

# 1/C AL 35kV 345 TRXLPE 100% PVC MV-105

Type MV-105 Single Conductor Aluminum, 345 Mils Tree Retardant Cross Linked Polyethylene (TRXLPE) 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Jacket, Rated UL



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

- Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
- Insulation:** 345 Mils Tree Retardant Cross Linked Polyethylene (TRXLPE) 100% Insulation Level,
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
- Overall Jacket:** Polyvinyl Chloride (PVC)

## APPLICATIONS AND FEATURES:

Southwire's 35KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 105°C for normal operation, 140°C for emergency overload, and 250°C for short circuit conditions. Cable Tray Rated for sizes 1/0 and larger. Rated for 1000 lbs./FT maximum sidewall pressure.

## SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 1072 Medium-Voltage Power Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV

## SAMPLE PRINT LEGEND:

{SQFTG\_DUAL} SOUTHWIRE{R} POWER CABLE MASTER-DESIGN {UL} XXX KCMIL AL 345 MILS XLP 35KV 100% INS LEVEL 25%TS MV-105 SUN. RES. {NESC}



**Table 1 – Weights and Measurements**

| Stock Number | Cond. Size | Diameter Over Conductor | Diameter Over Insulation | Diameter Over Insulation Shield | Jacket Thickness <sup>1</sup> | Approx. OD | Approx. Weight | Max Pull Tension | Min Bending Radius | Conduit Size* |
|--------------|------------|-------------------------|--------------------------|---------------------------------|-------------------------------|------------|----------------|------------------|--------------------|---------------|
|              | AWG/Kcmil  | inch                    | inch                     | inch                            | mil                           | inch       | lb/1000ft      | lb               | inch               | inch          |
| 674026       | 250        | 0.520                   | 1.256                    | 1.316                           | 80                            | 1.496      | 1113           | 1500             | 18.0               | 5             |

All dimensions are nominal and subject to normal manufacturing tolerances  
 ◊ Cable marked with this symbol is a standard stock item  
 \* Conduit size based on 3 phase 40% fill-factor without ground  
 1 Comply with ICEA S-93-639 Appendix C for jacket thickness determination

**Table 2 – Electrical and Engineering Data**

| Cond. Size | DC Resistance @ 25°C | AC Resistance @ 90°C | Capacitive Reactance @ 60Hz | Inductive Reactance @ 60Hz | Zero Sequence Impedance* | Positive Sequence Impedance* | Shield Short Circuit Current 6 Cycles | Allowable Ampacity In Duct 90/105°C <sup>†</sup> | Allowable Ampacity In Air 90/105°C <sup>‡</sup> |
|------------|----------------------|----------------------|-----------------------------|----------------------------|--------------------------|------------------------------|---------------------------------------|--|---|
| AWG/Kcmil  | Ω/1000ft             | Ω/1000ft             | MΩ*1000ft                   | Ω/1000ft                   | Ω/1000ft                 | Ω/1000ft                     | Amp                                   | Amp  | Amp   |
| 250        | 0.071                | 0.089                | 0.048                       | 0.046                      | 0.424 + j0.261           | 0.090 + j0.046               | 4314                                  | 250/270  | 345/380   |

\* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield Earth resistivity of 100 ohms-meter  
 † Ampacities are based on TABLE 310.60(C)(78) Detail 1. of the 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)  
 ‡ Ampacities are based on TABLE 310.60(C)(70) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

