CU Compressed 15kV NLEPR Insulation 133% IL AIA Red CPE-TP 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, Aluminum Interlocked Armor (AIA), Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket. Silicone Free

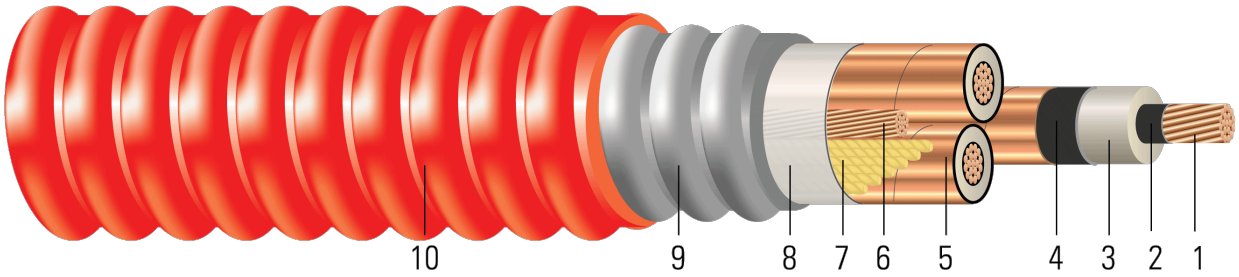


Image not to scale. See Table 1 for dimensions.

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:** 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:** 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:** Black thermoplastic Chlorinated Polyethylene (CPE-TP) jacket

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-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

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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 X AWG CU 220 MILS NL-EPR 15KV 133% INS LEVEL 25%TS GW 1 X X AWG CU MV-105 OR MC 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
649443	2	7	0.283	0.761	0.821	1x6	2.145	60	2.277	919	2335	1592	15.9	3
TBA	1	19	0.322	0.8	0.86	1x4	2.191	60	2.311	1126	2648	2008	16.2	3
TBA	1/0	19	0.362	0.84	0.9	1x4	2.277	75	2.427	1342	3016	2534	17	3
TBA	2/0	19	0.405	0.883	0.943	1x4	2.37	75	2.52	1611	3381	3194	17.6	3
TBA	3/0	19	0.456	0.934	0.994	1x3	2.48	75	2.63	1981	3865	4027	18.4	3.5
TBA	4/0	19	0.512	0.99	1.05	1x3	2.601	75	2.751	2404	4414	5078	19.3	3.5
TBA	250	37	0.558	1.044	1.104	1x2	2.718	75	2.868	2820	4964	6000	20.1	3.5
TBA	350	37	0.661	1.147	1.207	1x2	2.94	75	3.09	3782	6160	8400	21.6	4
646907	500	37	0.789	1.275	1.335	1x1	3.255	90	3.443	5279	7933	12000	24.1	4.5
TBA	750	61	0.968	1.464	1.524	1x1/0	3.625	90	3.805	7724	10949	18000	26.6	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	0.045	0.031	0.591+j0.465	0.221+j0.048	2575	150/160	165/185
1	0.128	0.175	0.042	0.029	0.546+j0.447	0.175+j0.045	2696	170/185	185/210
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
3/0	0.064	0.087	0.033	0.024	0.456+j0.392	0.087+j0.040	3111	250/270	285/315
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	0.025	0.02	0.400+j0.322	0.043+j0.036	3771	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

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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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