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

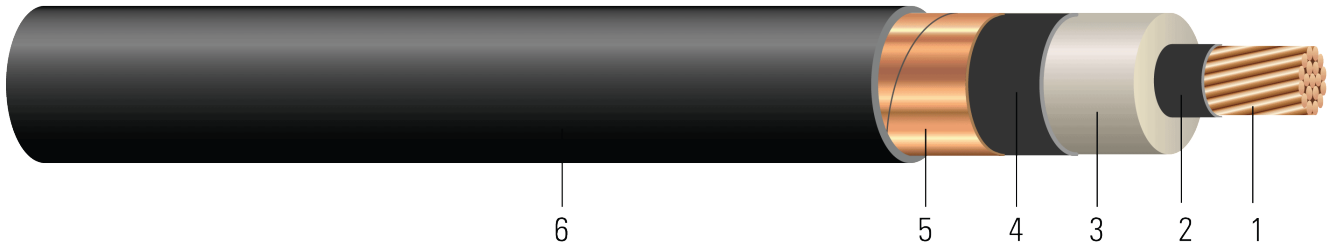

Image not to scale. See Table 1 for dimensions.

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)

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

- 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	0.282	0.600	0.660	55	0.790	217	439	530	9.4	2.5
TBA	1	19	0.322	0.640	0.700	80	0.880	272	554	669	10.5	2.5
TBA	1/0	19	0.361	0.679	0.739	80	0.919	339	639	844	11.0	3.0
TBA	2/0	19	0.405	0.723	0.783	80	0.963	425	746	1064	11.5	3.0
TBA	3/0	19	0.456	0.774	0.834	80	1.014	534	878	1342	12.1	3.0
584285	4/0	19	0.512	0.816	0.876	80	1.056	726	1086	1692	12.6	3.0
TBA	250	37	0.558	0.884	0.944	80	1.124	789	1189	2000	13.4	3.5
TBA	350	37	0.661	0.987	1.047	80	1.227	1101	1550	2800	14.7	3.5
555204	500	37	0.789	1.092	1.152	80	1.332	1636	2127	4000	15.9	4.0
568211	750	61	0.968	1.304	1.364	80	1.544	2423	3019	6000	18.5	4.5

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

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	0.204	0.039	0.045	0.573 + j0.49	0.204 + j0.046	2075	155/165	195/215
1	0.128	0.162	0.035	0.045	0.532 + j0.467	0.162 + j0.045	2199	175/185	225/250
1/0	0.102	0.128	0.032	0.043	0.499 + j0.447	0.128 + j0.043	2320	200/215	260/290
2/0	0.081	0.102	0.030	0.042	0.473 + j0.426	0.102 + j0.042	2456	230/245	300/335
3/0	0.064	0.081	0.027	0.040	0.451 + j0.403	0.081 + j0.04	2614	260/275	345/385
4/0	0.051	0.065	0.025	0.039	0.433 + j0.38	0.065 + j0.039	2788	295/315	400/445
250	0.043	0.056	0.024	0.038	0.422 + j0.359	0.057 + j0.038	2955	325/345	445/495
350	0.031	0.041	0.020	0.036	0.4 + j0.323	0.042 + j0.036	3274	390/415	550/610
500	0.022	0.030	0.018	0.034	0.378 + j0.284	0.031 + j0.034	3671	465/500	685/765
750	0.014	0.023	0.015	0.032	0.353 + j0.238	0.024 + j0.032	4257	565/610	885/990

* Ampacities are based on:
* For Duct: Table 310.60(C)(77) Detail 1.
* For Free Air: Table 310.60(C)(69).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing.

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
* Capacitive Reactance is between Phase-to-Shield.