AL Compact 5/8kV NLEPR Insulation 133/100% IL AIA PVC Jacket. MV 105 - 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, Aluminum Interlocked Armor (AIA), Polyvinyl Chloride (PVC) Jacket. Silicone Free

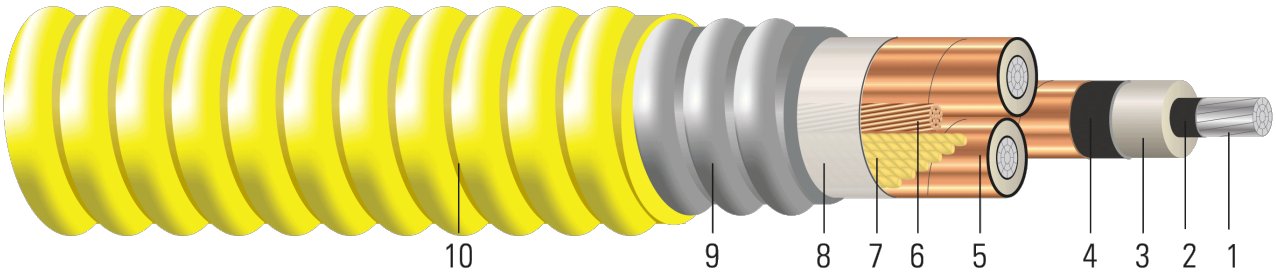


Image not to scale. See Table 1 for dimensions.

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:** Polypropylene tape
9. **Armor:** Aluminum Interlocked Armor (AIA)
10. **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
- 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
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- 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 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 OR MC 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	Diameter Over armor	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	inch	mil	inch	lb/ 1000ft	lb/1000ft	lb/ 1000ft	lb	inch	inch
TBA	2	7	0.268	0.536	0.596	1x6	1.62	60	1.74	231	437	1305	1194	12.2	2
TBA	1	19	0.299	0.567	0.627	1x6	1.687	60	1.807	239	496	1409	1506	12.6	2
TBA	1/0	19	0.336	0.604	0.664	1x6	1.767	60	1.887	248	570	1537	1900	13.2	2.5
TBA	2/0	19	0.376	0.644	0.704	1x4	1.854	60	1.974	306	663	1737	2395	13.8	2.5
TBA	3/0	19	0.423	0.691	0.751	1x4	1.955	60	2.075	318	779	1922	3020	14.5	2.5
597780	4/0	19	0.475	0.743	0.803	1x4	2.106	60	2.238	342	927	2151	3808	15.7	3
TBA	250	35	0.52	0.796	0.856	1x3	2.182	60	2.302	378	1048	2389	4500	16.1	3
TBA	350	35	0.616	0.892	0.952	1x3	2.389	75	2.539	402	1365	2945	6300	17.8	3
TBA	500	35	0.736	1.012	1.072	1x2	2.649	75	2.799	473	1835	3644	9000	19.6	3.5
TBA	750	58	0.908	1.194	1.254	1x1	3.042	90	3.222	572	2607	4901	13500	22.6	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.

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	0.013	0.015	0.415+j0.355	0.050+j0.029	3352	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

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* 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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