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

Type MV-105 Three Conductor Copper, 320 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% 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:** 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. **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 25KV 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
- UL 1072 Medium-Voltage Power Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- 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-58-679 Cable Conductor Identification Method 3 (1-BLACK, 2-RED, 3-BLUE)
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable

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- 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 KCMIL CU 320 MILS NL-EPR 25KV 133% INS LEVEL 25%TS GW 1 X X AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL -- CSA 500 KCMIL CU 8.13mm (320 mils) NL-EPR 25KV 133% INS LEVEL 25%TS SR 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	Conduit Size
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	mil	inch	lb/ 1000ft	lb/ 1000ft	lb	inch	inch
TBA	1	19	0.322	1	1.06	1x4	110	2.533	1176	3154	2008	17.7	3
647379	1/0	19	0.362	1.04	1.1	1x4	110	2.649	1403	3421	2534	18.5	3.5
TBA	2/0	19	0.405	1.083	1.143	1x4	110	2.712	1660	3853	3194	19	3.5
TBA	3/0	19	0.456	1.134	1.194	1x3	135	2.872	2031	4483	4027	20.1	3.5
458167	4/0	19	0.512	1.19	1.25	1x3	135	3.028	2464	5019	5078	21.2	4
672603	250	37	0.558	1.244	1.304	1x2	135	3.145	2879	5548	6000	22	4
673204*	350	37	0.661	1.327	1.387	1x2	135	3.324	3834	6632	8400	23.3	4.5
679305	500	37	0.789	1.452	1.512	1x1	135	3.594	5321	8511	12000	25.2	4.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* UL Certified only
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	0.033	0.541+j0.380	0.175+j0.050	3315	170/185	185/210
1/0	0.102	0.139	0.05	0.032	0.503+j0.365	0.139+j0.048	3439	195/210	215/240
2/0	0.082	0.112	0.047	0.03	0.473+j0.351	0.112+j0.046	3572	220/235	245/275
3/0	0.064	0.087	0.043	0.028	0.445+j0.335	0.087+j0.044	3730	250/270	285/315
4/0	0.051	0.07	0.04	0.026	0.424+j0.318	0.070+j0.043	3904	285/305	325/360
250	0.043	0.059	0.038	0.025	0.409+j0.303	0.059+j0.042	4071	310/335	360/400
350	0.031	0.043	0.033	0.023	0.386+j0.282	0.043+j0.039	4328	375/400	435/490
500	0.021	0.03	0.029	0.021	0.363+j0.254	0.030+j0.037	4716	450/485	535/600

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(13) Detail 1.
* For Free Air: Table 310.60(C)(5).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

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

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