CU Compressed 5/8kV NLEPR Insulation 133/100% IL CPE-TP Jacket. MV 105 - UL 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, Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Dual Rated UL/CSA. 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:** Poly glass tape
9. **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 -40°C for cold bend 1/0 and larger. 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
- CSA C22.2 No. 2556 / UL 2556 Cable Test Methods
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- 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 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	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	mil	inch	lb/ 1000ft	lb/ 1000ft	lb	inch	inch
552345	2	7	0.283	0.551	0.611	1x6	80	1.519	855	1506	1592	10.6	2
TBA	1	19	0.322	0.59	0.65	1x4	80	1.587	1074	1758	2008	11.1	2
TBA	1/0	19	0.362	0.63	0.69	1x4	110	1.733	1290	2115	2534	12.1	2
551848	2/0	19	0.405	0.674	0.734	1x4	110	1.857	1571	2513	3194	13	2.5
TBA	3/0	19	0.456	0.724	0.784	1x3	110	1.936	1929	2885	4027	13.6	2.5
561038	4/0	19	0.512	0.78	0.84	1x3	110	2.066	2364	3421	5078	14.5	2.5
TBA	250	37	0.558	0.834	0.894	1x2	110	2.174	2768	3890	6000	15.2	2.5
560450	350	37	0.661	0.917	0.977	1x2	110	2.389	3734	5080	8400	16.7	3
561230	500	37	0.789	1.042	1.102	1x1	110	2.689	5225	6862	12000	18.8	3.5
560449	750	61	0.968	1.254	1.314	1x1/0	135	3.16	7681	9685	18000	22.1	4

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	0.028	0.024	0.577+j0.556	0.221+j0.041	1924	135/145	140/154
1	0.128	0.175	0.026	0.022	0.536+j0.534	0.175+j0.039	2045	155/165	160/180
1/0	0.102	0.139	0.024	0.021	0.503+j0.513	0.139+j0.037	2169	175/190	185/205
2/0	0.082	0.112	0.022	0.02	0.479+j0.492	0.112+j0.036	2305	200/220	215/240
3/0	0.064	0.087	0.02	0.019	0.457+j0.468	0.087+j0.035	2460	230/250	250/280
4/0	0.051	0.07	0.018	0.017	0.441+j0.443	0.070+j0.034	2634	265/280	285/320
250	0.043	0.059	0.017	0.017	0.430+j0.421	0.059+j0.033	2801	290/315	320/355
350	0.031	0.043	0.014	0.015	0.412+j0.389	0.043+j0.031	3058	355/380	395/440
500	0.021	0.03	0.012	0.014	0.394+j0.347	0.030+j0.030	3445	430/460	485/545
750	0.014	0.021	0.011	0.013	0.370+j0.288	0.021+j0.029	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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