CU Compressed 35kV NLEPR Insulation 133% IL ARMOR-X® Orange PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Copper, 420 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

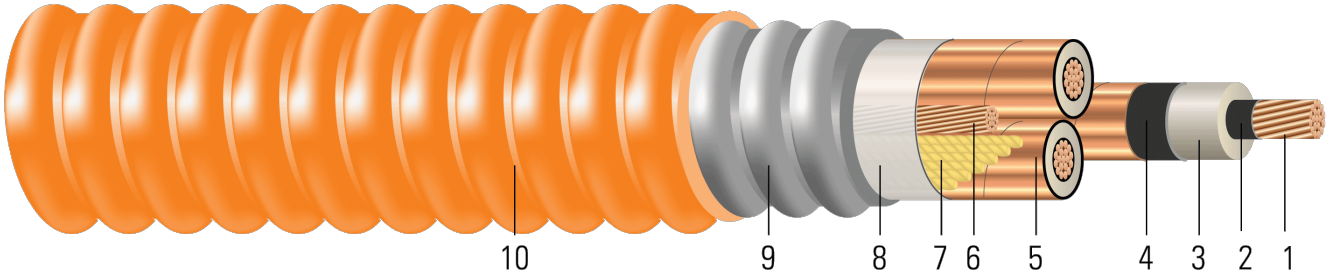

Image not to scale. See Table 1 for dimensions.

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:** 420 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 35KV 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
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- 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:

{SQFTG_DUAL} SOUTHWIRE® ARMOR-X® {UL} MV-105 OR MC-HL 3/C SHIELDED XXX AWG CU 420 MILS NL-EPR 25%TS GW 1 X X AWG CU 90°C JKT DIR. BUR. FOR CT USE FT4 -40°C SUN. RES. 35KV 133% -- {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
596395	1/0	19	0.362	1.24	1.3	1x4	3.54	85	3.718	1450	4926	2534	26	5
TBA	2/0	19	0.405	1.283	1.343	1x4	3.54	90	3.72	1710	5346	3194	26	5
653665	3/0	19	0.456	1.334	1.394	1x3	3.54	85	3.718	2088	5776	4027	26	5
596385	4/0	19	0.512	1.39	1.45	1x3	3.85	85	4.028	2511	6543	5078	28.2	5.5
TBA	250	37	0.558	1.444	1.504	1x2	3.85	90	4.03	2920	7087	6000	28.2	5.5
668261	350	37	0.661	1.527	1.587	1x2	3.85	85	4.028	3882	8117	8400	28.2	5.5
584304	500	37	0.789	1.652	1.712	1x1	4.196	85	4.374	5369	10945	12000	30.6	6

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	0.102	0.139	0.059	0.035	0.489+j0.314	0.139+j0.052	4059	195/210	215/240
2/0	0.082	0.112	0.055	0.033	0.459+j0.302	0.112+j0.050	4192	220/235	245/275
3/0	0.064	0.087	0.052	0.032	0.430+j0.289	0.087+j0.048	4350	250/270	285/315
4/0	0.051	0.07	0.048	0.03	0.408+j0.275	0.070+j0.046	4524	285/305	325/360
250	0.043	0.059	0.045	0.029	0.393+j0.263	0.059+j0.045	4691	310/335	360/400
350	0.031	0.043	0.04	0.026	0.369+j0.245	0.044+j0.042	4948	375/400	435/490
500	0.021	0.03	0.036	0.024	0.346+j0.222	0.031+j0.040	5335	450/485	535/600

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

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