CU Compressed 8kV NLEPR Insulation 133% IL CPE-TP Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 140 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Dual Rated UL/CSA. Silicone Free

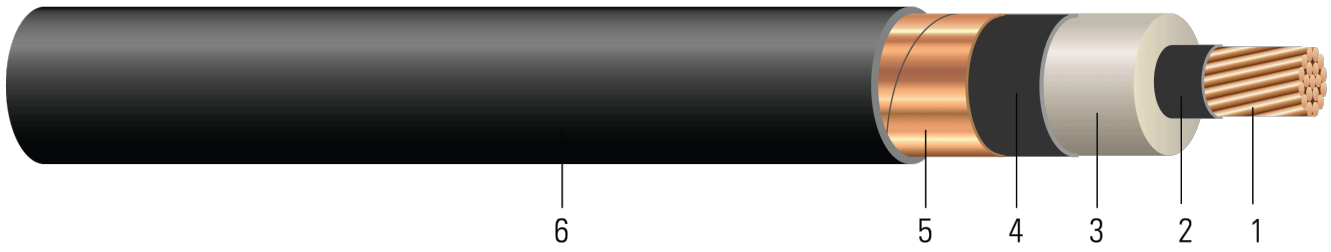

Image not to scale. See Table 1 for dimensions.

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:** 140 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 8KV 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. Rated for 1000 lbs./FT maximum sidewall pressure. CT rated 1/0 and larger.

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 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- CSA C22.2 No.230 Tray Cables - Rated TC
- 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
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)

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- 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:

{SQFTG_DUAL} SOUTHWIRE® POWER CABLE {UL} XX KCMIL CU 140 MILS NL-EPR CPE JKT 8KV 133% INS LEVEL 25%TS TYPE MV-105 FOR CT USE SUN RES OIL RES I/II {NESC}

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	2	7	0.283	0.601	0.661	55	0.791	260	490	530	9.5	2
TBA	1	19	0.322	0.64	0.7	80	0.88	316	601	669	10.6	2
TBA	1/0	19	0.362	0.68	0.74	80	0.92	387	691	844	11	2.5
646917	2/0	19	0.405	0.724	0.784	80	0.964	481	799	1064	11.6	2.5
TBA	3/0	19	0.456	0.774	0.834	80	1.014	587	935	1342	12.2	2.5
584285	4/0	19	0.512	0.83	0.89	80	1.07	732	1098	1692	12.8	2.5
668497	250	37	0.558	0.884	0.944	80	1.124	854	1248	2000	13.5	3
646915	350	37	0.661	0.967	1.027	80	1.207	1169	1602	2800	14.5	3
555204	500	37	0.789	1.115	1.175	80	1.355	1641	2158	4000	16.3	3.5
568211	750	61	0.968	1.304	1.364	80	1.544	2430	3027	6000	18.5	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
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
2	0.162	0.221	0.033	0.045	0.572+j0.527	0.222+j0.052	2079	150/160	165/185
1	0.128	0.175	0.03	0.045	0.528+j0.506	0.176+j0.050	2200	170/185	185/210
1/0	0.102	0.139	0.028	0.043	0.495+j0.487	0.140+j0.049	2324	195/210	215/240
2/0	0.082	0.112	0.026	0.042	0.471+j0.467	0.113+j0.047	2460	220/235	245/275
3/0	0.064	0.087	0.023	0.04	0.447+j0.445	0.088+j0.046	2615	250/270	285/315
4/0	0.051	0.07	0.021	0.039	0.431+j0.422	0.071+j0.044	2789	285/305	325/360
250	0.043	0.059	0.02	0.038	0.420+j0.402	0.060+j0.043	2956	310/335	360/400
350	0.031	0.043	0.016	0.036	0.402+j0.372	0.044+j0.041	3213	375/400	435/490
500	0.021	0.03	0.015	0.034	0.382+j0.327	0.031+j0.040	3672	450/485	535/600
750	0.014	0.021	0.013	0.032	0.360+j0.278	0.022+j0.038	4257	545/585	670/745

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(11) Detail 1.
* For Free Air: Table 310.60(C)(3).

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* 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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