

## 3/C CU 15kV 220 NLEPR 133% ARMOR-X MC HL PVC MV-105 VFD

Type MV-105 Three Conductor Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Continuous Corrugated Welded Aluminum Armor (Armor-X), Polyvinyl Chloride (PVC) Jacket. Suitable For VFD Applications. Silicone Free

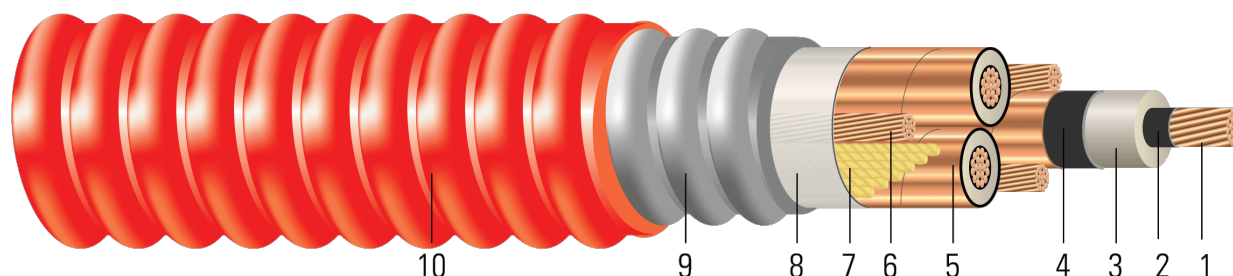


Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 220 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:** Three separate ground wires with a combined circular mil of 50% of the phase conductor. Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
7. **Filler:** Wax paper filler
8. **Binder:** Polypropylene tape
9. **Armor:** Continuous Corrugated Welded Aluminum Armor (Armor-X)
10. **Overall Jacket:** Polyvinyl Chloride (PVC)

### APPLICATIONS AND FEATURES:

Southwire's 15KV ARMOR-X with 50% ground 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. Cable is suitable for VFD applications

### 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 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
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV



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Southwire

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Services

- 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
- ABS Listed as CWCMC

## SAMPLE PRINT LEGEND:

SOUTHWIRE ARMOR-X {UL} MV-105 OR MC-HL 3/C SHIELDED XXX AWG CU 220 MILS NL-EPR 25%TS GW 1 X XXX AWG CU 90{D}C JKT DIR. BUR. FOR CT USE FT4 -40{D}C SUN. RES. 15KV 133% -- ABS CWCMC USA {YYYY} {NESC} {SEQUENTIAL FOOTAGE MARKS} SEQ FEET

### Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Ground	Jacket Thickness <sup>1</sup>	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG/ Kcmil	inch	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb	inch
TBA	1/0	0.362	0.839	0.899	3 x 7	75	2.580	3596	2534	18.1
TBA	2/0	0.405	0.882	0.942	3 x 6	75	2.700	4130	3194	18.9
TBA	4/0	0.512	0.989	1.049	3 x 4	75	3.030	4781	5078	21.2
TBA	250	0.558	1.044	1.104	3 x 4	75	3.030	5296	6000	21.2
TBA	350	0.661	1.147	1.207	3 x 2	85	3.390	6766	8400	23.7
673465	500	0.789	1.275	1.335	3 x 1	85	3.710	8778	12000	26.0
TBA	750	0.968	1.463	1.523	3 x 2/0	85	4.020	12168	18000	28.1

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	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance*	Positive Sequence Impedance*	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	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1/0	0.102	0.128	0.045	0.043	0.499 + j0.383	0.128 + j0.043	2957	240/255	215/240
2/0	0.081	0.101	0.042	0.042	0.471 + j0.366	0.102 + j0.042	3097	270/290	245/275
4/0	0.051	0.064	0.036	0.039	0.426 + j0.327	0.065 + j0.039	3445	350/375	325/360
250	0.043	0.054	0.034	0.038	0.411 + j0.309	0.055 + j0.038	3624	380/410	360/400
350	0.031	0.039	0.030	0.036	0.386 + j0.279	0.040 + j0.036	3959	460/495	435/490
500	0.022	0.028	0.026	0.034	0.362 + j0.247	0.028 + j0.034	4376	550/590	535/600
750	0.014	0.020	0.022	0.032	0.335 + j0.209	0.020 + j0.032	4987	665/720	670/745

\* Calculations are based on 5 mil 25 % over lapping copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† 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)

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

