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)	0.257	0.645	175	0.735	10x14	0.263	50	0.963	477	7.7	398
612662††	2 (7)	0.282	0.663	175	0.753	10x14	0.263	50	0.981	476	7.8	398
615973†	2 (7)	0.282	0.695	175	0.785	10x14	0.263	50	1.013	497	8.1	398
TBA	1 (Solid)	0.289	0.677	175	0.767	13x14	0.202	50	0.995	549	8.0	502
TBA	1 (19)	0.322	0.710	175	0.800	13x14	0.202	50	1.028	564	8.2	502
TBA	1/0 (Solid)	0.324	0.712	175	0.802	16x14	0.164	50	1.030	626	8.2	633
304667††	1/0 (19)	0.351	0.732	175	0.822	16x14	0.164	50	1.050	618	8.4	633
611808	1/0 (19)	0.351	0.732	175	0.822	16x14	0.164	50	1.050	618	8.4	633
613382†	1/0 (19)	0.351	0.732	175	0.822	16x14	0.164	50	1.050	619	8.4	633
TBA	2/0 (19)	0.395	0.783	175	0.873	20x14	0.131	50	1.101	740	8.8	798
TBA	3/0 (19)	0.443	0.831	175	0.921	25x14	0.105	50	1.149	863	9.2	1006
678243††	4/0 (19)	0.498	0.878	175	0.968	20x12	0.083	50	1.229	1005	9.8	1269
115579	4/0 (19)	0.498	0.878	175	0.968	20x12	0.083	50	1.229	1005	9.8	1269
613549	4/0 (19)	0.498	0.878	175	0.968	13x10	0.080	50	1.271	1052	10.2	1269
TBA	250 (37)	0.558	0.954	175	1.044	25x12	0.066	50	1.306	1188	10.4	1500
TBA	350 (37)	0.661	1.057	175	1.167	32x12	0.051	50	1.429	1497	11.4	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
¥† Super Smooth Conductor Shield. HiDri Plus - moisture absorbing powder under jacket.
¥ HiDri Plus - moisture absorbing powder under jacket.

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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	0.204	0.062	0.052	0.080	0.69	0.258 + j0.772	0.204 + j0.051	3487	120	150
2 (7)	0.266	0.336	0.058	0.050	0.085	0.74	0.390 + j0.771	0.336 + j0.052	3487	120	150
2 (7)	0.266	0.336	0.058	0.050	0.085	0.74	0.390 + j0.771	0.336 + j0.052	3487	120	150
1 (Solid)	0.129	0.162	0.057	0.050	0.086	0.74	0.216 + j0.767	0.162 + j0.048	4533	140	170
1 (19)	0.211	0.266	0.053	0.048	0.093	0.81	0.320 + j0.765	0.266 + j0.049	4533	140	170
1/0 (Solid)	0.102	0.128	0.053	0.048	0.093	0.81	0.182 + j0.762	0.128 + j0.046	5579	155	195
1/0 (19)	0.167	0.211	0.050	0.047	0.099	0.86	0.265 + j0.761	0.211 + j0.047	5579	155	195
1/0 (19)	0.167	0.211	0.050	0.047	0.099	0.86	0.265 + j0.761	0.211 + j0.047	5579	155	195
1/0 (19)	0.167	0.211	0.050	0.047	0.099	0.86	0.265 + j0.761	0.211 + j0.047	5579	155	195
2/0 (19)	0.133	0.167	0.046	0.045	0.107	0.93	0.221 + j0.757	0.167 + j0.045	6974	180	220
3/0 (19)	0.105	0.132	0.042	0.044	0.116	1.00	0.186 + j0.752	0.132 + j0.043	8718	205	250
4/0 (19)	0.084	0.105	0.039	0.043	0.127	1.10	0.159 + j0.746	0.105 + j0.042	11081	235	285
4/0 (19)	0.084	0.105	0.039	0.043	0.127	1.10	0.159 + j0.746	0.105 + j0.042	11081	235	285
4/0 (19)	0.084	0.105	0.039	0.043	0.127	1.10	0.159 + j0.744	0.105 + j0.043	11450	235	285
250 (37)	0.071	0.090	0.036	0.041	0.137	1.19	0.144 + j0.741	0.090 + j0.041	13852	254	307
350 (37)	0.050	0.065	0.031	0.039	0.156	1.35	0.119 + j0.733	0.065 + j0.040	17730	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.

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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)	6.53	16.38	4.44	18.67	10x14	0.86	1.27	24.46	710	195.58	1771
612662††	2 (7)	7.16	16.84	4.44	19.13	10x14	0.86	1.27	24.92	708	198.12	1771
615973†	2 (7)	7.16	17.65	4.44	19.94	10x14	0.86	1.27	25.73	740	205.74	1771
TBA	1 (Solid)	7.34	17.20	4.44	19.48	13x14	0.66	1.27	25.27	817	203.20	2234
TBA	1 (19)	8.18	18.03	4.44	20.32	13x14	0.66	1.27	26.11	839	208.28	2234
TBA	1/0 (Solid)	8.23	18.08	4.44	20.37	16x14	0.54	1.27	26.16	932	208.28	2817
304667††	1/0 (19)	8.92	18.59	4.44	20.88	16x14	0.54	1.27	26.67	920	213.36	2817
611808	1/0 (19)	8.92	18.59	4.44	20.88	16x14	0.54	1.27	26.67	920	213.36	2817
613382†	1/0 (19)	8.92	18.59	4.44	20.88	16x14	0.54	1.27	26.67	921	213.36	2817
TBA	2/0 (19)	10.03	19.89	4.44	22.17	20x14	0.43	1.27	27.97	1101	223.52	3551
TBA	3/0 (19)	11.25	21.11	4.44	23.39	25x14	0.34	1.27	29.18	1284	233.68	4477
678243††	4/0 (19)	12.65	22.30	4.44	24.59	20x12	0.27	1.27	31.22	1496	248.92	5647
115579	4/0 (19)	12.65	22.30	4.44	24.59	20x12	0.27	1.27	31.22	1496	248.92	5647
613549	4/0 (19)	12.65	22.30	4.44	24.59	13x10	0.26	1.27	32.28	1566	259.08	5647
TBA	250 (37)	14.17	24.23	4.44	26.52	25x12	0.22	1.27	33.17	1768	264.16	6675
TBA	350 (37)	16.79	26.85	4.44	29.64	32x12	0.17	1.27	36.30	2228	289.56	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
¥† Super Smooth Conductor Shield. HiDri Plus - moisture absorbing powder under jacket.
¥ HiDri Plus - moisture absorbing powder under jacket.

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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	0.67	0.0189	0.1706	0.262	2.2638	0.258 + j0.772	0.204 + j0.051	3487	120	150
2 (7)	0.8727	1.10	0.0177	0.1640	0.279	2.4278	0.390 + j0.771	0.336 + j0.052	3487	120	150
2 (7)	0.8727	1.10	0.0177	0.1640	0.279	2.4278	0.390 + j0.771	0.336 + j0.052	3487	120	150
1 (Solid)	0.4232	0.53	0.0174	0.1640	0.282	2.4278	0.216 + j0.767	0.162 + j0.048	4533	140	170
1 (19)	0.6923	0.87	0.0162	0.1575	0.305	2.6575	0.320 + j0.765	0.266 + j0.049	4533	140	170
1/0 (Solid)	0.3346	0.42	0.0162	0.1575	0.305	2.6575	0.182 + j0.762	0.128 + j0.046	5579	155	195
1/0 (19)	0.5479	0.69	0.0152	0.1542	0.325	2.8215	0.265 + j0.761	0.211 + j0.047	5579	155	195
1/0 (19)	0.5479	0.69	0.0152	0.1542	0.325	2.8215	0.265 + j0.761	0.211 + j0.047	5579	155	195
1/0 (19)	0.5479	0.69	0.0152	0.1542	0.325	2.8215	0.265 + j0.761	0.211 + j0.047	5579	155	195
2/0 (19)	0.4364	0.55	0.0140	0.1476	0.351	3.0512	0.221 + j0.757	0.167 + j0.045	6974	180	220
3/0 (19)	0.3445	0.43	0.0128	0.1444	0.381	3.2808	0.186 + j0.752	0.132 + j0.043	8718	205	250
4/0 (19)	0.2756	0.34	0.0119	0.1411	0.417	3.6089	0.159 + j0.746	0.105 + j0.042	11081	235	285
4/0 (19)	0.2756	0.34	0.0119	0.1411	0.417	3.6089	0.159 + j0.746	0.105 + j0.042	11081	235	285
4/0 (19)	0.2756	0.34	0.0119	0.1411	0.417	3.6089	0.159 + j0.744	0.105 + j0.043	11450	235	285
250 (37)	0.2329	0.30	0.0110	0.1345	0.449	3.9042	0.144 + j0.741	0.090 + j0.041	13852	254	307
350 (37)	0.1640	0.21	0.0094	0.1280	0.512	4.4291	0.119 + j0.733	0.065 + j0.040	17730	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.

CN Calculator

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