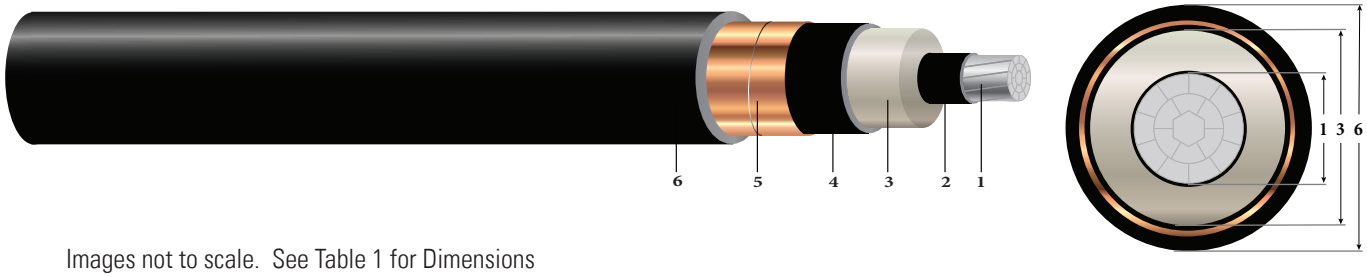
1/C AL 35KV 420 NL-EPR 133% TS SIM*pull*® PVC MV-105

Type MV-105 Single Conductor Aluminum, 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, SIM*pull*® Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA



Images 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**: 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level,
4. **Insulation Shield**: Stripable 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. 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 B800 8000 Series Aluminum Alloy Wire
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 1072 - Medium Voltage Power Cables
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable & ICEA S-97-682 5-46 KV Utility
- UL 1685/FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 AWG and Larger)
- IEEE 1202 -Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 AWG and Larger)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV
- CSA C68.10 - Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- 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

SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] AL 420 MILS NL-EPR 35KV 133% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. TC-ER(CSA 1/0 LARGER) FOR DIRECT BURIAL FT4 -ST1 YEAR (NESC) [SEQUENTIAL FEET MARKS]

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Table 1 – Weights & Measurements

Stock Code	Cond. Size	Diameter over Cond. (1)	Diameter over Insul. (3)	Diameter over Insul. Shield	Jacket Thickness[1]	Approx. OD (6)	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
	AWG	inches	inches	inches	mils	inches	lbs./MFT	lbs.	inches	inches
566994 ◊	1/0	0.336	1.213	1.273	80	1.453	985	634	17.4	4
590621	2/0	0.376	1.253	1.313	80	1.493	1049	799	17.9	5
566995	3/0	0.423	1.300	1.360	80	1.540	1127	1007	18.5	5
591197 ◊	4/0	0.475	1.352	1.412	80	1.592	1217	1270	19.1	5
591198 ◊	250	0.520	1.406	1.466	80	1.646	1308	1500	19.8	5
591199 ◊	350	0.616	1.502	1.562	80	1.742	1495	2100	20.9	5
578178 ◊	500	0.736	1.622	1.682	110	1.922	1856	3000	23.1	6
566996 ◊	750	0.908	1.825	1.885	110	2.125	2311	4500	25.5	6
597787	1000	1.060	1.977	2.037	110	2.277	2702	6000	27.3	

All dimensions are nominal and subject to normal manufacturing tolerances
* Conduit size based on 3 phase 40% fill-factor without ground
[1] Comply with ICEA S-93-639 Appendix C for jacket thickness determination
◊ Standard stock item

Table 2 – Electrical and Engineering Data

Stock Code	Cond. Size	Resistance DC @ 25°C	Resistance AC @ 90°C	Reactance X_C @ 60Hz	Reactance X_L @ 60Hz	Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles	Allowable Ampacities 90°C/105°C In Duct †	Allowable Ampacities 90°C/105°C In Air ‡
	AWG	Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT	Ω/MFT	Ω/MFT	Amps	Amps	Amps
566994 ◊	1/0	0.168	0.211	0.069	0.055	0.212 + j0.055	0.550 + j0.280	4174	155 / 165	200 / 225
590621	2/0	0.133	0.167	0.065	0.053	0.168 + j0.053	0.502 + j0.269	4304	175 / 190	230 / 260
566995	3/0	0.105	0.132	0.061	0.051	0.133 + j0.051	0.462 + j0.257	4457	200 / 215	270 / 300
591197 ◊	4/0	0.084	0.105	0.056	0.050	0.106 + j0.049	0.430 + j0.245	4626	230 / 245	310 / 345
591198 ◊	250	0.071	0.089	0.054	0.048	0.090 + j0.048	0.409 + j0.233	4802	250 / 270	345 / 380
591199 ◊	350	0.051	0.064	0.048	0.046	0.064 + j0.046	0.374 + j0.214	5114	305 / 330	430 / 475
578178 ◊	500	0.035	0.045	0.043	0.044	0.046 + j0.044	0.343 + j0.194	5505	370 / 400	530 / 590
566996 ◊	750	0.024	0.030	0.038	0.041	0.031 + j0.041	0.310 + j0.166	6165	455 / 490	685 / 765
597787	1000	0.018	0.023	0.034	0.039	0.024 + j0.039	0.290 + j0.149	6660	525 / 565	825 / 920

* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / 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)