CU Compressed 8kV NLEPR Insulation 133% IL ARMOR-X® PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial - VFD Cable

Type MV-105 Three Conductor Copper, 140 mil No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Continuous Corrugated Welded Armor - ARMOR-X®, Polyvinyl Chloride (PVC) Jacket. VFD Rated. Silicone Free

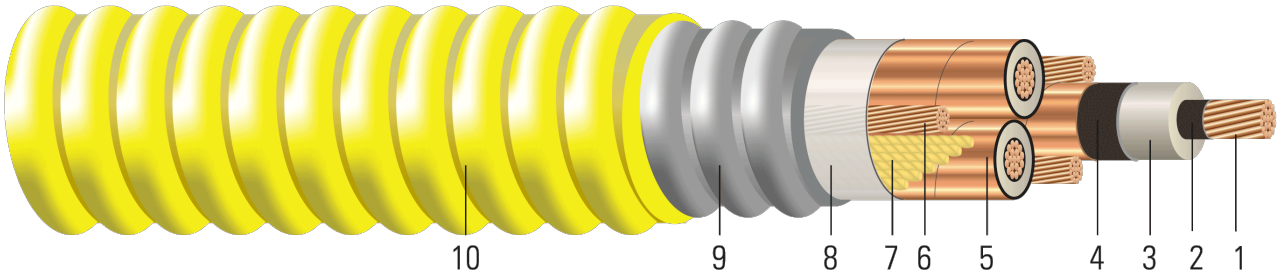

Image not to scale. See Table 1 for dimensions.

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:** 140 mil 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:** 3 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:** Yellow Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 8KV 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. Suitable for VFD application.

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-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- 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:

{SQMTR_DUAL} SOUTHWIRE® ARMOR-X® {NESC} VFD {CSA} XX KCMIL CU 140 MILS NL-EPR 8KV 133% INS. LEVEL 25%TS GW 3 X XX AWG CU CCW SUN RES 105°C FT4 -40°C LTGG HL RoHS

Table 1 – Weights and Measurements

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
AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	inch	mil	inch	lb/1000ft	lb/1000ft	lb	inch
2	7	0.282	0.600	0.660	3x10	1.845	60	1.965	740	1968	1592	13.7
1	19	0.322	0.640	0.700	3x8	2.040	60	2.160	953	2299	2008	15.1
1/0	19	0.361	0.679	0.739	3x8	2.040	60	2.160	1159	2554	2534	15.1
2/0	19	0.405	0.723	0.783	3x8	2.200	60	2.320	1419	2930	3194	16.2
3/0	19	0.456	0.774	0.834	3x7	2.290	75	2.440	1781	3512	4027	17.0
4/0	19	0.512	0.830	0.890	3x7	2.430	75	2.580	2192	4058	5078	18.0
250	37	0.558	0.884	0.944	3x7	2.549	75	2.699	2555	4557	6000	18.8
350	37	0.661	0.987	1.047	3x6	2.880	75	3.030	3539	5826	8400	21.2
500	37	0.789	1.115	1.175	3x5	3.000	75	3.150	5001	7528	12000	22.0

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.
^ Black PVC Jacket

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
2	0.162	0.204	0.039	0.042	0.423 + j0.336	0.066 + j0.040	2075	150/160	165/185
1	0.128	0.162	0.035	0.040	0.423 + j0.403	0.056 + j0.038	2199	170/185	185/210
1/0	0.102	0.128	0.032	0.039	0.423 + j0.420	0.056 + j0.037	2320	195/210	215/240
2/0	0.081	0.102	0.030	0.037	0.423 + j0.420	0.056 + j0.037	2456	220/235	245/275
3/0	0.064	0.081	0.027	0.036	0.423 + j0.420	0.056 + j0.037	2614	250/270	285/315
4/0	0.051	0.065	0.025	0.035	0.423 + j0.420	0.056 + j0.037	2788	285/305	325/360
250	0.043	0.056	0.024	0.034	0.423 + j0.420	0.056 + j0.037	2955	310/335	360/400
350	0.031	0.041	0.020	0.033	0.423 + j0.436	0.056 + j0.038	3274	375/400	435/490
500	0.022	0.030	0.018	0.031	0.423 + j0.439	0.056 + j0.036	3671	450/485	535/600

* NEC ampacities are based on:
* For Duct: Table 315.60(C)(13) Detail 1.
* For Free Air: Table 315.60(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.