# CU Compressed 2.4kV NLEPR Insulation 100% IL ARMOR-X® PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial - VFD Cable

Type MV-105 Three Conductor Copper, 90 Mils Ethylene Propylene Rubber (EPR) Continuous Corrugated Welded Armor - ARMOR-X®, Polyvinyl Chloride (PVC) Jacket. Suitable for VFD Applications. Type MC-HL. Silicone Free

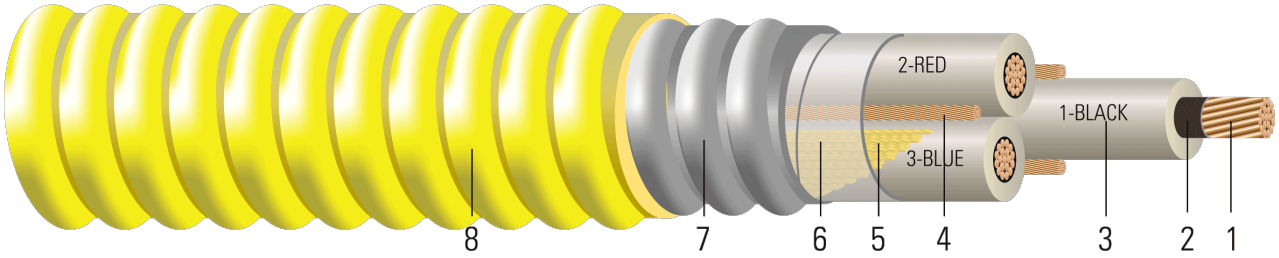



Image not to scale. See Table 1 for dimensions.

## 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:** 90 Mils Ethylene Propylene Rubber (EPR)
4. **Grounding Conductor:** 3 Class B compressed stranded bare copper ground per ASTM B3 and B8 (Tinned Copper per ASTM B33 optional)
5. **Filler:** Wax paper filler
6. **Binder:** Polypropylene tape
7. **Armor:** ARMOR-X® Continuous Corrugated Welded Armor
8. **Overall Jacket:** Polyvinyl Chloride (PVC)

## APPLICATIONS AND FEATURES:

Southwire's 2.4KV ARMOR-X® Type MC-HL are armored cables for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial or concrete encasement 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, 130°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:


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- 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 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- ICEA S-96-659 (NEMA WC 71) 2001-5000 V Nonshielded Cables
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- 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 3/C NON-SHIELDED 4/0 AWG CU 90 MILS NL-EPR GW 3 X X AWG CU 90°C JKT FOR CT USE SUN. RES. 2400V IEEE 1202/FT4 {NESC} MAXIMUM 2400 VOLTS

### Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Strand Count | Diameter Over Conductor | Diameter Over Insulation | 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 | No. x AWG | inch | mil | inch | lb/1000ft | lb/1000ft | lb | inch |
| 890615 | 2 | 7 | 0.282 | 0.495 | 3 x 10 | 1.430 | 70 | 1.570 | 717 | 1432 | 1592 | 10.9 |
| 890616 | 1/0 | 19 | 0.361 | 0.580 | 3 x 8 | 1.540 | 60 | 1.660 | 1142 | 1960 | 2534 | 11.6 |
| 890617 | 2/0 | 19 | 0.405 | 0.625 | 3 x 8 | 1.670 | 70 | 1.810 | 1399 | 2338 | 3194 | 12.6 |
| 890618 | 4/0 | 19 | 0.512 | 0.715 | 3 x 6 | 1.870 | 60 | 1.990 | 2225 | 3199 | 5078 | 13.9 |
| 890619 | 250 | 37 | 0.558 | 0.770 | 3 x 6 | 2.040 | 60 | 2.166 | 2584 | 3750 | 6000 | 15.1 |
| 890620 | 350 | 37 | 0.661 | 0.865 | 3 x 6 | 2.290 | 85 | 2.460 | 3520 | 5276 | 8400 | 17.2 |
| 890621 | 500 | 37 | 0.789 | 0.990 | 3 x 4 | 2.670 | 75 | 2.820 | 5068 | 6809 | 12000 | 19.7 |
| 890622 | 750 | 61 | 0.968 | 1.205 | 3 x 4 | 3.000 | 85 | 3.170 | 7406 | 9734 | 18000 | 22.1 |

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 | Inductive Reactance @ 60Hz | Zero Sequence Impedance | Positive Sequence Impedance | Allowable Ampacity In Duct 90/105°C | Allowable Ampacity In Air 90/105°C |
|---|---|---|---|---|---|---|---|
| AWG/ Kcmil | Ω/1000ft | Ω/1000ft | Ω/1000ft | Ω/1000ft | Ω/1000ft | Amp | Amp |
| 2 | 0.162 | 0.204 | 0.035 | 0.186 + j0.02 | 0.196 + j0.029 | 135/145 | 140/154 |
| 1/0 | 0.102 | 0.128 | 0.032 | 0.11 + j0.017 | 0.12 + j0.026 | 175/190 | 185/205 |
| 2/0 | 0.081 | 0.102 | 0.032 | 0.084 + j0.016 | 0.094 + j0.025 | 200/220 | 215/240 |
| 4/0 | 0.051 | 0.065 | 0.030 | 0.047 + j0.015 | 0.057 + j0.023 | 265/280 | 285/320 |
| 250 | 0.043 | 0.056 | 0.029 | 0.038 + j0.014 | 0.048 + j0.023 | 290/315 | 320/355 |
| 350 | 0.031 | 0.041 | 0.028 | 0.023 + j0.013 | 0.033 + j0.022 | 355/380 | 395/440 |
| 500 | 0.022 | 0.030 | 0.027 | 0.012 + j0.012 | 0.022 + j0.021 | 430/460 | 485/545 |
| 750 | 0.014 | 0.023 | 0.027 | 0.005 + j0.011 | 0.015 + j0.02 | 530/570 | 615/685 |

* 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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