28kV AL 133% TRXLPE LCT LLDPE

Single Conductor, 345 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Longitudinally Corrugated Tape Shield, 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 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
6. **Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 28kV 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-97-682 Standard for Shielded Utility Cable Rated for 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 28000 VOLTS TRXLPE INSULATION 345 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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Table 1 – Weights and Measurements

Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
AWG/ Kcmil	inch	inch	mil	inch	mil	inch	lb /1000ft	inch	lb
1 (Solid)	0.289	1.017	345	1.097	80	1.357	757	16.3	502
1 (19)	0.322	1.050	345	1.130	80	1.390	783	16.7	502
1/0 (Solid)	0.324	1.052	345	1.132	80	1.392	805	16.7	633
1/0 (19)	0.351	1.079	345	1.159	80	1.419	827	17.0	633
2/0 (19)	0.395	1.123	345	1.203	80	1.463	889	17.6	798
3/0 (19)	0.443	1.171	345	1.251	80	1.511	961	18.1	1006
4/0 (19)	0.498	1.226	345	1.306	80	1.566	1048	18.8	1269
250 (37)	0.558	1.294	345	1.374	80	1.634	1142	19.6	1500
350 (37)	0.661	1.397	345	1.477	110	1.797	1428	21.6	2100
500 (37)	0.789	1.525	345	1.605	110	1.925	1680	23.1	3000
750 (61)	0.968	1.714	345	1.794	110	2.114	2105	25.4	4500
1000 (61)	1.117	1.863	345	1.943	110	2.263	2476	27.2	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

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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 (Solid)	0.129	0.162	0.085	0.057	0.109	1.76	0.216 + j0.752	0.162 + j0.055	3095	140	170
1 (19)	0.211	0.266	0.080	0.055	0.116	1.88	0.320 + j0.751	0.266 + j0.056	3186	140	170
1/0 (Solid)	0.102	0.128	0.079	0.055	0.116	1.88	0.182 + j0.749	0.128 + j0.053	3192	155	195
1/0 (19)	0.167	0.211	0.076	0.054	0.122	1.97	0.265 + j0.748	0.211 + j0.053	3267	155	195
2/0 (19)	0.133	0.167	0.071	0.052	0.131	2.12	0.221 + j0.744	0.167 + j0.051	3389	180	220
3/0 (19)	0.105	0.132	0.066	0.050	0.141	2.28	0.186 + j0.739	0.132 + j0.050	3522	200	250
4/0 (19)	0.084	0.105	0.061	0.048	0.152	2.46	0.159 + j0.735	0.105 + j0.048	3674	235	285
250 (37)	0.071	0.090	0.057	0.046	0.163	2.64	0.144 + j0.731	0.090 + j0.047	3863	256	335
350 (37)	0.050	0.065	0.050	0.045	0.183	2.96	0.119 + j0.723	0.065 + j0.045	4148	310	375
500 (37)	0.035	0.046	0.044	0.042	0.208	3.36	0.011 + j0.716	0.046 + j0.042	4503	375	450
750 (61)	0.024	0.033	0.038	0.040	0.240	3.88	0.087 + j0.706	0.033 + j0.040	5027	470	550
1000 (61)	0.018	0.026	0.034	0.038	0.268	4.33	0.080 + j0.700	0.026 + j0.038	5439		630

*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)

Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
AWG/ Kcmil	mm	mm	mm	mm	mm	mm	kg/km	mm	newton
1 (Solid)	7.34	25.83	8.76	27.86	2.03	34.47	1127	414.02	2234
1 (19)	8.18	26.67	8.76	28.70	2.03	35.31	1165	424.18	2234
1/0 (Solid)	8.23	26.72	8.76	28.75	2.03	35.36	1198	424.18	2817
1/0 (19)	8.92	27.41	8.76	29.44	2.03	36.04	1231	431.80	2817
2/0 (19)	10.03	28.52	8.76	30.56	2.03	37.16	1323	447.04	3551
3/0 (19)	11.25	29.74	8.76	31.78	2.03	38.38	1430	459.74	4477
4/0 (19)	12.65	31.14	8.76	33.17	2.03	39.78	1560	477.52	5647
250 (37)	14.17	32.87	8.76	34.90	2.03	41.50	1699	497.84	6675
350 (37)	16.79	35.48	8.76	37.52	2.79	45.64	2125	548.64	9345
500 (37)	20.04	38.73	8.76	40.77	2.79	48.89	2500	586.74	13350
750 (61)	24.59	43.54	8.76	45.57	2.79	53.70	3133	645.16	20025
1000 (61)	28.37	47.32	8.76	49.35	2.79	57.48	3685	690.88	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

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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 (Solid)	0.4232	0.53	0.0259	0.1870	0.358	5.7743	0.216 + j0.752	0.162 + j0.055	3095	140	170
1 (19)	0.6923	0.87	0.0244	0.1804	0.381	6.1680	0.320 + j0.751	0.266 + j0.056	3186	140	170
1/0 (Solid)	0.3346	0.42	0.0241	0.1804	0.381	6.1680	0.182 + j0.749	0.128 + j0.053	3192	155	195
1/0 (19)	0.5479	0.69	0.0232	0.1772	0.400	6.4633	0.265 + j0.748	0.211 + j0.053	3267	155	195
2/0 (19)	0.4364	0.55	0.0216	0.1706	0.430	6.9554	0.221 + j0.744	0.167 + j0.051	3389	180	220
3/0 (19)	0.3445	0.43	0.0201	0.1640	0.463	7.4803	0.186 + j0.739	0.132 + j0.050	3522	200	250
4/0 (19)	0.2756	0.34	0.0186	0.1575	0.499	8.0709	0.159 + j0.735	0.105 + j0.048	3674	235	285
250 (37)	0.2329	0.30	0.0174	0.1509	0.535	8.6614	0.144 + j0.731	0.090 + j0.047	3863	256	335
350 (37)	0.1640	0.21	0.0152	0.1476	0.600	9.7113	0.119 + j0.723	0.065 + j0.045	4148	310	375
500 (37)	0.1148	0.15	0.0134	0.1378	0.682	11.0236	0.011 + j0.716	0.046 + j0.042	4503	375	450
750 (61)	0.0787	0.11	0.0116	0.1312	0.787	12.7297	0.087 + j0.706	0.033 + j0.040	5027	470	550
1000 (61)	0.0591	0.09	0.0104	0.1247	0.879	14.2060	0.080 + j0.700	0.026 + j0.038	5439		630

*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.