25kV CU 133% TRXLPE Full Neutral LLDPE

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Full 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 full 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	1.057	20x14	0.131	50	1.285	1070	10.3	669
1 (19)	0.322	1.000	320	1.110	20x14	0.131	50	1.338	1114	10.7	669
1/0 (Solid)	0.324	1.002	320	1.112	25x14	0.105	50	1.340	1249	10.7	844
1/0 (19)	0.361	1.039	320	1.149	25x14	0.105	50	1.377	1276	11.0	844
2/0 (19)	0.405	1.083	320	1.193	32x14	0.082	50	1.421	1489	11.4	1064
3/0 (19)	0.456	1.134	320	1.244	25x12	0.066	50	1.506	1726	12.0	1342
4/0 (19)	0.512	1.190	320	1.300	32x12	0.051	50	1.562	2048	12.5	1692
250 (37)	0.558	1.244	320	1.354	25x10	0.041	75	1.708	2462	13.7	2000

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 (Solid)	0.128	0.162	0.082	0.056	0.101	1.46	0.216 + j0.755	0.162 + j0.054	6974	175	220
1 (19)	0.128	0.162	0.077	0.054	0.108	1.56	0.216 + j0.753	0.162 + j0.055	6974	175	220
1/0 (Solid)	0.102	0.128	0.076	0.054	0.108	1.56	0.182 + j0.750	0.128 + j0.052	8718	200	250
1/0 (19)	0.102	0.128	0.071	0.052	0.116	1.67	0.182 + j0.749	0.128 + j0.053	8718	200	250
2/0 (19)	0.081	0.102	0.066	0.051	0.124	1.79	0.156 + j0.745	0.102 + j0.051	11159	225	280
3/0 (19)	0.064	0.081	0.061	0.049	0.134	1.93	0.135 + j0.740	0.081 + j0.049	13852	260	315
4/0 (19)	0.051	0.065	0.057	0.047	0.145	2.09	0.119 + j0.735	0.065 + j0.048	17730	295	355
250 (37)	0.043	0.056	0.054	0.047	0.152	2.19	0.111 + j0.729	0.056 + j0.048	22019	318	360

*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.

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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	26.85	20x14	0.43	1.27	32.64	1592	261.62	2977
1 (19)	8.18	25.40	8.13	28.19	20x14	0.43	1.27	33.99	1658	271.78	2977
1/0 (Solid)	8.23	25.45	8.13	28.24	25x14	0.34	1.27	34.04	1859	271.78	3756
1/0 (19)	9.17	26.39	8.13	29.18	25x14	0.34	1.27	34.98	1899	279.40	3756
2/0 (19)	10.29	27.51	8.13	30.30	32x14	0.27	1.27	36.09	2216	289.56	4735
3/0 (19)	11.58	28.80	8.13	31.60	25x12	0.22	1.27	38.25	2569	304.80	5972
4/0 (19)	13.00	30.23	8.13	33.02	32x12	0.17	1.27	39.67	3048	317.50	7529
250 (37)	14.17	31.60	8.13	34.39	25x10	0.13	1.91	43.38	3664	347.98	8900

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 (Solid)	0.4199	0.53	0.0250	0.1837	0.331	4.7900	0.216 + j0.755	0.162 + j0.054	6974	175	220
1 (19)	0.4199	0.53	0.0235	0.1772	0.354	5.1181	0.216 + j0.753	0.162 + j0.055	6974	175	220
1/0 (Solid)	0.3346	0.42	0.0232	0.1772	0.354	5.1181	0.182 + j0.750	0.128 + j0.052	8718	200	250
1/0 (19)	0.3346	0.42	0.0216	0.1706	0.381	5.4790	0.182 + j0.749	0.128 + j0.053	8718	200	250
2/0 (19)	0.2657	0.33	0.0201	0.1673	0.407	5.8727	0.156 + j0.745	0.102 + j0.051	11159	225	280
3/0 (19)	0.2100	0.27	0.0186	0.1608	0.440	6.3320	0.135 + j0.740	0.081 + j0.049	13852	260	315
4/0 (19)	0.1673	0.21	0.0174	0.1542	0.476	6.8570	0.119 + j0.735	0.065 + j0.048	17730	295	355
250 (37)	0.1411	0.18	0.0165	0.1542	0.499	7.1850	0.111 + j0.729	0.056 + j0.048	22019	318	360

*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.

CN Calculator