35kV AL 100% TRXLPE One-Third Neutral LLDPE

Single Conductor, 345 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 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:** 345 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

APPLICATIONS AND FEATURES:

Southwire's 35kV 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

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 35000 VOLTS TRXLPE INSULATION 345 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
TBA	1/0 (Solid)	0.324	1.052	345	1.162	6x14	0.438	50	1.390	816	11.1	633
615150^	1/0 (19)	0.351	1.072	345	1.182	6x14	0.438	50	1.410	786	11.3	633
619330^?	1/0 (19)	0.351	1.072	345	1.182	11x14	0.239	50	1.410	846	11.3	633
620726	1/0 (19)	0.361	1.072	345	1.182	6x14	0.438	50	1.410	786	11.3	633
627879	2/0 (19)	0.395	1.115	345	1.225	7x14	0.375	50	1.453	855	11.6	798
TBA	3/0 (19)	0.443	1.171	345	1.281	9x14	0.292	50	1.509	1007	12.1	1006
254815	4/0 (19)	0.498	1.218	345	1.328	11x14	0.239	50	1.556	1052	12.4	1269
626296!^	4/0 (19)	0.498	1.218	345	1.328	11x14	0.239	50	1.556	1052	12.4	1269
615151^	4/0 (19)	0.498	1.218	345	1.328	11x14	0.239	50	1.556	1052	12.4	1269
TBA	250 (37)	0.558	1.288	345	1.398	13x14	0.187	50	1.626	1183	13.0	1500
619322	350 (37)	0.661	1.391	345	1.501	18x14	0.146	75	1.783	1463	14.3	2100
584524^^	350 (37)	0.661	1.391	345	1.501	18x14	0.146	75	1.783	1464	14.3	2100
625222	500 (37)	0.789	1.519	345	1.629	25x14	0.105	75	1.912	1771	15.3	3000
620816^^	500 (37)	0.789	1.519	345	1.629	16x12	0.103	75	1.944	1839	15.6	3000
614633	500 (37)	0.789	1.519	345	1.629	16x12	0.103	75	1.944	1838	15.6	3000
626322^	500 (37)	0.789	1.519	345	1.629	16x12	0.103	75	1.944	1839	15.6	3000
257724	750 (61)	0.968	1.708	345	1.848	24x12	0.069	75	2.163	2444	17.3	4500
614634	1000 (61)	1.117	1.857	345	1.997	20x10	0.052	75	2.354	3025	18.8	6000
617368	1250 (61)	1.250	2.001	345	2.141	25x10	0.041	75	2.500	3561	20.0	7500

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
! UL listed MV-90 Rated
^ HiDri Plus® - Water Blocking Powder
^^ HiDri Plus® - Water Blocking Powder. All Black Jacket
† 2/3 Concentric Neutral
§ HiDri Plus® - Water Blocking Powder. CSA Listed

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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
1/0 (Solid)	0.102	0.128	0.079	0.055	0.146	3.0	0.182 + j0.749	0.128 + j0.053	2092	160	195
1/0 (19)	0.167	0.211	0.076	0.054	0.153	3.1	0.265 + j0.748	0.211 + j0.053	2092	160	195
1/0 (19)	0.167	0.211	0.076	0.054	0.153	3.1	0.265 + j0.748	0.211 + j0.053	3836	160	195
1/0 (19)	0.167	0.211	0.074	0.053	0.155	3.1	0.265 + j0.747	0.211 + j0.054	2092	160	195
2/0 (19)	0.133	0.167	0.071	0.052	0.164	3.3	0.221 + j0.744	0.167 + j0.051	2441	185	220
3/0 (19)	0.105	0.132	0.066	0.050	0.176	3.6	0.186 + j0.740	0.132 + j0.050	3138	210	250
4/0 (19)	0.084	0.105	0.061	0.048	0.190	3.8	0.159 + j0.735	0.105 + j0.048	3836	235	285
4/0 (19)	0.084	0.105	0.061	0.048	0.190	3.8	0.159 + j0.735	0.105 + j0.048	3836	235	285
4/0 (19)	0.084	0.105	0.061	0.048	0.190	3.8	0.159 + j0.735	0.105 + j0.048	3836	235	285
250 (37)	0.071	0.090	0.057	0.047	0.204	4.1	0.144 + j0.730	0.090 + j0.047	4882	257	
350 (37)	0.050	0.065	0.050	0.045	0.229	4.6	0.119 + j0.723	0.065 + j0.045	6277	315	370
350 (37)	0.050	0.065	0.050	0.045	0.229	4.6	0.119 + j0.723	0.065 + j0.045	6277	315	370
500 (37)	0.035	0.046	0.044	0.042	0.260	5.3	0.100 + j0.715	0.046 + j0.043	8718	380	445
500 (37)	0.035	0.046	0.044	0.043	0.260	5.3	0.100 + j0.714	0.046 + j0.043	8865	380	445
500 (37)	0.035	0.046	0.044	0.043	0.260	5.3	0.100 + j0.714	0.046 + j0.043	8865	380	445
500 (37)	0.035	0.046	0.044	0.043	0.260	5.3	0.100 + j0.714	0.046 + j0.043	8865	380	445
750 (61)	0.024	0.033	0.038	0.040	0.300	6.1	0.087 + j0.705	0.033 + j0.040	13298	470	530
1000 (61)	0.018	0.026	0.034	0.039	0.335	6.8	0.080 + j0.698	0.026 + j0.039	17615	530	585
1250 (61)	0.014	0.023	0.031	0.038	0.365	7.4	0.077 + j0.437	0.023 - j0.218	22019		

*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	1/0 (Solid)	8.23	26.72	8.76	29.51	6x14	1.44	1.27	35.31	1214	281.94	2817
615150^	1/0 (19)	8.92	27.23	8.76	30.02	6x14	1.44	1.27	35.81	1170	287.02	2817
619330^?	1/0 (19)	8.92	27.23	8.76	30.02	11x14	0.78	1.27	35.81	1259	287.02	2817
620726	1/0 (19)	9.17	27.23	8.76	30.02	6x14	1.44	1.27	35.81	1170	287.02	2817
627879	2/0 (19)	10.03	28.32	8.76	31.12	7x14	1.23	1.27	36.91	1272	294.64	3551
TBA	3/0 (19)	11.25	29.74	8.76	32.54	9x14	0.96	1.27	38.33	1499	307.34	4477
254815	4/0 (19)	12.65	30.94	8.76	33.73	11x14	0.78	1.27	39.52	1566	314.96	5647
626296!^	4/0 (19)	12.65	30.94	8.76	33.73	11x14	0.78	1.27	39.52	1566	314.96	5647
615151^	4/0 (19)	12.65	30.94	8.76	33.73	11x14	0.78	1.27	39.52	1566	314.96	5647
TBA	250 (37)	14.17	32.72	8.76	35.51	13x14	0.61	1.27	41.30	1760	330.20	6675
619322	350 (37)	16.79	35.33	8.76	38.13	18x14	0.48	1.91	45.29	2177	363.22	9345
584524^^	350 (37)	16.79	35.33	8.76	38.13	18x14	0.48	1.91	45.29	2179	363.22	9345
625222	500 (37)	20.04	38.58	8.76	41.38	25x14	0.34	1.91	48.56	2636	388.62	13350
620816^^	500 (37)	20.04	38.58	8.76	41.38	16x12	0.34	1.91	49.38	2737	396.24	13350
614633	500 (37)	20.04	38.58	8.76	41.38	16x12	0.34	1.91	49.38	2735	396.24	13350
626322^	500 (37)	20.04	38.58	8.76	41.38	16x12	0.34	1.91	49.38	2737	396.24	13350
257724	750 (61)	24.59	43.38	8.76	46.94	24x12	0.23	1.91	54.94	3637	439.42	20025
614634	1000 (61)	28.37	47.17	8.76	50.72	20x10	0.17	1.91	59.79	4502	477.52	26700
617368	1250 (61)	31.75	50.83	8.76	54.38	25x10	0.13	1.91	63.50	5299	508.00	33375

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
! UL listed MV-90 Rated
^ HiDri Plus® - Water Blocking Powder
^^ HiDri Plus® - Water Blocking Powder. All Black Jacket
† 2/3 Concentric Neutral
§ HiDri Plus® - Water Blocking Powder. CSA Listed

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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
1/0 (Solid)	0.3346	0.42	0.0241	0.1804	0.479	9.8425	0.182 + j0.749	0.128 + j0.053	2092	160	195
1/0 (19)	0.5479	0.69	0.0232	0.1772	0.502	10.1706	0.265 + j0.748	0.211 + j0.053	2092	160	195
1/0 (19)	0.5479	0.69	0.0232	0.1772	0.502	10.1706	0.265 + j0.748	0.211 + j0.053	3836	160	195
1/0 (19)	0.5479	0.69	0.0226	0.1739	0.509	10.1706	0.265 + j0.747	0.211 + j0.054	2092	160	195
2/0 (19)	0.4364	0.55	0.0216	0.1706	0.538	10.8268	0.221 + j0.744	0.167 + j0.051	2441	185	220
3/0 (19)	0.3445	0.43	0.0201	0.1640	0.577	11.8110	0.186 + j0.740	0.132 + j0.050	3138	210	250
4/0 (19)	0.2756	0.34	0.0186	0.1575	0.623	12.4672	0.159 + j0.735	0.105 + j0.048	3836	235	285
4/0 (19)	0.2756	0.34	0.0186	0.1575	0.623	12.4672	0.159 + j0.735	0.105 + j0.048	3836	235	285
4/0 (19)	0.2756	0.34	0.0186	0.1575	0.623	12.4672	0.159 + j0.735	0.105 + j0.048	3836	235	285
250 (37)	0.2329	0.30	0.0174	0.1542	0.669	13.4514	0.144 + j0.730	0.090 + j0.047	4882	257	
350 (37)	0.1640	0.21	0.0152	0.1476	0.751	15.0919	0.119 + j0.723	0.065 + j0.045	6277	315	370
350 (37)	0.1640	0.21	0.0152	0.1476	0.751	15.0919	0.119 + j0.723	0.065 + j0.045	6277	315	370
500 (37)	0.1148	0.15	0.0134	0.1378	0.853	17.3885	0.100 + j0.715	0.046 + j0.043	8718	380	445
500 (37)	0.1148	0.15	0.0134	0.1411	0.853	17.3885	0.100 + j0.714	0.046 + j0.043	8865	380	445
500 (37)	0.1148	0.15	0.0134	0.1411	0.853	17.3885	0.100 + j0.714	0.046 + j0.043	8865	380	445
500 (37)	0.1148	0.15	0.0134	0.1411	0.853	17.3885	0.100 + j0.714	0.046 + j0.043	8865	380	445
750 (61)	0.0787	0.11	0.0116	0.1312	0.984	20.0131	0.087 + j0.705	0.033 + j0.040	13298	470	530
1000 (61)	0.0591	0.09	0.0104	0.1280	1.099	22.3097	0.080 + j0.698	0.026 + j0.039	17615	530	585
1250 (61)	0.0459	0.08	0.0094	0.1247	1.198	24.2782	0.077 + j0.437	0.023 - j0.218	22019		

*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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