35kV AL 100% TRXLPE Full Neutral LLDPE

Single Conductor, 345 Mils Tree Retardant Cross Linked Polyethylene, 100% 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 Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked 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 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 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 B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- 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] AL 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	16x14	0.203	50	1.401	993	9.8	633
614785	1/0 (19)	0.352	1.072	345	1.182	16x14	0.203	50	1.41	905	9.9	633
626264^	1/0 (19)	0.352	1.072	345	1.182	16x14	0.203	50	1.41	906	9.9	633
615975†	1/0 (19)	0.352	1.11	345	1.22	16x14	0.203	50	1.448	940	10.1	633
618676	1/0 (19)	0.352	1.072	345	1.182	18x14	0.18	0	1.464	970	10.2	633
627933	2/0 (19)	0.395	1.115	345	1.225	13x12	0.157	50	1.487	1049	10.4	798
627673	3/0 (19)	0.456	1.163	345	1.273	16x12	0.128	50	1.535	1175	10.7	1006
626298^	4/0 (19)	0.498	1.218	345	1.328	20x12	0.102	50	1.59	1334	11.1	1269
627939	4/0 (19)	0.498	1.218	345	1.328	13x10	0.099	75	1.632	1390	11.4	1269
TBA	250 (37)	0.558	1.294	345	1.414	24x12	0.085	75	1.726	1691	12.1	1500
TBA	350 (37)	0.661	1.397	345	1.517	21x10	0.061	75	1.871	2079	13.1	2100

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
^ HiDri Plus® - Water Blocking Powder
† SuperSmooth Conductor Semi-Con
§ HiDri Plus - Water Blocking Powder. Black Jacket. CSA Listed
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	0.14	0.072	0.055	0.28	5.6	0.324+j0.086	0.143+j0.058	5585	160	195
1/0 (19)	0.167	0.229	0.069	0.054	0.29	5.9	0.413+j0.086	0.232+j0.058	5585	160	195
1/0 (19)	0.167	0.229	0.069	0.054	0.29	5.9	0.413+j0.086	0.232+j0.058	5585	160	195
1/0 (19)	0.167	0.229	0.071	0.054	0.28	5.7	0.412+j0.087	0.232+j0.059	5585	160	195
1/0 (19)	0.167	0.229	0.069	0.054	0.29	5.9	0.395+j0.076	0.232+j0.059	6284	160	195
2/0 (19)	0.133	0.182	0.064	0.052	0.31	6.3	0.329+j0.066	0.186+j0.057	7203	185	220
3/0 (19)	0.105	0.144	0.058	0.05	0.35	7	0.266+j0.053	0.148+j0.054	8865	210	250
4/0 (19)	0.084	0.115	0.056	0.048	0.36	7.3	0.214+j0.044	0.120+j0.052	11082	240	280
4/0 (19)	0.084	0.115	0.056	0.049	0.36	7.3	0.210+j0.043	0.121+j0.052	11450	240	280
250 (37)	0.07	0.096	0.052	0.048	0.39	7.9	0.179+j0.039	0.103+j0.051	13298	261	302
350 (37)	0.051	0.07	0.046	0.046	0.44	8.8	0.130+j0.032	0.079+j0.047	18496	315	365

*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	16x14	0.67	1.27	35.59	1478	248.92	2817
614785	1/0 (19)	8.94	27.23	8.76	30.02	16x14	0.67	1.27	35.81	1347	251.46	2817
626264^	1/0 (19)	8.94	27.23	8.76	30.02	16x14	0.67	1.27	35.81	1348	251.46	2817
615975†	1/0 (19)	8.94	28.19	8.76	30.99	16x14	0.67	1.27	36.78	1399	256.54	2817
618676	1/0 (19)	8.94	27.23	8.76	30.02	18x14	0.59	0.00	37.19	1444	259.08	2817
627933	2/0 (19)	10.03	28.32	8.76	31.12	13x12	0.52	1.27	37.77	1561	264.16	3551
627673	3/0 (19)	11.58	29.54	8.76	32.33	16x12	0.42	1.27	38.99	1749	271.78	4477
626298^	4/0 (19)	12.65	30.94	8.76	33.73	20x12	0.33	1.27	40.39	1985	281.94	5647
627939	4/0 (19)	12.65	30.94	8.76	33.73	13x10	0.32	1.91	41.45	2069	289.56	5647
TBA	250 (37)	14.17	32.87	8.76	35.92	24x12	0.28	1.91	43.84	2516	307.34	6675
TBA	350 (37)	16.79	35.48	8.76	38.53	21x10	0.20	1.91	47.52	3094	332.74	9345

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
^ HiDri Plus® - Water Blocking Powder
† SuperSmooth Conductor Semi-Con
§ HiDri Plus - Water Blocking Powder. Black Jacket. CSA Listed
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	0.324+j0.086	0.143+j0.058	5585	160	195
1/0 (19)	0.5479	0.75	0.0210	0.1772	0.951	19.3570	0.413+j0.086	0.232+j0.058	5585	160	195
1/0 (19)	0.5479	0.75	0.0210	0.1772	0.951	19.3570	0.413+j0.086	0.232+j0.058	5585	160	195
1/0 (19)	0.5479	0.75	0.0216	0.1772	0.919	18.7008	0.412+j0.087	0.232+j0.059	5585	160	195
1/0 (19)	0.5479	0.75	0.0210	0.1772	0.951	19.3570	0.395+j0.076	0.232+j0.059	6284	160	195
2/0 (19)	0.4364	0.60	0.0195	0.1706	1.017	20.6693	0.329+j0.066	0.186+j0.057	7203	185	220
3/0 (19)	0.3445	0.47	0.0177	0.1640	1.148	22.9659	0.266+j0.053	0.148+j0.054	8865	210	250
4/0 (19)	0.2756	0.38	0.0171	0.1575	1.181	23.9501	0.214+j0.044	0.120+j0.052	11082	240	280
4/0 (19)	0.2756	0.38	0.0171	0.1608	1.181	23.9501	0.210+j0.043	0.121+j0.052	11450	240	280
250 (37)	0.2297	0.31	0.0158	0.1575	1.280	25.9186	0.179+j0.039	0.103+j0.051	13298	261	302
350 (37)	0.1673	0.23	0.0140	0.1509	1.444	28.8714	0.130+j0.032	0.079+j0.047	18496	315	365

*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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