# MV-105 TR-XLPE Insulated, PVC Jacketed

**5 kV – 35 kV, Cu-Tape Shielded**

A Viakable Company

## Features

UL listed as MV-105.

Rated as Sunlight Resistance for CT use, 1/0 AWG and larger.

Jacket is rated as Oil resistance I.

True Triple extrusion system and closed handling raw materials system, to eliminate any contact with ambient, until extrusion process ends.

## Application

Primary power and distribution circuits in industrial and commercial installations, power circuits in generating plants where line to ground fault current are within shield capabilities.

Type MV cables may be used in wet or dry locations, indoors or outdoors, installed in any raceway, open air, aerial messenger supported, underground duct, or directly buried if installed with a grounding conductor in close proximity complying with NEC Section 250.4(A)(5).

## Standards

UL 1072

Medium Voltage Power Cables.

ICEA S-93-639/NEMA WC74

5 kV – 46 kV Shielded Power Cables.

ICEA S-97-682

Utility Shielded Power Cables Rated 5 kV – 46 kV.

AEIC CS8

Specification for Extruded Dielectric, Shielded Power Cables Rated 5 kV – 46 kV.

## Specifications

Maximum operating voltage:

- 5 kV to 35 kV 100% and 133% IL

Maximum conductor operation temperatures:

Wet and dry locations

- Normal: 105 °C
- Emergency: 140 °C
- Short Circuit: 250 °C

## Engineering Information

**1. Conductor:** Soft annealed uncoated copper compacted Class B per ASTM B496 or hard drawn Aluminum-1350 compacted Class B per ASTM B400.

*On request, strand filled or compressed strand.*

**Sizes:** 8 AWG (6 AWG Aluminum) up to 1000 kcmil.

*On request, larger conductor sizes available.*

**2. Conductor Shield:** Semi conducting cross-linked polyethylene (XLPE).

**3. Insulation:** Thermoset tree retardant crosslinked polyethylene (TR-XLPE).

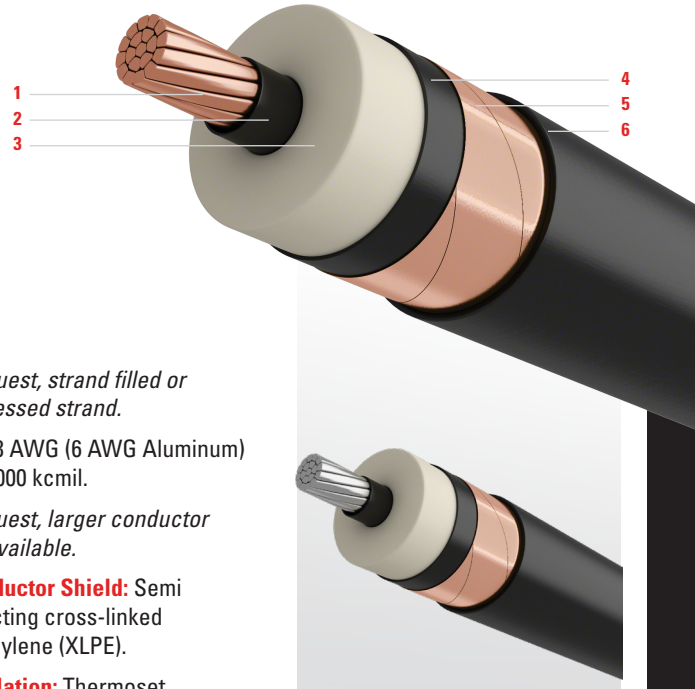
**4. Insulation Shield:** Semi conducting cross-linked polyethylene (XLPE).

**5. Metallic Shield:** Soft-annealed uncoated copper tape, 5 mil thick, 25% minimum overlap.

**6. Jacket:** Black sunlight resistance and flame retardant polyvinyl chloride (PVC) compound.

**Configuration Options:**

*On request, Triplex or Paralleled configurations.*






Aluminum Conductor

Medium Voltage Cables - Single Conductor

CME wire and cable
A Viakable Company

## Technical Data

# 5 kV TR-XLPE Insulated

| Size AWG or kcmil | Number of Strands | Conductor Nominal OD | 100% and 133% Insulation Levels (90 mil) | | | | |
|---|---|---|---|---|---|---|---|
| | | | Insulation Thickness | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | |
| | | | | | | Copper | Aluminum |
| | | in | mil | mil | in | lb/kft | lb/kft |
| 8 | 7 | 0.13 | 0.35 | 60 | 0.56 | 200 | N/A |
| 6 | 7 | 0.17 | 0.38 | 60 | 0.59 | 245 | 188 |
| 4 | 7 | 0.21 | 0.43 | 60 | 0.64 | 311 | 221 |
| 2 | 7 | 0.27 | 0.48 | 60 | 0.69 | 410 | 267 |
| 1 | 19 | 0.30 | 0.51 | 60 | 0.72 | 475 | 295 |
| 1/0 | 19 | 0.34 | 0.55 | 60 | 0.76 | 558 | 331 |
| 2/0 | 19 | 0.38 | 0.59 | 60 | 0.80 | 659 | 373 |
| 3/0 | 19 | 0.42 | 0.64 | 80 | 0.89 | 821 | 460 |
| 4/0 | 19 | 0.48 | 0.69 | 80 | 0.94 | 980 | 526 |
| 250 | 37 | 0.52 | 0.75 | 80 | 0.99 | 1124 | 586 |
| 350 | 37 | 0.62 | 0.84 | 80 | 1.09 | 1477 | 724 |
| 500 | 37 | 0.74 | 0.96 | 80 | 1.21 | 1996 | 921 |
| 750 | 61 | 0.91 | 1.14 | 80 | 1.41 | 2879 | 1266 |
| 1000 | 61 | 1.06 | 1.30 | 80 | 1.57 | 3723 | 1573 |

# 8 kV TR-XLPE Insulated

| Size AWG or kcmil | Number of Strands | Conductor Diameter | 100% Insulation Level (115 mil) | | | | | 133% Insulation Level (140 mil) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | |
| | | | | | | Copper | Aluminum | | | | Copper | Aluminum |
| | | in | in | mil | in | lb/kft | | in | mil | in | lb/kft | |
| 6 | 7 | 0.17 | 0.43 | 60 | 0.65 | 270 | 214 | 0.48 | 60 | 0.70 | 297 | 241 |
| 4 | 7 | 0.21 | 0.48 | 60 | 0.69 | 338 | 248 | 0.53 | 60 | 0.74 | 366 | 276 |
| 2 | 7 | 0.27 | 0.53 | 60 | 0.75 | 438 | 296 | 0.58 | 60 | 0.80 | 469 | 326 |
| 1 | 19 | 0.30 | 0.56 | 60 | 0.78 | 504 | 325 | 0.61 | 60 | 0.83 | 536 | 356 |
| 1/0 | 19 | 0.34 | 0.60 | 60 | 0.81 | 588 | 362 | 0.65 | 80 | 0.90 | 656 | 429 |
| 2/0 | 19 | 0.38 | 0.64 | 80 | 0.89 | 726 | 440 | 0.69 | 80 | 0.94 | 762 | 476 |
| 3/0 | 19 | 0.42 | 0.69 | 80 | 0.94 | 857 | 496 | 0.74 | 80 | 0.99 | 894 | 533 |
| 4/0 | 19 | 0.48 | 0.74 | 80 | 0.99 | 1018 | 563 | 0.79 | 80 | 1.04 | 1056 | 601 |
| 250 | 37 | 0.52 | 0.80 | 80 | 1.05 | 1163 | 625 | 0.85 | 80 | 1.10 | 1203 | 666 |
| 300 | 37 | 0.57 | 0.85 | 80 | 1.10 | 1341 | 697 | 0.90 | 80 | 1.15 | 1383 | 739 |
| 350 | 37 | 0.62 | 0.89 | 80 | 1.14 | 1519 | 766 | 0.94 | 80 | 1.19 | 1563 | 809 |
| 400 | 37 | 0.66 | 0.93 | 80 | 1.19 | 1694 | 834 | 0.98 | 80 | 1.24 | 1739 | 879 |
| 500 | 37 | 0.74 | 1.01 | 80 | 1.29 | 2066 | 991 | 1.06 | 80 | 1.34 | 2114 | 1039 |
| 600 | 61 | 0.81 | 1.10 | 80 | 1.37 | 2419 | 1129 | 1.15 | 80 | 1.42 | 2470 | 1180 |
| 750 | 61 | 0.91 | 1.19 | 80 | 1.47 | 2931 | 1318 | 1.24 | 80 | 1.52 | 2985 | 1372 |
| 1000 | 61 | 1.06 | 1.35 | 80 | 1.62 | 3780 | 1630 | 1.40 | 80 | 1.67 | 3838 | 1688 |

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request. Cables that comply with 8 kV 100% can also be marked 5 kV 133%.
**Ampacities:** Refer to beginning of section.

**Technical Data *continued***

## 15 kV TR-XLPE Insulated

| Size AWG or kcmil | Number of Strands | Conductor Diameter | 100% Insulation Level (175 mil) | | | | | 133% Insulation Level (220 mil) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | |
| | | | | | | Copper | Aluminum | | | | Copper | Aluminum |
| | | in | in | mil | in | lb/kft | | in | mil | in | lb/kft | |
| 2 | 7 | 0.27 | 0.65 | 80 | 0.91 | 549 | 406 | 0.74 | 80 | 1.00 | 615 | 472 |
| 1 | 19 | 0.30 | 0.68 | 80 | 0.94 | 618 | 438 | 0.77 | 80 | 1.03 | 686 | 506 |
| 1/0 | 19 | 0.34 | 0.72 | 80 | 0.97 | 707 | 480 | 0.81 | 80 | 1.06 | 776 | 549 |
| 2/0 | 19 | 0.38 | 0.76 | 80 | 1.01 | 814 | 528 | 0.85 | 80 | 1.10 | 886 | 600 |
| 3/0 | 19 | 0.42 | 0.81 | 80 | 1.06 | 948 | 587 | 0.90 | 80 | 1.15 | 1023 | 662 |
| 4/0 | 19 | 0.48 | 0.86 | 80 | 1.11 | 1113 | 658 | 0.95 | 80 | 1.20 | 1191 | 736 |
| 250 | 37 | 0.52 | 0.92 | 80 | 1.17 | 1262 | 725 | 1.01 | 80 | 1.28 | 1368 | 830 |
| 300 | 37 | 0.57 | 0.97 | 80 | 1.22 | 1445 | 800 | 1.06 | 80 | 1.33 | 1554 | 909 |
| 350 | 37 | 0.62 | 1.01 | 80 | 1.29 | 1651 | 897 | 1.10 | 80 | 1.38 | 1738 | 985 |
| 400 | 37 | 0.66 | 1.05 | 80 | 1.33 | 1830 | 970 | 1.14 | 80 | 1.42 | 1920 | 1060 |
| 500 | 37 | 0.74 | 1.13 | 80 | 1.41 | 2184 | 1109 | 1.22 | 80 | 1.50 | 2279 | 1203 |
| 600 | 61 | 0.81 | 1.22 | 80 | 1.49 | 2544 | 1253 | 1.31 | 80 | 1.58 | 2643 | 1353 |
| 750 | 61 | 0.91 | 1.31 | 80 | 1.59 | 3062 | 1449 | 1.40 | 110 | 1.74 | 3269 | 1656 |
| 1000 | 61 | 1.06 | 1.47 | 110 | 1.80 | 4029 | 1879 | 1.56 | 110 | 1.92 | 4197 | 2047 |

## 25 kV TR-XLPE Insulated

| Size AWG or kcmil | Number of Strands | Conductor Diameter | 100% Insulation Level (260 mil) | | | | | 133% Insulation Level (320 mil) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | |
| | | | | | | Copper | Aluminum | | | | Copper | Aluminum |
| | | in | in | mil | in | lb/kft | | in | mil | in | lb/kft | |
| 1 | 19 | 0.30 | 0.85 | 80 | 1.10 | 749 | 570 | 0.97 | 80 | 1.23 | 854 | 675 |
| 1/0 | 19 | 0.34 | 0.89 | 80 | 1.14 | 841 | 616 | 1.01 | 80 | 1.29 | 974 | 747 |
| 2/0 | 19 | 0.38 | 0.93 | 80 | 1.18 | 953 | 668 | 1.05 | 80 | 1.33 | 1090 | 804 |
| 3/0 | 19 | 0.42 | 0.98 | 80 | 1.23 | 1092 | 733 | 1.10 | 80 | 1.37 | 1233 | 872 |
| 4/0 | 19 | 0.48 | 1.03 | 80 | 1.30 | 1288 | 834 | 1.15 | 80 | 1.43 | 1408 | 953 |
| 250 | 37 | 0.52 | 1.09 | 80 | 1.36 | 1444 | 907 | 1.21 | 80 | 1.48 | 1569 | 1031 |
| 300 | 37 | 0.57 | 1.14 | 80 | 1.41 | 1633 | 989 | 1.26 | 80 | 1.53 | 1761 | 1116 |
| 350 | 37 | 0.62 | 1.18 | 80 | 1.45 | 1820 | 1067 | 1.30 | 80 | 1.58 | 1951 | 1198 |
| 400 | 37 | 0.66 | 1.22 | 80 | 1.49 | 2003 | 1144 | 1.34 | 80 | 1.62 | 2138 | 1278 |
| 500 | 37 | 0.74 | 1.30 | 80 | 1.57 | 2366 | 1292 | 1.42 | 110 | 1.76 | 2610 | 1534 |
| 600 | 61 | 0.81 | 1.39 | 80 | 1.66 | 2735 | 1445 | 1.51 | 110 | 1.88 | 3039 | 1748 |
| 750 | 61 | 0.91 | 1.48 | 110 | 1.82 | 3370 | 1758 | 1.60 | 110 | 1.97 | 3582 | 1969 |
| 1000 | 61 | 1.06 | 1.64 | 110 | 2.00 | 4307 | 2158 | 1.76 | 110 | 2.12 | 4483 | 2333 |

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.
**Ampacities:** Refer to beginning of section.

CME wire and cable
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## Technical Data *continued*

# 35 kV TR-XLPE Insulated

| Size AWG or kcmil | Number of Strands | Conductor Diameter | 100% Insulation Level (345 mil) | | | | | 133% Insulation Level (420 mil) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | | Nominal Diameter Over Insulation | Jacket Thickness | Approximate Outside Diameter | Approximate Net Weight | |
| | | | | | | Copper | Aluminum | | | | Copper | Aluminum |
| | | in | in | mil | in | lb/kft | | in | mil | in | lb/kft | |
| 1/0 | 19 | 0.34 | 1.06 | 80 | 1.34 | 1022 | 795 | 1.21 | 80 | 1.49 | 1176 | 949 |
| 2/0 | 19 | 0.38 | 1.10 | 80 | 1.38 | 1139 | 853 | 1.25 | 80 | 1.53 | 1296 | 1010 |
| 3/0 | 19 | 0.42 | 1.15 | 80 | 1.42 | 1284 | 923 | 1.30 | 80 | 1.57 | 1446 | 1085 |
| 4/0 | 19 | 0.48 | 1.20 | 80 | 1.48 | 1461 | 1006 | 1.35 | 80 | 1.63 | 1627 | 1173 |
| 250 | 37 | 0.52 | 1.26 | 80 | 1.53 | 1623 | 1085 | 1.41 | 110 | 1.74 | 1897 | 1359 |
| 300 | 37 | 0.57 | 1.31 | 80 | 1.58 | 1817 | 1172 | 1.46 | 110 | 1.79 | 2098 | 1454 |
| 350 | 37 | 0.62 | 1.35 | 80 | 1.63 | 2009 | 1255 | 1.50 | 110 | 1.84 | 2297 | 1544 |
| 400 | 37 | 0.66 | 1.39 | 80 | 1.67 | 2197 | 1337 | 1.54 | 110 | 1.91 | 2541 | 1681 |
| 500 | 37 | 0.74 | 1.47 | 110 | 1.81 | 2674 | 1598 | 1.62 | 110 | 1.99 | 2926 | 1850 |
| 600 | 61 | 0.81 | 1.56 | 110 | 1.93 | 3107 | 1816 | 1.71 | 110 | 2.08 | 3320 | 2029 |
| 750 | 61 | 0.91 | 1.65 | 110 | 2.02 | 3653 | 2040 | 1.80 | 110 | 2.17 | 3875 | 2262 |
| 1000 | 61 | 1.06 | 1.81 | 110 | 2.17 | 4559 | 2409 | 1.96 | 110 | 2.32 | 4795 | 2645 |

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.
**Ampacities:** Refer to beginning of section.