15kV AL 100% TRXLPE One-Third Neutral LLDPE

Single Conductor, 175 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 Aluminum per 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 one-third 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)
- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661
- UL 1072 Listed as MV 90 When Specified
- Optional CSA 68.5: -40ºC and MV 90ºC optional marking available upon request

We've got it MADE IN AMERICA

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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	6x14	0.54	50	0.974	440	6.8	398
627890	2 (7)	0.283	0.663	175	0.753	6x14	0.54	50	0.981	429	6.9	398
TBA	1 (SOLID)	0.289	0.677	175	0.777	6x14	0.54	50	1.005	472	7	502
TBA	1 (19)	0.322	0.71	175	0.81	6x14	0.54	50	1.038	489	7.3	502
TBA	1/0 (SOLID)	0.325	0.713	175	0.813	6x14	0.54	50	1.041	511	7.3	633
349415	1/0 (19)	0.352	0.732	175	0.822	6x14	0.54	50	1.05	499	7.4	633
115643	2/0 (19)	0.395	0.775	175	0.865	7x14	0.463	50	1.093	558	7.7	798
TBA	3/0 (19)	0.443	0.831	175	0.931	9x14	0.36	50	1.159	670	8.1	1006
616159^	4/0 (19)	0.498	0.878	175	0.968	11x14	0.295	50	1.196	732	8.4	1269
584354	4/0 (19)	0.498	0.878	175	0.968	11x14	0.295	50	1.196	731	8.4	1269
TBA	250 (37)	0.558	0.954	175	1.054	13x14	0.249	50	1.282	867	9	1500
616156^	350 (37)	0.661	1.051	175	1.161	18x14	0.18	50	1.389	1064	9.7	2100
616304	350 (37)	0.661	1.051	175	1.161	18x14	0.18	50	1.389	1064	9.7	2100
627883	500 (37)	0.789	1.179	175	1.289	16x12	0.128	50	1.551	1398	10.9	3000
620813	750 (61)	0.968	1.368	175	1.478	24x12	0.085	75	1.794	1968	12.6	4500
613417††	750 (61)	0.968	1.368	175	1.478	24x12	0.085	75	1.794	1968	12.6	4500
621478	1000 (61)	1.117	1.517	175	1.627	20x10	0.064	75	1.985	2504	13.9	6000

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
^ Hi-Dri-Plus® - Water Blocking Powder
†† 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	0.565+j0.272	0.223+j0.056	2095	120	150
2 (7)	0.266	0.365	0.049	0.05	0.18	1.5	0.707+j0.273	0.366+j0.057	2095	120	150
1 (SOLID)	0.129	0.177	0.05	0.05	0.17	1.5	0.519+j0.270	0.178+j0.053	2095	140	175
1 (19)	0.211	0.289	0.046	0.049	0.19	1.6	0.630+j0.271	0.290+j0.054	2095	140	175
1/0 (SOLID)	0.102	0.14	0.046	0.048	0.19	1.6	0.481+j0.268	0.141+j0.052	2095	155	195
1/0 (19)	0.167	0.229	0.043	0.047	0.2	1.8	0.570+j0.268	0.230+j0.052	2095	155	195
2/0 (19)	0.133	0.182	0.04	0.045	0.22	1.9	0.503+j0.222	0.183+j0.050	2444	180	220
3/0 (19)	0.105	0.144	0.037	0.044	0.23	2	0.425+j0.161	0.146+j0.049	3142	200	250
4/0 (19)	0.084	0.115	0.034	0.042	0.26	2.2	0.361+j0.121	0.117+j0.047	3840	235	285
4/0 (19)	0.084	0.115	0.034	0.042	0.26	2.2	0.361+j0.121	0.117+j0.047	3840	235	285
250 (37)	0.07	0.096	0.031	0.041	0.28	2.4	0.313+j0.097	0.098+j0.046	4538	256	309
350 (37)	0.051	0.07	0.027	0.039	0.32	2.8	0.236+j0.062	0.073+j0.044	6284	310	370
350 (37)	0.051	0.07	0.027	0.039	0.32	2.8	0.236+j0.062	0.073+j0.044	6284	310	370
500 (37)	0.036	0.05	0.023	0.037	0.37	3.2	0.172+j0.041	0.054+j0.042	8865	370	445
750 (61)	0.023	0.033	0.02	0.036	0.44	3.8	0.116+j0.027	0.039+j0.039	13298	460	525
750 (61)	0.023	0.033	0.02	0.036	0.44	3.8	0.116+j0.027	0.039+j0.039	13298	460	525
1000 (61)	0.017	0.025	0.018	0.035	0.49	4.3	0.088+j0.022	0.033+j0.037	17615	520	575

*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	6x14	1.77	1.27	24.74	655	172.72	1771
627890	2 (7)	7.19	16.84	4.44	19.13	6x14	1.77	1.27	24.92	638	175.26	1771
TBA	1 (SOLID)	7.34	17.20	4.44	19.74	6x14	1.77	1.27	25.53	702	177.80	2234
TBA	1 (19)	8.18	18.03	4.44	20.57	6x14	1.77	1.27	26.37	728	185.42	2234
TBA	1/0 (SOLID)	8.25	18.11	4.44	20.65	6x14	1.77	1.27	26.44	760	185.42	2817
349415	1/0 (19)	8.94	18.59	4.44	20.88	6x14	1.77	1.27	26.67	743	187.96	2817
115643	2/0 (19)	10.03	19.69	4.44	21.97	7x14	1.52	1.27	27.76	830	195.58	3551
TBA	3/0 (19)	11.25	21.11	4.44	23.65	9x14	1.18	1.27	29.44	997	205.74	4477
616159^	4/0 (19)	12.65	22.30	4.44	24.59	11x14	0.97	1.27	30.38	1089	213.36	5647
584354	4/0 (19)	12.65	22.30	4.44	24.59	11x14	0.97	1.27	30.38	1088	213.36	5647
TBA	250 (37)	14.17	24.23	4.44	26.77	13x14	0.82	1.27	32.56	1290	228.60	6675
616156^	350 (37)	16.79	26.70	4.44	29.49	18x14	0.59	1.27	35.28	1583	246.38	9345
616304	350 (37)	16.79	26.70	4.44	29.49	18x14	0.59	1.27	35.28	1583	246.38	9345
627883	500 (37)	20.04	29.95	4.44	32.74	16x12	0.42	1.27	39.40	2080	276.86	13350
620813	750 (61)	24.59	34.75	4.44	37.54	24x12	0.28	1.91	45.57	2929	320.04	20025
613417††	750 (61)	24.59	34.75	4.44	37.54	24x12	0.28	1.91	45.57	2929	320.04	20025
621478	1000 (61)	28.37	38.53	4.44	41.33	20x10	0.21	1.91	50.42	3726	353.06	26700

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
^ Hi-Dri-Plus® - Water Blocking Powder
†† 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	0.565+j0.272	0.223+j0.056	2095	120	150
2 (7)	0.8727	1.20	0.0149	0.1640	0.591	4.9213	0.707+j0.273	0.366+j0.057	2095	120	150
1 (SOLID)	0.4232	0.58	0.0152	0.1640	0.558	4.9213	0.519+j0.270	0.178+j0.053	2095	140	175
1 (19)	0.6923	0.95	0.0140	0.1608	0.623	5.2493	0.630+j0.271	0.290+j0.054	2095	140	175
1/0 (SOLID)	0.3346	0.46	0.0140	0.1575	0.623	5.2493	0.481+j0.268	0.141+j0.052	2095	155	195
1/0 (19)	0.5479	0.75	0.0131	0.1542	0.656	5.9055	0.570+j0.268	0.230+j0.052	2095	155	195
2/0 (19)	0.4364	0.60	0.0122	0.1476	0.722	6.2336	0.503+j0.222	0.183+j0.050	2444	180	220
3/0 (19)	0.3445	0.47	0.0113	0.1444	0.755	6.5617	0.425+j0.161	0.146+j0.049	3142	200	250
4/0 (19)	0.2756	0.38	0.0104	0.1378	0.853	7.2178	0.361+j0.121	0.117+j0.047	3840	235	285
4/0 (19)	0.2756	0.38	0.0104	0.1378	0.853	7.2178	0.361+j0.121	0.117+j0.047	3840	235	285
250 (37)	0.2297	0.31	0.0094	0.1345	0.919	7.8740	0.313+j0.097	0.098+j0.046	4538	256	309
350 (37)	0.1673	0.23	0.0082	0.1280	1.050	9.1864	0.236+j0.062	0.073+j0.044	6284	310	370
350 (37)	0.1673	0.23	0.0082	0.1280	1.050	9.1864	0.236+j0.062	0.073+j0.044	6284	310	370
500 (37)	0.1181	0.16	0.0070	0.1214	1.214	10.4987	0.172+j0.041	0.054+j0.042	8865	370	445
750 (61)	0.0755	0.11	0.0061	0.1181	1.444	12.4672	0.116+j0.027	0.039+j0.039	13298	460	525
750 (61)	0.0755	0.11	0.0061	0.1181	1.444	12.4672	0.116+j0.027	0.039+j0.039	13298	460	525
1000 (61)	0.0558	0.08	0.0055	0.1148	1.608	14.1076	0.088+j0.022	0.033+j0.037	17615	520	575

*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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