CU Compressed 25kV NLEPR Insulation 133% IL ARMOR-X® 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, Continuous Corrugated Welded Armor - ARMOR-X®, Polyvinyl Chloride (PVC) Jacket. Silicone Free

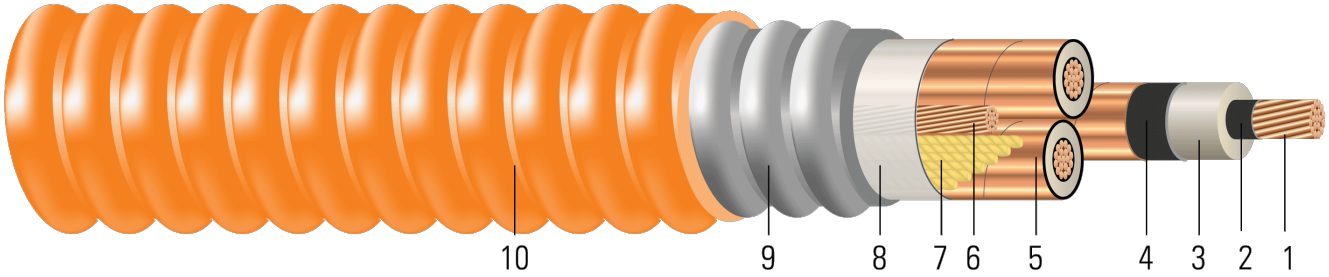

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and 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 B8 (Tinned Copper per ASTM B33 optional)
7. **Filler:** Wax paper filler
8. **Binder:** Polypropylene tape
9. **Armor:** ARMOR-X® Continuous Corrugated Welded Armor
10. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 25KV ARMOR-X® 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, and -50°C for cold bend. For uses in Class I, II, and III, Division 1 and 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 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable

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- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- 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:

{SQFTG_DUAL} SOUTHWIRE® ARMOR-X® {UL} MV-105 OR MC-HL 3/C SHIELDED XXX AWG CU 320 MILS NL-EPR 25%TS GW 1 X X AWG CU 90°C JKT DIR. BUR. FOR CT USE FT4 -40°C SUN. RES. 25KV 133% -- USA {NESC}

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	2.88	75	3.03	1176	3545	2008	21.2	4
TBA	1/0	19	0.362	1.04	1.1	1x4	2.88	75	3.03	1392	3784	2534	21.2	4
649938	2/0	19	0.405	1.084	1.144	1x4	3	90	3.158	1671	4398	3194	22.1	4
TBA	3/0	19	0.456	1.134	1.194	1x3	3	90	3.18	2031	4678	4027	22.3	4
TBA	4/0	19	0.512	1.19	1.25	1x3	3.22	90	3.4	2454	5374	5078	23.8	4.5
TBA	250	37	0.558	1.244	1.304	1x2	3.54	90	3.72	2870	6214	6000	26	5
TBA	350	37	0.661	1.347	1.407	1x2	3.54	90	3.72	3832	7193	8400	26	5
664985	500	37	0.789	1.452	1.512	1x1	3.85	90	4.028	5321	9166	12000	28.2	5.5
TBA	750	61	0.968	1.664	1.724	1x1/0	3.85	90	4.03	7774	11532	18000	28.2	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+j0.350	0.112+j0.046	3576	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	0.034	0.023	0.385+j0.278	0.043+j0.039	4390	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.

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* For Free Air: Table 310.60(C)(5).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
* Capacitive Reactance is between Phase-to-Shield.

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