CU Compressed 25kV NLEPR Insulation 133% IL Black CPE-TP Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

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. Silicone Free

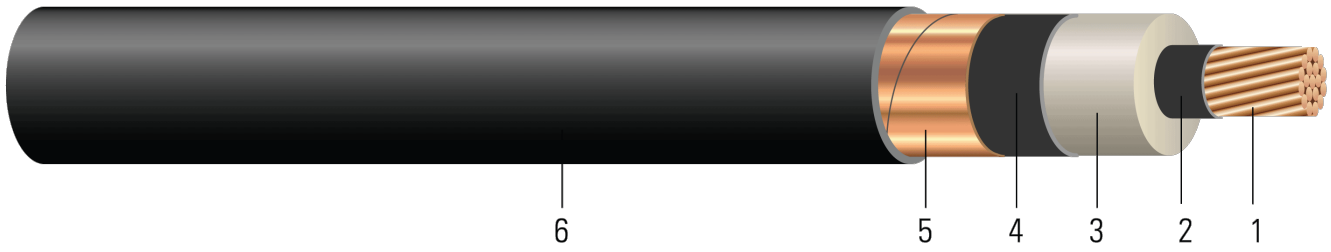

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
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:** 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 25KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial when installed with a grounding conductor in close proximity that conforms to NEC section 311.36 and 250.4(A)(5), 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 when UL listed. Rated at -25°C for cold bend and cold impact and marked with "LTDD" when CSA listed or dual UL/CSA listed. 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 Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- 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
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)

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UPDATED: Dec. 31, 2024, 11:08 p.m.UTC REVISION: 1.000.000

- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661

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]

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size
	AWG/ Kcmil	No. of Strands	inch	inch	inch	mil	inch	lb/1000ft	lb/1000ft	lb	inch	inch
TBA	1	19	0.322	1	1.06	80	1.24	345	961	669	14.9	3
TBA	1/0	19	0.362	1.04	1.1	80	1.28	417	1065	844	15.4	3.5
TBA	2/0	19	0.405	1.083	1.143	80	1.323	505	1187	1064	15.9	3.5
TBA	3/0	19	0.456	1.134	1.194	80	1.374	616	1339	1342	16.5	3.5
TBA	4/0	19	0.512	1.19	1.25	80	1.43	756	1523	1692	17.2	3.5
TBA	250	37	0.558	1.244	1.304	80	1.484	879	1693	2000	17.8	4
TBA	350	37	0.661	1.347	1.407	80	1.587	1197	2094	2800	19	4
668311	500	37	0.789	1.452	1.512	110	1.752	1670	2693	4000	21	4.5
665044	750	61	0.968	1.664	1.724	110	1.964	2459	3659	6000	23.6	5
TBA	1000	61	1.117	1.813	1.873	110	2.113	3242	4634	8000	25.4	5.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Conduit size based on 3 phase 40% fill-factor without ground
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance	Positive Sequence Impedance	Shield Short Circuit Current 6 Cycles	Allowable Ampacity In Duct 90/105°C	Allowable Ampacity In Air 90/105°C
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1	0.128	0.175	0.053	0.053	0.533+j0.379	0.176+j0.058	3315	170/185	185/210
1/0	0.102	0.139	0.05	0.051	0.495+j0.365	0.140+j0.056	3439	195/210	215/240
2/0	0.082	0.112	0.047	0.049	0.466+j0.350	0.113+j0.054	3572	220/235	245/275
3/0	0.064	0.087	0.043	0.047	0.438+j0.334	0.088+j0.053	3730	250/270	285/315
4/0	0.051	0.07	0.04	0.045	0.418+j0.318	0.071+j0.051	3904	285/305	325/360
250	0.043	0.059	0.038	0.044	0.403+j0.304	0.060+j0.050	4071	310/335	360/400
350	0.031	0.043	0.034	0.042	0.379+j0.278	0.044+j0.047	4390	375/400	435/490
500	0.021	0.03	0.029	0.04	0.357+j0.255	0.031+j0.045	4716	450/485	535/600
750	0.014	0.021	0.025	0.038	0.331+j0.217	0.022+j0.043	5373	545/585	670/745
1000	0.011	0.018	0.023	0.036	0.316+j0.195	0.019+j0.042	5834	615/660	770/860

***** NEC ampacities are based on:
***** For Duct: Table 310.60(C)(11) Detail 1.

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* For Free Air: Table 310.60(C)(3).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center..
* Capacitive Reactance is between Phase-to-Shield.

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