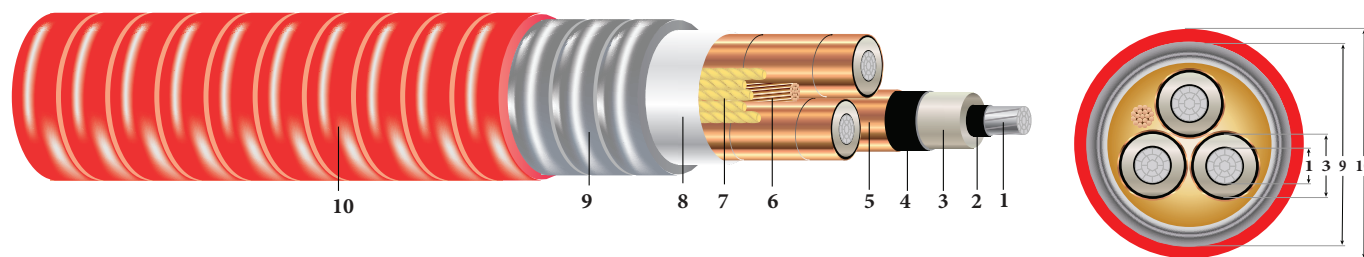


3/C AL 15KV 220 NL-EPR 133% TS AIA PVC MV-105

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



Images 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:** Stripable 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 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
- ICEA S-97-682 5-46 KV Utility & ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- UL 1685/FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- IEEE 1202 -Flame Test (70,000) BTU/hr Vertical Tray Test
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV

SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL) 3/C [#AWG or #kcmil] AL 220 MILS NL-EPR AIA 15KV 133% INS LEVEL 25% TS MV-105 For CT USE SUN. RES. FOR DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]



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Table 1 – Weights & Measurements

Stock Code	Cond. Size AWG	Diameter over			Ground No. x AWG	Dia. Over Armor (9) inches	Jacket Thickness mils	Approx. OD (10) inches	Approx. Weight lbs./MFT	Max Pull Tension lbs.	Min Bending Radius inches
		Cond. (1) inches	Insul. (3) inches	Insul. Shield inches							
TBA	2	0.268	0.745	0.805	1 x 6	2.104	60	2.224	1932	1194	15.6
TBA	1	0.299	0.776	0.836	1 x 6	2.171	60	2.291	2062	1506	16.0
577688	1/0	0.336	0.813	0.873	1 x 6	2.251	75	2.401	2289	1901	16.8
597781	2/0	0.376	0.853	0.913	1 x 4	2.337	75	2.487	2523	2396	17.4
TBA	3/0	0.423	0.900	0.960	1 x 4	2.439	75	2.589	2752	3020	18.1
577738	4/0	0.475	0.952	1.012	1 x 4	2.551	75	2.701	3021	3809	18.9
597561	250	0.520	1.006	1.066	1 x 3/0	2.668	75	2.871	3750	4500	19.7
TBA	350	0.616	1.102	1.162	1 x 3	2.875	75	3.025	3886	6300	21.2
577687	500	0.736	1.222	1.282	1 x 2	3.134	85	3.304	4773	9000	23.1
TBA	750	0.908	1.425	1.485	1 x 1	3.573	85	3.743	6206	13500	26.2

All dimensions are nominal and subject to normal manufacturing tolerances

Table 2 – Electrical and Engineering Data

Stock Code	Cond. Size AWG	Resistance		Reactance		Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles Amps	Allowable Ampacities 90°C/105°C	
		DC @ 25°C	AC @ 90°C	X _C @ 60Hz	X _L @ 60Hz				Directly Buried †	In Air ‡
	AWG	Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT	Ω/MFT	Ω/MFT	Amps	Amps	Amps
TBA	2	0.266	0.334	0.055	0.048	0.335 + j0.047	0.710 + j0.426	2651	145 / 155	125 / 145
TBA	1	0.211	0.265	0.051	0.046	0.266 + j0.046	0.640 + j0.411	2752	165 / 175	145 / 165
577688	1/0	0.168	0.211	0.048	0.044	0.212 + j0.044	0.584 + j0.394	2873	185 / 200	170 / 185
597781	2/0	0.133	0.167	0.044	0.043	0.168 + j0.043	0.538 + j0.377	3003	210 / 225	190 / 215
TBA	3/0	0.105	0.132	0.041	0.041	0.132 + j0.041	0.500 + j0.359	3156	240 / 260	220 / 245
577738	4/0	0.084	0.105	0.038	0.040	0.106 + j0.039	0.470 + j0.339	3325	270 / 295	255 / 285
597561	250	0.071	0.089	0.036	0.039	0.089 + j0.039	0.449 + j0.321	3501	300 / 320	280 / 315
TBA	350	0.051	0.064	0.031	0.037	0.064 + j0.037	0.415 + j0.292	3813	360 / 390	345 / 385
577687	500	0.035	0.045	0.027	0.035	0.045 + j0.035	0.385 + j0.260	4203	435 / 470	425 / 475
TBA	750	0.024	0.030	0.024	0.033	0.031 + j0.033	0.350 + j0.217	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)

