15kV AL 133% TRXLPE One-Third Neutral LLDPE

Single Conductor, 220 Mils Tree Retardant Cross Linked Polyethylene, 133% 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 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:** 220 Mils Tree Retardant Cross Linked Polyethylene 133% 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.

Novinium, a Southwire Company, offers CableCure® services to extend the life of primary underground cables. Visit Novinium

SPECIFICATIONS:

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- 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 15000 VOLTS TRXLPE INSULATION 220 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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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
511403	2 (1)	0.258	0.728	220	0.818	6x14	0.54	50	1.046	469	7.3	398
611700	2 (7)	0.283	0.753	220	0.843	6x14	0.54	50	1.071	488	7.5	398
TBA	1 (SOLID)	0.289	0.767	220	0.867	6x14	0.54	50	1.095	546	7.7	502
TBA	1 (19)	0.322	0.8	220	0.9	6x14	0.54	50	1.128	565	7.9	502
TBA	1/0 (SOLID)	0.325	0.803	220	0.903	6x14	0.54	50	1.131	587	7.9	633
611782	1/0 (19)	0.352	0.822	220	0.912	6x14	0.54	50	1.14	562	8	633
627860	2/0 (19)	0.395	0.865	220	0.955	7x14	0.463	50	1.183	624	8.3	798
620291	2/0 (19)	0.395	0.865	220	0.955	10x14	0.324	50	1.183	660	8.3	798
TBA	3/0 (19)	0.443	0.921	220	1.021	9x14	0.36	50	1.249	756	8.7	1006
613449†	4/0 (19)	0.498	0.968	220	1.058	11x14	0.295	50	1.286	803	9	1269
613365	4/0 (19)	0.498	0.968	220	1.058	11x14	0.295	50	1.286	803	9	1269
663916	250 (37)	0.558	1.038	220	1.148	13x14	0.249	50	1.376	930	9.6	1500
613615	350 (37)	0.661	1.141	220	1.251	18x14	0.18	50	1.479	1146	10.4	2100
683847	500 (37)	0.789	1.269	220	1.379	16x12	0.128	75	1.641	1490	11.5	3000
604179	500 (37)	0.789	1.269	220	1.379	16x12	0.128	75	1.701	1554	11.9	3000
604102	750 (61)	0.968	1.458	220	1.568	24x12	0.085	75	1.884	2076	13.2	4500
661909††	750 (61)	0.968	1.458	220	1.568	15x10	0.085	75	1.926	2102	13.5	4500
610191†††	750 (61)	0.968	1.458	220	1.568	15x10	0.085	75	1.926	2075	13.5	4500
612494	1000 (61)	1.117	1.607	220	1.747	20x10	0.064	75	2.105	2668	14.7	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
† HiDri Plus: Moisture absorbing powder under jacket
†† PowerGlide: Low coefficient jacket can be installed in duct without the aid of lubrication.
††† Non moisture block
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 (1)	0.162	0.222	0.061	0.054	0.14	1.2	0.563+j0.275	0.223+j0.058	2095	120	150
2 (7)	0.266	0.365	0.058	0.052	0.15	1.3	0.705+j0.276	0.366+j0.059	2095	120	150
1 (SOLID)	0.129	0.177	0.058	0.052	0.15	1.3	0.517+j0.272	0.178+j0.055	2095	140	175
1 (19)	0.211	0.289	0.054	0.051	0.16	1.4	0.628+j0.273	0.290+j0.056	2095	140	175
1/0 (SOLID)	0.102	0.14	0.054	0.05	0.16	1.4	0.479+j0.271	0.141+j0.053	2095	155	195
1/0 (19)	0.167	0.229	0.051	0.049	0.17	1.5	0.567+j0.271	0.230+j0.054	2095	155	195
2/0 (19)	0.133	0.182	0.047	0.047	0.18	1.6	0.501+j0.225	0.183+j0.052	2444	180	220
2/0 (19)	0.133	0.182	0.047	0.047	0.18	1.6	0.445+j0.143	0.184+j0.052	3491	180	220
3/0 (19)	0.105	0.144	0.044	0.046	0.2	1.7	0.424+j0.163	0.146+j0.050	3142	200	250
4/0 (19)	0.084	0.115	0.04	0.044	0.22	1.9	0.361+j0.123	0.117+j0.048	3840	235	285
4/0 (19)	0.084	0.115	0.04	0.044	0.22	1.9	0.361+j0.123	0.117+j0.048	3840	235	285
250 (37)	0.07	0.096	0.037	0.042	0.24	2	0.313+j0.099	0.098+j0.048	4538	256	309
350 (37)	0.051	0.07	0.033	0.04	0.27	2.3	0.236+j0.064	0.073+j0.045	6284	310	370
500 (37)	0.036	0.05	0.028	0.039	0.3	2.6	0.172+j0.043	0.054+j0.043	8865	370	445
500 (37)	0.036	0.05	0.028	0.039	0.3	2.6	0.172+j0.043	0.055+j0.044	8865	370	445
750 (61)	0.023	0.033	0.024	0.037	0.36	3.1	0.116+j0.028	0.039+j0.040	13298	460	525
750 (61)	0.023	0.033	0.024	0.038	0.36	3.1	0.116+j0.029	0.040+j0.041	13212	460	525
750 (61)	0.023	0.033	0.024	0.038	0.36	3.1	0.116+j0.029	0.040+j0.041	13212	460	525
1000 (61)	0.017	0.025	0.021	0.036	0.4	3.5	0.088+j0.023	0.033+j0.038	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
511403	2 (1)	6.55	18.49	5.59	20.78	6x14	1.77	1.27	26.57	698	185.42	1771
611700	2 (7)	7.19	19.13	5.59	21.41	6x14	1.77	1.27	27.20	726	190.50	1771
TBA	1 (SOLID)	7.34	19.48	5.59	22.02	6x14	1.77	1.27	27.81	813	195.58	2234
TBA	1 (19)	8.18	20.32	5.59	22.86	6x14	1.77	1.27	28.65	841	200.66	2234
TBA	1/0 (SOLID)	8.25	20.40	5.59	22.94	6x14	1.77	1.27	28.73	874	200.66	2817
611782	1/0 (19)	8.94	20.88	5.59	23.16	6x14	1.77	1.27	28.96	836	203.20	2817
627860	2/0 (19)	10.03	21.97	5.59	24.26	7x14	1.52	1.27	30.05	929	210.82	3551
620291	2/0 (19)	10.03	21.97	5.59	24.26	10x14	1.06	1.27	30.05	982	210.82	3551
TBA	3/0 (19)	11.25	23.39	5.59	25.93	9x14	1.18	1.27	31.72	1125	220.98	4477
613449†	4/0 (19)	12.65	24.59	5.59	26.87	11x14	0.97	1.27	32.66	1195	228.60	5647
613365	4/0 (19)	12.65	24.59	5.59	26.87	11x14	0.97	1.27	32.66	1195	228.60	5647
663916	250 (37)	14.17	26.37	5.59	29.16	13x14	0.82	1.27	34.95	1384	243.84	6675
613615	350 (37)	16.79	28.98	5.59	31.78	18x14	0.59	1.27	37.57	1705	264.16	9345
683847	500 (37)	20.04	32.23	5.59	35.03	16x12	0.42	1.91	41.68	2217	292.10	13350
604179	500 (37)	20.04	32.23	5.59	35.03	16x12	0.42	1.91	43.21	2313	302.26	13350
604102	750 (61)	24.59	37.03	5.59	39.83	24x12	0.28	1.91	47.85	3089	335.28	20025
661909††	750 (61)	24.59	37.03	5.59	39.83	15x10	0.28	1.91	48.92	3128	342.90	20025
610191†††	750 (61)	24.59	37.03	5.59	39.83	15x10	0.28	1.91	48.92	3088	342.90	20025
612494	1000 (61)	28.37	40.82	5.59	44.37	20x10	0.21	1.91	53.47	3970	373.38	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
† HiDri Plus: Moisture absorbing powder under jacket
†† PowerGlide: Low coefficient jacket can be installed in duct without the aid of lubrication.
††† Non moisture block
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 (1)	0.5315	0.73	0.0186	0.1772	0.459	3.9370	0.563+j0.275	0.223+j0.058	2095	120	150
2 (7)	0.8727	1.20	0.0177	0.1706	0.492	4.2651	0.705+j0.276	0.366+j0.059	2095	120	150
1 (SOLID)	0.4232	0.58	0.0177	0.1706	0.492	4.2651	0.517+j0.272	0.178+j0.055	2095	140	175
1 (19)	0.6923	0.95	0.0165	0.1673	0.525	4.5932	0.628+j0.273	0.290+j0.056	2095	140	175
1/0 (SOLID)	0.3346	0.46	0.0165	0.1640	0.525	4.5932	0.479+j0.271	0.141+j0.053	2095	155	195
1/0 (19)	0.5479	0.75	0.0155	0.1608	0.558	4.9213	0.567+j0.271	0.230+j0.054	2095	155	195
2/0 (19)	0.4364	0.60	0.0143	0.1542	0.591	5.2493	0.501+j0.225	0.183+j0.052	2444	180	220
2/0 (19)	0.4364	0.60	0.0143	0.1542	0.591	5.2493	0.445+j0.143	0.184+j0.052	3491	180	220
3/0 (19)	0.3445	0.47	0.0134	0.1509	0.656	5.5774	0.424+j0.163	0.146+j0.050	3142	200	250
4/0 (19)	0.2756	0.38	0.0122	0.1444	0.722	6.2336	0.361+j0.123	0.117+j0.048	3840	235	285
4/0 (19)	0.2756	0.38	0.0122	0.1444	0.722	6.2336	0.361+j0.123	0.117+j0.048	3840	235	285
250 (37)	0.2297	0.31	0.0113	0.1378	0.787	6.5617	0.313+j0.099	0.098+j0.048	4538	256	309
350 (37)	0.1673	0.23	0.0101	0.1312	0.886	7.5459	0.236+j0.064	0.073+j0.045	6284	310	370
500 (37)	0.1181	0.16	0.0085	0.1280	0.984	8.5302	0.172+j0.043	0.054+j0.043	8865	370	445
500 (37)	0.1181	0.16	0.0085	0.1280	0.984	8.5302	0.172+j0.043	0.055+j0.044	8865	370	445
750 (61)	0.0755	0.11	0.0073	0.1214	1.181	10.1706	0.116+j0.028	0.039+j0.040	13298	460	525
750 (61)	0.0755	0.11	0.0073	0.1247	1.181	10.1706	0.116+j0.029	0.040+j0.041	13212	460	525
750 (61)	0.0755	0.11	0.0073	0.1247	1.181	10.1706	0.116+j0.029	0.040+j0.041	13212	460	525
1000 (61)	0.0558	0.08	0.0064	0.1181	1.312	11.4829	0.088+j0.023	0.033+j0.038	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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