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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Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com

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)	0.324	1.052	345	1.162	16x14	0.164	50	1.390	953	11.1	633
626264^	1/0 (19)	0.351	1.072	345	1.182	16x14	0.164	50	1.410	906	11.3	633
614785	1/0 (19)	0.351	1.072	345	1.182	16x14	0.164	50	1.410	905	11.3	633
615975? A?	1/0 (19)	0.351	1.110	345	1.220	16x14	0.164	50	1.448	940	11.6	633
618676	1/0 (19)	0.351	1.072	345	1.182	18x14	0.146	50	1.464	970	11.7	633
627933	2/0 (19)	0.395	1.115	345	1.225	13x12	0.127	50	1.486	1049	11.9	798
TBA	3/0 (19)	0.443	1.171	345	1.281	25x14	0.105	50	1.509	1225	12.1	1006
626298^	4/0 (19)	0.498	1.218	345	1.328	20x12	0.083	50	1.589	1334	12.7	1269
627939	4/0 (19)	0.498	1.218	345	1.328	13x10	0.080	50	1.631	1390	13.0	1269
TBA	250 (37)	0.558	1.294	345	1.404	24x12	0.069	75	1.716	1647	13.7	1500
TBA	350 (37)	0.661	1.397	345	1.507	21x10	0.049	75	1.861	2032	14.9	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.

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	0.128	0.072	0.055	0.278	1.7	0.182 + j1.139	0.128 + j0.448	5579	160	195
1/0 (19)	0.167	0.211	0.068	0.054	0.293	1.8	0.265 + j1.100	0.211 + j0.410	5579	160	195
1/0 (19)	0.167	0.211	0.068	0.054	0.293	1.8	0.265 + j1.100	0.211 + j0.410	5579	160	195
1/0 (19)	0.167	0.211	0.068	0.054	0.293	1.8	0.265 + j1.098	0.211 + j0.410	5579	160	195
1/0 (19)	0.167	0.211	0.068	0.054	0.293	1.8	0.265 + j1.098	0.211 + j0.410	6277	160	195
2/0 (19)	0.133	0.167	0.064	0.052	0.313	1.9	0.221 + j1.046	0.167 + j0.360	7203	185	220
3/0 (19)	0.105	0.132	0.060	0.050	0.333	2.0	0.186 + j1.002	0.132 + j0.316	8718	210	250
4/0 (19)	0.084	0.105	0.055	0.048	0.361	2.2	0.159 + j0.958	0.105 + j0.276	11081	240	280
4/0 (19)	0.084	0.105	0.055	0.049	0.361	2.2	0.159 + j0.956	0.105 + j0.277	11450	240	280
250 (37)	0.071	0.090	0.051	0.048	0.389	2.4	0.144 + j0.920	0.090 + j0.243	13298	261	302
350 (37)	0.050	0.065	0.046	0.045	0.435	2.6	0.119 + j0.870	0.065 + j0.199	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.

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)	8.23	26.72	8.76	29.51	16x14	0.54	1.27	35.31	1418	281.94	2817
626264^	1/0 (19)	8.92	27.23	8.76	30.02	16x14	0.54	1.27	35.81	1348	287.02	2817
614785	1/0 (19)	8.92	27.23	8.76	30.02	16x14	0.54	1.27	35.81	1347	287.02	2817
615975? A?	1/0 (19)	8.92	28.19	8.76	30.99	16x14	0.54	1.27	36.78	1399	294.64	2817
618676	1/0 (19)	8.92	27.23	8.76	30.02	18x14	0.48	1.27	37.19	1444	297.18	2817
627933	2/0 (19)	10.03	28.32	8.76	31.12	13x12	0.42	1.27	37.74	1561	302.26	3551
TBA	3/0 (19)	11.25	29.74	8.76	32.54	25x14	0.34	1.27	38.33	1823	307.34	4477
626298^	4/0 (19)	12.65	30.94	8.76	33.73	20x12	0.27	1.27	40.36	1985	322.58	5647
627939	4/0 (19)	12.65	30.94	8.76	33.73	13x10	0.26	1.27	41.43	2069	330.20	5647
TBA	250 (37)	14.17	32.87	8.76	35.66	24x12	0.23	1.91	43.59	2451	347.98	6675
TBA	350 (37)	16.79	35.48	8.76	38.28	21x10	0.16	1.91	47.27	3024	378.46	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.

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	0.42	0.0219	0.1804	0.912	5.5774	0.182 + j1.139	0.128 + j0.448	5579	160	195
1/0 (19)	0.5479	0.69	0.0207	0.1772	0.961	5.9055	0.265 + j1.100	0.211 + j0.410	5579	160	195
1/0 (19)	0.5479	0.69	0.0207	0.1772	0.961	5.9055	0.265 + j1.100	0.211 + j0.410	5579	160	195
1/0 (19)	0.5479	0.69	0.0207	0.1772	0.961	5.9055	0.265 + j1.098	0.211 + j0.410	5579	160	195
1/0 (19)	0.5479	0.69	0.0207	0.1772	0.961	5.9055	0.265 + j1.098	0.211 + j0.410	6277	160	195
2/0 (19)	0.4364	0.55	0.0195	0.1706	1.027	6.2336	0.221 + j1.046	0.167 + j0.360	7203	185	220
3/0 (19)	0.3445	0.43	0.0183	0.1640	1.093	6.5617	0.186 + j1.002	0.132 + j0.316	8718	210	250
4/0 (19)	0.2756	0.34	0.0168	0.1575	1.184	7.2178	0.159 + j0.958	0.105 + j0.276	11081	240	280
4/0 (19)	0.2756	0.34	0.0168	0.1608	1.184	7.2178	0.159 + j0.956	0.105 + j0.277	11450	240	280
250 (37)	0.2329	0.30	0.0155	0.1575	1.276	7.8740	0.144 + j0.920	0.090 + j0.243	13298	261	302
350 (37)	0.1640	0.21	0.0140	0.1476	1.427	8.5302	0.119 + j0.870	0.065 + j0.199	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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