CU Compressed 15kV NLEPR Insulation 133% IL Three Grounds, ARMOR-X® Red PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

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

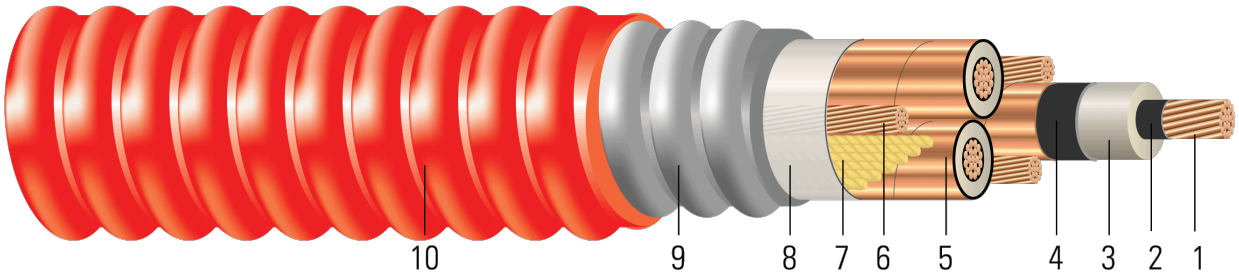

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and 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 ciurcular mil of 50% of the phase conductor. Class B compressed stranded bare copper 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 Aluminum Armor
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 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-58-679 Cable Conductor Identification Method 3 (1-BLACK, 2-RED, 3-BLUE)

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- 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 (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:

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°C JKT DIR. BUR. FOR CT USE FT4 -40°C SUN. RES. 15KV 133% -- USA {YYYY} {NESC} {SEQUENTIAL FOOTAGE MARKS} SEQ FEET

Table 1 – Weights and Measurements

Stock Number	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	Conduit Size
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	lb	inch	inch
TBA	1/0	19	0.362	0.84	0.9	1x4	2.29	75	2.44	1342	2878	2534	17.1	3
TBA	2/0	19	0.405	0.883	0.943	1x4	2.549	75	2.699	1611	3391	3194	18.9	3.5
TBA	4/0	19	0.512	0.99	1.05	1x3	2.75	75	2.9	2404	4390	5078	20.3	3.5
TBA	250	37	0.558	1.044	1.104	1x2	2.88	75	3.03	2820	4951	6000	21.2	4
458347	350	37	0.661	1.127	1.187	3x6	3.22	90	3.398	3824	6353	8400	23.8	4.5
673465	500	37	0.789	1.275	1.335	3x1	3.54	90	3.718	5801	8641	12000	26	5
TBA	750	61	0.968	1.464	1.524	1x1/0	3.85	90	4.03	7724	11011	18000	28.2	5.5

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	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
1/0	0.102	0.139	0.039	0.027	0.510+j0.429	0.139+j0.043	2820	195/210	215/240
2/0	0.082	0.112	0.036	0.025	0.482+j0.412	0.112+j0.042	2953	220/235	245/275
4/0	0.051	0.07	0.031	0.022	0.436+j0.372	0.070+j0.039	3284	285/305	325/360
250	0.043	0.059	0.029	0.022	0.423+j0.354	0.059+j0.038	3452	310/335	360/400
350	0.031	0.043	0.024	0.019	0.402+j0.328	0.043+j0.036	3709	375/400	435/490
500	0.021	0.03	0.022	0.018	0.378+j0.289	0.030+j0.034	4167	450/485	535/600
750	0.014	0.021	0.019	0.016	0.353+j0.247	0.021+j0.032	4753	545/585	670/745

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(13) Detail 1.
* For Free Air: Table 310.60(C)(5).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

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* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
* Capacitive Reactance is between Phase-to-Shield.

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