15kV CU 133% TRXLPE One-Third Neutral LLDPE

Single Conductor, 220 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:** 220 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 15kV 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 15000 VOLTS TRXLPE INSULATION 220 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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Table 1 – Weights and Measurements

Stock Number	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
TBA	2 (SOLID)	0.258	0.736	220	0.836	6x14	0.54	50	1.064	653	7.4	530
430074	2 (7)	0.283	0.753	220	0.843	6x14	0.54	50	1.071	631	7.5	530
TBA	1 (SOLID)	0.289	0.767	220	0.867	7x14	0.463	50	1.095	738	7.7	669
TBA	1 (19)	0.322	0.8	220	0.9	7x14	0.463	50	1.128	757	7.9	669
TBA	1/0 (SOLID)	0.325	0.803	220	0.903	9x14	0.36	50	1.131	853	7.9	844
628160	1/0 (19)	0.362	0.832	220	0.922	9x14	0.36	50	1.15	831	8	844
628161	2/0 (19)	0.405	0.876	220	0.966	11x14	0.295	50	1.194	964	8.4	1064
619059^	2/0 (19)	0.405	0.876	220	0.966	11x14	0.295	50	1.194	964	8.4	1064
TBA	3/0 (19)	0.456	0.934	220	1.034	14x14	0.231	50	1.262	1189	8.8	1342
628165	4/0 (19)	0.512	0.982	220	1.072	18x14	0.18	50	1.3	1351	9.1	1692
TBA	250 (37)	0.558	1.044	220	1.164	21x14	0.154	50	1.392	1626	9.7	2000
628167	350 (37)	0.661	1.141	220	1.251	18x12	0.114	50	1.513	2057	10.6	2800
620756	500 (37)	0.789	1.269	220	1.379	26x12	0.079	75	1.641	2755	11.5	4000
612883	500 (37)	0.789	1.269	220	1.379	17x10	0.075	75	1.737	2878	12.2	4000
607756^§	600 (61)	0.866	1.356	220	1.466	20x10	0.064	75	1.824	3347	12.8	4800
628171	750 (61)	0.968	1.458	220	1.568	25x10	0.051	75	1.926	4036	13.5	6000
663766^	750 (61)	0.968	1.458	220	1.568	25x10	0.051	75	1.926	4036	13.5	6000
622842†	750 (61)	0.968	1.458	220	1.568	20x9	0.051	75	1.951	4102	13.7	6000
628175	1000 (61)	1.117	1.607	220	1.747	26x9	0.039	75	2.13	5237	14.9	8000
628177	1000 (61)	1.117	1.607	220	1.747	21x8	0.038	75	2.158	5294	15.1	8000

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item

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* Pulling tension based on pulling eye directly connected to conductor
^ No Red Stripes
§ CSA listed
† PowerGlide: Low coefficient jacket can be installed in duct without the aid of lubrication.
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.

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
2 (SOLID)	0.162	0.221	0.062	0.054	0.14	1.2	0.561+j0.275	0.222+j0.059	2095	160	195
2 (7)	0.162	0.221	0.058	0.052	0.15	1.3	0.561+j0.276	0.222+j0.059	2095	160	195
1 (SOLID)	0.128	0.175	0.058	0.052	0.15	1.3	0.496+j0.228	0.176+j0.055	2444	180	220
1 (19)	0.128	0.175	0.054	0.051	0.16	1.4	0.495+j0.229	0.176+j0.056	2444	180	220
1/0 (SOLID)	0.102	0.139	0.054	0.05	0.16	1.4	0.420+j0.165	0.141+j0.053	3142	200	250
1/0 (19)	0.102	0.139	0.05	0.048	0.17	1.5	0.420+j0.166	0.141+j0.054	3142	200	250
2/0 (19)	0.082	0.112	0.046	0.047	0.19	1.6	0.358+j0.126	0.114+j0.052	3840	230	285
2/0 (19)	0.082	0.112	0.046	0.047	0.19	1.6	0.358+j0.126	0.114+j0.052	3840	230	285
3/0 (19)	0.064	0.087	0.043	0.045	0.2	1.7	0.292+j0.092	0.089+j0.050	4887	260	320
4/0 (19)	0.051	0.07	0.039	0.043	0.22	1.9	0.236+j0.066	0.073+j0.048	6284	300	360
250 (37)	0.043	0.059	0.037	0.043	0.23	2	0.204+j0.055	0.063+j0.048	7331	325	
350 (37)	0.031	0.043	0.033	0.041	0.27	2.3	0.152+j0.040	0.048+j0.045	9974	390	460
500 (37)	0.021	0.03	0.028	0.039	0.3	2.6	0.107+j0.029	0.037+j0.042	14406	455	525
500 (37)	0.021	0.03	0.028	0.04	0.3	2.6	0.104+j0.028	0.038+j0.043	14973	455	525
600 (61)	0.018	0.026	0.026	0.039	0.33	2.9	0.089+j0.024	0.034+j0.040	17615		
750 (61)	0.014	0.021	0.024	0.038	0.36	3.1	0.072+j0.022	0.031+j0.038	22019	545	580
750 (61)	0.014	0.021	0.024	0.038	0.36	3.1	0.072+j0.022	0.031+j0.038	22019	545	580
750 (61)	0.014	0.021	0.024	0.038	0.36	3.1	0.071+j0.022	0.031+j0.038	22214	545	580
1000 (61)	0.011	0.018	0.021	0.037	0.4	3.5	0.057+j0.019	0.029+j0.035	28879		
1000 (61)	0.011	0.018	0.021	0.037	0.4	3.5	0.056+j0.019	0.029+j0.035	29419		

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*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.

Table 3 – Weights and Measurements (Metric)

Stock Number	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
TBA	2 (SOLID)	6.55	18.69	5.59	21.23	6x14	1.77	1.27	27.03	972	187.96	2359
430074	2 (7)	7.19	19.13	5.59	21.41	6x14	1.77	1.27	27.20	939	190.50	2359
TBA	1 (SOLID)	7.34	19.48	5.59	22.02	7x14	1.52	1.27	27.81	1098	195.58	2977
TBA	1 (19)	8.18	20.32	5.59	22.86	7x14	1.52	1.27	28.65	1127	200.66	2977
TBA	1/0 (SOLID)	8.25	20.40	5.59	22.94	9x14	1.18	1.27	28.73	1269	200.66	3756
628160	1/0 (19)	9.19	21.13	5.59	23.42	9x14	1.18	1.27	29.21	1237	203.20	3756
628161	2/0 (19)	10.29	22.25	5.59	24.54	11x14	0.97	1.27	30.33	1435	213.36	4735
619059^	2/0 (19)	10.29	22.25	5.59	24.54	11x14	0.97	1.27	30.33	1435	213.36	4735
TBA	3/0 (19)	11.58	23.72	5.59	26.26	14x14	0.76	1.27	32.05	1769	223.52	5972
628165	4/0 (19)	13.00	24.94	5.59	27.23	18x14	0.59	1.27	33.02	2011	231.14	7529
TBA	250 (37)	14.17	26.52	5.59	29.57	21x14	0.51	1.27	35.36	2420	246.38	8900
628167	350 (37)	16.79	28.98	5.59	31.78	18x12	0.37	1.27	38.43	3061	269.24	12460
620756	500 (37)	20.04	32.23	5.59	35.03	26x12	0.26	1.91	41.68	4100	292.10	17800
612883	500 (37)	20.04	32.23	5.59	35.03	17x10	0.25	1.91	44.12	4283	309.88	17800
607756^§	600 (61)	22.00	34.44	5.59	37.24	20x10	0.21	1.91	46.33	4981	325.12	21360
628171	750 (61)	24.59	37.03	5.59	39.83	25x10	0.17	1.91	48.92	6006	342.90	26700
663766^	750 (61)	24.59	37.03	5.59	39.83	25x10	0.17	1.91	48.92	6006	342.90	26700
622842†	750 (61)	24.59	37.03	5.59	39.83	20x9	0.17	1.91	49.56	6104	347.98	26700
628175	1000 (61)	28.37	40.82	5.59	44.37	26x9	0.13	1.91	54.10	7794	378.46	35600
628177	1000 (61)	28.37	40.82	5.59	44.37	21x8	0.12	1.91	54.81	7878	383.54	35600

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◊ Cable marked with this symbol is a standard stock item
* Pulling tension based on pulling eye directly connected to conductor
^ No Red Stripes

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§ CSA listed
† PowerGlide: Low coefficient jacket can be installed in duct without the aid of lubrication.
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.

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
2 (SOLID)	0.5315	0.73	0.0189	0.1772	0.459	3.9370	0.561+j0.275	0.222+j0.059	2095	160	195
2 (7)	0.5315	0.73	0.0177	0.1706	0.492	4.2651	0.561+j0.276	0.222+j0.059	2095	160	195
1 (SOLID)	0.4199	0.57	0.0177	0.1706	0.492	4.2651	0.496+j0.228	0.176+j0.055	2444	180	220
1 (19)	0.4199	0.57	0.0165	0.1673	0.525	4.5932	0.495+j0.229	0.176+j0.056	2444	180	220
1/0 (SOLID)	0.3346	0.46	0.0165	0.1640	0.525	4.5932	0.420+j0.165	0.141+j0.053	3142	200	250
1/0 (19)	0.3346	0.46	0.0152	0.1575	0.558	4.9213	0.420+j0.166	0.141+j0.054	3142	200	250
2/0 (19)	0.2690	0.37	0.0140	0.1542	0.623	5.2493	0.358+j0.126	0.114+j0.052	3840	230	285
2/0 (19)	0.2690	0.37	0.0140	0.1542	0.623	5.2493	0.358+j0.126	0.114+j0.052	3840	230	285
3/0 (19)	0.2100	0.29	0.0131	0.1476	0.656	5.5774	0.292+j0.092	0.089+j0.050	4887	260	320
4/0 (19)	0.1673	0.23	0.0119	0.1411	0.722	6.2336	0.236+j0.066	0.073+j0.048	6284	300	360
250 (37)	0.1411	0.19	0.0113	0.1411	0.755	6.5617	0.204+j0.055	0.063+j0.048	7331	325	
350 (37)	0.1017	0.14	0.0101	0.1345	0.886	7.5459	0.152+j0.040	0.048+j0.045	9974	390	460
500 (37)	0.0689	0.10	0.0085	0.1280	0.984	8.5302	0.107+j0.029	0.037+j0.042	14406	455	525
500 (37)	0.0689	0.10	0.0085	0.1312	0.984	8.5302	0.104+j0.028	0.038+j0.043	14973	455	525
600 (61)	0.0591	0.09	0.0079	0.1280	1.083	9.5144	0.089+j0.024	0.034+j0.040	17615		
750 (61)	0.0459	0.07	0.0073	0.1247	1.181	10.1706	0.072+j0.022	0.031+j0.038	22019	545	580
750 (61)	0.0459	0.07	0.0073	0.1247	1.181	10.1706	0.072+j0.022	0.031+j0.038	22019	545	580
750 (61)	0.0459	0.07	0.0073	0.1247	1.181	10.1706	0.071+j0.022	0.031+j0.038	22214	545	580
1000 (61)	0.0361	0.06	0.0064	0.1214	1.312	11.4829	0.057+j0.019	0.029+j0.035	28879		
1000 (61)	0.0361	0.06	0.0064	0.1214	1.312	11.4829	0.056+j0.019	0.029+j0.035	29419		

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Concentric Neutral Calculator

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