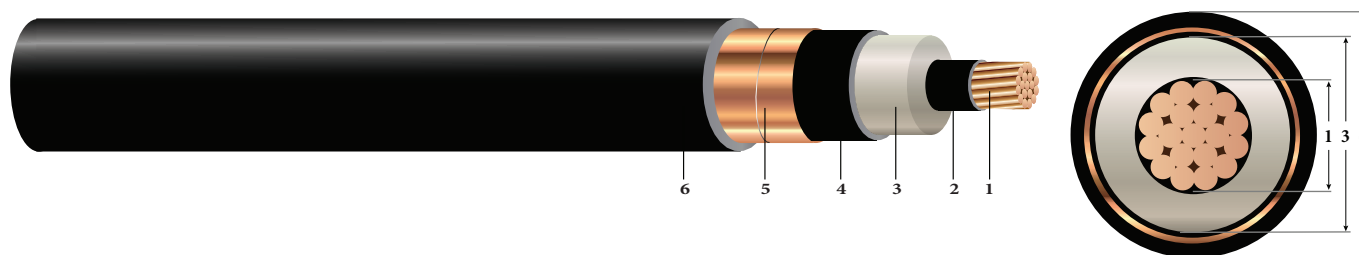


1/C CU 15KV 220 NL-EPR 133% TS CPE MV-105

Type MV-105 Single Conductor Copper, 220 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:** 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:** Chlorinated Polyethylene (CPE)

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. 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 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 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						
550502 [◇]	2	0.283	0.760	0.820	80	1.000	650	531	12.0	3
TBA	1	0.322	0.799	0.859	80	1.039	726	670	12.5	3
550503 [◇]	1/0	0.362	0.839	0.899	80	1.079	820	845	12.9	3
550504 [◇]	2/0	0.405	0.882	0.942	80	1.122	934	1065	13.5	3.5
570935	3/0	0.456	0.933	0.993	80	1.173	1076	1342	14.1	3.5
550505 [◇]	4/0	0.512	0.989	1.049	80	1.229	1249	1693	14.7	3.5
550506	250	0.558	1.044	1.104	80	1.284	1404	2000	15.4	4
550507 [◇]	350	0.661	1.147	1.207	80	1.387	1782	2800	16.6	4
550508 [◇]	500	0.789	1.275	1.335	80	1.515	2331	4000	18.2	5
550510 [◇]	750	0.968	1.463	1.523	80	1.703	3229	6000	20.4	5
550511	1000	1.117	1.612	1.672	110	1.912	4212	8000	22.9	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
550502 [◇]	2	0.162	0.203	0.053	0.051	0.203 + j0.051	0.573 + j0.418	2700	155 / 165	195 / 215
TBA	1	0.129	0.161	0.049	0.049	0.162 + j0.049	0.531 + j0.400	2827	175 / 185	225 / 250
550503 [◇]	1/0	0.102	0.128	0.045	0.047	0.128 + j0.047	0.496 + j0.383	2957	200 / 215	260 / 290
550504 [◇]	2/0	0.081	0.101	0.042	0.045	0.102 + j0.045	0.467 + j0.366	3097	230 / 245	300 / 335
570935	3/0	0.064	0.080	0.039	0.043	0.081 + j0.043	0.443 + j0.346	3263	260 / 275	345 / 385
550505 [◇]	4/0	0.051	0.064	0.036	0.042	0.065 + j0.042	0.423 + j0.327	3445	295 / 315	400 / 445
550506	250	0.043	0.054	0.034	0.041	0.055 + j0.041	0.409 + j0.309	3624	325 / 345	445 / 495
550507 [◇]	350	0.031	0.039	0.030	0.039	0.040 + j0.039	0.384 + j0.279	3959	390 / 415	550 / 610
550508 [◇]	500	0.022	0.028	0.026	0.037	0.029 + j0.037	0.361 + j0.248	4376	465 / 500	685 / 765
550510 [◇]	750	0.014	0.019	0.022	0.035	0.020 + j0.035	0.334 + j0.210	4987	565 / 610	885 / 990
550511	1000	0.011	0.015	0.020	0.034	0.016 + j0.034	0.315 + j0.185	5472	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)

