35kV CU 100% TRXLPE One-Third Neutral LLDPE

Single Conductor, 345 Mils Tree Retardant Cross Linked Polyethylene, 100% 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:** 345 Mils Tree Retardant Cross Linked Polyethylene 100% 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 35kV 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 35000 VOLTS TRXLPE INSULATION 345 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	1/0 (SOLID)	0.325	1.053	345	1.173	9x14	0.36	50	1.401	1125	9.8	844
628241	1/0 (19)	0.362	1.082	345	1.192	9x14	0.36	50	1.42	1056	9.9	844
628244	2/0 (19)	0.405	1.126	345	1.236	11x14	0.295	50	1.464	1197	10.2	1064
TBA	3/0 (19)	0.456	1.184	345	1.304	14x14	0.231	50	1.532	1492	10.7	1342
628247	4/0 (19)	0.512	1.232	345	1.342	18x14	0.18	50	1.57	1602	11	1692
TBA	250 (37)	0.558	1.294	345	1.414	21x14	0.154	75	1.692	2008	11.8	2000
628287	350 (37)	0.661	1.391	345	1.501	18x12	0.114	75	1.817	2380	12.7	2800
TBA	500 (37)	0.789	1.525	345	1.675	26x12	0.079	75	1.987	3285	13.9	4000
628294	750 (61)	0.968	1.708	345	1.848	25x10	0.051	75	2.206	4413	15.4	6000
628301	1000 (61)	1.117	1.857	345	1.997	26x9	0.039	75	2.38	5597	16.7	8000
628303	1000 (61)	1.117	1.857	345	1.997	21x8	0.038	75	2.408	5659	16.9	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
1/0 (SOLID)	0.102	0.139	0.072	0.055	0.28	5.6	0.417+j0.172	0.141+j0.058	3142	210	250
1/0 (19)	0.102	0.139	0.068	0.053	0.3	6	0.417+j0.173	0.141+j0.059	3142	210	250
2/0 (19)	0.082	0.112	0.063	0.051	0.32	6.4	0.356+j0.133	0.114+j0.057	3840	235	280
3/0 (19)	0.064	0.087	0.059	0.05	0.34	6.9	0.291+j0.098	0.089+j0.055	4887	265	320
4/0 (19)	0.051	0.07	0.055	0.047	0.37	7.4	0.236+j0.072	0.073+j0.053	6284	300	360
250 (37)	0.043	0.059	0.052	0.047	0.39	7.9	0.204+j0.060	0.063+j0.052	7331	328	
350 (37)	0.031	0.043	0.046	0.045	0.44	8.9	0.152+j0.044	0.048+j0.049	9974	400	460
500 (37)	0.021	0.03	0.041	0.043	0.49	10	0.107+j0.033	0.037+j0.046	14406	470	525
750 (61)	0.014	0.021	0.035	0.041	0.58	11.7	0.072+j0.025	0.030+j0.041	22019	560	590
1000 (61)	0.011	0.018	0.031	0.039	0.65	13.1	0.057+j0.022	0.029+j0.038	28879		
1000 (61)	0.011	0.018	0.031	0.039	0.65	13.1	0.056+j0.023	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)

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	1/0 (SOLID)	8.25	26.75	8.76	29.79	9x14	1.18	1.27	35.59	1674	248.92	3756
628241	1/0 (19)	9.19	27.48	8.76	30.28	9x14	1.18	1.27	36.07	1572	251.46	3756
628244	2/0 (19)	10.29	28.60	8.76	31.39	11x14	0.97	1.27	37.19	1781	259.08	4735
TBA	3/0 (19)	11.58	30.07	8.76	33.12	14x14	0.76	1.27	38.91	2220	271.78	5972
628247	4/0 (19)	13.00	31.29	8.76	34.09	18x14	0.59	1.27	39.88	2384	279.40	7529
TBA	250 (37)	14.17	32.87	8.76	35.92	21x14	0.51	1.91	42.98	2988	299.72	8900
628287	350 (37)	16.79	35.33	8.76	38.13	18x12	0.37	1.91	46.15	3542	322.58	12460
TBA	500 (37)	20.04	38.73	8.76	42.55	26x12	0.26	1.91	50.47	4889	353.06	17800
628294	750 (61)	24.59	43.38	8.76	46.94	25x10	0.17	1.91	56.03	6567	391.16	26700
628301	1000 (61)	28.37	47.17	8.76	50.72	26x9	0.13	1.91	60.45	8329	424.18	35600
628303	1000 (61)	28.37	47.17	8.76	50.72	21x8	0.12	1.91	61.16	8422	429.26	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
1/0 (SOLID)	0.3346	0.46	0.0219	0.1804	0.919	18.3727	0.417+j0.172	0.141+j0.058	3142	210	250
1/0 (19)	0.3346	0.46	0.0207	0.1739	0.984	19.6850	0.417+j0.173	0.141+j0.059	3142	210	250
2/0 (19)	0.2690	0.37	0.0192	0.1673	1.050	20.9974	0.356+j0.133	0.114+j0.057	3840	235	280
3/0 (19)	0.2100	0.29	0.0180	0.1640	1.115	22.6378	0.291+j0.098	0.089+j0.055	4887	265	320
4/0 (19)	0.1673	0.23	0.0168	0.1542	1.214	24.2782	0.236+j0.072	0.073+j0.053	6284	300	360
250 (37)	0.1411	0.19	0.0158	0.1542	1.280	25.9186	0.204+j0.060	0.063+j0.052	7331	328	
350 (37)	0.1017	0.14	0.0140	0.1476	1.444	29.1995	0.152+j0.044	0.048+j0.049	9974	400	460
500 (37)	0.0689	0.10	0.0125	0.1411	1.608	32.8084	0.107+j0.033	0.037+j0.046	14406	470	525
750 (61)	0.0459	0.07	0.0107	0.1345	1.903	38.3858	0.072+j0.025	0.030+j0.041	22019	560	590
1000 (61)	0.0361	0.06	0.0094	0.1280	2.133	42.9790	0.057+j0.022	0.029+j0.038	28879		
1000 (61)	0.0361	0.06	0.0094	0.1280	2.133	42.9790	0.056+j0.023	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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