



MV-105 5kV, 15kV, 25kV, 35kV

UL 1072, IEEE 1202, ASTM B-8, AEIC CS8, ICEA S-97-682, ICEA S-93-639 /NEMA WC 74

Medium Voltage 5kV, 15kV, 25kV, 35kV 133% Copper Conductor, Copper Tape Shielded Power Cable

APPLICATIONS

INDUSTRIAL AND COMMERCIAL

- Chemical Plants
- Petrochemical Plants
- Electrical Utility Plants
- Water Treatment Facilities
- Textile Mills
- Steel Mills
- Paper Mills
- Airports
- Shopping Malls
- Military Bases
- Medical Facilities
- Sports Stadiums

INSTALLATIONS

- In Cable Tray
- Conduit in Air
- Aerial with Messenger Supported
- Direct Buried
- Underground Duct
- Wet and Dry Locations



CONSTRUCTION

| | |
|-------------------|---|
| Conductor | Class B compressed annealed uncoated copper |
| Conductor shield | Extruded layer of semiconducting compound applied under simultaneous triple extrusion process |
| Insulation | Extruded layer of 105°C rated Ethylene Propylene Rubber (EPR) |
| Insulation shield | Extruded layer of semiconducting compound applied by triple extrusion process |
| Metallic shield | 5 mil bare copper tape applied helically with a 25% overlap. |
| Jacket | Extruded layer of black sunlight resistant Polyvinyl Chloride (PVC) |

Characteristic

| | |
|--|------------------------------------|
| Maximum conductor operating temperature: | +105°C |
| Maximum emergency overload temperature: | +140°C |
| Maximum short-circuit conductor temperature: | +250°C |
| Maximum sidewall pressure: | 1000lbs/FT |
| Lowest ambient temperature for fixed installation: | -40°C |
| Lowest installation temperature: | -5°C |
| Minimum bending radius: | 12xD (D-overall diameter of cable) |

- Flame Retardant PVC jacket
- Listed for CT use for sizes 1/0 AWG and larger

Approvals

(UL) E231073

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25kV 133% INSULATION LEVEL

| Part Number | Conductor Size | Insulation Thickness | Diameter over Insulation | Jacket Thickness | Outer Diameter | Cable Weight | Ampacities * | | |
|-----------------|----------------|----------------------|--------------------------|------------------|----------------|--------------|-----------------|---------------|------------------|
| | | | | | | | Isolated in Air | Direct Buried | Underground Duct |
| | AWG / MCM | mils | inches | mils | inches | lbs /kft | A | | |
| MV105-5kV2-1 | 2 AWG | 115 | 0.55 | 60 | 0.78 | 524 | 215 | 250 | 155 |
| MV105-5kV1-1 | 1 AWG | | 0.60 | | 0.80 | 520 | 250 | 280 | 180 |
| MV105-5kV1/0-1 | 1/0 AWG | | 0.65 | | 0.85 | 677 | 290 | 320 | 210 |
| MV105-5kV2/0-1 | 2/0 AWG | | 0.69 | | 0.95 | 792 | 330 | 365 | 235 |
| MV105-5kV3/0-1 | 3/0 AWG | | 0.75 | | 1.00 | 925 | 385 | 415 | 270 |
| MV105-5kV4/0-1 | 4/0 AWG | | 0.80 | | 1.05 | 1093 | 445 | 465 | 310 |
| MV105-5kV250-1 | 250 MCM | | 0.85 | 80 | 1.10 | 1130 | 495 | 510 | 345 |
| MV105-5kV350-1 | 350 MCM | | 0.95 | 1.20 | 1624 | 615 | 615 | 415 | |
| MV105-5kV500-1 | 500 MCM | | 1.10 | 1.35 | 2185 | 775 | 745 | 505 | |
| MV105-5kV750-1 | 750 MCM | | 1.30 | 1.55 | 3102 | 1000 | 910 | 630 | |
| MV105-5kV1000-1 | 1000 MCM | | 1.40 | 1.70 | 3715 | 1200 | 1055 | 720 | |

15kV 133% INSULATION LEVEL

| Part Number | Conductor Size | Insulation Thickness | Diameter over Insulation | Jacket Thickness | Outer Diameter | Cable Weight | Ampacities * | | |
|------------------|----------------|----------------------|--------------------------|------------------|----------------|--------------|-----------------|---------------|------------------|
| | | | | | | | Isolated in Air | Direct Buried | Underground Duct |
| | AWG / MCM | mils | inches | mils | inches | lbs /kft | A | | |
| MV105-15kV2-1 | 2 AWG | 220 | 0.75 | 80 | 1.03 | 700 | 215 | 225 | 165 |
| MV105-15kV1-1 | 1 AWG | | 0.79 | | 1.05 | 710 | 250 | 260 | 185 |
| MV105-15kV1/0-1 | 1/0 AWG | | 0.82 | | 1.09 | 867 | 290 | 295 | 215 |
| MV105-15kV2/0-1 | 2/0 AWG | | 0.86 | | 1.13 | 995 | 335 | 335 | 245 |
| MV105-15kV3/0-1 | 3/0 AWG | | 0.92 | | 1.17 | 1135 | 385 | 380 | 275 |
| MV105-15kV4/0-1 | 4/0 AWG | | 0.97 | | 1.21 | 1314 | 445 | 435 | 315 |
| MV105-15kV250-1 | 250 MCM | | 1.02 | 1.30 | 1471 | 495 | 475 | 345 | |
| MV105-15kV350-1 | 350 MCM | | 1.12 | 1.40 | 1902 | 610 | 575 | 415 | |
| MV105-15kV500-1 | 500 MCM | | 1.26 | 1.52 | 2459 | 765 | 700 | 500 | |
| MV105-15kV750-1 | 750 MCM | | 1.41 | 1.77 | 3471 | 990 | 865 | 610 | |
| MV105-15kV1000-1 | 1000 MCM | | 1.58 | 1.95 | 4150 | 1185 | 1005 | 690 | |

Standard print legend:

TF Cable (VOLTAGE) (SIZE) TYPE MV-105 SHIELDED COPPER EPR 133% INS LEVEL SUN RES FOR CT USE DIRECT BURIAL (UL) E231073

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MV-105 5kV, 15kV, 25kV, 35kV

25kV 133% INSULATION LEVEL

| Part Number | Conductor Size | Insulation Thickness | Diameter over Insulation | Jacket Thickness | Outer Diameter | Cable Weight | Ampacities * | | |
|-------------------|----------------|----------------------|--------------------------|------------------|----------------|--------------|-----------------|---------------|------------------|
| | | | | | | | Isolated in Air | Direct Buried | Underground Duct |
| | AWG / MCM | mils | inches | mils | inches | lbs /kft | A | | |
| MV 105-25kV2-1 | 2 | | 0.95 | | 1.25 | 1010 | - | 225 | 165 |
| MV 105-25kV1-1 | 1 | | 1.00 | | 1.30 | 1100 | 250 | 260 | 185 |
| MV 105-25kV1/0-1 | 1/0 | | 1.05 | | 1.35 | 1210 | 290 | 295 | 215 |
| MV 105-25kV2/0-1 | 2/0 | | 1.10 | 70 | 1.40 | 1350 | 330 | 335 | 245 |
| MV 105-25kV3/0-1 | 3/0 | | 1.15 | | 1.45 | 1500 | 380 | 380 | 275 |
| MV 105-25kV4/0-1 | 4/0 | 320 | 1.20 | | 1.50 | 1710 | 445 | 435 | 315 |
| MV 105-25kV250-1 | 250 | | 1.25 | | 1.55 | 1880 | 490 | 475 | 345 |
| MV 105-25kV350-1 | 350 | | 1.35 | | 1.65 | 2162 | 605 | 575 | 415 |
| MV 105-25kV500-1 | 500 | | 1.50 | | 1.85 | 3060 | 755 | 700 | 500 |
| MV 105-25kV750-1 | 750 | | 1.65 | 100 | 2.00 | 4080 | 970 | 865 | 610 |
| MV 105-25kV1000-1 | 1000 | | 1.80 | | 2.15 | 5060 | 1160 | 1005 | 690 |

35kV 133% INSULATION LEVEL

| Part Number | Conductor Size | Insulation Thickness | Diameter over Insulation | Jacket Thickness | Outer Diameter | Cable Weight | Ampacities * | | |
|-------------------|----------------|----------------------|--------------------------|------------------|----------------|--------------|-----------------|---------------|------------------|
| | | | | | | | Isolated in Air | Direct Buried | Underground Duct |
| | AWG / MCM | mils | inches | mils | inches | lbs /kft | A | | |
| MV 105-35kV2-1 | 2 | | 1.15 | | 1.45 | 1200 | - | 225 | 165 |
| MV 105-35kV1-1 | 1 | | 1.20 | | 1.50 | 1300 | 250 | 260 | 185 |
| MV 105-35kV1/0-1 | 1/0 | | 1.25 | 70 | 1.55 | 1378 | 290 | 295 | 215 |
| MV 105-35kV2/0-1 | 2/0 | | 1.30 | | 1.60 | 1498 | 330 | 335 | 245 |
| MV 105-35kV3/0-1 | 3/0 | | 1.35 | | 1.65 | 1650 | 380 | 380 | 275 |
| MV 105-35kV4/0-1 | 4/0 | 420 | 1.40 | | 1.70 | 1850 | 445 | 435 | 315 |
| MV 105-35kV250-1 | 250 | | 1.45 | | 1.75 | 2050 | 490 | 475 | 345 |
| MV 105-35kV350-1 | 350 | | 1.55 | | 1.90 | 2565 | 605 | 575 | 415 |
| MV 105-35kV500-1 | 500 | | 1.70 | 100 | 2.05 | 3172 | 755 | 700 | 500 |
| MV 105-35kV750-1 | 750 | | 1.90 | | 2.25 | 4143 | 970 | 865 | 610 |
| MV 105-35kV1000-1 | 1000 | | 2.00 | | 2.40 | 5100 | 1160 | 1005 | 690 |

MV-105 5kV, 15kV, 25kV, 35kV

INSTALLATION DATA

| Conductor Size | Max. Pull Tension | Min. Bending Radius | | | |
|----------------|-------------------|---------------------|--------|--------|--------|
| | | 5kV | 15kV | 25kV | 35kV |
| AWG kcmil | lbs | inches | inches | inches | inches |
| 2 | 530 | 9.36 | 12.36 | 15.0 | 17.0 |
| 1 | 670 | 9.6 | 12.6 | 15.5 | 18.0 |
| 1/0 | 845 | 10.2 | 13.08 | 16.0 | 18.5 |
| 2/0 | 1065 | 11.4 | 13.56 | 16.5 | 19.2 |
| 3/0 | 1345 | 12.0 | 14.04 | 17.0 | 19.8 |
| 4/0 | 1695 | 12.6 | 14.52 | 17.8 | 20.4 |
| 250 | 2000 | 13.2 | 15.6 | 18.3 | 21.0 |
| 350 | 2800 | 14.4 | 16.8 | 19.6 | 22.8 |
| 500 | 4000 | 16.2 | 18.24 | 21.8 | 24.6 |
| 750 | 6000 | 18.6 | 21.24 | 24.0 | 27.0 |
| 1000 | 6000 | 20.4 | 23.4 | 25.8 | 28.8 |

³ Ampacities „Underground Duct“ per NEC 2023 Table 315.60(C)(11). Ampacities „Isolated in Air“ per NEC 2023 Table 315.60(C)(3). Ampacities „Direct Buried“ per NEC 2023 Table 315.60(C)(15).