

3/C CU 2.4kV 90 MilS NLEPR PVC MV-105

Type MV-105 Three Conductor Copper, 90 MilS No Lead Ethylene Propylene Rubber (NL-EPR) Polyvinyl Chloride (PVC) Jacket



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 90 MilS No Lead Ethylene Propylene Rubber (NL-EPR)
4. **Grounding Conductor:** Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
5. **Filler:** Wax paper filler
6. **Binder:** Poly glass tape
7. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 2.4KV 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. 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 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 1072 Medium-Voltage Power Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-96-659 (NEMA WC 71) 2001-5000 V Nonshielded Cables

SAMPLE PRINT LEGEND:

SOUTHWIRE POWER CABLE MASTER-DESIGN {UL} 3/C XX AWG CU 90 MILS NL-EPR 2400V NONSHIELDED GW 1 X X AWG MV-105 FOR CT USE - SUN. RES. - FOR DIRECT BURIAL - WET & DRY LOC. {YYYY} {NESC} {SEQUENTIAL FOOTAGE MARKS} SEQ FEET



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com



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Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Diameter Over Conductor | Diameter Over Insulation | Ground | Jacket Thickness ¹ | Approx. OD | Approx. Weight | Max Pull Tension | Min Bending Radius |
|--------------|------------|-------------------------|--------------------------|-----------|-------------------------------|------------|----------------|------------------|--------------------|
| | AWG/Kcmil | inch | inch | No. x AWG | mil | inch | lb/1000ft | lb | inch |
| 600429 | 2 | 0.283 | 0.550 | 1 x 6 | 80 | 1.376 | 1281 | 1593 | 9.6 |
| TBA | 1 | 0.322 | 0.589 | 1 x 4 | 80 | 1.460 | 1535 | 2009 | 10.2 |
| 600411 | 1/0 | 0.362 | 0.629 | 1 x 4 | 80 | 1.547 | 1796 | 2534 | 10.8 |
| 600403 | 2/0 | 0.405 | 0.672 | 1 x 4 | 80 | 1.640 | 2114 | 3194 | 11.5 |
| TBA | 3/0 | 0.456 | 0.723 | 1 x 3 | 95 | 1.780 | 2597 | 4027 | 12.5 |
| 600495 | 4/0 | 0.512 | 0.779 | 1 x 3 | 95 | 1.901 | 3094 | 5078 | 13.3 |
| TBA | 250 | 0.558 | 0.834 | 1 x 3 | 110 | 2.049 | 3594 | 6000 | 14.3 |
| 600445 | 350 | 0.661 | 0.881 | 1 x 2 | 110 | 2.122 | 4273 | 8400 | 14.9 |
| 600387 | 500 | 0.789 | 1.065 | 1 x 1 | 110 | 2.548 | 6429 | 12000 | 17.8 |
| TBA | 750 | 0.968 | 1.253 | 1 x 0 | 125 | 2.984 | 9267 | 18000 | 20.9 |

All dimensions are nominal and subject to normal manufacturing tolerances

∅ Cable marked with this symbol is a standard stock item

¹ Comply with ICEA S-93-639 Appendix C for jacket thickness determination

Table 2 – Electrical and Engineering Data

| Cond. Size | DC Resistance @ 25°C | AC Resistance @ 90°C | Inductive Reactance @ 60Hz | 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 | Ω/1000ft | Amp | Amp | Amp |
| 2 | 0.162 | 0.203 | 0.037 | 15089 | 135/145 | 140/154 |
| 1 | 0.129 | 0.161 | 0.036 | 19029 | 155/165 | 160/180 |
| 1/0 | 0.102 | 0.128 | 0.034 | 24011 | 175/190 | 185/205 |
| 2/0 | 0.081 | 0.102 | 0.033 | 30264 | 200/220 | 215/240 |
| 3/0 | 0.064 | 0.081 | 0.032 | 38154 | 230/250 | 250/280 |
| 4/0 | 0.051 | 0.064 | 0.031 | 48114 | 265/285 | 285/320 |
| 250 | 0.043 | 0.054 | 0.031 | 56845 | 290/315 | 320/355 |
| 350 | 0.031 | 0.039 | 0.030 | 79583 | 355/380 | 395/440 |
| 500 | 0.022 | 0.028 | 0.029 | 113690 | 430/460 | 485/545 |
| 750 | 0.014 | 0.020 | 0.028 | 170535 | 530/570 | 615/685 |

[†] Ampacities are based on TABLE 310.60(C)(79) Detail 1. of the 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

[‡] Ampacities are based on TABLE 310.60(C)(71) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

