CU Compressed 5/8kV NLEPR Insulation 133/100% IL ARMOR-X® PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial - VFD Cable

Type MV-105 Three Conductor Copper, 115 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. Type MC HL. Silicone Free

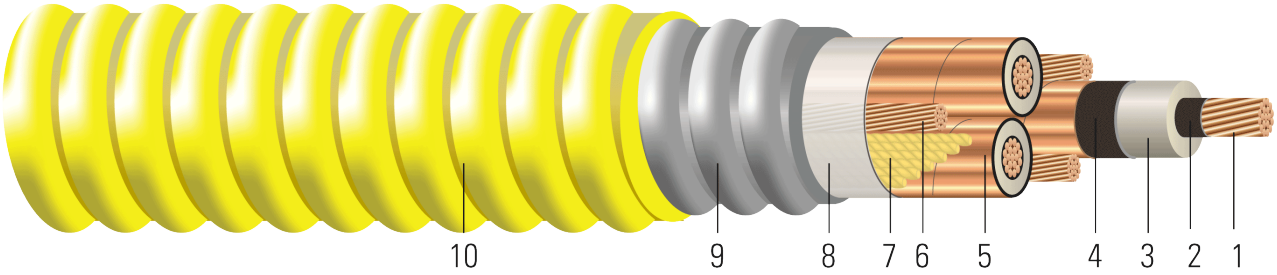

Image not to scale. See Table 1 for dimensions.

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:** 115 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:** 3 Class B compressed stranded bare copper ground 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 5KV ARMOR-X® MC HL 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. Suitable for VFD application.

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 1569 Metal-Clad Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- UL 2225 Cables and Cable-Fittings For Use In Hazardous (Classified) Locations

UPDATED: April 25, 2024, 12:06 p.m.UTC REVISION: 1.000.005

- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- 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:

{SQFTG_DUAL} SOUTHWIRE® ARMOR-X® {UL} MV-105 OR MC-HL 3/C SHIELDED XX AWG CU 115 MILS NL-EPR 25%TS GW 3 X XX AWG CU 90°C JKT DIR. BUR. FOR CT USE FT4 -40°C SUN. RES. 5KV 133%/8KV 100% -- CWCMC USA {NESC}

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
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	lb	inch
890636◊	2	7	0.282	0.545	0.605	3x10	1.670	70	1.810	870	1903	1592	12.6
890637	1	19	0.322	0.590	0.650	3x8	1.845	70	1.985	1087	2208	2008	13.8
890638◊	1/0	19	0.361	0.630	0.690	3x8	2.040	60	2.160	1301	2524	2534	15.1
890639◊	2/0	19	0.405	0.674	0.734	3x8	2.040	60	2.160	1569	2799	3194	15.1
890640◊	4/0	19	0.512	0.766	0.826	3x6	2.290	75	2.440	2415	3986	5078	17.0
890641	250	37	0.558	0.818	0.878	3x6	2.290	75	2.440	2800	4692	6000	17.0
890642◊	350	37	0.661	0.917	0.977	3x6	2.550	75	2.700	3757	5901	8400	18.9
890643◊	500	37	0.789	1.042	1.102	3x4	2.880	75	3.030	5337	7533	12000	21.2
890644◊	750	61	0.968	1.254	1.314	3x4	3.540	85	3.710	7723	10969	18000	25.9
TBA	1000	61	1.117	1.403	1.463	3x4	3.850	90	4.030	9760	13189	24000	28.2

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	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
2	0.162	0.204	0.034	0.040	0.574 + j0.516	0.204 + j0.041	1920	135/145	140/154
1	0.128	0.162	0.031	0.039	0.535 + j0.492	0.162 + j0.039	2044	155/165	160/180
1/0	0.102	0.128	0.028	0.037	0.502 + j0.471	0.128 + j0.037	2165	175/190	185/205
2/0	0.081	0.102	0.026	0.036	0.477 + j0.449	0.102 + j0.036	2302	200/220	215/240
4/0	0.051	0.065	0.021	0.034	0.439 + j0.399	0.065 + j0.034	2633	265/280	285/320
250	0.043	0.056	0.020	0.033	0.428 + j0.376	0.056 + j0.033	2800	290/315	320/355
350	0.031	0.041	0.018	0.032	0.406 + j0.338	0.041 + j0.032	3120	355/380	395/440
500	0.022	0.030	0.015	0.030	0.385 + j0.297	0.03 + j0.03	3516	430/460	485/545
750	0.014	0.023	0.013	0.029	0.36 + j0.248	0.023 + j0.029	4102	530/570	615/685
1000	0.011	0.019	0.011	0.028	0.341 + j0.217	0.02 + j0.028	4563	600/645	705/790

* Ampacities are based on:
* For Duct: Table 310.60(C)(79) Detail 1.
* For Free Air: Table 310.60(C)(71).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing.
* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
* Capacitive Reactance is between Phase-to-Shield.