CU Compressed 5/8kV NLEPR Insulation 133/100% IL PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Copper, 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 5kV 133% / 8kV 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) 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:** 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 5kV 133% / 8kV 100% 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. **Grounding Conductor:** Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
7. **Filler:** Wax paper filler
8. **Binder:** Poly glass tape
9. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 5kV / 8kV 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 -40°C for cold bend and cold impact and marked with "LTGG" when CSA listed or dual UL/CSA listed. For uses in Class I and II, Division 2 hazardous locations per NEC Article 501 and 502. 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
- ASTM B496 Compact Round Concentric-lay-standard copper
- UL 1072 Medium-Voltage Power Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- UL 2225 Cables and Cable-Fittings For Use In Hazardous (Classified) Locations
- CSA C22.2 No.230 Tray Cables - Rated TC-ER
- CSA C22.2 No. 2556 / UL 2556 Cable Test Methods

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- 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
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- 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} 3/C XXX AWG CU 115 MILS NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS GW 1 X XX AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL -- CSA 1/0 AWG CU 2.92mm (115 mils) NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS SR TC-ER 90°C FT4 -40°C LTGG {NESC}

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb/1000ft	lb	inch
956292◊	2	7	0.282	0.545	0.605	1x6	80	1.518	854	1561	1592	10.6
956300◊	1/0	19	0.361	0.630	0.690	1x4	110	1.762	1288	2220	2534	12.3
958371◊	2/0	19	0.405	0.674	0.734	1x4	110	1.857	1555	2570	3194	12.9
558171	3/0	19	0.456	0.724	0.784	1x3	110	1.965	1929	2953	4027	13.7
957456◊	4/0	19	0.512	0.766	0.826	1x3	110	2.056	2348	3527	5078	14.3
958386	250	37	0.558	0.834	0.894	1x2	110	2.209	2765	4060	6000	15.4
955179◊	350	37	0.661	0.917	0.977	1x2	110	2.388	3719	5197	8400	16.7
958397◊	500	37	0.789	1.042	1.102	1x1	110	2.658	5208	6948	12000	18.6
557496	750	61	0.968	1.254	1.314	1x1/0	135	3.166	7661	9972	18000	22.1

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item

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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	0.034	0.040	0.574 + j0.516	0.204 + j0.041	1920	135/145	140/154
1/0	0.102	0.128	0.028	0.037	0.502 + j0.471	0.128 + j0.037	2165	175/190	185/205
2/0	0.081	0.102	0.026	0.036	0.477 + j0.449	0.102 + j0.036	2302	200/220	215/240
3/0	0.064	0.081	0.024	0.035	0.456 + j0.424	0.081 + j0.035	2459	230/250	250/280
4/0	0.051	0.065	0.021	0.034	0.439 + j0.399	0.065 + j0.034	2633	265/280	285/320
250	0.043	0.056	0.020	0.033	0.428 + j0.376	0.056 + j0.033	2800	290/315	320/355
350	0.031	0.041	0.018	0.032	0.406 + j0.338	0.041 + j0.032	3120	355/380	395/440
500	0.022	0.030	0.015	0.030	0.385 + j0.297	0.03 + j0.03	3516	430/460	485/545
750	0.014	0.023	0.013	0.029	0.36 + j0.248	0.023 + j0.029	4102	530/570	615/685

* Ampacities are based on:
* For Duct: Table 310.60(C)(79) Detail 1.
* For Free Air: Table 310.60(C)(71).
* 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.