



CU Compressed 15kV NLEPR Insulation 133% IL Black PVC Jacket. MV 105 - UL 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, Polyvinyl Chloride (PVC) 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:** 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:** Poly glass tape
9. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 15KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, 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 -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
- 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
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test





- 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 XXX AWG CU 220 MILS NL-EPR 15KV 133% INS LEVEL 25%TS GW 1 X 3 AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL -- CSA XXX AWG CU 5.59mm (220 mils) NL-EPR 15KV 133% INS LEVEL 25%TS SR 90°C FT4 -40°C LTGG {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 |
|--------------|------------|----------------|-------------------------|--------------------------|---------------------------------|-----------|------------------|------------|---------------|----------------|------------------|--------------------|
| | AWG/Kcmil | No. of Strands | inch | inch | inch | No. x AWG | mil | inch | lb/1000ft | lb/1000ft | lb | inch |
| 956490 | 2 | 7 | 0.282 | 0.755 | 0.815 | 1x6 | 110 | 2.032 | 904 | 2236 | 1592 | 14.2 |
| 958306 | 1/0 | 19 | 0.361 | 0.840 | 0.900 | 1x4 | 110 | 2.215 | 1338 | 2758 | 2534 | 15.5 |
| 558254 | 2/0 | 19 | 0.405 | 0.884 | 0.944 | 1x4 | 110 | 2.310 | 1605 | 3237 | 3194 | 16.1 |
| TBA | 3/0 | 19 | 0.456 | 0.934 | 0.994 | 1x3 | 110 | 2.422 | 1790 | 3504 | 4027 | 16.9 |
| 956284 | 4/0 | 19 | 0.512 | 0.976 | 1.036 | 1x3 | 110 | 2.516 | 2398 | 4288 | 5078 | 17.6 |
| TBA | 4/0 | 19 | 0.512 | 0.990 | 1.050 | 1x3 | 110 | 2.543 | 2202 | 4044 | 5078 | 17.8 |
| 558288 | 250 | 37 | 0.558 | 1.028 | 1.088 | 1x2 | 110 | 2.628 | 2812 | 4815 | 6000 | 18.3 |
| 671989 | 350 | 37 | 0.661 | 1.147 | 1.207 | 1x1/0 | 135 | 2.935 | 3896 | 6288 | 8400 | 20.5 |
| 958322 | 350 | 37 | 0.661 | 1.147 | 1.207 | 1x2 | 135 | 2.935 | 3773 | 6213 | 8400 | 20.5 |
| 958330◇ | 500 | 37 | 0.789 | 1.252 | 1.312 | 1x1 | 135 | 3.162 | 5254 | 7973 | 12000 | 22.1 |
| 578614 | 500 | 37 | 0.789 | 1.275 | 1.335 | 1x4/0 | 135 | 3.203 | 5658 | 8374 | 12000 | 22.4 |
| TBA | 500 | 37 | 0.789 | 1.275 | 1.335 | 1x1 | 135 | 3.208 | 5011 | 7706 | 12000 | 22.4 |
| 653562^ | 750 | 61 | 0.968 | 1.464 | 1.524 | 1x1/0 | 135 | 3.620 | 7708 | 11048 | 18000 | 25.3 |
| 558312 | 750 | 61 | 0.968 | 1.464 | 1.524 | 1x1/0 | 135 | 3.620 | 7708 | 11040 | 18000 | 25.3 |

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

^ 750kcmil Stock#: 653562 has a RED outer jacket

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 | 0.051 | 0.047 | 0.355 + j0.247 | 0.023 + j0.033 | 2571 | 150/160 | 165/185 |
| 1/0 | 0.102 | 0.128 | 0.043 | 0.043 | 0.355 + j0.247 | 0.023 + j0.033 | 2816 | 195/210 | 215/240 |
| 2/0 | 0.081 | 0.102 | 0.040 | 0.042 | 0.324 + j0.199 | 0.019 + j0.034 | 2952 | 220/235 | 245/275 |
| 3/0 | 0.064 | 0.081 | 0.037 | 0.040 | 0.532 + j0.396 | 0.167 + j0.048 | 3110 | 250/270 | 285/315 |
| 4/0 | 0.051 | 0.065 | 0.034 | 0.039 | 0.355 + j0.247 | 0.023 + j0.033 | 3284 | 285/305 | 325/360 |
| 4/0 | 0.051 | 0.065 | 0.034 | 0.039 | 0.531 + j0.482 | 0.162 + j0.043 | 3284 | 285/305 | 325/360 |
| 250 | 0.043 | 0.056 | 0.032 | 0.038 | 0.326 + j0.202 | 0.018 + j0.032 | 3451 | 310/335 | 360/400 |
| 350 | 0.031 | 0.041 | 0.028 | 0.036 | 0.529 + j0.445 | 0.162 + j0.049 | 3770 | 375/400 | 435/490 |
| 350 | 0.031 | 0.041 | 0.028 | 0.036 | 0.355 + j0.247 | 0.023 + j0.033 | 3770 | 375/400 | 435/490 |
| 500 | 0.022 | 0.030 | 0.025 | 0.034 | 0.355 + j0.247 | 0.023 + j0.033 | 4167 | 450/485 | 535/600 |
| 500 | 0.022 | 0.030 | 0.025 | 0.034 | 0.529 + j0.445 | 0.162 + j0.049 | 4167 | 450/485 | 535/600 |
| 500 | 0.022 | 0.030 | 0.025 | 0.034 | 0.529 + j0.445 | 0.162 + j0.049 | 4167 | 450/485 | 535/600 |
| 750 | 0.014 | 0.023 | 0.021 | 0.032 | 0.523 + j0.534 | 0.162 + j0.039 | 4752 | 545/585 | 670/745 |
| 750 | 0.014 | 0.023 | 0.021 | 0.032 | 0.327 + j0.196 | 0.027 + j0.038 | 4752 | 545/585 | 670/745 |

* 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.

