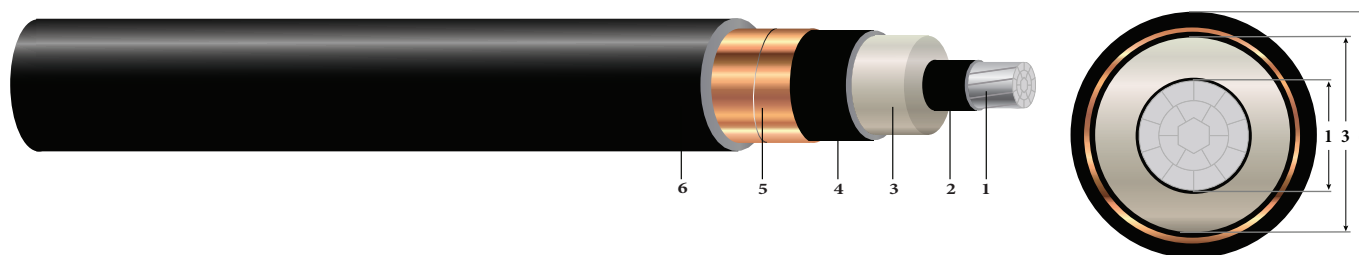


# 1/C AL 15KV 220 NL-EPR 133% 2X5 MILS TS SIMpull® PVC MV-105

Type MV-105 Single Conductor Aluminum, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, 2x5 Mils 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:** 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level,
- Insulation Shield:** Stripable semi-conducting cross-linked copolymer
- Copper Tape Shield:** Helically wrapped 2x5 mil copper tape with 25% overlap
- Overall Jacket:** Polyvinyl Chloride (PVC)

## APPLICATIONS AND FEATURES:

Southwire's 15KV 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. 2x5 mils tape shield for higher short circuit withstand.

## 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 220 MILS NL-EPR 15KV 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]



**Southwire®**

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**Table 1 – Weights & Measurements**

Stock Code	Cond. Size AWG	Diameter over			Jacket Thickness <sup>1</sup> 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						
TBA	2	0.268	0.745	0.805	80	0.985	492	398	11.8	3
TBA	1	0.299	0.776	0.836	80	1.016	529	502	12.2	3
TBA	1/0	0.336	0.813	0.873	80	1.053	582	634	12.6	3
TBA	2/0	0.376	0.853	0.913	80	1.093	643	799	13.1	3
TBA	3/0	0.423	0.900	0.960	80	1.140	700	1007	13.7	3.5
TBA	4/0	0.475	0.952	1.012	80	1.192	792	1270	14.3	3.5
589002	250	0.520	1.006	1.066	80	1.246	885	1500	15.0	3.5
TBA	350	0.616	1.102	1.162	80	1.342	1052	2100	16.1	4
640814	500	0.736	1.222	1.282	80	1.462	1301	3000	17.5	5
TBA	600	0.813	1.330	1.390	80	1.570	1478	3600	18.8	5
589001	750	0.908	1.425	1.485	80	1.665	1707	4500	20.0	5
585564	1000	1.060	1.577	1.637	110	1.877	2170	6000	22.5	6

All dimensions are nominal and subject to normal manufacturing tolerances

\* 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**

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 <sub>C</sub> @ 60Hz	X <sub>L</sub> @ 60Hz				In Duct †	In Air ‡
		Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT				Amps	Amps
TBA	2	0.266	0.334	0.055	0.052	0.335 + j0.052	0.705 + j0.425	5302	120 / 130	150 / 170
TBA	1	0.211	0.265	0.051	0.050	0.266 + j0.050	0.636 + j0.411	5504	135 / 145	175 / 195
TBA	1/0	0.168	0.211	0.048	0.048	0.212 + j0.048	0.580 + j0.394	5746	155 / 165	200 / 225
TBA	2/0	0.133	0.167	0.044	0.046	0.168 + j0.046	0.535 + j0.377	6006	175 / 190	235 / 260
TBA	3/0	0.105	0.132	0.041	0.044	0.133 + j0.044	0.497 + j0.359	6312	200 / 215	270 / 300
TBA	4/0	0.084	0.105	0.038	0.043	0.106 + j0.043	0.467 + j0.339	6650	230 / 245	310 / 350
589002	250	0.071	0.089	0.036	0.042	0.090 + j0.042	0.446 + j0.321	7002	250 / 270	345 / 385
TBA	350	0.051	0.064	0.031	0.040	0.064 + j0.040	0.413 + j0.292	7626	305 / 330	430 / 480
640814	500	0.035	0.045	0.027	0.037	0.046 + j0.037	0.383 + j0.260	8406	370 / 400	535 / 600
TBA	600	0.030	0.038	0.027	0.037	0.038 + j0.037	0.365 + j0.236	9110	404 / 436	601 / 672
589001	750	0.024	0.030	0.024	0.036	0.031 + j0.036	0.348 + j0.217	9728	455 / 490	700 / 780
585564	1000	0.018	0.023	0.021	0.035	0.024 + j0.035	0.326 + j0.191	10716	525 / 565	840 / 940

\* 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)

