35kV AL 100% TRXLPE One-Third Neutral LLDPE Primary UD

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, troughs, trays, 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
- UL 1072 Listed as MV 90 When Specified
- Optional CSA: CSA 68.5 and -40C 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

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 (1)	0.325	1.052	345	1.152	6x14	0.438	50	1.380	750	16.6	634
615150^	1/0 (19)	0.352	1.079	345	1.179	6x14	0.438	50	1.407	778	16.9	634
620726	1/0 (19)	0.352	1.079	345	1.179	6x14	0.438	50	1.407	778	16.9	634
619330^†	1/0 (19)	0.352	1.079	345	1.179	11x14	0.438	50	1.410	837	16.9	634
627879	2/0 (19)	0.395	1.122	345	1.222	7x14	0.376	50	1.450	847	17.4	799
TBA	3/0 (19)	0.443	1.170	345	1.270	9x14	0.292	50	1.498	937	18.0	1007
254815	4/0 (19)	0.498	1.225	345	1.325	11x14	0.239	50	1.553	1042	18.6	1270
615151^	4/0 (19)	0.498	1.225	345	1.325	11x14	0.239	50	1.553	1042	18.6	1270
618436§	250 (37)	0.558	1.294	345	1.394	13x14	0.202	50	1.626	1163	19.5	1500
584524^^	350 (37)	0.661	1.397	345	1.497	18x14	0.146	80	1.783	1452	21.4	2100
619322	350 (37)	0.661	1.397	345	1.497	18x14	0.146	80	1.785	1463	21.4	2100
620816^^	500 (37)	0.789	1.525	345	1.625	16x12	0.104	80	1.945	1837	23.3	3000
614633	500 (37)	0.789	1.525	345	1.625	16x12	0.104	80	1.945	1837	23.3	3000
626322^	500 (37)	0.789	1.519	345	1.629	16x12	0.104	77	1.945	1826	15.6	3000
625222	500 (37)	0.789	1.525	345	1.625	25x14	0.104	80	1.945	1837	23.3	3000
257724	750 (61)	0.968	1.713	345	1.843	24x12	0.069	80	2.163	2433	26.0	4500
614634	1000 (61)	1.117	1.862	345	1.992	20x10	0.052	80	2.356	3011	28.3	6000
617368	1250 (91)	1.250	2.017	345	2.147	25x10	0.041	80	2.536	3589	30.4	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
^ HiDri Plus® - Water Blocking Powder
^^ HiDri Plus® - Water Blocking Powder. All Black Jacket
† 2/3 Concentric Neutral
§ HiDri Plus® - Water Blocking Powder. CSA Listed

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 (1)	0.168	0.211	0.073	0.052	0.278	1.687	0.523+j0.238	0.212+j0.052	2251.8	160	195
1/0 (19)	0.168	0.211	0.069	0.051	0.291	1.765	0.522+j0.237	0.212+j0.051	2251.8	160	195
1/0 (19)	0.168	0.211	0.069	0.051	0.278	1.687	0.522+j0.237	0.212+j0.051	2251.8	160	195
1/0 (19)	0.168	0.211	0.069	0.051	0.291	1.765	0.522+j0.237	0.212+j0.051	2251.8	160	195
2/0 (19)	0.133	0.167	0.065	0.050	0.311	1.886	0.456+j0.197	0.168+j0.049	2627.1	185	220
3/0 (19)	0.105	0.132	0.061	0.048	0.333	2.020	0.381+j0.144	0.133+j0.048	3377.6	210	250
4/0 (19)	0.0836	0.105	0.056	0.046	0.358	2.173	0.320+j0.112	0.106+j0.046	4128.2	235	285
4/0 (19)	0.0836	0.105	0.056	0.046	0.358	2.173	0.320+j0.112	0.106+j0.046	4128.2	235	285
250 (37)	0.0707	0.089	0.052	0.044	0.390	2.363	0.278+j0.090	0.091+j0.044	4878.8		
350 (37)	0.0505	0.064	0.046	0.043	0.436	2.643	0.207+j0.062	0.066+j0.043	6755.3	315	370
350 (37)	0.0505	0.064	0.046	0.043	0.436	2.643	0.207+j0.062	0.066+j0.043	6755.3	315	370
500 (37)	0.0354	0.045	0.041	0.041	0.493	2.989	0.151+j0.046	0.048+j0.040	9540.3	380	450
500 (37)	0.0354	0.045	0.041	0.041	0.493	2.989	0.151+j0.046	0.048+j0.040	9540.3	380	450
500 (37)	0.0354	0.045	0.041	0.041	0.493	2.989	0.151+j0.046	0.048+j0.040	9540.3	380	450
500 (37)	0.0354	0.045	0.041	0.041	0.493	2.989	0.151+j0.046	0.048+j0.040	9540.3	380	450
750 (61)	0.0236	0.030	0.035	0.039	0.576	3.492	0.102+j0.033	0.035+j0.037	14310.5	470	545
1000 (61)	0.0177	0.023	0.032	0.038	0.641	3.889	0.077+j0.029	0.029+j0.035	18956.4	530	620
1250 (91)	0.0141	0.019	0.028	0.037	0.709	4.300	0.062+j0.027	0.025+j0.033	23905.5		

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter
† Ampacities are based on Figure 7 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)
‡ Ampacities are based on Figure 1 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

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 (1)	8.25	26.72	8.76	29.26	6x14	1.44	1.27	35.05	1116	421.64	2821
615150^	1/0 (19)	8.94	27.41	8.76	29.95	6x14	1.44	1.27	35.74	1158	429.26	2821
620726	1/0 (19)	8.94	27.41	8.76	29.95	6x14	1.44	1.27	35.74	1158	429.26	2821
619330^†	1/0 (19)	8.94	27.41	8.76	29.95	11x14	1.44	1.27	35.81	1246	429.26	2821
627879	2/0 (19)	10.03	28.50	8.76	31.04	7x14	1.23	1.27	36.83	1260	441.96	3556
TBA	3/0 (19)	11.25	29.72	8.76	32.26	9x14	0.96	1.27	38.05	1394	457.20	4481
254815	4/0 (19)	12.65	31.12	8.76	33.65	11x14	0.78	1.27	39.45	1551	472.44	5652
615151^	4/0 (19)	12.65	31.12	8.76	33.65	11x14	0.78	1.27	39.45	1551	472.44	5652
618436§	250 (37)	14.17	32.87	8.76	35.41	13x14	0.66	1.27	41.30	1731	495.30	6675
584524^^	350 (37)	16.79	35.48	8.76	38.02	18x14	0.48	2.03	45.29	2161	543.56	9345
619322	350 (37)	16.79	35.48	8.76	38.02	18x14	0.48	2.03	45.34	2177	543.56	9345
620816^^	500 (37)	20.04	38.73	8.76	41.28	16x12	0.34	2.03	49.40	2734	591.82	13350
614633	500 (37)	20.04	38.73	8.76	41.28	16x12	0.34	2.03	49.40	2734	591.82	13350
626322^	500 (37)	20.04	38.58	8.76	41.38	16x12	0.34	1.96	49.40	2717	396.24	13350
625222	500 (37)	20.04	38.73	8.76	41.28	25x14	0.34	2.03	49.40	2734	591.82	13350
257724	750 (61)	24.59	43.51	8.76	46.81	24x12	0.23	2.03	54.94	3621	660.40	20025
614634	1000 (61)	28.37	47.29	8.76	50.60	20x10	0.17	2.03	59.84	4481	718.82	26700
617368	1250 (91)	31.75	51.23	8.76	54.53	25x10	0.13	2.03	64.41	5341	772.16	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
^ HiDri Plus® - Water Blocking Powder
^^ HiDri Plus® - Water Blocking Powder. All Black Jacket
† 2/3 Concentric Neutral
§ HiDri Plus® - Water Blocking Powder. CSA Listed

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 (1)	0.5512	0.69	0.0223	0.1706	0.912	5.5348	0.523+j0.238	0.212+j0.052	2251.8	160	195
1/0 (19)	0.5512	0.69	0.0210	0.1673	0.955	5.7907	0.522+j0.237	0.212+j0.051	2251.8	160	195
1/0 (19)	0.5512	0.69	0.0210	0.1673	0.912	5.5348	0.522+j0.237	0.212+j0.051	2251.8	160	195
1/0 (19)	0.5512	0.69	0.0210	0.1673	0.955	5.7907	0.522+j0.237	0.212+j0.051	2251.8	160	195
2/0 (19)	0.4364	0.55	0.0198	0.1640	1.020	6.1877	0.456+j0.197	0.168+j0.049	2627.1	185	220
3/0 (19)	0.3445	0.43	0.0186	0.1575	1.093	6.6273	0.381+j0.144	0.133+j0.048	3377.6	210	250
4/0 (19)	0.2743	0.34	0.0171	0.1509	1.175	7.1293	0.320+j0.112	0.106+j0.046	4128.2	235	285
4/0 (19)	0.2743	0.34	0.0171	0.1509	1.175	7.1293	0.320+j0.112	0.106+j0.046	4128.2	235	285
250 (37)	0.2320	0.29	0.0158	0.1444	1.280	7.7526	0.278+j0.090	0.091+j0.044	4878.8		
350 (37)	0.1657	0.21	0.0140	0.1411	1.430	8.6713	0.207+j0.062	0.066+j0.043	6755.3	315	370
350 (37)	0.1657	0.21	0.0140	0.1411	1.430	8.6713	0.207+j0.062	0.066+j0.043	6755.3	315	370
500 (37)	0.1161	0.15	0.0125	0.1345	1.617	9.8064	0.151+j0.046	0.048+j0.040	9540.3	380	450
500 (37)	0.1161	0.15	0.0125	0.1345	1.617	9.8064	0.151+j0.046	0.048+j0.040	9540.3	380	450
500 (37)	0.1161	0.15	0.0125	0.1345	1.617	9.8064	0.151+j0.046	0.048+j0.040	9540.3	380	450
500 (37)	0.1161	0.15	0.0125	0.1345	1.617	9.8064	0.151+j0.046	0.048+j0.040	9540.3	380	450
750 (61)	0.0774	0.10	0.0107	0.1280	1.890	11.4567	0.102+j0.033	0.035+j0.037	14310.5	470	545
1000 (61)	0.0581	0.08	0.0098	0.1247	2.103	12.7592	0.077+j0.029	0.029+j0.035	18956.4	530	620
1250 (91)	0.0463	0.06	0.0085	0.1214	2.326	14.1076	0.062+j0.027	0.025+j0.033	23905.5		

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Figure 7 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

‡ Ampacities are based on Figure 1 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)