661	1.347	320	1.467	29x14	0.112	75	1.745	2440	12.2	2800
500 (37)	0.789	1.475	320	1.595	26x12	0.079	75	1.907	3159	13.3	4000
750 (61)	0.968	1.664	320	1.814	25x10	0.051	75	2.168	4437	15.2	6000
1000 (61)	1.117	1.813	320	1.963	21x8	0.038	75	2.371	5618	16.6	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
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	0.074	0.056	0.2	2.8	0.492+j0.233	0.176+j0.059	2444	180	220
1 (19)	0.128	0.175	0.07	0.055	0.21	3	0.491+j0.235	0.176+j0.060	2444	180	220
1/0 (SOLID)	0.102	0.139	0.069	0.054	0.21	3	0.418+j0.171	0.141+j0.058	3142	200	250
1/0 (19)	0.102	0.139	0.065	0.053	0.22	3.2	0.417+j0.172	0.141+j0.058	3142	200	250
2/0 (19)	0.082	0.112	0.061	0.051	0.24	3.4	0.357+j0.132	0.114+j0.056	3840	230	285
3/0 (19)	0.064	0.087	0.057	0.049	0.26	3.7	0.291+j0.097	0.089+j0.054	4887	260	320
4/0 (19)	0.051	0.07	0.053	0.047	0.27	4	0.236+j0.071	0.073+j0.052	6284	300	360
250 (37)	0.043	0.059	0.049	0.046	0.29	4.2	0.204+j0.059	0.063+j0.051	7331	325	
350 (37)	0.031	0.043	0.044	0.044	0.33	4.8	0.151+j0.042	0.048+j0.048	10123	390	460
500 (37)	0.021	0.03	0.039	0.042	0.37	5.4	0.107+j0.032	0.037+j0.045	14406	455	525
750 (61)	0.014	0.021	0.033	0.04	0.44	6.3	0.072+j0.025	0.030+j0.041	22019	545	580
1000 (61)	0.011	0.018	0.03	0.039	0.49	7	0.056+j0.022	0.029+j0.037	29419		

*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	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
AWG/ Kcmil	mm	mm	mm	mm	No. x AWG	Ω/km	mm	mm	kg/km	mm	newton
1 (SOLID)	7.34	24.56	8.13	27.10	7x14	1.52	1.27	32.89	1380	231.14	2977
1 (19)	8.18	25.40	8.13	28.45	7x14	1.52	1.27	34.24	1449	238.76	2977
1/0 (SOLID)	8.25	25.48	8.13	28.52	9x14	1.18	1.27	34.32	1592	241.30	3756
1/0 (19)	9.19	26.42	8.13	29.46	9x14	1.18	1.27	35.26	1637	246.38	3756
2/0 (19)	10.29	27.51	8.13	30.56	11x14	0.97	1.27	36.35	1853	254.00	4735
3/0 (19)	11.58	28.80	8.13	31.85	14x14	0.76	1.27	37.64	2130	264.16	5972
4/0 (19)	13.00	30.23	8.13	33.27	18x14	0.59	1.27	39.07	2475	274.32	7529
250 (37)	14.17	31.60	8.13	34.65	21x14	0.51	1.27	40.44	2780	281.94	8900
350 (37)	16.79	34.21	8.13	37.26	29x14	0.37	1.91	44.32	3631	309.88	12460
500 (37)	20.04	37.47	8.13	40.51	26x12	0.26	1.91	48.44	4701	337.82	17800
750 (61)	24.59	42.27	8.13	46.08	25x10	0.17	1.91	55.07	6603	386.08	26700
1000 (61)	28.37	46.05	8.13	49.86	21x8	0.12	1.91	60.22	8361	421.64	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	0.0226	0.1837	0.656	9.1864	0.492+j0.233	0.176+j0.059	2444	180	220
1 (19)	0.4199	0.57	0.0213	0.1804	0.689	9.8425	0.491+j0.235	0.176+j0.060	2444	180	220
1/0 (SOLID)	0.3346	0.46	0.0210	0.1772	0.689	9.8425	0.418+j0.171	0.141+j0.058	3142	200	250
1/0 (19)	0.3346	0.46	0.0198	0.1739	0.722	10.4987	0.417+j0.172	0.141+j0.058	3142	200	250
2/0 (19)	0.2690	0.37	0.0186	0.1673	0.787	11.1549	0.357+j0.132	0.114+j0.056	3840	230	285
3/0 (19)	0.2100	0.29	0.0174	0.1608	0.853	12.1391	0.291+j0.097	0.089+j0.054	4887	260	320
4/0 (19)	0.1673	0.23	0.0162	0.1542	0.886	13.1234	0.236+j0.071	0.073+j0.052	6284	300	360
250 (37)	0.1411	0.19	0.0149	0.1509	0.951	13.7795	0.204+j0.059	0.063+j0.051	7331	325	
350 (37)	0.1017	0.14	0.0134	0.1444	1.083	15.7480	0.151+j0.042	0.048+j0.048	10123	390	460
500 (37)	0.0689	0.10	0.0119	0.1378	1.214	17.7165	0.107+j0.032	0.037+j0.045	14406	455	525
750 (61)	0.0459	0.07	0.0101	0.1312	1.444	20.6693	0.072+j0.025	0.030+j0.041	22019	545	580
1000 (61)	0.0361	0.06	0.0091	0.1280	1.608	22.9659	0.056+j0.022	0.029+j0.037	29419		

*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.

Concentric Neutral Calculator

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