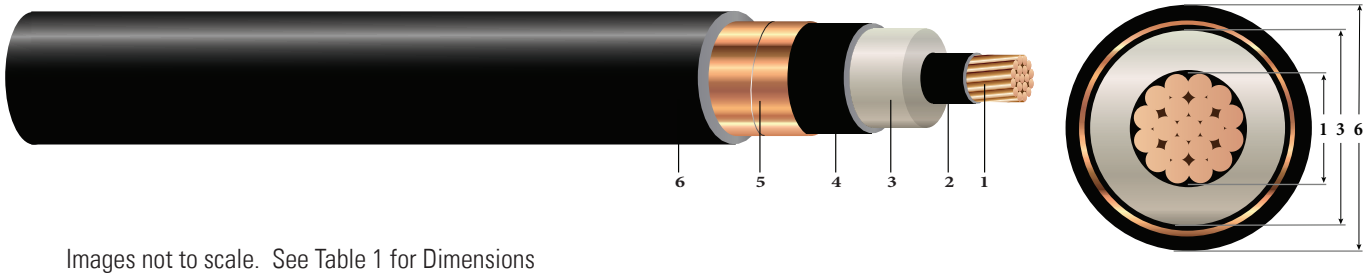
1/C CU 35KV 420 NL-EPR 133% TS CPE MV-105

Type MV-105 Single Conductor Copper, 420 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**: 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level,
4. **Insulation Shield**: Strippable 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 35KV 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 - LIGHTING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] CU 420 MILS NL-EPR 35KV 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]

Table 1 – Weights & Measurements

Stock Code	Cond. Size	Diameter over Cond. (1)	Diameter over Insul. (3)	Diameter over Insul. Shield	Jacket Thickness[1]	Approx. OD (6)	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
	AWG	inches	inches	inches	mils	inches	lbs./MFT	lbs.	inches	inches
TBA	1/0	0.362	1.239	1.299	80	1.479	1256	845	17.7	5
TBA	2/0	0.405	1.282	1.342	80	1.522	1383	1065	18.3	5
TBA	3/0	0.456	1.333	1.393	80	1.573	1541	1342	18.9	5
TBA	4/0	0.512	1.389	1.449	80	1.629	1731	1693	19.5	5
TBA	250	0.558	1.444	1.504	80	1.684	1903	2000	20.2	5
558715	350	0.661	1.547	1.607	110	1.847	2422	2800	22.2	6
TBA	500	0.789	1.675	1.735	110	1.975	3018	4000	23.7	6
TBA	750	0.968	1.863	1.923	110	2.163	3986	6000	26.0	6
TBA	1000	1.117	2.012	2.072	110	2.312	4912	8000	27.7	

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	Resistance DC @ 25°C	Resistance AC @ 90°C	Reactance X_C @ 60Hz	Reactance X_L @ 60Hz	Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles	Allowable Ampacities 90°C/105°C In Duct †	Allowable Ampacities 90°C/105°C In Air ‡
	AWG	Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT	Ω/MFT	Ω/MFT	Amps	Amps	Amps
TBA	1/0	0.102	0.128	0.066	0.054	0.128 + j0.054	0.464 + j0.273	4259	200 / 215	260 / 290
TBA	2/0	0.081	0.101	0.062	0.052	0.102 + j0.052	0.434 + j0.262	4398	230 / 245	300 / 330
TBA	3/0	0.064	0.080	0.058	0.050	0.081 + j0.050	0.408 + j0.249	4564	260 / 275	345 / 380
TBA	4/0	0.051	0.064	0.054	0.048	0.065 + j0.048	0.386 + j0.236	4747	295 / 315	395 / 445
TBA	250	0.043	0.054	0.051	0.047	0.055 + j0.047	0.370 + j0.225	4926	325 / 345	440 / 490
558715	350	0.031	0.039	0.046	0.045	0.040 + j0.045	0.345 + j0.206	5261	390 / 415	545 / 605
TBA	500	0.022	0.028	0.041	0.043	0.029 + j0.043	0.321 + j0.186	5677	465 / 500	680 / 755
TBA	750	0.014	0.019	0.035	0.040	0.020 + j0.040	0.295 + j0.161	6289	565 / 610	870 / 970
TBA	1000	0.011	0.015	0.032	0.038	0.016 + j0.038	0.279 + j0.145	6773	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)