CU Compressed 35kV NLEPR Insulation 133% IL Black CPE-TP Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Dual Rated UL/CSA

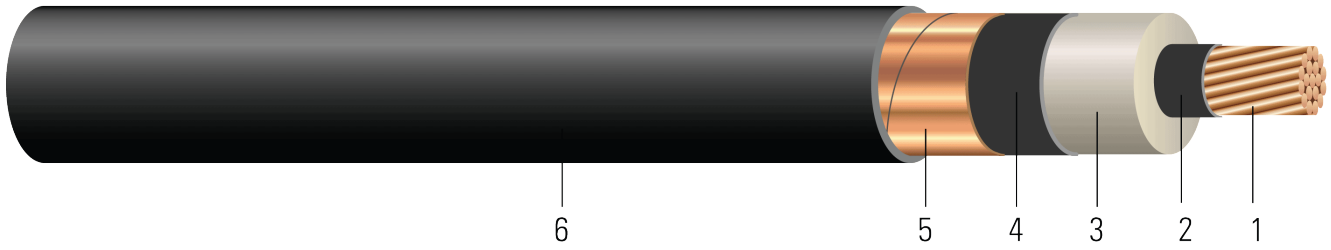


Image not to scale. See Table 1 for dimensions.

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:** 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-TP)

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 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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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 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	1/0	19	0.361	1.239	1.299	80	1.479	351	1207	844	17.7	4.5
TBA	2/0	19	0.405	1.283	1.343	80	1.523	436	1333	1064	18.2	4.5
TBA	3/0	19	0.456	1.334	1.394	80	1.574	545	1488	1342	18.8	4.5
TBA	4/0	19	0.512	1.390	1.450	80	1.630	682	1676	1692	19.5	4.5
TBA	250	37	0.558	1.444	1.504	110	1.744	801	1950	2000	20.9	5.0
TBA	250	37	0.558	1.444	1.504	110	1.744	801	1950	2000	20.9	5.0
TBA	350	37	0.661	1.547	1.607	110	1.847	1113	2364	2800	22.1	5.5
679731	500	37	0.789	1.652	1.712	110	1.952	1677	2995	4000	23.4	5.5
TBA	750	61	0.968	1.864	1.924	110	2.164	2354	3926	6000	25.9	6.0
TBA	1000	61	1.117	2.013	2.073	110	2.313	3129	4851	8000	27.7	
TBA	1250	91	1.250	2.150	2.210	110	2.450	3903	5765	10000	29.4	

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

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	0.102	0.128	0.064	0.054	0.465 + j0.274	0.129 + j0.054	4055	200/215	260/290
2/0	0.081	0.102	0.060	0.052	0.434 + j0.263	0.103 + j0.052	4192	230/245	300/330
3/0	0.064	0.081	0.056	0.050	0.408 + j0.25	0.082 + j0.05	4350	260/275	345/380
4/0	0.051	0.065	0.052	0.048	0.387 + j0.237	0.066 + j0.049	4523	295/315	395/445
250	0.043	0.056	0.049	0.048	0.372 + j0.227	0.057 + j0.048	4690	325/345	440/490
250	0.043	0.056	0.049	0.048	0.372 + j0.227	0.057 + j0.048	4690	325/345	440/490
350	0.031	0.041	0.044	0.045	0.347 + j0.207	0.042 + j0.045	5009	390/415	545/605
500	0.022	0.030	0.039	0.043	0.324 + j0.187	0.031 + j0.043	5406	465/500	680/755
750	0.014	0.023	0.034	0.040	0.3 + j0.161	0.024 + j0.04	5992	565/610	870/970
1000	0.011	0.019	0.030	0.038	0.283 + j0.145	0.02 + j0.038	6453	640/690	1040/1160
1250	0.009	0.018	0.028	0.037	0.271 - j0.124	0.019 - j0.219	6878	715/770	1185/1320

* Ampacities are based on:
* For Duct: Table 310.60(C)(77) Detail 1.
* For Free Air: Table 310.60(C)(69).

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* Inductive impedance is based on non-ferrous conduit with one diameter spacing.
* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
* Capacitive Reactance is between Phase-to-Shield.