

## 3/C CU 25kV 320 NLEPR 133% ARMOR-X PVC MV-105

Type MV-105 Three Conductor Copper, 320 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Continuous Corrugated Welded Armor (Armor-X), Polyvinyl Chloride (PVC) Jacket

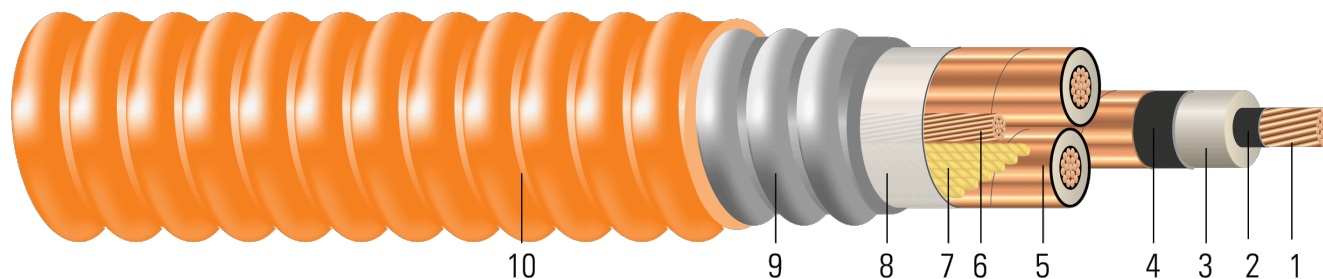


Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 320 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 ASTM B8
7. **Filler:** Wax paper filler
8. **Binder:** Polypropylene tape
9. **Armor:** Continuous Corrugated Welded Armor (Armor-X)
10. **Overall Jacket:** Polyvinyl Chloride (PVC)

### APPLICATIONS AND FEATURES:

Southwire's 25KV 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 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- 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
- ABS Listed as CWCMC



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**SAMPLE PRINT LEGEND:**

{SQFTG\_DUAL} SOUTHWIRE{R} MASTER-DESIGN ARMOR-X {UL} MV-105 OR MC-HL 3/C SHIELDED XXX AWG CU 320 MILS NL-EPR 25%TS GW 1 X X AWG CU 90{D}C JKT DIR. BUR. FOR CT USE FT4 -40{D}C SUN. RES. 25KV 133% -- USA {NESC}

**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	0.322	0.999	1.059	1 x 4	75	3.030	3608	2009	21.2
TBA	1/0	0.362	1.039	1.099	1 x 4	75	3.030	3920	2534	21.2
649938	2/0	0.405	1.082	1.142	1 x 4	75	3.150	4617	3194	22.1
TBA	3/0	0.456	1.133	1.193	1 x 3	85	3.390	5310	4027	23.7
TBA	4/0	0.512	1.189	1.249	1 x 3	85	3.390	5875	5078	23.7
TBA	250	0.558	1.244	1.304	1 x 3	85	3.710	6524	6000	26.0
TBA	350	0.661	1.347	1.407	1 x 2	85	3.710	7799	8400	26.0
TBA	500	0.789	1.475	1.535	1 x 1	85	4.020	9763	12000	28.1
TBA	750	0.968	1.663	1.723	1 x 0	85	4.415	13175	18000	30.9

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†	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	0.129	0.161	0.061	0.049	0.522 + j0.334	0.162 + j0.049	3478	210/225	185/210
1/0	0.102	0.128	0.057	0.048	0.485 + j0.320	0.128 + j0.048	3608	240/255	215/240
2/0	0.081	0.101	0.053	0.046	0.455 + j0.306	0.102 + j0.046	3748	270/290	245/275
3/0	0.064	0.080	0.049	0.044	0.429 + j0.291	0.081 + j0.044	3914	305/330	285/315
4/0	0.051	0.064	0.045	0.043	0.407 + j0.275	0.065 + j0.043	4096	350/375	325/360
250	0.043	0.054	0.043	0.042	0.392 + j0.261	0.055 + j0.042	4275	380/410	360/400
350	0.031	0.039	0.038	0.039	0.366 + j0.238	0.040 + j0.039	4610	460/495	435/490
500	0.022	0.028	0.034	0.037	0.342 + j0.212	0.028 + j0.037	5026	550/590	535/600
750	0.014	0.019	0.029	0.035	0.315 + j0.182	0.020 + j0.035	5638	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 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

‡ Ampacities are based on TABLE 310.60(C)(71) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

