AL Compact 35kV NLEPR Insulation 133% IL Black PVC Jacket. MV 105 - UL Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Aluminum, 420 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 compact stranded aluminum per ASTM B800
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 420 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 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 B800 8000 Series Aluminum Alloy Wire
- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4 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
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

- 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 AL 420 MILS NL-EPR 35KV 133% INS LEVEL 25%TS GW 1 X XXX AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL -- CSA XXX AWG CU XX.XXmm (420 mils) NL-EPR 35KV 133% INS LEVEL 25%TS SR 90°C FT4 -40°C LTGG {NESC}

Table 1 – Weights and Measurements

Cond. Size	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Ground	Jacket Thickness	Approx. OD	Copper Weight	Aluminum 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/ 1000ft	lb	inch	inch
1/0	19	0.336	1.214	1.274	1x6	135	3.045	400	299	3943	1900	21.3	4
2/0	19	0.376	1.254	1.314	1x4	135	3.131	457	378	4221	2395	21.9	4
3/0	19	0.423	1.301	1.361	1x4	135	3.233	469	478	4499	3020	22.6	4
4/0	19	0.475	1.353	1.413	1x4	135	3.345	482	602	4820	3808	23.4	5
250	35	0.52	1.406	1.466	1x3	135	3.46	529	712	5177	4500	24.2	5
350	35	0.616	1.502	1.562	1x3	135	3.667	553	996	5826	6300	25.7	5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
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	0.167	0.229	0.061	0.037	0.581+j0.320	0.229+j0.051	3978	150/165	170/185
2/0	0.133	0.182	0.058	0.035	0.531+j0.309	0.182+j0.049	4102	170/185	190/215
3/0	0.105	0.144	0.054	0.033	0.490+j0.296	0.144+j0.047	4248	195/210	220/245
4/0	0.084	0.115	0.051	0.031	0.456+j0.282	0.115+j0.046	4409	220/240	255/285
250	0.07	0.096	0.047	0.03	0.433+j0.270	0.096+j0.044	4573	245/265	280/315
350	0.051	0.07	0.043	0.027	0.399+j0.249	0.071+j0.042	4871	295/315	345/385

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(14) Detail 1.
* For Free Air: Table 310.60(C)(6).
* 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.
* Capacitive Reactance is between Phase-to-Shield.

Copyright © 2026 Southwire Company, LLC. All Rights Reserved