



25kV AL 133% TRXLPE Full Neutral LLDPE

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Full 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:** 320 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 full 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 25kV 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: -40°C and MV 90°C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 25000 VOLTS TRXLPE INSULATION 320 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



Table 1 – Weights and Measurements

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
1 (Solid)	0.289	0.967	320	1.057	13x14	0.202	50	1.285	796	10.3	502
1 (19)	0.322	1.000	320	1.110	13x14	0.202	50	1.338	838	10.7	502
1/0 (Solid)	0.324	1.002	320	1.112	16x14	0.164	50	1.340	902	10.7	633
1/0 (19)	0.351	1.029	320	1.139	16x14	0.164	50	1.367	921	10.9	633
2/0 (19)	0.395	1.073	320	1.183	20x14	0.131	50	1.411	1034	11.3	798
3/0 (19)	0.443	1.121	320	1.231	25x14	0.105	50	1.459	1169	11.7	1006
4/0 (19)	0.498	1.176	320	1.286	20x12	0.083	50	1.548	1330	12.4	1269
250 (37)	0.558	1.244	320	1.354	24x12	0.069	75	1.666	1584	13.3	1500
350 (37)	0.661	1.347	320	1.457	21x10	0.049	75	1.811	1964	14.5	2100

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
1 (Solid)	0.129	0.162	0.073	0.056	0.195	0.8	0.216 + j1.204	0.162 + j0.508	4533	140	170
1 (19)	0.211	0.266	0.069	0.054	0.207	0.9	0.320 + j1.144	0.266 + j0.451	4533	140	170
1/0 (Solid)	0.102	0.128	0.069	0.054	0.208	0.9	0.182 + j1.140	0.128 + j0.447	5579	155	195
1/0 (19)	0.167	0.211	0.066	0.053	0.218	0.9	0.265 + j1.101	0.211 + j0.409	5579	155	195
2/0 (19)	0.133	0.167	0.061	0.051	0.233	1.0	0.221 + j1.049	0.167 + j0.359	6974	180	220
3/0 (19)	0.105	0.132	0.057	0.049	0.250	1.1	0.186 + j1.003	0.132 + j0.315	8718	205	250
4/0 (19)	0.084	0.105	0.053	0.048	0.269	1.2	0.159 + j0.960	0.105 + j0.276	11081	235	285
250 (37)	0.071	0.090	0.049	0.047	0.293	1.3	0.144 + j0.921	0.090 + j0.242	13298	254	307
350 (37)	0.050	0.065	0.043	0.045	0.329	1.4	0.119 + j0.872	0.065 + j0.199	18496	305	365



*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.

Table 3 – Weights and Measurements (Metric)

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
1 (Solid)	7.34	24.56	8.13	26.85	13x14	0.66	1.27	32.64	1185	261.62	2234
1 (19)	8.18	25.40	8.13	28.19	13x14	0.66	1.27	33.99	1247	271.78	2234
1/0 (Solid)	8.23	25.45	8.13	28.24	16x14	0.54	1.27	34.04	1342	271.78	2817
1/0 (19)	8.92	26.14	8.13	28.93	16x14	0.54	1.27	34.72	1371	276.86	2817
2/0 (19)	10.03	27.25	8.13	30.05	20x14	0.43	1.27	35.84	1539	287.02	3551
3/0 (19)	11.25	28.47	8.13	31.27	25x14	0.34	1.27	37.06	1740	297.18	4477
4/0 (19)	12.65	29.87	8.13	32.66	20x12	0.27	1.27	39.32	1979	314.96	5647
250 (37)	14.17	31.60	8.13	34.39	24x12	0.23	1.91	42.32	2357	337.82	6675
350 (37)	16.79	34.21	8.13	37.01	21x10	0.16	1.91	46.00	2923	368.30	9345

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
1 (Solid)	0.4232	0.53	0.0223	0.1837	0.640	2.6247	0.216 + j1.204	0.162 + j0.508	4533	140	170
1 (19)	0.6923	0.87	0.0210	0.1772	0.679	2.9528	0.320 + j1.144	0.266 + j0.451	4533	140	170
1/0 (Solid)	0.3346	0.42	0.0210	0.1772	0.682	2.9528	0.182 + j1.140	0.128 + j0.447	5579	155	195
1/0 (19)	0.5479	0.69	0.0201	0.1739	0.715	2.9528	0.265 + j1.101	0.211 + j0.409	5579	155	195
2/0 (19)	0.4364	0.55	0.0186	0.1673	0.764	3.2808	0.221 + j1.049	0.167 + j0.359	6974	180	220
3/0 (19)	0.3445	0.43	0.0174	0.1608	0.820	3.6089	0.186 + j1.003	0.132 + j0.315	8718	205	250
4/0 (19)	0.2756	0.34	0.0162	0.1575	0.883	3.9370	0.159 + j0.960	0.105 + j0.276	11081	235	285
250 (37)	0.2329	0.30	0.0149	0.1542	0.961	4.2651	0.144 + j0.921	0.090 + j0.242	13298	254	307
350 (37)	0.1640	0.21	0.0131	0.1476	1.079	4.5932	0.119 + j0.872	0.065 + j0.199	18496	305	365

*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.

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Calculator

