25kV Compact AL 100% TRXLPE One-Third Neutral LLDPE

Single Conductor, 260 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Moisture blocked class B Compact Aluminum ASTM 400 1350 ¾ hard H16/H26 (Non Moisture Blocked Optional)
2. **Conductor Shield:** Supersmooth conductor shield.
3. **Insulation:** 260 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; 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 B400 Standard Specification for Compact Round Concentric-Lay-Stranded, Aluminum 1350 Conductors
- 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 25000 VOLTS TRXLPE INSULATION 260 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 (19)	0.299	0.857	260	0.957	6x14	0.54	50	1.185	626	8.3	502
TBA	1/0 (19)	0.336	0.894	260	0.994	6x14	0.54	50	1.222	671	8.6	633
TBA	2/0 (19)	0.376	0.934	260	1.034	7x14	0.463	50	1.262	737	8.8	798
TBA	3/0 (19)	0.423	0.981	260	1.081	9x14	0.36	50	1.309	829	9.2	1006
TBA	4/0 (19)	0.475	1.033	260	1.153	11x14	0.295	50	1.381	953	9.7	1269
TBA	250 (35)	0.52	1.086	260	1.206	13x14	0.249	50	1.434	1056	10	1500
603623	350 (35)	0.616	1.176	260	1.286	18x14	0.18	50	1.514	1180	10.6	2100
618173	500 (35)	0.736	1.296	260	1.406	25x14	0.13	75	1.634	1479	11.4	3000
603624	750 (58)	0.908	1.478	260	1.588	24x12	0.085	75	1.904	2098	13.3	4500
TBA	1000 (58)	1.117	1.693	260	1.843	20x10	0.064	75	2.197	2834	15.4	6000

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 (19)	0.211	0.289	0.064	0.053	0.23	3.3	0.626+j0.275	0.290+j0.057	2095	140	175
1/0 (19)	0.167	0.229	0.059	0.051	0.24	3.5	0.566+j0.273	0.230+j0.055	2095	155	195
2/0 (19)	0.133	0.182	0.055	0.05	0.26	3.8	0.500+j0.227	0.183+j0.053	2444	180	220
3/0 (19)	0.105	0.144	0.051	0.048	0.28	4.1	0.423+j0.165	0.146+j0.051	3142	200	250
4/0 (19)	0.084	0.115	0.048	0.046	0.3	4.4	0.360+j0.126	0.117+j0.050	3840	235	285
250 (35)	0.07	0.096	0.044	0.045	0.33	4.7	0.313+j0.100	0.098+j0.049	4538	256	309
350 (35)	0.051	0.07	0.039	0.042	0.37	5.3	0.236+j0.064	0.073+j0.046	6284	310	370
500 (35)	0.036	0.05	0.034	0.04	0.42	6.1	0.174+j0.043	0.054+j0.043	8727	370	445
750 (58)	0.023	0.033	0.029	0.039	0.5	7.2	0.116+j0.028	0.039+j0.041	13298	460	525
1000 (58)	0.017	0.025	0.025	0.037	0.58	8.3	0.088+j0.025	0.033+j0.039	17615	520	575

*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.

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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 (19)	7.59	21.77	6.60	24.31	6x14	1.77	1.27	30.10	932	210.82	2234
TBA	1/0 (19)	8.53	22.71	6.60	25.25	6x14	1.77	1.27	31.04	999	218.44	2817
TBA	2/0 (19)	9.55	23.72	6.60	26.26	7x14	1.52	1.27	32.05	1097	223.52	3551
TBA	3/0 (19)	10.74	24.92	6.60	27.46	9x14	1.18	1.27	33.25	1234	233.68	4477
TBA	4/0 (19)	12.07	26.24	6.60	29.29	11x14	0.97	1.27	35.08	1418	246.38	5647
TBA	250 (35)	13.21	27.58	6.60	30.63	13x14	0.82	1.27	36.42	1572	254.00	6675
603623	350 (35)	15.65	29.87	6.60	32.66	18x14	0.59	1.27	38.46	1756	269.24	9345
618173	500 (35)	18.69	32.92	6.60	35.71	25x14	0.43	1.91	41.50	2201	289.56	13350
603624	750 (58)	23.06	37.54	6.60	40.34	24x12	0.28	1.91	48.36	3122	337.82	20025
TBA	1000 (58)	28.37	43.00	6.60	46.81	20x10	0.21	1.91	55.80	4217	391.16	26700

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 (19)	0.6923	0.95	0.0195	0.1739	0.755	10.8268	0.626+j0.275	0.290+j0.057	2095	140	175
1/0 (19)	0.5479	0.75	0.0180	0.1673	0.787	11.4829	0.566+j0.273	0.230+j0.055	2095	155	195
2/0 (19)	0.4364	0.60	0.0168	0.1640	0.853	12.4672	0.500+j0.227	0.183+j0.053	2444	180	220
3/0 (19)	0.3445	0.47	0.0155	0.1575	0.919	13.4514	0.423+j0.165	0.146+j0.051	3142	200	250
4/0 (19)	0.2756	0.38	0.0146	0.1509	0.984	14.4357	0.360+j0.126	0.117+j0.050	3840	235	285
250 (35)	0.2297	0.31	0.0134	0.1476	1.083	15.4199	0.313+j0.100	0.098+j0.049	4538	256	309
350 (35)	0.1673	0.23	0.0119	0.1378	1.214	17.3885	0.236+j0.064	0.073+j0.046	6284	310	370
500 (35)	0.1181	0.16	0.0104	0.1312	1.378	20.0131	0.174+j0.043	0.054+j0.043	8727	370	445
750 (58)	0.0755	0.11	0.0088	0.1280	1.640	23.6220	0.116+j0.028	0.039+j0.041	13298	460	525
1000 (58)	0.0558	0.08	0.0076	0.1214	1.903	27.2310	0.088+j0.025	0.033+j0.039	17615	520	575

*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
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Concentric Neutral Calculator

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