CU Compressed 35kV NLEPR Insulation 100% IL Black PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Copper, 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 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:** 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 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 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 -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
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- 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} 3/C XXX AWG CU 345 MILS NL-EPR 35KV 100% INS LEVEL 25%TS GW 1 X X AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL {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
599364	1/0	19	0.361	1.090	1.150	1x4	135	2.805	1397	3935	2534	19.6
TBA	2/0	19	0.405	1.133	1.193	1x4	135	2.902	1443	4090	3194	20.3
TBA	3/0	19	0.456	1.184	1.244	1x3	135	3.012	1805	4612	4027	21.0
TBA	4/0	19	0.512	1.240	1.300	1x3	135	3.133	2217	5199	5078	21.9
TBA	250	37	0.558	1.294	1.354	1x3	135	3.249	2580	5744	6000	22.7
TBA	350	37	0.661	1.397	1.457	1x2	135	3.472	3564	7061	8400	24.3
TBA	500	37	0.789	1.525	1.585	1x1	135	3.748	5026	8944	12000	26.2
TBA	750	61	0.968	1.714	1.774	1x1/0	135	4.157	7442	12018	18000	29.0

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

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	0.057	0.049	0.481 + j0.309	0.128 + j0.049	3590	195/210	215/240
2/0	0.081	0.102	0.053	0.047	0.451 + j0.295	0.102 + j0.047	3727	220/235	245/275
3/0	0.064	0.081	0.049	0.045	0.425 + j0.28	0.081 + j0.045	3885	250/270	285/315
4/0	0.051	0.065	0.046	0.043	0.403 + j0.266	0.065 + j0.044	4058	285/305	325/360
250	0.043	0.056	0.043	0.042	0.389 + j0.253	0.056 + j0.042	4226	310/335	360/400
350	0.031	0.041	0.039	0.040	0.363 + j0.23	0.042 + j0.04	4545	375/400	435/490
500	0.022	0.030	0.034	0.038	0.34 + j0.206	0.031 + j0.038	4941	450/485	535/600
750	0.014	0.023	0.029	0.036	0.314 + j0.177	0.024 + j0.036	5527	545/585	670/745

* 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.