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

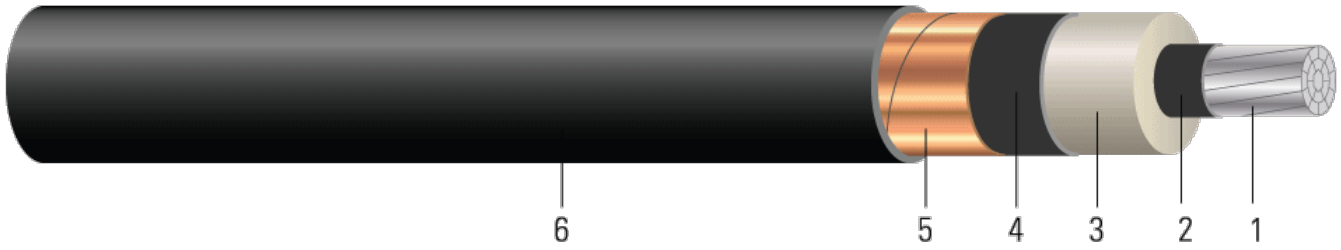

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
3. **Insulation:** 345 Mils Tree Retardant Cross Linked Polyethylene (TRXLPE) 100% Insulation Level,
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **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[1]	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
	AWG/ Kcmil	inch	inch	inch	mil	inch	lb/1000ft	lb	inch	inch
674030	500	0.736	1.472	1.532	80	1.712	1531	3000	20.5	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†	Allowable Ampacity In Air 90/105°C‡
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
500	0.035	0.045	0.037	0.041	0.358 + j0.215	0.046 + j0.041	5017	370/400	530/590

* 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)