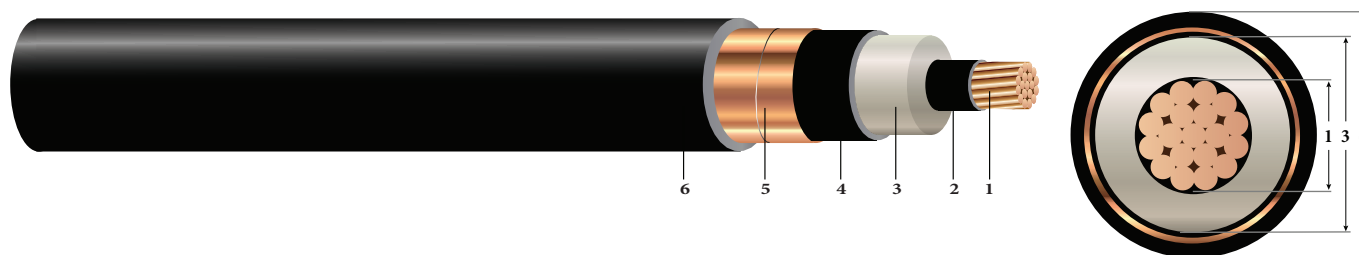


1/C CU 25KV 320 NL-EPR 133% TS SIMpull® PVC MV-105

Type MV-105 Single Conductor Copper, 320 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 compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 320 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 25KV 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 B3 Soft or annealed copper
- ASTM B8 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 320 MILS NL-EPR 25KV 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 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						
TBA	1	0.322	0.999	1.059	80	1.239	909	670	14.9	3.5
644614 [◇]	1/0	0.362	1.039	1.099	80	1.279	1009	845	15.3	4
644615	2/0	0.405	1.082	1.142	80	1.322	1129	1065	15.9	4
644616	3/0	0.456	1.133	1.193	80	1.373	1278	1342	16.5	4
644618	4/0	0.512	1.189	1.249	80	1.429	1459	1693	17.1	4
644619	250	0.558	1.244	1.304	80	1.484	1622	2000	17.8	5
644621	350	0.661	1.347	1.407	80	1.587	2015	2800	19.0	5
644623 [◇]	500	0.789	1.475	1.535	80	1.715	2582	4000	20.6	5
644626 [◇]	750	0.968	1.663	1.723	110	1.963	3614	6000	23.6	6
644627	1000	1.117	1.812	1.872	110	2.112	4514	8000	25.3	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

[◇] 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 _C @ 60Hz	X _L @ 60Hz				In Duct †	In Air ‡
		Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT				Amps	Amps
TBA	1	0.129	0.161	0.061	0.053	0.162 + j0.053	0.519 + j0.334	3478	175 / 185	225 / 250
644614 [◇]	1/0	0.102	0.128	0.057	0.051	0.128 + j0.051	0.482 + j0.321	3608	200 / 215	260 / 290
644615	2/0	0.081	0.101	0.053	0.049	0.102 + j0.049	0.452 + j0.307	3748	230 / 245	300 / 330
644616	3/0	0.064	0.080	0.049	0.047	0.081 + j0.047	0.427 + j0.291	3914	260 / 275	345 / 380
644618	4/0	0.051	0.064	0.045	0.045	0.065 + j0.045	0.405 + j0.276	4096	295 / 315	395 / 445
644619	250	0.043	0.054	0.043	0.044	0.055 + j0.044	0.390 + j0.262	4275	325 / 345	440 / 490
644621	350	0.031	0.039	0.038	0.042	0.040 + j0.042	0.365 + j0.238	4610	390 / 415	545 / 605
644623 [◇]	500	0.022	0.028	0.034	0.040	0.029 + j0.039	0.341 + j0.213	5026	465 / 500	680 / 755
644626 [◇]	750	0.014	0.019	0.029	0.038	0.020 + j0.038	0.314 + j0.182	5638	565 / 610	870 / 970
644627	1000	0.011	0.015	0.026	0.036	0.016 + j0.036	0.296 + j0.163	6123	640 / 690	1040 / 1160

* 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)

