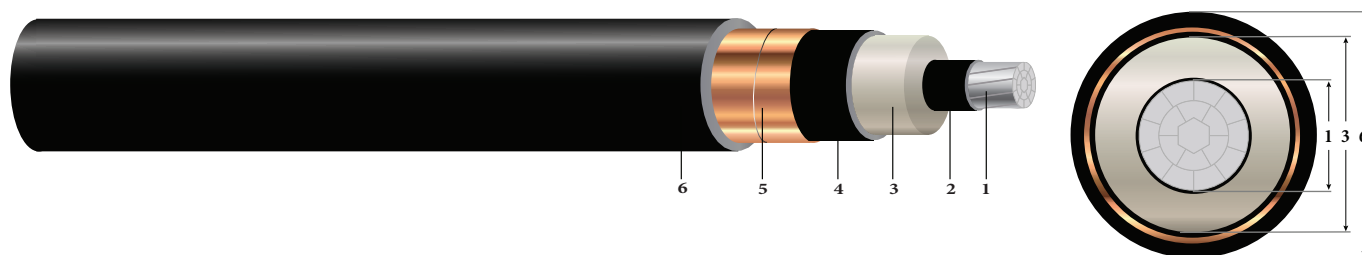


1/C AL 35KV 345 NL-EPR 100% TS SIMpull® PVC MV-105

Type MV-105 Single Conductor Aluminum, 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, SIMpull® Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA



Images 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 No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level,
- Insulation Shield:** Stripable 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. 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 - LIGHTNING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] AL 345 MILS NL-EPR 35KV 100% 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]



Southwire®

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Table 1 – Weights & Measurements

Stock Code	Cond. Size AWG	Diameter over			Jacket Thickness ¹ mils	Approx. OD (6) inches	Approx. Weight lbs./MFT	Max Pull Tension lbs.	Min Bending Radius inches	Conduit Size* inches
		Cond. (1)	Insul. (3)	Insul. Shield						
		inches	inches	inches						
649565	1/0	0.336	1.063	1.123	80	1.303	812	634	15.6	4
649566	2/0	0.376	1.103	1.163	80	1.343	871	799	16.1	4
649569	3/0	0.423	1.150	1.210	80	1.390	943	1007	16.7	4
583741	4/0	0.475	1.202	1.262	80	1.442	1028	1270	17.3	4
580896	250	0.520	1.256	1.316	80	1.496	1113	1500	18.0	5
649572	350	0.616	1.352	1.412	80	1.592	1288	2100	19.1	5
580895	500	0.736	1.472	1.532	80	1.712	1531	3000	20.5	5
597511	750	0.908	1.675	1.735	110	1.975	2058	4500	23.7	6
597784	1000	1.060	1.827	1.887	110	2.127	2432	6000	25.5	6

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

Table 2 – Electrical and Engineering Data

Stock Code	Cond. Size AWG	Resistance		Reactance		Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles Amps	Allowable Ampacities 90°C/105°C	
		DC @ 25°C	AC @ 90°C	X _C @ 60Hz	X _L @ 60Hz				In Duct †	In Air ‡
		Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT				Amps	Amps
649565	1/0	0.168	0.211	0.062	0.053	0.212 + j0.053	0.564 + j0.316	3686	155 / 165	200 / 225
649566	2/0	0.133	0.167	0.058	0.051	0.168 + j0.051	0.516 + j0.303	3816	175 / 190	230 / 260
649569	3/0	0.105	0.132	0.054	0.049	0.133 + j0.049	0.477 + j0.289	3969	200 / 215	270 / 300
583741	4/0	0.084	0.105	0.050	0.047	0.106 + j0.047	0.445 + j0.274	4138	230 / 245	310 / 345
580896	250	0.071	0.089	0.048	0.046	0.090 + j0.046	0.424 + j0.261	4314	250 / 270	345 / 380
649572	350	0.051	0.064	0.042	0.044	0.064 + j0.043	0.389 + j0.239	4626	305 / 330	430 / 475
580895	500	0.035	0.045	0.037	0.041	0.046 + j0.041	0.358 + j0.215	5017	370 / 400	530 / 590
597511	750	0.024	0.030	0.033	0.040	0.031 + j0.039	0.324 + j0.182	5677	455 / 490	685 / 765
597784	1000	0.018	0.023	0.029	0.038	0.024 + j0.038	0.303 + j0.162	6172	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)

