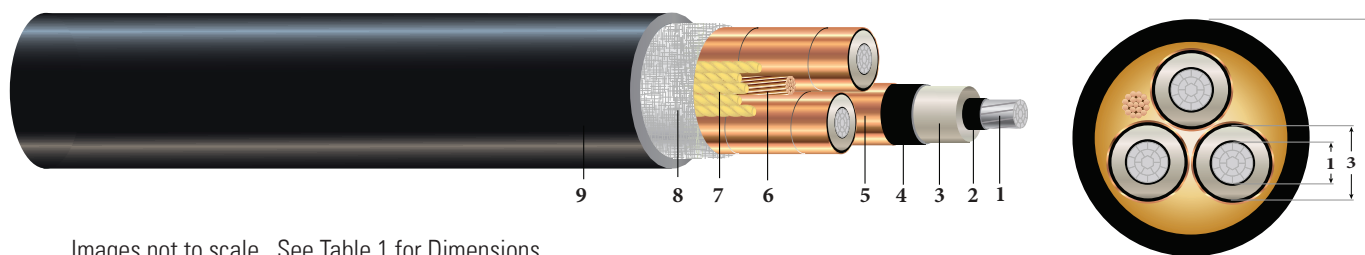


## 3/C AL 5KV 115 NL-EPR 133% TS PVC MV-105

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



Images not to scale. See Table 1 for Dimensions

### CONSTRUCTION:

- Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator used on 500 Kcmil and larger
- Insulation:** 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level,
- Insulation Shield:** Stripable semi-conducting cross-linked copolymer
- Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
- Grounding Conductor:** 1 Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
- Filler:** Wax paper filler
- Binder:** Poly glass tape
- 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. 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-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable & ICEA S-97-682 5-46 KV Utility
- 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
- CSA C68.10 - Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- CSA C22.2 No.230 - Tray Cables - Rated TC-ER
- CSA C22.2 No. 2556 / UL 2556 - Cable Test Methods

### SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL/CSA) 3/C [#AWG or #kcmil] AL 115 MILS NL-EPR 5KV 133%/ 8KV 100% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. TC-ER(CSA) 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	Jacket Thickness <sup>1</sup> mils	Approx. OD (9) inches	Approx. Weight lbs./MFT	Max Pull Tension lbs.	Min Bending Radius inches
		Cond. (1) inches	Insul. (3) inches	Insul. Shield inches						
599065	2	0.268	0.535	0.595	1 x 6	80	1.516	1090	1194	10.6
TBA	1	0.299	0.566	0.626	1 x 6	80	1.583	1194	1506	11.1
TBA	1/0	0.336	0.603	0.663	1 x 6	80	1.663	1321	1901	11.6
TBA	2/0	0.376	0.643	0.703	1 x 4	80	1.750	1518	2396	12.2
599070	3/0	0.423	0.690	0.750	1 x 4	110	1.911	1807	3020	13.4
581876	4/0	0.475	0.742	0.802	1 x 4	110	2.024	2033	3809	14.2
TBA	250	0.520	0.796	0.856	1 x 4	110	2.140	2260	4500	15.0
580932	350	0.616	0.892	0.952	1 x 3	110	2.348	2776	6300	16.4
TBA	500	0.736	1.012	1.072	1 x 2	110	2.607	3503	9000	18.2
TBA	750	0.908	1.215	1.275	1 x 1	135	3.095	4902	13500	21.7

All dimensions are nominal and subject to normal manufacturing tolerances

<sup>1</sup> Comply with ICEA S-93-639 Appendix C for jacket thickness determination

**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 Ω/MFT	AC @ 90°C Ω/MFT	X <sub>C</sub> @ 60Hz MΩ*MFT	X <sub>L</sub> @ 60Hz Ω/MFT				In Duct † Amps	In Air ‡ Amps
599065	2	0.266	0.334	0.037	0.041	0.335 + j0.041	0.703 + j0.523	1968	105 / 110	110 / 120
TBA	1	0.211	0.265	0.034	0.039	0.265 + j0.039	0.637 + j0.505	2069	120 / 130	125 / 140
TBA	1/0	0.168	0.211	0.032	0.038	0.211 + j0.038	0.585 + j0.484	2189	140 / 150	154 / 160
TBA	2/0	0.133	0.167	0.029	0.037	0.168 + j0.037	0.543 + j0.462	2320	160 / 170	170 / 185
599070	3/0	0.105	0.132	0.026	0.035	0.132 + j0.035	0.508 + j0.439	2473	180 / 195	195 / 215
581876	4/0	0.084	0.105	0.024	0.034	0.106 + j0.034	0.481 + j0.414	2642	205 / 220	225 / 250
TBA	250	0.071	0.089	0.023	0.034	0.089 + j0.034	0.463 + j0.391	2817	230 / 245	250 / 280
580932	350	0.051	0.064	0.020	0.032	0.064 + j0.032	0.432 + j0.353	3130	280 / 310	310 / 345
TBA	500	0.035	0.045	0.017	0.031	0.045 + j0.031	0.405 + j0.312	3520	340 / 365	385 / 430
TBA	750	0.024	0.031	0.016	0.030	0.031 + j0.030	0.371 + j0.256	4180	425 / 460	495 / 550

\* 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)(80) Detail 1. 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)

