

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 $\frac{3}{4}$ 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: -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 260 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 (19)	0.298	0.856	260	0.946	6x14	0.438	50	1.174	597	9.4	502
TBA	1/0 (19)	0.336	0.894	260	0.984	6x14	0.438	50	1.212	641	9.7	633
TBA	2/0 (19)	0.376	0.934	260	1.024	7x14	0.375	50	1.252	705	10.0	798
TBA	3/0 (19)	0.422	0.980	260	1.070	9x14	0.292	50	1.298	795	10.4	1006
TBA	4/0 (19)	0.474	1.032	260	1.142	11x14	0.239	50	1.370	915	11.0	1269
TBA	250 (35)	0.520	1.086	260	1.196	13x14	0.202	50	1.424	1017	11.4	1500
603623	350 (35)	0.615	1.176	260	1.286	18x14	0.146	50	1.514	1180	12.1	2100
618173	500 (35)	0.735	1.296	260	1.406	25x14	0.105	75	1.634	1468	13.1	3000
603624	750 (58)	0.908	1.478	260	1.588	24x12	0.069	75	1.903	2097	15.2	4500
TBA	1000 (58)	1.060	1.636	260	1.776	20x10	0.052	75	2.130	2734	17.0	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



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	0.266	0.071	0.053	0.116	1.67	0.320 + j0.759	0.266 + j0.052	2092	140	175
1/0 (19)	0.168	0.211	0.066	0.051	0.125	1.80	0.265 + j0.755	0.211 + j0.050	2092	155	195
2/0 (19)	0.133	0.167	0.061	0.049	0.134	1.93	0.221 + j0.751	0.167 + j0.048	2441	180	220
3/0 (19)	0.105	0.133	0.057	0.047	0.145	2.09	0.187 + j0.746	0.133 + j0.046	3138	200	250
4/0 (19)	0.084	0.105	0.052	0.046	0.157	2.27	0.159 + j0.741	0.105 + j0.045	3836	235	285
250 (35)	0.071	0.090	0.050	0.045	0.166	2.40	0.144 + j0.737	0.090 + j0.043	4533	256	309
350 (35)	0.050	0.065	0.044	0.042	0.188	2.71	0.119 + j0.731	0.065 + j0.041	6277	310	370
500 (35)	0.035	0.046	0.038	0.041	0.215	3.10	0.100 + j0.722	0.046 + j0.039	8718	370	445
750 (58)	0.024	0.033	0.033	0.039	0.249	3.59	0.087 + j0.711	0.033 + j0.037	13298	460	525
1000 (58)	0.018	0.026	0.029	0.038	0.282	4.07	0.080 + j0.703	0.026 + j0.037	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.



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)	7.57	21.74	6.60	24.03	6x14	1.44	1.27	29.82	888	238.76	2234
TBA	1/0 (19)	8.53	22.71	6.60	24.99	6x14	1.44	1.27	30.78	954	246.38	2817
TBA	2/0 (19)	9.55	23.72	6.60	26.01	7x14	1.23	1.27	31.80	1049	254.00	3551
TBA	3/0 (19)	10.72	24.89	6.60	27.18	9x14	0.96	1.27	32.97	1183	264.16	4477
TBA	4/0 (19)	12.04	26.21	6.60	29.01	11x14	0.78	1.27	34.80	1362	279.40	5647
TBA	250 (35)	13.21	27.58	6.60	30.38	13x14	0.66	1.27	36.17	1513	289.56	6675
603623	350 (35)	15.62	29.87	6.60	32.66	18x14	0.48	1.27	38.46	1756	307.34	9345
618173	500 (35)	18.67	32.92	6.60	35.71	25x14	0.34	1.91	41.50	2185	332.74	13350
603624	750 (58)	23.06	37.54	6.60	40.34	24x12	0.23	1.91	48.34	3121	386.08	20025
TBA	1000 (58)	26.92	41.55	6.60	45.11	20x10	0.17	1.91	54.10	4069	431.80	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



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	0.87	0.0216	0.1739	0.381	5.4790	0.320 + j0.759	0.266 + j0.052	2092	140	175
1/0 (19)	0.5512	0.69	0.0201	0.1673	0.410	5.9055	0.265 + j0.755	0.211 + j0.050	2092	155	195
2/0 (19)	0.4364	0.55	0.0186	0.1608	0.440	6.3320	0.221 + j0.751	0.167 + j0.048	2441	180	220
3/0 (19)	0.3445	0.44	0.0174	0.1542	0.476	6.8570	0.187 + j0.746	0.133 + j0.046	3138	200	250
4/0 (19)	0.2756	0.34	0.0158	0.1509	0.515	7.4475	0.159 + j0.741	0.105 + j0.045	3836	235	285
250 (35)	0.2329	0.30	0.0152	0.1476	0.545	7.8740	0.144 + j0.737	0.090 + j0.043	4533	256	309
350 (35)	0.1640	0.21	0.0134	0.1378	0.617	8.8911	0.119 + j0.731	0.065 + j0.041	6277	310	370
500 (35)	0.1148	0.15	0.0116	0.1345	0.705	10.1706	0.100 + j0.722	0.046 + j0.039	8718	370	445
750 (58)	0.0787	0.11	0.0101	0.1280	0.817	11.7782	0.087 + j0.711	0.033 + j0.037	13298	460	525
1000 (58)	0.0591	0.09	0.0088	0.1247	0.925	13.3530	0.080 + j0.703	0.026 + j0.037	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.

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Calculator

