



## **CU Compressed 15kV NLEPR Insulation 100% IL AIA Red PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial**

Type MV-105 Three Conductor Copper, 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, Aluminum Interlocked Armor (AIA), Polyvinyl Chloride (PVC) Jacket. Silicone Free

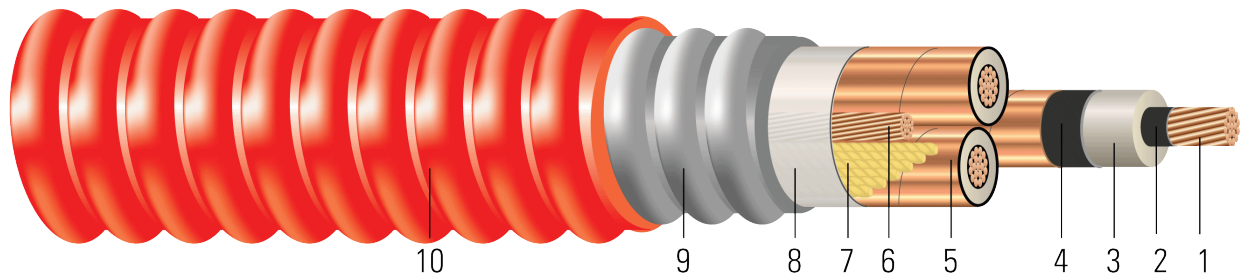


Image not to scale. See Table 1 for dimensions.

### **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:** 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% 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 (Tinned Copper per ASTM B33 optional)
7. **Filler:** Wax paper filler
8. **Binder:** Polypropylene tape
9. **Armor:** Aluminum Interlocked Armor (AIA)
10. **Overall Jacket:** Polyvinyl Chloride (PVC)

### **APPLICATIONS AND FEATURES:**

Southwire's 15KV cables are suited 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, and 250°C for short circuit conditions. Rated at -35°C for cold bend when UL listed. Rated at -40°C for cold bend and cold impact and marked with "LTGG" when CSA listed or dual UL/CSA listed. For uses in Class I and II, Division 2 hazardous locations per NEC Article 501 and 502. Rated for 1000 lbs./FT maximum sidewall pressure.

### **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 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
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- 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 [SYMBOL - LIGHTING BOLT] #P# (UL) 3/C [#AWG or #kcmil] CU 175 MILS NL-EPR AIA 15KV 100% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]

**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
TBA	2	7	0.282	0.670	0.730	1x6	1.942	60	2.062	744	2069	1592	14.4
TBA	1	19	0.322	0.710	0.770	1x4	2.028	60	2.148	957	2371	2008	15.0
556860	1/0	19	0.361	0.750	0.810	1x4	2.112	60	2.311	1305	2850	2534	16.1
TBA	2/0	19	0.405	0.793	0.853	1x4	2.207	60	2.327	1423	3028	3194	16.2
TBA	3/0	19	0.456	0.844	0.904	1x3	2.317	75	2.467	1785	3579	4027	17.2
TBA	4/0	19	0.512	0.900	0.960	1x3	2.438	75	2.588	2196	4126	5078	18.1
TBA	250	37	0.558	0.954	1.014	1x3	2.555	75	2.705	2559	4631	6000	18.9
TBA	350	37	0.661	1.057	1.117	1x2	2.777	75	2.927	3544	5871	8400	20.4
556928	500	37	0.789	1.162	1.222	1x1	3.011	85	3.181	5234	7800	12000	22.2
TBA	750	61	0.968	1.374	1.434	1x1/0	3.462	90	3.642	7422	10702	18000	25.4

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	0.044	0.044	0.579 + j0.459	0.204 + j0.045	2292	150/160	165/185
1	0.128	0.162	0.041	0.042	0.538 + j0.438	0.162 + j0.043	2416	170/185	185/210
1/0	0.102	0.128	0.037	0.041	0.503 + j0.419	0.128 + j0.041	2537	195/210	215/240
2/0	0.081	0.102	0.035	0.039	0.476 + j0.399	0.102 + j0.04	2673	220/235	245/275
3/0	0.064	0.081	0.032	0.038	0.452 + j0.378	0.081 + j0.038	2831	250/270	285/315
4/0	0.051	0.065	0.029	0.037	0.433 + j0.356	0.065 + j0.037	3005	285/305	325/360
250	0.043	0.056	0.027	0.036	0.42 + j0.336	0.056 + j0.036	3172	310/335	360/400
350	0.031	0.041	0.024	0.034	0.397 + j0.303	0.041 + j0.034	3491	375/400	435/490
500	0.022	0.030	0.021	0.033	0.374 + j0.267	0.03 + j0.033	3888	450/485	535/600
750	0.014	0.023	0.018	0.031	0.348 + j0.225	0.024 + j0.031	4473	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.
- \* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
- \* Capacitive Reactance is between Phase-to-Shield.

