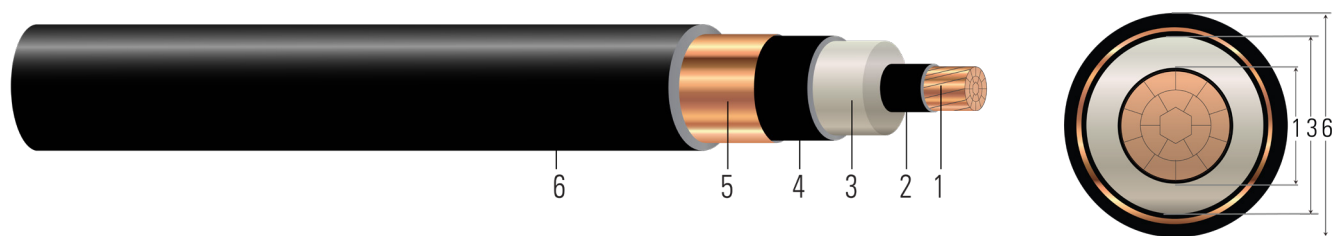


# 1/C COMPACT CU 15KV 220 NL-EPR 133% TS SIMpull® PVC MV-105

Type MV-105 Single Conductor Compact Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, SIMpull® Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA



Images not to scale. See Table 1 for Dimensions

## CONSTRUCTION:

1. **Conductor:** Class B compact stranded per ASTM B496
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 220 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 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.

## SPECIFICATIONS:

- ASTM B496 - Compact Round Concentric-lay-standard copper
- 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] CU 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						
TBD	2	0.268	0.745	0.805	80	0.985	626	531	11.8	3
TBD	1	0.299	0.776	0.836	80	1.016	701	670	12.2	3
647203	1/0	0.336	0.813	0.873	80	1.053	793	845	12.6	3
TBD	2/0	0.376	0.853	0.913	80	1.093	904	1065	13.1	3
TBD	3/0	0.423	0.900	0.960	80	1.140	1042	1342	13.7	3.5
TBD	4/0	0.475	0.952	1.012	80	1.192	1210	1693	14.3	3.5
TBD	250	0.520	1.006	1.066	80	1.246	1362	2000	15.0	3.5
647207	350	0.616	1.102	1.162	80	1.342	1732	2800	16.1	4
553998	500	0.736	1.222	1.282	80	1.462	2268	4000	17.5	5
TBA	600	0.813	1.330	1.390	80	1.570	2626	4800	18.8	5
561603	750	0.908	1.425	1.485	80	1.665	3146	6000	20.0	5
TBD	1000	1.060	1.577	1.637	110	1.877	4099	8000	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

◇ Standard stock item

**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
TBD	2	0.162	0.203	0.055	0.052	0.335 + j0.052	0.705 + j0.425	2651	155 / 165	195 / 215
TBD	1	0.129	0.161	0.051	0.050	0.266 + j0.050	0.636 + j0.411	2752	175 / 185	225 / 250
647203	1/0	0.102	0.128	0.048	0.048	0.212 + j0.048	0.580 + j0.394	2873	200 / 215	260 / 290
TBD	2/0	0.081	0.101	0.044	0.046	0.168 + j0.046	0.535 + j0.377	3003	230 / 245	300 / 335
TBD	3/0	0.064	0.080	0.041	0.044	0.133 + j0.044	0.497 + j0.359	3156	260 / 275	345 / 385
TBD	4/0	0.051	0.064	0.038	0.043	0.106 + j0.043	0.467 + j0.339	3325	295 / 315	400 / 445
TBD	250	0.043	0.054	0.036	0.042	0.090 + j0.042	0.446 + j0.321	3501	325 / 345	445 / 495
647207	350	0.031	0.039	0.031	0.040	0.064 + j0.040	0.413 + j0.292	3813	390 / 415	550 / 610
553998	500	0.022	0.028	0.027	0.037	0.046 + j0.037	0.383 + j0.260	4203	465 / 500	685 / 765
TBA	600	0.018	0.024	0.027	0.037	0.038 + j0.037	0.365 + j0.236	4555	505 / 544	765 / 855
561603	750	0.014	0.019	0.024	0.036	0.031 + j0.036	0.348 + j0.217	4864	565 / 610	885 / 990
TBD	1000	0.011	0.015	0.021	0.035	0.024 + j0.035	0.326 + j0.191	5358	640 / 690	1060 / 1185

\* 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)(77) 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)(69) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

