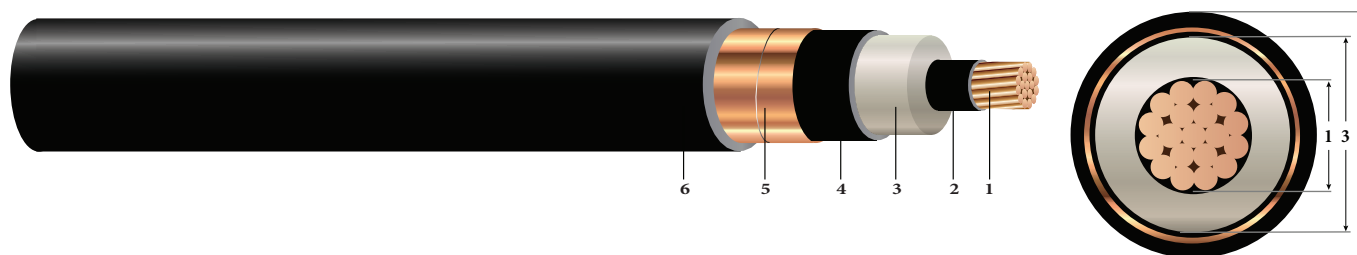


1/C CU 25KV 320 NL-EPR 133% TS CPE MV-105

Type MV-105 Single Conductor Copper, 320 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Chlorinated Polyethylene (CPE) 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:** Thermoplastic Chlorinated Polyethylene (CPE)

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. 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)
- AIEC 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] 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]



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SPEC 46503_PSS DIVISION DATE: 01/24/2018 Rev:2.0.07C

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 Bend- ing Radius inches	Conduit Size* inches
		Cond. (1) inches	Insul. (3) inches	Insul. Shield inches						
TBA	1	0.322	0.999	1.059	80	1.239	922	670	14.9	3.5
TBA	1/0	0.362	1.039	1.099	80	1.279	1023	845	15.3	4
TBA	2/0	0.405	1.082	1.142	80	1.322	1143	1065	15.9	4
TBA	3/0	0.456	1.133	1.193	80	1.373	1293	1342	16.5	4
TBA	4/0	0.512	1.189	1.249	80	1.429	1475	1693	17.1	4
TBA	250	0.558	1.244	1.304	80	1.484	1638	2000	17.8	5
TBA	350	0.661	1.347	1.407	80	1.587	2033	2800	19.0	5
TBA	500	0.789	1.475	1.535	80	1.715	2601	4000	20.6	5
TBA	750	0.968	1.663	1.723	110	1.963	3643	6000	23.6	6
TBA	1000	1.117	1.812	1.872	110	2.112	4546	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

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	Ω/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
TBA	1/0	0.102	0.128	0.057	0.051	0.128 + j0.051	0.482 + j0.321	3608	200 / 215	260 / 290
TBA	2/0	0.081	0.101	0.053	0.049	0.102 + j0.049	0.452 + j0.307	3748	230 / 245	300 / 330
TBA	3/0	0.064	0.080	0.049	0.047	0.081 + j0.047	0.427 + j0.291	3914	260 / 275	345 / 380
TBA	4/0	0.051	0.064	0.045	0.045	0.065 + j0.045	0.405 + j0.276	4096	295 / 315	395 / 445
TBA	250	0.043	0.054	0.043	0.044	0.055 + j0.044	0.390 + j0.262	4275	325 / 345	440 / 490
TBA	350	0.031	0.039	0.038	0.042	0.040 + j0.042	0.365 + j0.238	4610	390 / 415	545 / 605
TBA	500	0.022	0.028	0.034	0.040	0.029 + j0.039	0.341 + j0.213	5026	465 / 500	680 / 755
TBA	750	0.014	0.019	0.029	0.038	0.020 + j0.038	0.314 + j0.182	5638	565 / 610	870 / 970
TBA	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)

