

# 1/C AL 25kV 260 NLEPR 100% SIMpull® PVC MV-105

Type MV-105 Single Conductor Aluminum, 260 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, SIMpull Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

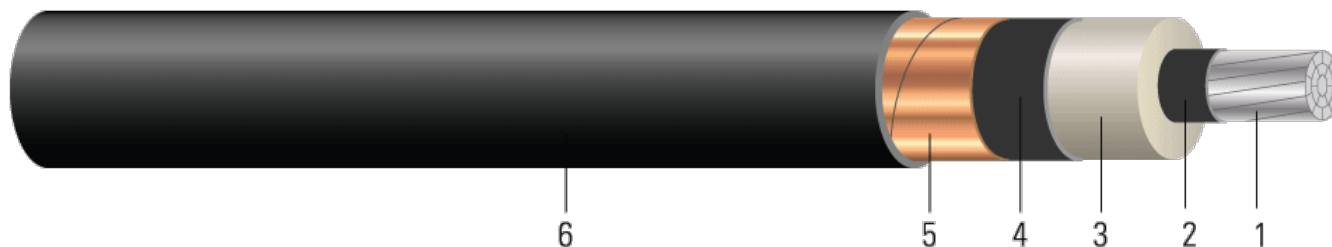


Image not to scale. See Table 1 for dimensions.

## 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:** 260 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 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 25KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial when installed with a grounding conductor in close proximity that conforms to NEC section 311.36 and 250.4(A)(5), 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. Rated at -35°C for cold bend. ST1 (low smoke) Rated for sizes 1/0 and larger. PVC jacket is made with SIM technology and has a coefficient of friction COF of 0.2. Cable can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

## SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- CSA C22.2 No.230 Tray Cables - Rated TC-ER (1/0 AWG and Larger)
- CSA C22.2 No. 2556 / UL 2556 Cable Test Methods
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)
- AIEC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV
- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | [www.southwire.com](http://www.southwire.com)



Southwire

**CABLETECH  
SUPPORT™**

Services

**SAMPLE PRINT LEGEND:**

{SQFTG\_DUAL} SOUTHWIRE SIMpull{R} POWER CABLE MASTER-DESIGN {UL} XXX KCMIL COMPACT AL.--- {ALUMAFLEX}  
 {R} AA8176 260 MILS NL-EPR 25KV 100% INS LEVEL 25%TS MV-105 FOR CT USE SUN. RES. {NESC} PAT  
 www.patentSW.com

**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
TBA	1/0	0.336	0.893	0.953	80	1.133	637	634	13.6	3.5
TBA	2/0	0.376	0.933	0.993	80	1.173	691	799	14.1	3.5
TBA	3/0	0.423	0.980	1.040	80	1.220	757	1007	14.6	3.5
TBA	4/0	0.475	1.032	1.092	80	1.272	834	1270	15.3	3.5
TBA	250	0.520	1.086	1.146	80	1.326	912	1500	15.9	4
TBA	350	0.616	1.182	1.242	80	1.422	1074	2100	17.1	4
585651	500	0.736	1.302	1.362	80	1.542	1301	3000	18.5	5
TBA	750	0.908	1.505	1.565	80	1.745	1695	4500	20.9	5
TBA	1000	1.060	1.657	1.717	110	1.957	2146	6000	23.5	6

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

<sup>1</sup> 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
1/0	0.168	0.211	0.053	0.050	0.577 + j0.366	0.212 + j0.050	3133	155/165	200/225
2/0	0.133	0.167	0.049	0.048	0.530 + j0.351	0.168 + j0.048	3263	175/190	230/260
3/0	0.105	0.132	0.045	0.046	0.491 + j0.334	0.133 + j0.046	3416	200/215	270/300
4/0	0.084	0.105	0.042	0.044	0.461 + j0.316	0.106 + j0.044	3585	230/245	310/345
250	0.071	0.089	0.040	0.043	0.440 + j0.300	0.090 + j0.043	3761	250/270	345/380
350	0.051	0.064	0.035	0.041	0.406 + j0.273	0.064 + j0.041	4073	305/330	430/475
500	0.035	0.045	0.031	0.039	0.375 + j0.244	0.046 + j0.039	4464	370/400	530/590
750	0.024	0.030	0.027	0.037	0.340 + j0.205	0.031 + j0.037	5124	455/490	685/765
1000	0.018	0.023	0.024	0.036	0.318 + j0.181	0.024 + j0.036	5618	525/565	825/920

\* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield Earth resistivity of 100 ohms-meter

<sup>†</sup> Ampacities are based on TABLE 310.60(C)(78) Detail 1. of the 2020 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

<sup>‡</sup> Ampacities are based on TABLE 310.60(C)(70) of the 2020 National Electrical Code (40°C Ambient Air Temperature)

