



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: -40°C and MV 90°C 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



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)	0.257	0.735	220	0.825	6x14	0.438	50	1.053	633	8.4	530
430074	2 (7)	0.282	0.753	220	0.843	6x14	0.438	50	1.071	630	8.6	530
TBA	1 (Solid)	0.289	0.767	220	0.857	7x14	0.375	50	1.085	720	8.7	669
TBA	1 (19)	0.322	0.800	220	0.890	7x14	0.375	50	1.118	739	8.9	669
TBA	1/0 (Solid)	0.324	0.802	220	0.892	9x14	0.292	50	1.120	834	9.0	844
628160	1/0 (19)	0.361	0.832	220	0.922	9x14	0.292	50	1.150	831	9.2	844
628161	2/0 (19)	0.405	0.876	220	0.966	11x14	0.239	50	1.194	964	9.6	1064
619059^	2/0 (19)	0.405	0.876	220	0.966	11x14	0.239	50	1.194	964	9.6	1064
TBA	3/0 (19)	0.456	0.934	220	1.024	14x14	0.187	50	1.252	1168	10.0	1342
628165	4/0 (19)	0.512	0.982	220	1.072	18x14	0.146	50	1.300	1350	10.4	1692
TBA	250 (37)	0.558	1.044	220	1.154	21x14	0.125	50	1.382	1602	11.1	2000
628167	350 (37)	0.661	1.141	220	1.251	18x12	0.092	50	1.512	2057	12.1	2800
620756	500 (37)	0.789	1.269	220	1.379	26x12	0.063	75	1.640	2755	13.1	4000
612883	500 (37)	0.789	1.269	220	1.379	17x10	0.061	75	1.736	2877	13.9	4000
607756	600 (61)	0.865	1.356	220	1.466	20x10	0.052	75	1.823	3346	14.6	4800
628171	750 (61)	0.968	1.458	220	1.568	25x10	0.041	75	1.925	4036	15.4	6000
622842?	750 (61)	0.968	1.458	220	1.568	20x9	0.041	75	1.950	4102	15.6	6000
628175	1000 (61)	1.117	1.607	220	1.747	26x9	0.031	75	2.129	5237	17.0	8000
628177	1000 (61)	1.117	1.607	220	1.747	21x8	0.031	75	2.158	5294	17.3	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

^ No Red Stripes

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



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	0.204	0.061	0.054	0.139	0.4	0.257 + j1.277	0.204 + j0.573	2092	160	195
2 (7)	0.162	0.204	0.058	0.052	0.149	0.4	0.257 + j1.220	0.204 + j0.516	2092	160	195
1 (Solid)	0.128	0.162	0.057	0.052	0.149	0.4	0.216 + j1.208	0.162 + j0.504	2441	180	220
1 (19)	0.128	0.162	0.054	0.050	0.159	0.4	0.216 + j1.149	0.162 + j0.447	2441	180	220
1/0 (Solid)	0.102	0.128	0.053	0.050	0.160	0.4	0.182 + j1.147	0.128 + j0.443	3138	200	250
1/0 (19)	0.102	0.128	0.049	0.048	0.173	0.4	0.182 + j1.094	0.128 + j0.392	3138	200	250
2/0 (19)	0.081	0.102	0.046	0.047	0.186	0.5	0.156 + j1.045	0.102 + j0.345	3836	230	285
2/0 (19)	0.081	0.102	0.046	0.047	0.186	0.5	0.156 + j1.045	0.102 + j0.345	3836	230	285
3/0 (19)	0.064	0.081	0.043	0.045	0.199	0.5	0.135 + j0.999	0.081 + j0.301	4882	260	320
4/0 (19)	0.051	0.065	0.039	0.043	0.219	0.6	0.119 + j0.959	0.065 + j0.263	6277	300	360
250 (37)	0.043	0.056	0.037	0.043	0.232	0.6	0.110 + j0.930	0.056 + j0.238	7323	325	
350 (37)	0.031	0.041	0.032	0.041	0.265	0.7	0.095 + j0.880	0.041 + j0.194	9973	390	460
500 (37)	0.022	0.030	0.028	0.039	0.304	0.8	0.084 + j0.836	0.030 + j0.156	14406	455	525
500 (37)	0.022	0.030	0.028	0.040	0.304	0.8	0.084 + j0.833	0.030 + j0.158	14973	455	525
600 (61)	0.018	0.026	0.026	0.039	0.329	0.9	0.080 + j0.813	0.026 + j0.140	17615		
750 (61)	0.014	0.023	0.024	0.038	0.360	0.9	0.077 + j0.791	0.023 + j0.122	22019	545	580
750 (61)	0.014	0.023	0.024	0.038	0.360	0.9	0.077 + j0.790	0.023 + j0.122	22214	545	580
1000 (61)	0.011	0.019	0.021	0.037	0.404	1.0	0.073 + j0.764	0.019 + j0.102	28878		
1000 (61)	0.011	0.019	0.021	0.037	0.404	1.0	0.073 + j0.763	0.019 + j0.102	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.



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)	6.53	18.67	5.59	20.96	6x14	1.44	1.27	26.75	942	213.36	2359
430074	2 (7)	7.16	19.13	5.59	21.41	6x14	1.44	1.27	27.20	938	218.44	2359
TBA	1 (Solid)	7.34	19.48	5.59	21.77	7x14	1.23	1.27	27.56	1071	220.98	2977
TBA	1 (19)	8.18	20.32	5.59	22.61	7x14	1.23	1.27	28.40	1100	226.06	2977
TBA	1/0 (Solid)	8.23	20.37	5.59	22.66	9x14	0.96	1.27	28.45	1241	228.60	3756
628160	1/0 (19)	9.17	21.13	5.59	23.42	9x14	0.96	1.27	29.21	1237	233.68	3756
628161	2/0 (19)	10.29	22.25	5.59	24.54	11x14	0.78	1.27	30.33	1435	243.84	4735
619059 [^]	2/0 (19)	10.29	22.25	5.59	24.54	11x14	0.78	1.27	30.33	1435	243.84	4735
TBA	3/0 (19)	11.58	23.72	5.59	26.01	14x14	0.61	1.27	31.80	1738	254.00	5972
628165	4/0 (19)	13.00	24.94	5.59	27.23	18x14	0.48	1.27	33.02	2009	264.16	7529
TBA	250 (37)	14.17	26.52	5.59	29.31	21x14	0.41	1.27	35.10	2384	281.94	8900
628167	350 (37)	16.79	28.98	5.59	31.78	18x12	0.30	1.27	38.40	3061	307.34	12460
620756	500 (37)	20.04	32.23	5.59	35.03	26x12	0.21	1.91	41.66	4100	332.74	17800
612883	500 (37)	20.04	32.23	5.59	35.03	17x10	0.20	1.91	44.09	4281	353.06	17800
607756	600 (61)	21.97	34.44	5.59	37.24	20x10	0.17	1.91	46.30	4979	370.84	21360
628171	750 (61)	24.59	37.03	5.59	39.83	25x10	0.13	1.91	48.89	6006	391.16	26700
622842?	750 (61)	24.59	37.03	5.59	39.83	20x9	0.13	1.91	49.53	6104	396.24	26700
628175	1000 (61)	28.37	40.82	5.59	44.37	26x9	0.10	1.91	54.08	7794	431.80	35600
628177	1000 (61)	28.37	40.82	5.59	44.37	21x8	0.10	1.91	54.81	7878	439.42	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

[^] No Red Stripes

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



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	0.67	0.0186	0.1772	0.456	1.3123	0.257 + j1.277	0.204 + j0.573	2092	160	195
2 (7)	0.5315	0.67	0.0177	0.1706	0.489	1.3123	0.257 + j1.220	0.204 + j0.516	2092	160	195
1 (Solid)	0.4199	0.53	0.0174	0.1706	0.489	1.3123	0.216 + j1.208	0.162 + j0.504	2441	180	220
1 (19)	0.4199	0.53	0.0165	0.1640	0.522	1.3123	0.216 + j1.149	0.162 + j0.447	2441	180	220
1/0 (Solid)	0.3346	0.42	0.0162	0.1640	0.525	1.3123	0.182 + j1.147	0.128 + j0.443	3138	200	250
1/0 (19)	0.3346	0.42	0.0149	0.1575	0.568	1.3123	0.182 + j1.094	0.128 + j0.392	3138	200	250
2/0 (19)	0.2657	0.33	0.0140	0.1542	0.610	1.6404	0.156 + j1.045	0.102 + j0.345	3836	230	285
2/0 (19)	0.2657	0.33	0.0140	0.1542	0.610	1.6404	0.156 + j1.045	0.102 + j0.345	3836	230	285
3/0 (19)	0.2100	0.27	0.0131	0.1476	0.653	1.6404	0.135 + j0.999	0.081 + j0.301	4882	260	320
4/0 (19)	0.1673	0.21	0.0119	0.1411	0.719	1.9685	0.119 + j0.959	0.065 + j0.263	6277	300	360
250 (37)	0.1411	0.18	0.0113	0.1411	0.761	1.9685	0.110 + j0.930	0.056 + j0.238	7323	325	
350 (37)	0.1017	0.13	0.0098	0.1345	0.869	2.2966	0.095 + j0.880	0.041 + j0.194	9973	390	460
500 (37)	0.0722	0.10	0.0085	0.1280	0.997	2.6247	0.084 + j0.836	0.030 + j0.156	14406	455	525
500 (37)	0.0722	0.10	0.0085	0.1312	0.997	2.6247	0.084 + j0.833	0.030 + j0.158	14973	455	525
600 (61)	0.0591	0.09	0.0079	0.1280	1.079	2.9528	0.080 + j0.813	0.026 + j0.140	17615		
750 (61)	0.0459	0.08	0.0073	0.1247	1.181	2.9528	0.077 + j0.791	0.023 + j0.122	22019	545	580
750 (61)	0.0459	0.08	0.0073	0.1247	1.181	2.9528	0.077 + j0.790	0.023 + j0.122	22214	545	580
1000 (61)	0.0361	0.06	0.0064	0.1214	1.325	3.2808	0.073 + j0.764	0.019 + j0.102	28878		
1000 (61)	0.0361	0.06	0.0064	0.1214	1.325	3.2808	0.073 + j0.763	0.019 + j0.102	29419		

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*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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Calculator

