CU Compressed 5/8kV NLEPR Insulation 133/100% IL AIA CPE-TP Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Copper, 115 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

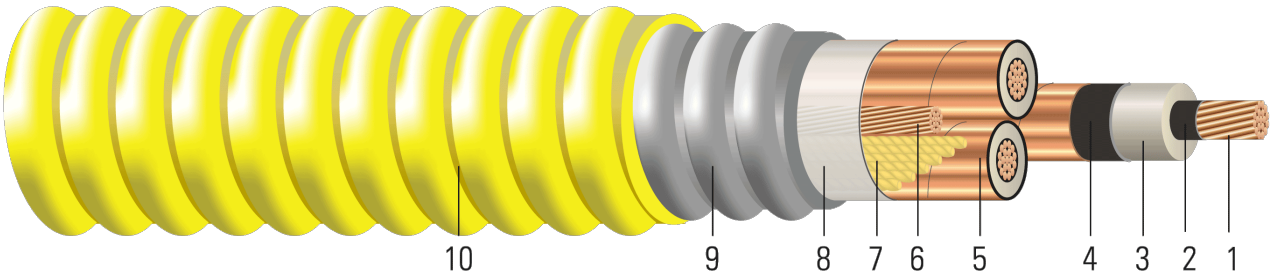

Image not to scale. See Table 1 for dimensions.

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:** 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:** 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:** Thermoplastic Chlorinated Polyethylene (CPE-TP)

APPLICATIONS AND FEATURES:

Southwire's 5KV 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 -25°C for cold bend. 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 115 MILS NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS GW 1 X XX 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
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	lb	inch
583246	2	7	0.282	0.545	0.605	1x6	1.680	65	1.812	854	1822	1592	12.6
TBA	1	19	0.322	0.590	0.650	1x4	1.769	60	1.889	950	1932	2008	13.2
TBA	1/0	19	0.361	0.629	0.689	1x4	1.853	60	1.973	1156	2300	2534	13.8
457010*	2/0	19	0.405	0.673	0.733	1x4	1.948	60	2.068	1416	2645	3194	14.4
TBA	3/0	19	0.456	0.724	0.784	1x3	2.058	60	2.178	1778	3107	4027	15.2
576651*	4/0	19	0.512	0.766	0.826	1x3	2.155	65	2.287	2348	3726	5078	16.0
577531*	250	37	0.558	0.818	0.878	1x2	2.278	80	2.442	2761	4330	6000	17.0
TBA	350	37	0.661	0.937	0.997	1x2	2.518	75	2.668	3536	5389	8400	18.6
677577	500	37	0.789	1.042	1.102	1x1	2.751	80	2.915	5208	7671	12000	20.4
TBA	750	61	0.968	1.254	1.314	1x1/0	3.203	90	3.383	7414	10099	18000	23.6

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
***** Black Jacket Color
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	0.204	0.034	0.040	0.487 + j0.511	0.128 + j0.042	1920	135/145	140/154
1	0.128	0.162	0.031	0.039	0.487 + j0.511	0.128 + j0.042	2044	155/165	160/180
1/0	0.102	0.128	0.028	0.037	0.487 + j0.511	0.128 + j0.042	2165	175/190	185/205
2/0	0.081	0.102	0.026	0.036	0.489 + j0.351	0.128 + j0.049	2302	200/220	215/240
3/0	0.064	0.081	0.024	0.035	0.489 + j0.351	0.128 + j0.049	2459	230/250	250/280
4/0	0.051	0.065	0.021	0.034	0.489 + j0.365	0.129 + j0.051	2633	265/280	285/320
250	0.043	0.056	0.020	0.033	0.489 + j0.365	0.129 + j0.051	2800	290/315	320/355
350	0.031	0.041	0.018	0.032	0.490 + j0.332	0.133 + j0.047	3120	355/380	395/440
500	0.022	0.030	0.015	0.030	0.491 + j0.345	0.134 + j0.049	3516	430/460	485/545
750	0.014	0.023	0.013	0.029	0.491 + j0.345	0.134 + j0.049	4102	530/570	615/685

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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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