15kV AL 133% TRXLPE One-Third Neutral LLDPE Primary UD

Single Conductor, 220 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed Aluminum ASTM 1350 ¾ hard H16/H26; Conductor moisture block (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 (red extruded stripes optional); PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 15kV 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 Listed as MV 90 When Specified

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

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	0.735	220	0.815	6x14	0.438	50	1.043	461	12.5	398
611700	2 (7)	0.283	0.760	220	0.840	6x14	0.438	50	1.068	485	12.8	398
TBA	1 (1)	0.289	0.766	220	0.846	6x14	0.438	50	1.074	493	12.9	502
TBA	1 (19)	0.322	0.799	220	0.879	6x14	0.438	50	1.107	522	13.3	502
TBA	1/0 (1)	0.325	0.802	220	0.882	6x14	0.438	50	1.110	531	13.3	634
611782	1/0 (19)	0.352	0.829	220	0.909	6x14	0.438	50	1.137	555	13.6	634
620291	2/0 (19)	0.395	0.872	220	0.952	10x14	0.376	50	1.180	652	14.2	799
627860	2/0 (19)	0.395	0.872	220	0.952	7x14	0.376	50	1.180	616	14.2	799
TBA	3/0 (19)	0.443	0.920	220	1.000	9x14	0.292	50	1.228	699	14.7	1007
613365	4/0 (19)	0.498	0.975	220	1.055	11x14	0.239	50	1.283	794	15.4	1270
613449#	4/0 (19)	0.498	0.975	220	1.055	11x14	0.239	50	1.283	794	15.4	1270
TBA	250 (37)	0.558	1.044	220	1.144	13x14	0.202	50	1.372	924	16.5	1500
613615	350 (37)	0.661	1.147	220	1.247	18x14	0.146	50	1.475	1140	17.7	2100
683847	500 (37)	0.789	1.275	220	1.375	16x12	0.104	50	1.635	1484	19.6	3000
604102	750 (61)	0.968	1.463	220	1.563	24x12	0.069	80	1.883	2064	22.6	4500
612494	1000 (61)	1.117	1.612	220	1.742	20x10	0.052	80	2.106	2655	25.3	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

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)	0.266	0.334	0.062	0.051	0.139	0.362	0.652+j0.233	0.335+j0.051	2196.1	120	150
2 (7)	0.266	0.334	0.059	0.049	0.147	0.382	0.651+j0.232	0.335+j0.049	2196.1	120	150
1 (1)	0.211	0.265	0.058	0.049	0.149	0.387	0.582+j0.232	0.266+j0.049	2196.1	140	175
1 (19)	0.211	0.265	0.054	0.048	0.159	0.413	0.581+j0.230	0.266+j0.048	2196.1	140	175
1/0 (1)	0.168	0.211	0.054	0.047	0.160	0.416	0.527+j0.230	0.212+j0.047	2196.1	155	195
1/0 (19)	0.168	0.211	0.051	0.046	0.168	0.437	0.527+j0.230	0.212+j0.046	2196.1	155	195
2/0 (19)	0.133	0.167	0.048	0.045	0.181	0.471	0.459+j0.190	0.168+j0.045	4182	180	225
2/0 (19)	0.133	0.167	0.048	0.045	0.181	0.471	0.459+j0.190	0.168+j0.045	2562.1	180	225
3/0 (19)	0.105	0.132	0.044	0.043	0.196	0.508	0.383+j0.137	0.133+j0.043	3294.2	200	255
4/0 (19)	0.0836	0.105	0.041	0.042	0.212	0.551	0.322+j0.105	0.107+j0.042	4026.2	235	285
4/0 (19)	0.0836	0.105	0.041	0.042	0.212	0.551	0.322+j0.105	0.107+j0.042	4026.2	235	285
250 (37)	0.0707	0.089	0.037	0.041	0.233	0.604	0.279+j0.085	0.091+j0.040	4758.3		
350 (37)	0.0505	0.064	0.033	0.039	0.263	0.683	0.208+j0.057	0.066+j0.038	6588.4	310	375
500 (37)	0.0354	0.045	0.029	0.037	0.301	0.781	0.151+j0.042	0.048+j0.036	9304.6	370	450
750 (61)	0.0236	0.030	0.024	0.036	0.356	0.924	0.102+j0.029	0.035+j0.034	13956.9	460	545
1000 (61)	0.0177	0.023	0.022	0.035	0.399	1.037	0.077+j0.026	0.029+j0.032	18488.1	520	620

* 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
511403	2 (1)	6.55	18.67	5.59	20.70	6x14	1.44	1.27	26.49	686	317.50	1771
611700	2 (7)	7.19	19.30	5.59	21.34	6x14	1.44	1.27	27.13	722	325.12	1771
TBA	1 (1)	7.34	19.46	5.59	21.49	6x14	1.44	1.27	27.28	734	327.66	2234
TBA	1 (19)	8.18	20.29	5.59	22.33	6x14	1.44	1.27	28.12	777	337.82	2234
TBA	1/0 (1)	8.25	20.37	5.59	22.40	6x14	1.44	1.27	28.19	790	337.82	2821
611782	1/0 (19)	8.94	21.06	5.59	23.09	6x14	1.44	1.27	28.88	826	345.44	2821
620291	2/0 (19)	10.03	22.15	5.59	24.18	10x14	1.23	1.27	29.97	970	360.68	3556
627860	2/0 (19)	10.03	22.15	5.59	24.18	7x14	1.23	1.27	29.97	917	360.68	3556
TBA	3/0 (19)	11.25	23.37	5.59	25.40	9x14	0.96	1.27	31.19	1040	373.38	4481
613365	4/0 (19)	12.65	24.76	5.59	26.80	11x14	0.78	1.27	32.59	1182	391.16	5652
613449#	4/0 (19)	12.65	24.76	5.59	26.80	11x14	0.78	1.27	32.59	1182	391.16	5652
TBA	250 (37)	14.17	26.52	5.59	29.06	13x14	0.66	1.27	34.85	1375	419.10	6675
613615	350 (37)	16.79	29.13	5.59	31.67	18x14	0.48	1.27	37.47	1697	449.58	9345
683847	500 (37)	20.04	32.39	5.59	34.93	16x12	0.34	1.27	41.53	2208	497.84	13350
604102	750 (61)	24.59	37.16	5.59	39.70	24x12	0.23	2.03	47.83	3072	574.04	20025
612494	1000 (61)	28.37	40.94	5.59	44.25	20x10	0.17	2.03	53.49	3951	642.62	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

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)	0.8727	1.10	0.0189	0.1673	0.456	1.1877	0.652+j0.233	0.335+j0.051	2196.1	120	150
2 (7)	0.8727	1.10	0.0180	0.1608	0.482	1.2533	0.651+j0.232	0.335+j0.049	2196.1	120	150
1 (1)	0.6923	0.87	0.0177	0.1608	0.489	1.2697	0.582+j0.232	0.266+j0.049	2196.1	140	175
1 (19)	0.6923	0.87	0.0165	0.1575	0.522	1.3550	0.581+j0.230	0.266+j0.048	2196.1	140	175
1/0 (1)	0.5512	0.69	0.0165	0.1542	0.525	1.3648	0.527+j0.230	0.212+j0.047	2196.1	155	195
1/0 (19)	0.5512	0.69	0.0155	0.1509	0.551	1.4337	0.527+j0.230	0.212+j0.046	2196.1	155	195
2/0 (19)	0.4364	0.55	0.0146	0.1476	0.594	1.5453	0.459+j0.190	0.168+j0.045	4182	180	225
2/0 (19)	0.4364	0.55	0.0146	0.1476	0.594	1.5453	0.459+j0.190	0.168+j0.045	2562.1	180	225
3/0 (19)	0.3445	0.43	0.0134	0.1411	0.643	1.6667	0.383+j0.137	0.133+j0.043	3294.2	200	255
4/0 (19)	0.2743	0.34	0.0125	0.1378	0.696	1.8077	0.322+j0.105	0.107+j0.042	4026.2	235	285
4/0 (19)	0.2743	0.34	0.0125	0.1378	0.696	1.8077	0.322+j0.105	0.107+j0.042	4026.2	235	285
250 (37)	0.2320	0.29	0.0113	0.1345	0.764	1.9816	0.279+j0.085	0.091+j0.040	4758.3		
350 (37)	0.1657	0.21	0.0101	0.1280	0.863	2.2408	0.208+j0.057	0.066+j0.038	6588.4	310	375
500 (37)	0.1161	0.15	0.0088	0.1214	0.988	2.5623	0.151+j0.042	0.048+j0.036	9304.6	370	450
750 (61)	0.0774	0.10	0.0073	0.1181	1.168	3.0315	0.102+j0.029	0.035+j0.034	13956.9	460	545
1000 (61)	0.0581	0.08	0.0067	0.1148	1.309	3.4022	0.077+j0.026	0.029+j0.032	18488.1	520	620

* 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)