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	1.057	7x14	0.375	50	1.285	894	10.3	669
1 (19)	0.322	1.000	320	1.110	7x14	0.375	50	1.338	938	10.7	669
1/0 (Solid)	0.324	1.002	320	1.112	9x14	0.292	50	1.340	1033	10.7	844
1/0 (19)	0.361	1.039	320	1.149	9x14	0.292	50	1.377	1060	11.0	844
2/0 (19)	0.405	1.083	320	1.193	11x14	0.239	50	1.421	1205	11.4	1064
3/0 (19)	0.456	1.134	320	1.244	14x14	0.187	50	1.472	1392	11.8	1342
4/0 (19)	0.512	1.190	320	1.300	18x14	0.146	50	1.528	1623	12.2	1692
250 (37)	0.558	1.244	320	1.354	21x14	0.125	50	1.582	1823	12.7	2000
350 (37)	0.661	1.347	320	1.457	29x14	0.090	75	1.735	2404	13.9	2800
500 (37)	0.789	1.475	320	1.585	26x12	0.063	75	1.897	3122	15.2	4000
750 (61)	0.968	1.664	320	1.804	25x10	0.041	75	2.158	4397	17.3	6000
1000 (61)	1.117	1.813	320	1.953	32x10	0.032	75	2.307	5526	18.5	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

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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	0.162	0.082	0.056	0.101	1.46	0.216 + j0.755	0.162 + j0.054	2441	180	220
1 (19)	0.128	0.162	0.077	0.054	0.108	1.56	0.216 + j0.753	0.162 + j0.055	2441	180	220
1/0 (Solid)	0.102	0.128	0.076	0.054	0.108	1.56	0.182 + j0.750	0.128 + j0.052	3138	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	3138	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	3836	230	285
3/0 (19)	0.064	0.081	0.061	0.049	0.134	1.93	0.135 + j0.741	0.081 + j0.049	4882	260	320
4/0 (19)	0.051	0.065	0.057	0.047	0.145	2.09	0.119 + j0.736	0.065 + j0.047	6277	300	360
250 (37)	0.043	0.056	0.054	0.046	0.152	2.19	0.111 + j0.733	0.056 + j0.046	7323	325	
350 (37)	0.031	0.041	0.048	0.044	0.172	2.48	0.095 + j0.724	0.041 + j0.044	10113	390	460
500 (37)	0.022	0.030	0.042	0.042	0.195	2.81	0.084 + j0.716	0.030 + j0.042	14406	455	525
750 (61)	0.014	0.023	0.036	0.040	0.226	3.26	0.077 + j0.705	0.023 + j0.040	22019	545	580
1000 (61)	0.011	0.019	0.032	0.038	0.253	3.65	0.073 + j0.699	0.019 + j0.038	28184		

*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	7x14	1.23	1.27	32.64	1330	261.62	2977
1 (19)	8.18	25.40	8.13	28.19	7x14	1.23	1.27	33.99	1396	271.78	2977
1/0 (Solid)	8.23	25.45	8.13	28.24	9x14	0.96	1.27	34.04	1537	271.78	3756
1/0 (19)	9.17	26.39	8.13	29.18	9x14	0.96	1.27	34.98	1577	279.40	3756
2/0 (19)	10.29	27.51	8.13	30.30	11x14	0.78	1.27	36.09	1793	289.56	4735
3/0 (19)	11.58	28.80	8.13	31.60	14x14	0.61	1.27	37.39	2072	299.72	5972
4/0 (19)	13.00	30.23	8.13	33.02	18x14	0.48	1.27	38.81	2415	309.88	7529
250 (37)	14.17	31.60	8.13	34.39	21x14	0.41	1.27	40.18	2713	322.58	8900
350 (37)	16.79	34.21	8.13	37.01	29x14	0.30	1.91	44.07	3578	353.06	12460
500 (37)	20.04	37.47	8.13	40.26	26x12	0.21	1.91	48.18	4646	386.08	17800
750 (61)	24.59	42.27	8.13	45.82	25x10	0.13	1.91	54.81	6543	439.42	26700
1000 (61)	28.37	46.05	8.13	49.61	32x10	0.10	1.91	58.60	8224	469.90	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

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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	0.53	0.0250	0.1837	0.331	4.7900	0.216 + j0.755	0.162 + j0.054	2441	180	220
1 (19)	0.4199	0.53	0.0235	0.1772	0.354	5.1181	0.216 + j0.753	0.162 + j0.055	2441	180	220
1/0 (Solid)	0.3346	0.42	0.0232	0.1772	0.354	5.1181	0.182 + j0.750	0.128 + j0.052	3138	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	3138	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	3836	230	285
3/0 (19)	0.2100	0.27	0.0186	0.1608	0.440	6.3320	0.135 + j0.741	0.081 + j0.049	4882	260	320
4/0 (19)	0.1673	0.21	0.0174	0.1542	0.476	6.8570	0.119 + j0.736	0.065 + j0.047	6277	300	360
250 (37)	0.1411	0.18	0.0165	0.1509	0.499	7.1850	0.111 + j0.733	0.056 + j0.046	7323	325	
350 (37)	0.1017	0.13	0.0146	0.1444	0.564	8.1365	0.095 + j0.724	0.041 + j0.044	10113	390	460
500 (37)	0.0722	0.10	0.0128	0.1378	0.640	9.2192	0.084 + j0.716	0.030 + j0.042	14406	455	525
750 (61)	0.0459	0.08	0.0110	0.1312	0.741	10.6955	0.077 + j0.705	0.023 + j0.040	22019	545	580
1000 (61)	0.0361	0.06	0.0098	0.1247	0.830	11.9751	0.073 + j0.699	0.019 + j0.038	28184		

*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