

## 3/C CU 2.4kV 90 EPR ARMOR-X PVC MV-105 VFD. Type MC-HL

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

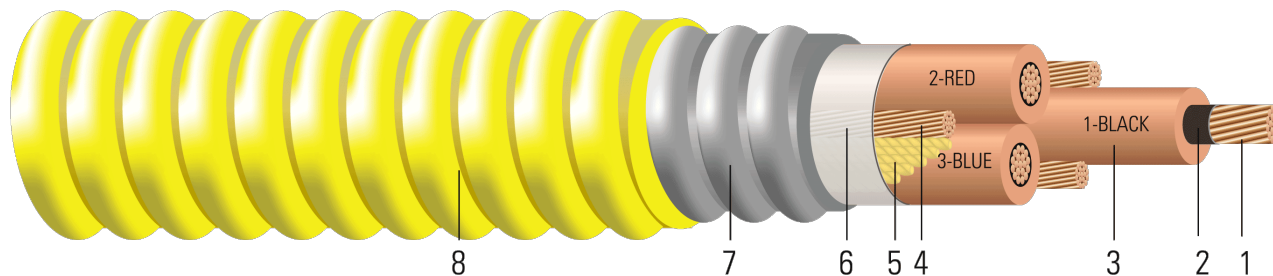


Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

- Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
- Conductor Shield:** Semi-conducting cross-linked copolymer
- Insulation:** 90 Mils Ethylene Propylene Rubber (EPR)
- Grounding Conductor:** 3 Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
- Filler:** Wax paper filler
- Binder:** Polypropylene tape
- Armor:** Continuous Corrugated Welded Armor (Armor-X)
- 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:

- ASTM B3 Standard Specification for 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



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**SAMPLE PRINT LEGEND:**

{SQFTG\_DUAL} SOUTHWIRE{R} MASTER-DESIGN ARMOR-X {UL} MV-105 3/C NON-SHIELDED 4/0 AWG CU 90 MILS NL-EPR GW 3 X X AWG CU 90{D}C JKT FOR CT USE SUN. RES. 2400V IEEE 1202/FT4 {NESC} MAXIMUM 2400 VOLTS

**Table 1 – Weights and Measurements**

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Ground	Jacket Thickness <sup>1</sup>	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG/Kcmil	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb	inch
890615	2	0.283	0.493	3 x 10	50	1.530	1393	1593	10.7
890616	1/0	0.362	0.572	3 x 8	60	1.660	1940	2534	11.6
890617	2/0	0.405	0.615	3 x 8	60	1.790	2275	3194	12.5
TBA	3/0	0.456	0.666	3 x 6	60	1.965	2796	4027	13.8
890618	4/0	0.512	0.722	3 x 6	60	2.160	3314	5078	15.1
890619	250	0.558	0.778	3 x 6	60	2.320	3776	6000	16.2
890620	350	0.661	0.881	3 x 6	75	2.440	4926	8400	17.1
890621	500	0.789	1.009	3 x 4	75	2.820	6741	12000	19.7
TBA	600	0.866	1.086	3 x 4	75	3.030	7821	14400	21.2
890622	750	0.968	1.188	3 x 4	85	3.170	9453	18000	22.2

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

**Table 2 – Electrical and Engineering Data**

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance @ 60Hz	Shield Short Circuit Current 6 Cycles	Allowable Ampacity Directly Buried 90/105°C <sup>†</sup>	Allowable Ampacity In Air 90/105°C <sup>‡</sup>
AWG/Kcmil	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2	0.162	0.203	0.034	15089	180/190	140/154
1/0	0.102	0.128	0.032	24011	230/245	185/205
2/0	0.081	0.102	0.031	30264	260/280	215/240
3/0	0.064	0.081	0.030	38154	295/320	250/280
4/0	0.051	0.064	0.030	48114	335/360	285/320
250	0.043	0.055	0.029	56845	365/395	320/355
350	0.031	0.039	0.028	79583	440/475	395/440
500	0.022	0.028	0.027	113690	530/570	485/545
600	0.018	0.024	0.027	136428	575/620	535/600
750	0.014	0.020	0.026	170535	650/700	615/685

<sup>†</sup> Ampacities are based on TABLE 310.60(C)(83) of the 2020 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

<sup>‡</sup> Ampacities are based on TABLE 310.60(C)(71) of the 2020 National Electrical Code (40°C Ambient Air Temperature)

