AL Compact 15kV NLEPR Insulation 133% IL Black PVC Jacket. MV 105 - 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.230 Tray Cables - Rated TC-ER
- 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
- 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 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	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
599300	2	6	0.268	0.746	0.806	1x4	110	2.012	330	1783	1194	14.0
TBA	1	19	0.298	0.776	0.836	1x6	110	2.080	131	1726	1506	14.5
TBA	1/0	19	0.336	0.814	0.874	1x6	110	2.163	133	1876	1900	15.1
TBA	2/0	19	0.376	0.854	0.914	1x4	110	2.249	183	2094	2395	15.7
599305	3/0	15	0.422	0.901	0.961	1x4	110	2.354	364	2442	3020	16.4
675662	4/0	19	0.474	0.953	1.013	1x4	110	2.466	375	2672	3808	17.2
TBA	250	35	0.520	1.006	1.066	1x4	110	2.577	193	2794	4500	18.0
TBA	350	35	0.615	1.101	1.161	1x3	135	2.832	232	3479	6300	19.8
TBA	500	35	0.735	1.221	1.281	1x2	135	3.092	282	4262	9000	21.6
TBA	750	58	0.908	1.404	1.464	1x1	135	3.487	346	5535	13500	24.4
669197	750	53	0.908	1.416	1.476	1x1	135	3.516	613	5671	10000	24.4

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

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	0.267	0.336	0.053	0.048	0.711 + j0.427	0.336 + j0.047	2528	115/125	125/145
1	0.211	0.266	0.049	0.046	0.64 + j0.411	0.266 + j0.044	2621	135/145	145/165
1/0	0.168	0.211	0.046	0.044	0.584 + j0.394	0.211 + j0.043	2738	150/165	170/185
2/0	0.133	0.167	0.042	0.043	0.538 + j0.377	0.167 + j0.041	2862	170/185	190/215
3/0	0.105	0.133	0.039	0.041	0.501 + j0.358	0.133 + j0.04	3005	195/210	220/245
4/0	0.084	0.105	0.036	0.040	0.469 + j0.339	0.105 + j0.038	3166	220/240	255/285
250	0.071	0.090	0.034	0.039	0.45 + j0.321	0.09 + j0.037	3333	245/265	280/315
350	0.050	0.065	0.030	0.037	0.417 + j0.291	0.065 + j0.035	3628	295/315	345/385
500	0.035	0.046	0.026	0.035	0.386 + j0.26	0.046 + j0.033	3999	355/385	425/475
750	0.024	0.033	0.022	0.033	0.355 + j0.22	0.034 + j0.031	4566	440/475	540/600
750	0.024	0.033	0.022	0.033	0.355 + j0.22	0.034 + j0.031	4566	440/475	540/600

* Ampacities are based on:
* For Duct: Table 310.60(C)(80) Detail 1.

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* For Free Air: Table 310.60(C)(72).
* 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.