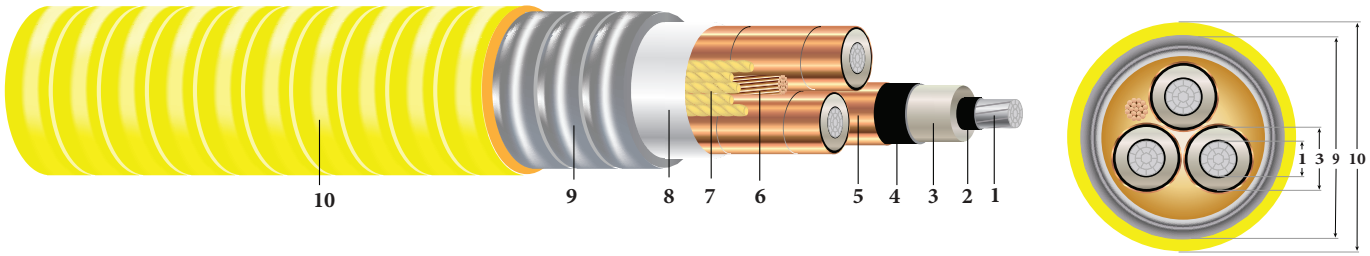
3/C AL 5KV 115 NL-EPR 133% TS AIA PVC MV-105

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



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**: 115 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 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

SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL) 3/C [#AWG or #kcmil] AL 115 MILS NL-EPR AIA 5KV 133%/ 8KV 100% 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	Diameter over Cond. (1)	Diameter over Insul. (3)	Diameter over Insul. Shield	Ground	Dia. Over Armor (9)	Jacket Thickness	Approx. OD (10)	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG	inches	inches	inches	No. x AWG	inches	mils	inches	lbs./MFT	lbs.	inches
TBA	2	0.268	0.535	0.595	1 x 6	1.550	60	1.670	1237	1194	11.7
TBA	1	0.299	0.566	0.626	1 x 6	1.617	60	1.737	1346	1506	12.2
TBA	1/0	0.336	0.603	0.663	1 x 6	1.697	60	1.817	1480	1901	12.7
TBA	2/0	0.376	0.643	0.703	1 x 4	1.784	60	1.904	1684	2396	13.3
TBA	3/0	0.423	0.690	0.750	1 x 4	1.985	60	2.105	1970	3020	14.7
TBA	4/0	0.475	0.742	0.802	1 x 4	2.098	60	2.218	2203	3809	15.5
TBA	250	0.520	0.796	0.856	1 x 4	2.214	60	2.334	2438	4500	16.3
TBA	350	0.616	0.892	0.952	1 x 3	2.422	75	2.572	3038	6300	18.0
TBA	500	0.736	1.012	1.072	1 x 2	2.681	75	2.831	3789	9000	19.8
TBA	750	0.908	1.215	1.275	1 x 1	3.119	85	3.289	5149	13500	23.0

All dimensions are nominal and subject to normal manufacturing tolerances

Table 2 – Electrical and Engineering Data

Stock Code	Cond. Size	Resistance DC @ 25°C	Resistance AC @ 90°C	Reactance X_C @ 60Hz	Reactance X_L @ 60Hz	Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles	Allowable Ampacities 90°C/105°C Directly Buried †	Allowable Ampacities 90°C/105°C In Air ‡
	AWG	Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT	Ω/MFT	Ω/MFT	Amps	Amps	Amps
TBA	2	0.266	0.334	0.037	0.041	0.335 + j0.041	0.703 + j0.523	1968	140 / 150	110 / 120
TBA	1	0.211	0.265	0.034	0.039	0.265 + j0.039	0.637 + j0.505	2069	155 / 170	125 / 140
TBA	1/0	0.168	0.211	0.032	0.038	0.211 + j0.038	0.585 + j0.484	2189	180 / 190	154 / 160
TBA	2/0	0.133	0.167	0.029	0.037	0.168 + j0.037	0.543 + j0.462	2320	205 / 220	170 / 185
TBA	3/0	0.105	0.132	0.026	0.035	0.132 + j0.035	0.508 + j0.439	2473	230 / 250	195 / 215
TBA	4/0	0.084	0.105	0.024	0.034	0.106 + j0.034	0.481 + j0.414	2642	260 / 280	225 / 250
TBA	250	0.071	0.089	0.023	0.034	0.089 + j0.034	0.463 + j0.391	2817	285 / 310	250 / 280
TBA	350	0.051	0.064	0.020	0.032	0.064 + j0.032	0.432 + j0.353	3130	345 / 375	310 / 345
TBA	500	0.035	0.045	0.017	0.031	0.045 + j0.031	0.405 + j0.312	3520	420 / 450	385 / 430
TBA	750	0.024	0.031	0.016	0.030	0.031 + j0.030	0.371 + j0.256	4180	520 / 560	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)(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)