# 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

We've got it MADE IN AMERICA

## 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 | 598 | 9.4 | 502 |
| TBA | 1/0 (19) | 0.336 | 0.894 | 260 | 0.984 | 6x14 | 0.438 | 50 | 1.212 | 644 | 9.7 | 633 |
| TBA | 2/0 (19) | 0.376 | 0.934 | 260 | 1.024 | 7x14 | 0.375 | 50 | 1.252 | 708 | 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 | 918 | 11.0 | 1269 |
| TBA | 250 (35) | 0.520 | 1.086 | 260 | 1.196 | 13x14 | 0.202 | 50 | 1.424 | 1019 | 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 | 2737 | 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 | 0.063 | 0.053 | 0.227 | 1.0 | 0.319 + j1.185 | 0.266 + j0.488 | 2092 | 140 | 175 |
| 1/0 (19) | 0.168 | 0.211 | 0.059 | 0.051 | 0.243 | 1.1 | 0.264 + j1.123 | 0.211 + j0.428 | 2092 | 155 | 195 |
| 2/0 (19) | 0.133 | 0.167 | 0.055 | 0.049 | 0.260 | 1.1 | 0.221 + j1.071 | 0.167 + j0.377 | 2441 | 180 | 220 |
| 3/0 (19) | 0.105 | 0.133 | 0.051 | 0.047 | 0.281 | 1.2 | 0.187 + j1.023 | 0.133 + j0.330 | 3138 | 200 | 250 |
| 4/0 (19) | 0.084 | 0.105 | 0.047 | 0.046 | 0.303 | 1.3 | 0.159 + j0.98 | 0.105 + j0.289 | 3836 | 235 | 285 |
| 250 (35) | 0.071 | 0.090 | 0.044 | 0.045 | 0.325 | 1.4 | 0.144 + j0.949 | 0.090 + j0.260 | 4533 | 256 | 309 |
| 350 (35) | 0.050 | 0.065 | 0.039 | 0.042 | 0.369 | 1.6 | 0.119 + j0.898 | 0.065 + j0.213 | 6277 | 310 | 370 |
| 500 (35) | 0.035 | 0.046 | 0.034 | 0.040 | 0.419 | 1.8 | 0.100 + j0.852 | 0.046 + j0.171 | 8718 | 370 | 445 |
| 750 (58) | 0.024 | 0.033 | 0.029 | 0.039 | 0.496 | 2.1 | 0.087 + j0.802 | 0.033 + j0.133 | 13298 | 460 | 525 |
| 1000 (58) | 0.018 | 0.026 | 0.026 | 0.038 | 0.554 | 2.4 | 0.080 + j0.771 | 0.026 + j0.109 | 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.

## 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 | 890 | 238.76 | 2234 |
| TBA | 1/0 (19) | 8.53 | 22.71 | 6.60 | 24.99 | 6x14 | 1.44 | 1.27 | 30.78 | 958 | 246.38 | 2817 |
| TBA | 2/0 (19) | 9.55 | 23.72 | 6.60 | 26.01 | 7x14 | 1.23 | 1.27 | 31.80 | 1054 | 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 | 1366 | 279.40 | 5647 |
| TBA | 250 (35) | 13.21 | 27.58 | 6.60 | 30.38 | 13x14 | 0.66 | 1.27 | 36.17 | 1516 | 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 | 4073 | 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 | 0.0192 | 0.1739 | 0.745 | 3.2808 | 0.319 + j1.185 | 0.266 + j0.488 | 2092 | 140 | 175 |
| 1/0 (19) | 0.5512 | 0.69 | 0.0180 | 0.1673 | 0.797 | 3.6089 | 0.264 + j1.123 | 0.211 + j0.428 | 2092 | 155 | 195 |
| 2/0 (19) | 0.4364 | 0.55 | 0.0168 | 0.1608 | 0.853 | 3.6089 | 0.221 + j1.071 | 0.167 + j0.377 | 2441 | 180 | 220 |
| 3/0 (19) | 0.3445 | 0.44 | 0.0155 | 0.1542 | 0.922 | 3.9370 | 0.187 + j1.023 | 0.133 + j0.330 | 3138 | 200 | 250 |
| 4/0 (19) | 0.2756 | 0.34 | 0.0143 | 0.1509 | 0.994 | 4.2651 | 0.159 + j0.98 | 0.105 + j0.289 | 3836 | 235 | 285 |
| 250 (35) | 0.2329 | 0.30 | 0.0134 | 0.1476 | 1.066 | 4.5932 | 0.144 + j0.949 | 0.090 + j0.260 | 4533 | 256 | 309 |
| 350 (35) | 0.1640 | 0.21 | 0.0119 | 0.1378 | 1.211 | 5.2493 | 0.119 + j0.898 | 0.065 + j0.213 | 6277 | 310 | 370 |
| 500 (35) | 0.1148 | 0.15 | 0.0104 | 0.1312 | 1.375 | 5.9055 | 0.100 + j0.852 | 0.046 + j0.171 | 8718 | 370 | 445 |
| 750 (58) | 0.0787 | 0.11 | 0.0088 | 0.1280 | 1.627 | 6.8898 | 0.087 + j0.802 | 0.033 + j0.133 | 13298 | 460 | 525 |
| 1000 (58) | 0.0591 | 0.09 | 0.0079 | 0.1247 | 1.818 | 7.8740 | 0.080 + j0.771 | 0.026 + j0.109 | 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.

CN Calculator