AL Compact 15kV NLEPR Insulation 133% IL Black PVC Jacket. MV 105 - UL Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Aluminum, 220 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 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
3. **Insulation:** 220 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
7. **Filler:** Wax paper filler
8. **Binder:** Poly glass tape
9. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 15KV 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 B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- 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
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)

Copyright © 2026 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} 3/C XXX AWG COMPACT AL.--- {ALUMAFLEX}® AA8176 220 MILS NL-EPR 15KV 133% 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	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
599300	2	6	0.268	0.746	0.806	1x4	110	2.013	343	189	1724	1194	14.1	2.5
TBA	1	19	0.299	0.777	0.837	1x6	110	2.051	291	239	2021	1506	14.4	2.5
TBA	1/0	19	0.336	0.814	0.874	1x6	110	2.131	300	299	2173	1900	14.9	2.5
TBA	2/0	19	0.376	0.854	0.914	1x4	110	2.217	358	378	2401	2395	15.5	3
599305	3/0	15	0.423	0.901	0.961	1x4	110	2.354	379	479	2359	3020	16.5	3
675662	4/0	19	0.475	0.953	1.013	1x4	110	2.466	391	604	2590	3808	17.3	3
668918	250	22	0.52	1.006	1.066	1x4	110	2.581	408	714	2818	4500	18.1	3.5
668903	350	35	0.616	1.102	1.162	1x3	135	2.838	464	999	3524	6300	19.9	3.5
668906	500	34	0.736	1.246	1.306	1x1	135	3.149	595	1427	4435	9000	22	4
669197	750	58	0.908	1.416	1.476	1x1	135	3.517	635	2141	5507	13500	24.6	4.5

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
2	0.266	0.365	0.046	0.031	0.735+j0.471	0.365+j0.047	2528	115/125	125/145
1	0.211	0.289	0.044	0.03	0.660+j0.455	0.289+j0.044	2624	135/145	145/165
1/0	0.167	0.229	0.041	0.028	0.600+j0.439	0.229+j0.043	2739	150/165	170/185
2/0	0.133	0.182	0.038	0.026	0.553+j0.422	0.182+j0.041	2863	170/185	190/215
3/0	0.105	0.144	0.035	0.025	0.514+j0.403	0.144+j0.040	3009	195/210	220/245
4/0	0.084	0.115	0.032	0.023	0.483+j0.383	0.115+j0.038	3170	220/240	255/285
250	0.07	0.096	0.03	0.022	0.462+j0.365	0.096+j0.037	3334	245/265	280/315
350	0.051	0.07	0.027	0.021	0.430+j0.334	0.070+j0.035	3631	295/315	345/385
500	0.036	0.05	0.024	0.019	0.400+j0.295	0.050+j0.034	4077	355/385	425/475
750	0.023	0.033	0.02	0.017	0.369+j0.255	0.033+j0.032	4604	440/475	540/600

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(14) Detail 1.

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

* 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