15kV AL 100% TRXLPE Full Neutral LLDPE

Single Conductor, 175 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:** 175 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

For information about our Cable-Rejuvenation Services please visit us at: Cable-Rejuvenation Services
You can email us at: Cable-Rejuvenation Services

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 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

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SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 15000 VOLTS TRXLPE INSULATION 175 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)	0.258	0.646	175	0.746	10x14	0.324	50	0.974	494	6.8	398
612662††	2 (7)	0.283	0.663	175	0.753	10x14	0.324	50	0.981	476	6.9	398
119636††	2 (7)	0.283	0.663	175	0.753	10x14	0.324	50	0.981	476	6.9	398
615973†	2 (7)	0.283	0.695	175	0.785	10x14	0.324	50	1.013	497	7.1	398
627849	1 (1)	0.289	0.669	175	0.759	13x14	0.249	50	0.987	525	6.9	502
TBA	1 (19)	0.322	0.71	175	0.81	13x14	0.249	50	1.038	583	7.3	502
TBA	1/0 (SOLID)	0.325	0.713	175	0.813	16x14	0.203	50	1.041	645	7.3	633
611808	1/0 (19)	0.352	0.732	175	0.822	16x14	0.203	50	1.05	619	7.4	633
304667††	1/0 (19)	0.352	0.732	175	0.822	16x14	0.203	50	1.05	619	7.4	633
613382†	1/0 (19)	0.352	0.732	175	0.822	16x14	0.203	50	1.05	619	7.4	633
TBA	2/0 (19)	0.395	0.783	175	0.883	20x14	0.162	50	1.111	760	7.8	798
TBA	3/0 (19)	0.443	0.831	175	0.931	25x14	0.13	50	1.159	884	8.1	1006
115579	4/0 (19)	0.498	0.878	175	0.968	20x12	0.102	50	1.23	1005	8.6	1269
678243††	4/0 (19)	0.498	0.878	175	0.968	20x12	0.102	50	1.23	1005	8.6	1269
613549	4/0 (19)	0.498	0.878	175	0.968	13x10	0.099	50	1.272	1052	8.9	1269
TBA	250 (37)	0.558	0.954	175	1.054	24x12	0.085	50	1.316	1190	9.2	1500
TBA	350 (37)	0.661	1.057	175	1.177	21x10	0.061	50	1.481	1561	10.4	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
† Super Smooth Conductor Shield
†† Solid Black Jacket
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
2 (SOLID)	0.162	0.222	0.053	0.052	0.16	1.4	0.487+j0.145	0.224+j0.056	3491	120	150
2 (7)	0.266	0.365	0.049	0.05	0.18	1.5	0.630+j0.146	0.367+j0.057	3491	120	150
2 (7)	0.266	0.365	0.049	0.05	0.18	1.5	0.630+j0.146	0.367+j0.057	3491	120	150
2 (7)	0.266	0.365	0.053	0.051	0.16	1.4	0.629+j0.147	0.367+j0.057	3491	120	150
1 (1)	0.129	0.177	0.049	0.05	0.18	1.5	0.396+j0.101	0.179+j0.053	4538	140	170
1 (19)	0.211	0.289	0.046	0.049	0.19	1.6	0.508+j0.102	0.291+j0.054	4538	140	170
1/0 (SOLID)	0.102	0.14	0.046	0.048	0.19	1.6	0.325+j0.077	0.143+j0.051	5585	155	195
1/0 (19)	0.167	0.229	0.043	0.047	0.2	1.8	0.414+j0.077	0.232+j0.051	5585	155	195
1/0 (19)	0.167	0.229	0.043	0.047	0.2	1.8	0.414+j0.077	0.232+j0.051	5585	155	195
1/0 (19)	0.167	0.229	0.043	0.047	0.2	1.8	0.414+j0.077	0.232+j0.051	5585	155	195
2/0 (19)	0.133	0.182	0.04	0.045	0.21	1.9	0.334+j0.059	0.186+j0.050	6982	180	220
3/0 (19)	0.105	0.144	0.037	0.044	0.23	2	0.268+j0.046	0.148+j0.048	8727	205	250
4/0 (19)	0.084	0.115	0.034	0.042	0.26	2.2	0.214+j0.036	0.121+j0.046	11082	235	285
4/0 (19)	0.084	0.115	0.034	0.042	0.26	2.2	0.214+j0.036	0.121+j0.046	11082	235	285
4/0 (19)	0.084	0.115	0.034	0.043	0.26	2.2	0.211+j0.036	0.121+j0.047	11450	235	285
250 (37)	0.07	0.096	0.031	0.041	0.28	2.4	0.179+j0.032	0.103+j0.045	13298	254	307
350 (37)	0.051	0.07	0.027	0.04	0.32	2.7	0.130+j0.027	0.079+j0.042	18496	305	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	2 (SOLID)	6.55	16.41	4.44	18.95	10x14	1.06	1.27	24.74	735	172.72	1771
612662††	2 (7)	7.19	16.84	4.44	19.13	10x14	1.06	1.27	24.92	708	175.26	1771
119636††	2 (7)	7.19	16.84	4.44	19.13	10x14	1.06	1.27	24.92	708	175.26	1771
615973†	2 (7)	7.19	17.65	4.44	19.94	10x14	1.06	1.27	25.73	740	180.34	1771
627849	1 (1)	7.34	16.99	4.44	19.28	13x14	0.82	1.27	25.07	781	175.26	2234
TBA	1 (19)	8.18	18.03	4.44	20.57	13x14	0.82	1.27	26.37	868	185.42	2234
TBA	1/0 (SOLID)	8.25	18.11	4.44	20.65	16x14	0.67	1.27	26.44	960	185.42	2817
611808	1/0 (19)	8.94	18.59	4.44	20.88	16x14	0.67	1.27	26.67	921	187.96	2817
304667††	1/0 (19)	8.94	18.59	4.44	20.88	16x14	0.67	1.27	26.67	921	187.96	2817
613382†	1/0 (19)	8.94	18.59	4.44	20.88	16x14	0.67	1.27	26.67	921	187.96	2817
TBA	2/0 (19)	10.03	19.89	4.44	22.43	20x14	0.53	1.27	28.22	1131	198.12	3551
TBA	3/0 (19)	11.25	21.11	4.44	23.65	25x14	0.43	1.27	29.44	1316	205.74	4477
115579	4/0 (19)	12.65	22.30	4.44	24.59	20x12	0.33	1.27	31.24	1496	218.44	5647
678243††	4/0 (19)	12.65	22.30	4.44	24.59	20x12	0.33	1.27	31.24	1496	218.44	5647
613549	4/0 (19)	12.65	22.30	4.44	24.59	13x10	0.32	1.27	32.31	1566	226.06	5647
TBA	250 (37)	14.17	24.23	4.44	26.77	24x12	0.28	1.27	33.43	1771	233.68	6675
TBA	350 (37)	16.79	26.85	4.44	29.90	21x10	0.20	1.27	37.62	2323	264.16	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
† Super Smooth Conductor Shield
†† Solid Black Jacket
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
2 (SOLID)	0.5315	0.73	0.0162	0.1706	0.525	4.5932	0.487+j0.145	0.224+j0.056	3491	120	150
2 (7)	0.8727	1.20	0.0149	0.1640	0.591	4.9213	0.630+j0.146	0.367+j0.057	3491	120	150
2 (7)	0.8727	1.20	0.0149	0.1640	0.591	4.9213	0.630+j0.146	0.367+j0.057	3491	120	150
2 (7)	0.8727	1.20	0.0162	0.1673	0.525	4.5932	0.629+j0.147	0.367+j0.057	3491	120	150
1 (1)	0.4232	0.58	0.0149	0.1640	0.591	4.9213	0.396+j0.101	0.179+j0.053	4538	140	170
1 (19)	0.6923	0.95	0.0140	0.1608	0.623	5.2493	0.508+j0.102	0.291+j0.054	4538	140	170
1/0 (SOLID)	0.3346	0.46	0.0140	0.1575	0.623	5.2493	0.325+j0.077	0.143+j0.051	5585	155	195
1/0 (19)	0.5479	0.75	0.0131	0.1542	0.656	5.9055	0.414+j0.077	0.232+j0.051	5585	155	195
1/0 (19)	0.5479	0.75	0.0131	0.1542	0.656	5.9055	0.414+j0.077	0.232+j0.051	5585	155	195
1/0 (19)	0.5479	0.75	0.0131	0.1542	0.656	5.9055	0.414+j0.077	0.232+j0.051	5585	155	195
2/0 (19)	0.4364	0.60	0.0122	0.1476	0.689	6.2336	0.334+j0.059	0.186+j0.050	6982	180	220
3/0 (19)	0.3445	0.47	0.0113	0.1444	0.755	6.5617	0.268+j0.046	0.148+j0.048	8727	205	250
4/0 (19)	0.2756	0.38	0.0104	0.1378	0.853	7.2178	0.214+j0.036	0.121+j0.046	11082	235	285
4/0 (19)	0.2756	0.38	0.0104	0.1378	0.853	7.2178	0.214+j0.036	0.121+j0.046	11082	235	285
4/0 (19)	0.2756	0.38	0.0104	0.1411	0.853	7.2178	0.211+j0.036	0.121+j0.047	11450	235	285
250 (37)	0.2297	0.31	0.0094	0.1345	0.919	7.8740	0.179+j0.032	0.103+j0.045	13298	254	307
350 (37)	0.1673	0.23	0.0082	0.1312	1.050	8.8583	0.130+j0.027	0.079+j0.042	18496	305	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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