CU Compressed 25kV NLEPR Insulation 133% IL AIA Orange PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Copper, 320 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Aluminum Interlocked Armor (AIA), Polyvinyl Chloride (PVC) Jacket. Silicone Free

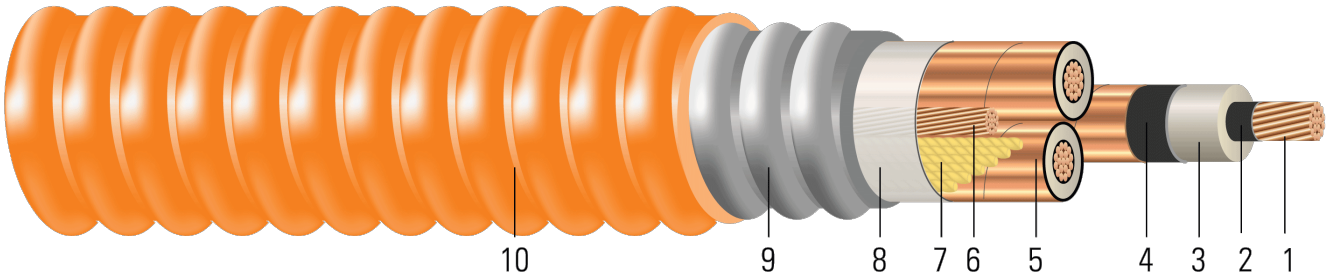


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 320 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 (Tinned Copper per ASTM B33 optional)
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 25KV AIA cables are armored cables 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, 250°C for short circuit conditions. For uses in Class I, II, and III, Division 2 hazardous locations per NEC Article 501, 502, and 503.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B496 Compact Round Concentric-lay-standard copper
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Cable Conductor Identification Method 3 (1-BLACK, 2-RED, 3-BLUE)
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test

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- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- 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:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# AIA (UL) 3/C [#AWG or #kcmil] CU 320 MILS NL-EPR 25KV 133% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Ground	Diameter Over armor	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	lb	inch	inch
TBA	1	19	0.322	1	1.06	1x4	2.623	75	2.773	1176	3458	2008	19.4	3.5
671717	1/0	19	0.362	1.04	1.1	1x4	2.748	75	2.908	1403	3727	2534	20.4	3.5
TBA	2/0	19	0.405	1.083	1.143	1x4	2.802	75	2.952	1660	4177	3194	20.7	4
TBA	3/0	19	0.456	1.134	1.194	1x3	2.912	75	3.062	2031	4692	4027	21.4	4
TBA	4/0	19	0.512	1.19	1.25	1x3	3.033	90	3.213	2454	5359	5078	22.5	4
TBA	250	37	0.558	1.244	1.304	1x2	3.15	90	3.33	2870	5944	6000	23.3	4.5
139099	350	37	0.661	1.327	1.387	1x2	3.368	90	3.538	3834	7015	8400	24.8	4.5
668544	500	37	0.789	1.452	1.512	1x2/0	3.638	90	3.808	5475	8968	12000	26.7	5
TBA	750	61	0.968	1.664	1.724	1x1/0	4.057	90	4.237	7774	12100	18000	29.7	5.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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
1	0.128	0.175	0.053	0.033	0.541+j0.380	0.175+j0.050	3315	170/185	185/210
1/0	0.102	0.139	0.05	0.032	0.503+j0.365	0.139+j0.048	3439	195/210	215/240
2/0	0.082	0.112	0.047	0.03	0.473+j0.351	0.112+j0.046	3572	220/235	245/275
3/0	0.064	0.087	0.043	0.028	0.445+j0.335	0.087+j0.044	3730	250/270	285/315
4/0	0.051	0.07	0.04	0.026	0.424+j0.318	0.070+j0.043	3904	285/305	325/360
250	0.043	0.059	0.038	0.025	0.409+j0.303	0.059+j0.042	4071	310/335	360/400
350	0.031	0.043	0.033	0.023	0.386+j0.282	0.043+j0.039	4328	375/400	435/490
500	0.021	0.03	0.029	0.021	0.363+j0.254	0.030+j0.037	4716	450/485	535/600
750	0.014	0.021	0.025	0.019	0.336+j0.216	0.022+j0.035	5373	545/585	670/745

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(13) Detail 1.
* For Free Air: Table 310.60(C)(5).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

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* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
* Capacitive Reactance is between Phase-to-Shield.

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