

3/C AL 15kV 220 NLEPR 133% AIA PVC MV-105

Type MV-105 Three Conductor Aluminum, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Aluminum Interlocked Armor (AIA), Polyvinyl Chloride (PVC) Jacket

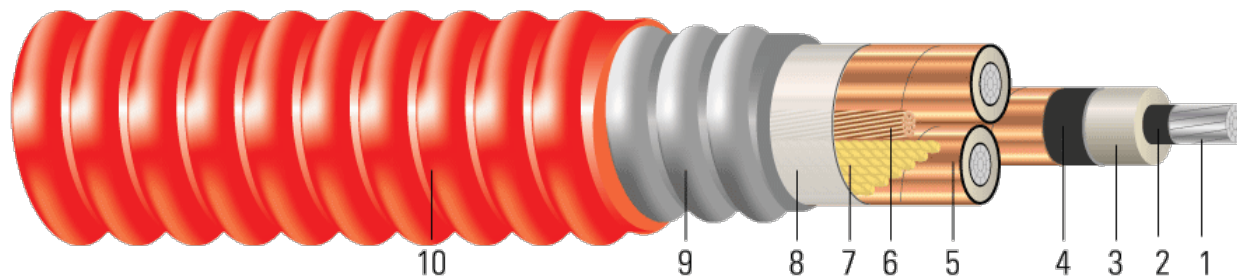


Image not to scale. See Table 1 for dimensions.

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:** Polypropylene tape
9. **Armor:** Aluminum Interlocked Armor (AIA)
10. **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. 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 B836 Compact Rounded Stranded Aluminum Conductors
- UL 1072 Medium-Voltage Power Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- 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

SAMPLE PRINT LEGEND:

{SQFTG_DUAL} SOUTHWIRE{R} POWER CABLE MASTER-DESIGN {UL} 3/C XXX KCMIL COMPACT AL.--- {ALUMAFLEX}{R} AA8176 220 MILS NL-EPR 15KV 133% INS LEVEL 25%TS GW 1 X 1 AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL {NESC}



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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Ground	Jacket Thickness ¹	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG/Kcmil	inch	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb	inch
TBA	2	0.268	0.745	0.805	1 x 6	60	2.224	1932	1194	15.6
TBA	1	0.299	0.776	0.836	1 x 6	60	2.291	2062	1506	16.0
577688	1/0	0.336	0.813	0.873	1 x 6	75	2.401	2289	1901	16.8
597781	2/0	0.376	0.853	0.913	1 x 4	75	2.487	2523	2396	17.4
TBA	3/0	0.423	0.900	0.960	1 x 4	75	2.589	2752	3020	18.1
577738	4/0	0.475	0.952	1.012	1 x 4	75	2.701	3021	3809	18.9
597561	250	0.520	1.006	1.066	1 x 3/0	75	2.871	3750	4500	19.7
TBA	350	0.616	1.102	1.162	1 x 3	75	3.025	3886	6300	21.2
577687	500	0.736	1.222	1.282	1 x 2	85	3.304	4773	9000	23.1
TBA	750	0.908	1.425	1.485	1 x 1	85	3.743	6206	13500	26.2

All dimensions are nominal and subject to normal manufacturing tolerances
 † Cable marked with this symbol is a standard stock item

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 Directly Buried 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	0.334	0.055	0.048	0.710 + j0.426	0.335 + j0.047	2651	145/155	125/145
1	0.211	0.265	0.051	0.046	0.640 + j0.411	0.266 + j0.046	2752	165/175	145/165
1/0	0.168	0.211	0.048	0.044	0.584 + j0.394	0.212 + j0.044	2873	185/200	170/185
2/0	0.133	0.167	0.044	0.043	0.538 + j0.377	0.168 + j0.043	3003	210/225	190/215
3/0	0.105	0.132	0.041	0.041	0.500 + j0.359	0.132 + j0.041	3156	240/260	220/245
4/0	0.084	0.105	0.038	0.040	0.470 + j0.339	0.106 + j0.039	3325	270/295	255/285
250	0.071	0.089	0.036	0.039	0.449 + j0.321	0.089 + j0.039	3501	300/320	280/315
350	0.051	0.064	0.031	0.037	0.415 + j0.292	0.064 + j0.037	3813	360/390	345/385
500	0.035	0.045	0.027	0.035	0.385 + j0.260	0.045 + j0.035	4203	435/470	425/475
750	0.024	0.030	0.024	0.033	0.350 + j0.217	0.031 + j0.033	4864	540/580	540/600

* Calculations are based on 5 mil 25 % over lapping copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on TABLE 310.60(C)(84) of the 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

‡ Ampacities are based on TABLE 310.60(C)(72) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

