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

Type MV-105 Three Conductor Aluminum, 115 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:** 115 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 5KV 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
- UL 2225 Cables and Cable-Fittings For Use In Hazardous (Classified) Locations
- 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-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV

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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 XX AWG COMPACT AL.--- {ALUMAFLEX}® AA8176 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 {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
599065	2	7	0.268	0.536	0.596	1x4	80	1.499	280	189	1073	1194	10.5	2
TBA	1	19	0.299	0.567	0.627	1x6	80	1.537	239	239	1291	1506	10.8	2
TBA	1/0	19	0.336	0.604	0.664	1x6	80	1.617	248	299	1416	1900	11.3	2
TBA	2/0	19	0.376	0.644	0.704	1x4	110	1.764	306	378	1706	2395	12.3	2
599070	3/0	18	0.423	0.691	0.751	1x4	110	1.894	330	479	1731	3020	13.3	2.5
581876	4/0	19	0.475	0.743	0.803	1x4	110	2.006	342	604	1982	3808	14	2.5
TBA	250	35	0.52	0.796	0.856	1x3	110	2.092	378	712	2374	4500	14.6	2.5
580932	350	35	0.616	0.892	0.952	1x3	110	2.335	411	999	2687	6300	16.3	3
653141	500	35	0.736	1.036	1.096	1x2	110	2.646	491	1427	3410	9000	18.5	3.5
TBA	750	58	0.908	1.194	1.254	1x1	135	3.002	572	2139	4815	13500	21	4

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.

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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	0.266	0.365	0.029	0.025	0.719+j0.563	0.365+j0.041	1878	105/110	110/120
1	0.211	0.289	0.027	0.023	0.647+j0.545	0.289+j0.038	1974	120/130	125/140
1/0	0.167	0.229	0.025	0.022	0.591+j0.525	0.229+j0.037	2088	140/150	145/160
2/0	0.133	0.182	0.023	0.021	0.547+j0.505	0.182+j0.035	2212	160/170	170/185
3/0	0.105	0.144	0.021	0.019	0.512+j0.482	0.144+j0.034	2358	180/195	195/215
4/0	0.084	0.115	0.019	0.018	0.485+j0.458	0.115+j0.033	2519	205/220	225/250
250	0.07	0.096	0.018	0.017	0.467+j0.435	0.096+j0.032	2683	230/245	250/280
350	0.051	0.07	0.016	0.016	0.440+j0.397	0.070+j0.031	2981	280/310	310/345
500	0.036	0.05	0.015	0.015	0.414+j0.348	0.050+j0.030	3427	340/365	385/430
750	0.023	0.033	0.011	0.013	0.387+j0.302	0.033+j0.028	3916	425/460	495/550

* 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.

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