



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

Type MV-105 Single Conductor Copper, 5kV 133% /8KV 100% 115 MILS No Lead Ethylene Propylene Rubber (NL-EPR) Insulation Level, Tape Shield, SIMpull Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

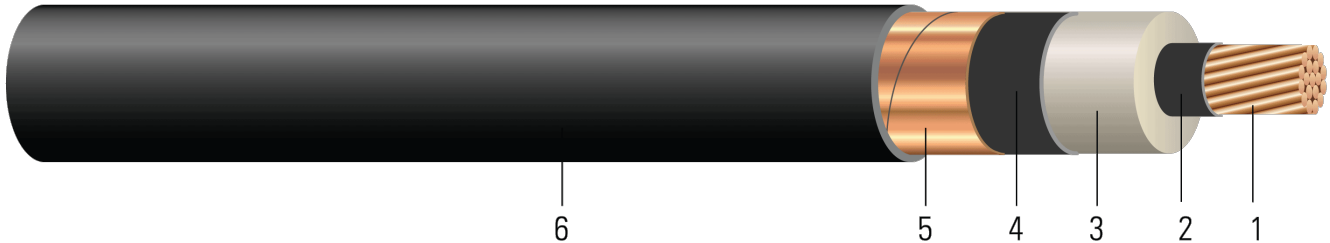


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8. Tinned copper optional per ASTM B33
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 5kV 133% /8KV 100% Insulation Level 115 MILS No Lead Ethylene Propylene Rubber (NL-EPR)
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 5kV 133% /8KV 100% cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial when installed with a grounding conductor in close proximity that conforms to NEC section 311.36 and 250.4(A)(5), aerially supported by a messenger 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 -25°C for cold bend and cold impact and marked with "LTDD" when CSA listed or dual UL/CSA listed. PVC jacket is made with SIM technology and has a coefficient of friction COF of 0.2. Cable can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure. These cables feature sunlight and moisture resistance, exceptional corona resistance, resistance to most chemicals, oils and acids and are flame retardant.

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 FT4 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- CSA C22.2 No.230 Tray Cables - Rated TC-ER (1/0 AWG and Larger)
- 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-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)





- 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 SIMpull® POWER CABLE {UL} XXX AWG CU 115 MILS NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS MV-105 FOR CT USE SUN RES {NESC} -- {CSA} XXX AWG CU X.XXmm (115 mils) NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS SR TC-ER 105°C FT4 -25°C LTDD {YYYY} -- PAT www.patentSW.com -- RoHS

Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Strand Count | Diameter Over Conductor | Diameter Over Insulation | Diameter Over Insulation Shield | Jacket Thickness | Approx. OD | Copper Weight | Approx. Weight | Max Pull Tension | Min Bending Radius | Conduit Size |
|--------------|------------|----------------|-------------------------|--------------------------|---------------------------------|------------------|------------|---------------|----------------|------------------|--------------------|--------------|
| | AWG/Kcmil | No. of Strands | inch | inch | inch | mil | inch | lb/1000ft | lb/1000ft | lb | inch | inch |
| 954636◇ | 2 | 7 | 0.282 | 0.545 | 0.605 | 55 | 0.755 | 255 | 454 | 530 | 9.0 | 2.5 |
| 954644 | 1 | 19 | 0.322 | 0.590 | 0.650 | 55 | 0.800 | 311 | 527 | 669 | 9.6 | 2.5 |
| 955005◇ | 1/0 | 19 | 0.361 | 0.630 | 0.690 | 80 | 0.870 | 383 | 639 | 844 | 10.4 | 2.5 |
| 955013◇ | 2/0 | 19 | 0.405 | 0.674 | 0.734 | 80 | 0.914 | 471 | 745 | 1064 | 10.9 | 3.0 |
| 955021 | 3/0 | 19 | 0.456 | 0.724 | 0.784 | 80 | 0.964 | 582 | 877 | 1342 | 11.5 | 3.0 |
| 955088◇ | 4/0 | 19 | 0.512 | 0.780 | 0.840 | 80 | 1.020 | 721 | 1039 | 1692 | 12.2 | 3.0 |
| 955039◇ | 250 | 37 | 0.558 | 0.818 | 0.878 | 80 | 1.058 | 843 | 1179 | 2000 | 12.6 | 3.0 |
| 955047◇ | 350 | 37 | 0.661 | 0.937 | 0.997 | 80 | 1.177 | 1162 | 1548 | 2800 | 14.1 | 3.5 |
| 955054◇ | 500 | 37 | 0.789 | 1.042 | 1.102 | 80 | 1.282 | 1632 | 2063 | 4000 | 15.3 | 4.0 |
| 679638 | 600 | 61 | 0.865 | 1.152 | 1.212 | 80 | 1.392 | 1949 | 2431 | 4800 | 16.7 | 4.0 |
| 955096◇ | 750 | 61 | 0.968 | 1.254 | 1.314 | 80 | 1.494 | 2419 | 2946 | 6000 | 17.9 | 4.5 |
| 955070 | 1000 | 61 | 1.117 | 1.403 | 1.463 | 80 | 1.643 | 3202 | 3793 | 8000 | 19.7 | 5.0 |
| 596374 | 1500 | 91 | 1.370 | 1.770 | 1.830 | 110 | 2.070 | 4773 | 5746 | 12000 | 24.8 | 6.0 |
| 552012 | 2000 | 127 | 1.583 | 1.953 | 2.013 | 110 | 2.153 | 6323 | 7207 | 16000 | 25.8 | 6.0 |

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

* Conduit size based on 3 phase 40% fill-factor without ground

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 | 0.044 | 0.346 + j0.234 | 0.024 + j0.037 | 1920 | 145/155 | 190/215 |
| 1 | 0.128 | 0.162 | 0.031 | 0.042 | 0.347 + j0.219 | 0.034 + j0.040 | 2044 | 170/180 | 225/250 |
| 1/0 | 0.102 | 0.128 | 0.028 | 0.042 | 0.348 + j0.214 | 0.040 + j0.043 | 2165 | 195/210 | 260/290 |
| 2/0 | 0.081 | 0.102 | 0.026 | 0.040 | 0.348 + j0.230 | 0.027 + j0.035 | 2302 | 220/235 | 300/330 |
| 3/0 | 0.064 | 0.081 | 0.024 | 0.039 | 0.348 + j0.230 | 0.027 + j0.036 | 2459 | 250/270 | 345/385 |
| 4/0 | 0.051 | 0.065 | 0.021 | 0.038 | 0.351 + j0.227 | 0.034 + j0.039 | 2633 | 290/310 | 400/445 |
| 250 | 0.043 | 0.056 | 0.020 | 0.037 | 0.348 + j0.234 | 0.027 + j0.040 | 2800 | 320/345 | 445/495 |
| 350 | 0.031 | 0.041 | 0.018 | 0.035 | 0.349 + j0.245 | 0.020 + j0.034 | 3120 | 385/415 | 550/615 |
| 500 | 0.022 | 0.030 | 0.015 | 0.033 | 0.350 + j0.246 | 0.020 + j0.033 | 3516 | 470/505 | 695/775 |
| 600 | 0.018 | 0.026 | 0.014 | 0.033 | 0.464 + j0.490 | 0.102 + j0.041 | 3782 | 505/544 | 777/865 |
| 750 | 0.014 | 0.023 | 0.013 | 0.032 | 0.351 + j0.227 | 0.034 + j0.040 | 4102 | 585/630 | 900/1000 |
| 1000 | 0.011 | 0.019 | 0.011 | 0.031 | 0.350 + j0.246 | 0.020 + j0.033 | 4563 | 670/720 | 1075/1200 |
| 1500 | 0.007 | 0.017 | 0.011 | 0.031 | 0.528 + j0.456 | 0.162 + j0.05 | 5515 | 870/935 | 1365/1525 |
| 2000 | 0.005 | 0.017 | 0.010 | 0.030 | 0.527 + j0.347 | 0.167 + j0.049 | 6174 | 1070/1150 | 1605/1790 |

* NEC ampacities are based on:

* For Duct: Table 310.60(C)(11) Detail 1.

* For Free Air: Table 310.60(C)(3).

* 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, Spacing: one diameter spacing center-to-center.

* Capacitive Reactance is between Phase-to-Shield.

