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

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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	6x14	0.438	50	0.963	423	7.7	398
627890	2 (7)	0.282	0.663	175	0.753	6x14	0.438	50	0.981	428	7.8	398
TBA	1 (Solid)	0.289	0.677	175	0.767	6x14	0.438	50	0.995	455	8.0	502
TBA	1 (19)	0.322	0.710	175	0.800	6x14	0.438	50	1.028	470	8.2	502
TBA	1/0 (Solid)	0.324	0.712	175	0.802	6x14	0.438	50	1.030	491	8.2	633
349415	1/0 (19)	0.351	0.732	175	0.822	6x14	0.438	50	1.050	499	8.4	633
115643	2/0 (19)	0.395	0.775	175	0.865	7x14	0.375	50	1.093	558	8.7	798
TBA	3/0 (19)	0.443	0.831	175	0.921	9x14	0.292	50	1.149	647	9.2	1006
616159^	4/0 (19)	0.498	0.878	175	0.968	11x14	0.239	50	1.196	732	9.6	1269
584354	4/0 (19)	0.498	0.878	175	0.968	11x14	0.239	50	1.196	732	9.6	1269
TBA	250 (37)	0.558	0.954	175	1.044	13x14	0.202	50	1.272	840	10.2	1500
616156^	350 (37)	0.661	1.051	175	1.161	18x14	0.146	50	1.389	1065	11.1	2100
616304	350 (37)	0.661	1.051	175	1.161	18x14	0.146	50	1.389	1064	11.1	2100
627883	500 (37)	0.789	1.179	175	1.289	16x12	0.103	50	1.550	1399	12.4	3000
613417††	750 (61)	0.968	1.368	175	1.478	24x12	0.069	75	1.793	1970	14.3	4500
620813	750 (61)	0.968	1.368	175	1.478	24x12	0.069	75	1.793	1970	14.3	4500
621478	1000 (61)	1.117	1.517	175	1.627	20x10	0.052	75	1.984	2506	15.9	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

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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	2092	120	150
2 (7)	0.266	0.336	0.058	0.050	0.085	0.74	0.390 + j0.771	0.336 + j0.052	2092	120	150
1 (Solid)	0.129	0.162	0.057	0.050	0.086	0.74	0.216 + j0.767	0.162 + j0.048	2092	140	175
1 (19)	0.211	0.266	0.053	0.048	0.093	0.81	0.320 + j0.765	0.266 + j0.049	2092	140	175
1/0 (Solid)	0.102	0.128	0.053	0.048	0.093	0.81	0.182 + j0.762	0.128 + j0.046	2092	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	2092	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	2441	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	3138	200	250
4/0 (19)	0.084	0.105	0.039	0.042	0.127	1.10	0.159 + j0.747	0.105 + j0.042	3836	235	285
4/0 (19)	0.084	0.105	0.039	0.042	0.127	1.10	0.159 + j0.747	0.105 + j0.042	3836	235	285
250 (37)	0.071	0.090	0.036	0.041	0.137	1.19	0.144 + j0.743	0.090 + j0.041	4533	256	309
350 (37)	0.050	0.065	0.031	0.039	0.156	1.35	0.119 + j0.734	0.065 + j0.039	6277	310	370
350 (37)	0.050	0.065	0.031	0.039	0.156	1.35	0.119 + j0.734	0.065 + j0.039	6277	310	370
500 (37)	0.035	0.046	0.027	0.037	0.180	1.56	0.100 + j0.725	0.046 + j0.037	8865	370	445
750 (61)	0.024	0.033	0.023	0.036	0.210	1.82	0.087 + j0.714	0.033 + j0.036	13298	460	525
750 (61)	0.024	0.033	0.023	0.036	0.210	1.82	0.087 + j0.714	0.033 + j0.036	13298	460	525
1000 (61)	0.018	0.026	0.021	0.035	0.237	2.05	0.080 + j0.705	0.026 + j0.035	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.

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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	6x14	1.44	1.27	24.46	629	195.58	1771
627890	2 (7)	7.16	16.84	4.44	19.13	6x14	1.44	1.27	24.92	637	198.12	1771
TBA	1 (Solid)	7.34	17.20	4.44	19.48	6x14	1.44	1.27	25.27	677	203.20	2234
TBA	1 (19)	8.18	18.03	4.44	20.32	6x14	1.44	1.27	26.11	699	208.28	2234
TBA	1/0 (Solid)	8.23	18.08	4.44	20.37	6x14	1.44	1.27	26.16	731	208.28	2817
349415	1/0 (19)	8.92	18.59	4.44	20.88	6x14	1.44	1.27	26.67	743	213.36	2817
115643	2/0 (19)	10.03	19.69	4.44	21.97	7x14	1.23	1.27	27.76	830	220.98	3551
TBA	3/0 (19)	11.25	21.11	4.44	23.39	9x14	0.96	1.27	29.18	963	233.68	4477
616159^	4/0 (19)	12.65	22.30	4.44	24.59	11x14	0.78	1.27	30.38	1089	243.84	5647
584354	4/0 (19)	12.65	22.30	4.44	24.59	11x14	0.78	1.27	30.38	1089	243.84	5647
TBA	250 (37)	14.17	24.23	4.44	26.52	13x14	0.66	1.27	32.31	1250	259.08	6675
616156^	350 (37)	16.79	26.70	4.44	29.49	18x14	0.48	1.27	35.28	1585	281.94	9345
616304	350 (37)	16.79	26.70	4.44	29.49	18x14	0.48	1.27	35.28	1583	281.94	9345
627883	500 (37)	20.04	29.95	4.44	32.74	16x12	0.34	1.27	39.37	2082	314.96	13350
613417††	750 (61)	24.59	34.75	4.44	37.54	24x12	0.23	1.91	45.54	2932	363.22	20025
620813	750 (61)	24.59	34.75	4.44	37.54	24x12	0.23	1.91	45.54	2932	363.22	20025
621478	1000 (61)	28.37	38.53	4.44	41.33	20x10	0.17	1.91	50.39	3729	403.86	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

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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	2092	120	150
2 (7)	0.8727	1.10	0.0177	0.1640	0.279	2.4278	0.390 + j0.771	0.336 + j0.052	2092	120	150
1 (Solid)	0.4232	0.53	0.0174	0.1640	0.282	2.4278	0.216 + j0.767	0.162 + j0.048	2092	140	175
1 (19)	0.6923	0.87	0.0162	0.1575	0.305	2.6575	0.320 + j0.765	0.266 + j0.049	2092	140	175
1/0 (Solid)	0.3346	0.42	0.0162	0.1575	0.305	2.6575	0.182 + j0.762	0.128 + j0.046	2092	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	2092	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	2441	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	3138	200	250
4/0 (19)	0.2756	0.34	0.0119	0.1378	0.417	3.6089	0.159 + j0.747	0.105 + j0.042	3836	235	285
4/0 (19)	0.2756	0.34	0.0119	0.1378	0.417	3.6089	0.159 + j0.747	0.105 + j0.042	3836	235	285
250 (37)	0.2329	0.30	0.0110	0.1345	0.449	3.9042	0.144 + j0.743	0.090 + j0.041	4533	256	309
350 (37)	0.1640	0.21	0.0094	0.1280	0.512	4.4291	0.119 + j0.734	0.065 + j0.039	6277	310	370
350 (37)	0.1640	0.21	0.0094	0.1280	0.512	4.4291	0.119 + j0.734	0.065 + j0.039	6277	310	370
500 (37)	0.1148	0.15	0.0082	0.1214	0.591	5.1181	0.100 + j0.725	0.046 + j0.037	8865	370	445
750 (61)	0.0787	0.11	0.0070	0.1181	0.689	5.9711	0.087 + j0.714	0.033 + j0.036	13298	460	525
750 (61)	0.0787	0.11	0.0070	0.1181	0.689	5.9711	0.087 + j0.714	0.033 + j0.036	13298	460	525
1000 (61)	0.0591	0.09	0.0064	0.1148	0.778	6.7257	0.080 + j0.705	0.026 + j0.035	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.

CN Calculator