CU Compressed 8kV NLEPR Insulation 133% IL AIA PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Copper, 140 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Aluminum Interlocked Armor (AIA), Polyvinyl Chloride (PVC) Jacket. Silicone Free

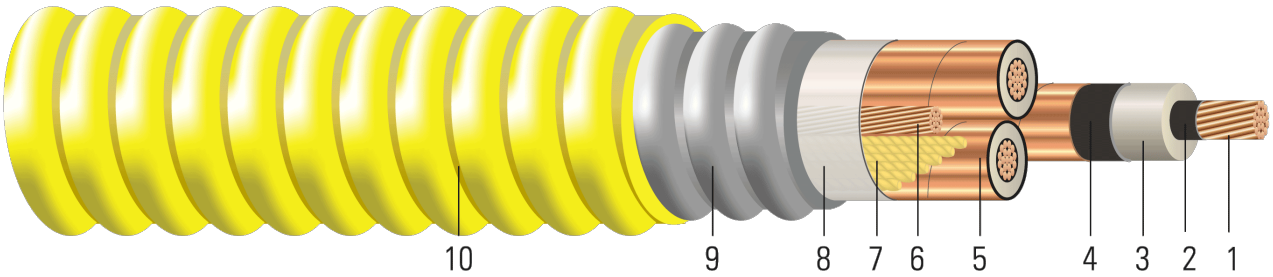

Image not to scale. See Table 1 for dimensions.

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:** 140 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 (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 8KV 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-58-679 Cable Conductor Identification Method 3 (1-BLACK, 2-RED, 3-BLUE)
- 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

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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:

{SQFTG_DUAL} SOUTHWIRE® POWER CABLE {UL} 3/C XX AWG CU 140 MILS NL-EPR 8KV 133% INS LEVEL 25%TS GW 3 X XX AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL {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	Conduit Size
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	lb	inch	inch
TBA	2	7	0.283	0.601	0.661	1x6	1.761	60	1.881	868	1860	1592	13.2	2.5
TBA	1	19	0.322	0.64	0.7	1x4	1.845	60	1.965	1087	2145	2008	13.8	2.5
TBA	1/0	19	0.362	0.68	0.74	1x4	1.931	60	2.051	1303	2430	2534	14.4	2.5
TBA	2/0	19	0.405	0.723	0.783	1x4	2.024	60	2.144	1571	2771	3194	15	2.5
TBA	3/0	19	0.456	0.774	0.834	1x3	2.134	60	2.254	1942	3230	4027	15.8	3
677742	4/0	19	0.512	0.83	0.89	3x4	2.294	75	2.444	2607	4084	5078	17.1	3
TBA	250	37	0.558	0.884	0.944	1x2	2.372	75	2.522	2781	4337	6000	17.7	3
TBA	350	37	0.661	0.987	1.047	1x2	2.595	75	2.745	3743	5484	8400	19.2	3.5
TBA	500	37	0.789	1.115	1.175	1x1	2.871	75	3.021	5230	7200	12000	21.1	4
TBA	750	61	0.968	1.304	1.364	1x1/0	3.279	90	3.459	7684	10113	18000	24.2	4.5

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
2	0.162	0.221	0.033	0.026	0.583+j0.533	0.221+j0.043	2079	150/160	165/185
1	0.128	0.175	0.03	0.024	0.540+j0.512	0.175+j0.040	2200	170/185	185/210
1/0	0.102	0.139	0.028	0.023	0.507+j0.492	0.139+j0.039	2324	195/210	215/240
2/0	0.082	0.112	0.026	0.021	0.481+j0.471	0.112+j0.038	2457	220/235	245/275
3/0	0.064	0.087	0.023	0.02	0.458+j0.448	0.087+j0.036	2615	250/270	285/315
4/0	0.051	0.07	0.021	0.019	0.441+j0.425	0.070+j0.035	2789	285/305	325/360
250	0.043	0.059	0.02	0.018	0.429+j0.404	0.059+j0.034	2956	310/335	360/400
350	0.031	0.043	0.017	0.017	0.409+j0.367	0.043+j0.033	3275	375/400	435/490
500	0.021	0.03	0.015	0.015	0.389+j0.327	0.030+j0.031	3672	450/485	535/600
750	0.014	0.021	0.013	0.014	0.366+j0.277	0.021+j0.030	4257	545/585	670/745

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* 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.

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