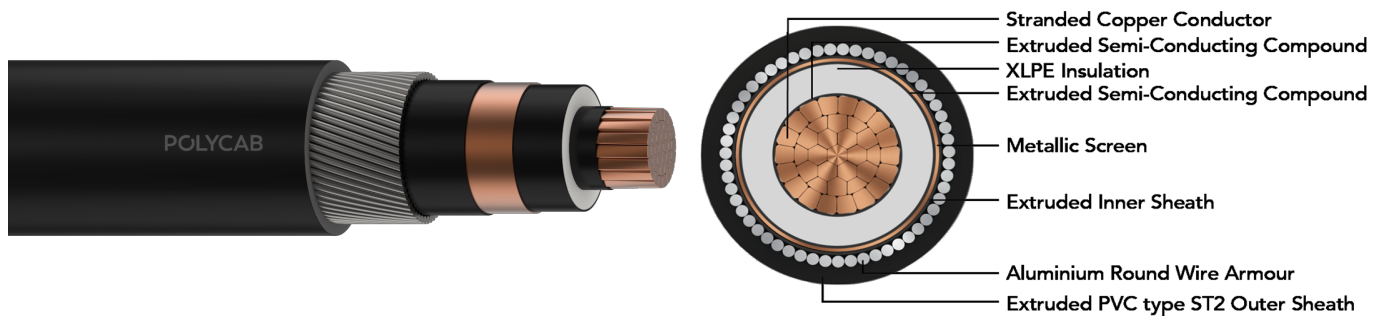


POLYCAB MV SC CU IS 7098-2, 3.8/6.6 KV(E)

Medium Voltage Single Core Copper Armoured Cable, 3.8/6.6 KV (E) AC



Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB MV 3.8/6.6 KV(E) XLPE insulated with copper conductor single core cable is suitable to use for power distribution for external and direct burial applications in power network system.

CHARACTERISTICS

Voltage Rating

Nominal Voltage: 3.8/6.6 KV (E)

Operation Temperature

Max. operating temperature: 90°C

Max. Short Circuit Temperature: 250°C

Bending Radius:

Fixed Installation: 15D

D is overall diameter of cable

CONSTRUCTION

- Conductor: Circular Compacted Copper conductor as per IS 8130, class 2
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: XLPE
- Non-Metallic Insulation Screen: Extruded Semi-conductive compound
- Metallic Insulation Screen: Copper tape screen
- Inner Sheath: Extruded Polyvinyl Chloride
- Armour: Aluminium Round/Flat Wire Armoured
- Outer Sheath: Extruded Polyvinyl Chloride,

Colour: Black

OUTSTANDING FEATURES

- Flame Retardent
- UV resistant
- High life

STANDARD FOLLOWS

IS 8130:2013

IS 5831:1984

IS 3975:1979

IS 7098-2:2011

COMPLIANCE

- Conductor resistance IS 8130
- Insulation resistance IS 7098-2
- Flammability test IEC 60332-1-2
- Partial Discharge test IS 7098-2

NOTES

- Inner sheath available with FR/ FRLS
- Outer/ Inner available with FR/FRLS

Test Voltage

13kV AC 50 Hz

Impulse voltage test

60 kV

POLYCAB MV SC CU IS 7098-2, 3.8/6.6 KV(E) Medium Voltage Single Core Copper Armoured Cable, 3.8/6.6 KV (E) AC

DIMENSIONS AND WEIGHTS:

| Product Code | No. of Cores | Core Cross sectional Area | Nominal Diameter | | | Weight (Approx.) |
|---------------------------|--------------|---------------------------|------------------|-------------|---------|------------------|
| | | | Under armour | Over armour | Overall | |
| 2XW _a Y | No. | mm ² | mm | mm | mm | Kg/Km |
| MVIS15CXAWY2001C025SA001S | 1C | 25 | 13.9 | 17.1 | 19.9 | 647 |
| MVIS15CXAWY2001C035SA001S | 1C | 35 | 15.1 | 18.3 | 21.1 | 769 |
| MVIS15CXAWY2001C050SA001S | 1C | 50 | 16.6 | 19.8 | 22.6 | 958 |
| MVIS15CXAWY2001C070SA001S | 1C | 70 | 18.2 | 21.4 | 24.2 | 1180 |
| MVIS15CXAWY2001C095SA001S | 1C | 95 | 20.0 | 23.2 | 26.0 | 1467 |
| MVIS15CXAWY2001C120SA001S | 1C | 120 | 21.6 | 24.8 | 27.6 | 1741 |
| MVIS15CXAWY2001C150SA001S | 1C | 150 | 23.3 | 26.5 | 29.6 | 2100 |
| MVIS15CXAWY2001C185SA001S | 1C | 185 | 25.0 | 28.2 | 31.3 | 2461 |
| MVIS15CXAWY2001C240SA001S | 1C | 240 | 27.6 | 31.6 | 34.8 | 3141 |
| MVIS15CXAWY2001C300SA001S | 1C | 300 | 30.5 | 34.5 | 37.6 | 3831 |
| MVIS15CXAWY2001C400SA001S | 1C | 400 | 34.3 | 38.3 | 41.8 | 4868 |
| MVIS15CXAWY2001C500SA001S | 1C | 500 | 38.2 | 42.2 | 46.0 | 6076 |
| MVIS15CXAWY2001C630SA001S | 1C | 630 | 41.6 | 46.6 | 50.7 | 7523 |
| MVIS15CXAWY2001C800SA001S | 1C | 800 | 45.7 | 50.7 | 55.1 | 9279 |
| MVIS15CXAWY2001C01KSA001S | 1C | 1000 | 50.4 | 55.4 | 60.1 | 11379 |

| Product Code | No. of Cores | Core Cross sectional Area | Nominal Diameter | | | Weight (Approx.) |
|---------------------------|--------------|---------------------------|------------------|-------------|---------|------------------|
| | | | Under armour | Over armour | Overall | |
| 2XF _a Y | No. | mm ² | mm | mm | mm | Kg/Km |
| MVIS15CXAFY2001C025SA001S | 1C | 25 | 13.9 | 15.5 | 18.3 | 562 |
| MVIS15CXAFY2001C035SA001S | 1C | 35 | 15.1 | 16.7 | 19.5 | 681 |
| MVIS15CXAFY2001C050SA001S | 1C | 50 | 16.6 | 18.2 | 21.0 | 867 |
| MVIS15CXAFY2001C070SA001S | 1C | 70 | 18.2 | 19.8 | 22.6 | 1079 |
| MVIS15CXAFY2001C095SA001S | 1C | 95 | 20.0 | 21.6 | 24.4 | 1351 |
| MVIS15CXAFY2001C120SA001S | 1C | 120 | 21.6 | 23.2 | 26.0 | 1615 |
| MVIS15CXAFY2001C150SA001S | 1C | 150 | 23.3 | 24.9 | 27.7 | 1948 |
| MVIS15CXAFY2001C185SA001S | 1C | 185 | 25.0 | 26.6 | 29.7 | 2315 |
| MVIS15CXAFY2001C240SA001S | 1C | 240 | 27.6 | 29.2 | 32.4 | 2903 |
| MVIS15CXAFY2001C300SA001S | 1C | 300 | 30.5 | 32.1 | 35.2 | 3572 |
| MVIS15CXAFY2001C400SA001S | 1C | 400 | 34.3 | 35.9 | 39.4 | 4576 |

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POLYCAB MV SC CU IS 7098-2, 3.8/6.6 KV(E) Medium Voltage Single Core Copper Armoured Cable, 3.8/6.6 KV (E) AC

| Product Code | No. of Cores | Core Cross sectional Area | Nominal Diameter | | | Weight (Approx.) |
|---------------------------|--------------|---------------------------|------------------|-------------|---------|------------------|
| | | | Under armour | Over armour | Overall | |
| 2XFaY | No. | mm ² | mm | mm | mm | Kg/Km |
| MVIS15CXAFY2001C500SA001S | 1C | 500 | 38.2 | 39.8 | 43.3 | 5715 |
| MVIS15CXAFY2001C630SA001S | 1C | 630 | 41.6 | 43.2 | 46.9 | 6977 |
| MVIS15CXAFY2001C800SA001S | 1C | 800 | 45.7 | 47.3 | 51.4 | 8680 |
| MVIS15CXAFY2001C01KSA001S | 1C | 1000 | 50.4 | 52.0 | 56.4 | 10720 |

The above data is approximate & subject to manufacturing tolerance.

ELECTRICAL CHARACTERISTICS:

| No. of Cores | Core Cross sectional Area | Max. DC Resistance at 20°C | Max. AC Resistance at 90°C | Approx. Capacitance | Approx. Inductance | | Approx. Reactance | |
|--------------|---------------------------|----------------------------|----------------------------|---------------------|--------------------|-------|-------------------|-------|
| | | | | | | | | |
| No. | mm ² | Ω/km | Ω/km | μF/km | mH/km | | Ω/km | |
| | | | | | 2XFaY | 2XWaY | 2XFaY | 2XWaY |
| 1 | 25 | 0.727 | 0.932 | 0.21 | 0.41 | 0.43 | 0.13 | 0.13 |
| 1 | 35 | 0.524 | 0.672 | 0.23 | 0.39 | 0.41 | 0.12 | 0.13 |
| 1 | 50 | 0.387 | 0.496 | 0.27 | 0.36 | 0.38 | 0.11 | 0.12 |
| 1 | 70 | 0.268 | 0.344 | 0.30 | 0.34 | 0.36 | 0.11 | 0.11 |
| 1 | 95 | 0.193 | 0.248 | 0.35 | 0.33 | 0.34 | 0.10 | 0.11 |
| 1 | 120 | 0.153 | 0.197 | 0.38 | 0.31 | 0.33 | 0.10 | 0.10 |
| 1 | 150 | 0.124 | 0.159 | 0.42 | 0.30 | 0.32 | 0.10 | 0.10 |
| 1 | 185 | 0.0991 | 0.128 | 0.46 | 0.30 | 0.31 | 0.09 | 0.10 |
| 1 | 240 | 0.0754 | 0.098 | 0.51 | 0.29 | 0.30 | 0.09 | 0.09 |
| 1 | 300 | 0.0601 | 0.078 | 0.54 | 0.28 | 0.29 | 0.09 | 0.09 |
| 1 | 400 | 0.047 | 0.062 | 0.56 | 0.28 | 0.29 | 0.09 | 0.09 |
| 1 | 500 | 0.0366 | 0.049 | 0.60 | 0.27 | 0.28 | 0.08 | 0.09 |
| 1 | 630 | 0.0283 | 0.038 | 0.66 | 0.26 | 0.28 | 0.08 | 0.09 |
| 1 | 800 | 0.0221 | 0.031 | 0.73 | 0.26 | 0.27 | 0.08 | 0.09 |
| 1 | 1000 | 0.0176 | 0.026 | 0.79 | 0.26 | 0.27 | 0.08 | 0.08 |

CURRENT CARRYING CAPACITY:

| Nominal area of conductor | Buried direct in the ground | | In single -way Ducts | | In air | |
|---------------------------|-----------------------------|---------------|----------------------|---------------------|---------|---------------|
| | Trefoil | Flat touching | Trefoil ducts | Flat touching ducts | Trefoil | Flat Touching |
| Sqmm | A | A | A | A | A | A |
| 25 | 127 | 130 | 113 | 111 | 148 | 151 |

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POLYCAB MV SC CU IS 7098-2, 3.8/6.6 KV(E) Medium Voltage Single Core Copper Armoured Cable, 3.8/6.6 KV (E) AC

| Nominal area of conductor | Buried direct in the ground | | In single -way Ducts | | In air | |
|---------------------------|-----------------------------|---------------|----------------------|---------------------|---------|---------------|
| | Trefoil | Flat touching | Trefoil ducts | Flat touching ducts | Trefoil | Flat Touching |
| Sqmm | A | A | A | A | A | A |
| 35 | 151 | 155 | 135 | 132 | 179 | 183 |
| 50 | 178 | 181 | 158 | 154 | 214 | 218 |
| 70 | 216 | 220 | 192 | 187 | 267 | 271 |
| 95 | 256 | 260 | 227 | 220 | 323 | 327 |
| 120 | 290 | 292 | 257 | 247 | 374 | 376 |
| 150 | 323 | 323 | 285 | 272 | 422 | 422 |
| 185 | 362 | 359 | 319 | 302 | 484 | 481 |
| 240 | 411 | 398 | 361 | 333 | 565 | 550 |
| 300 | 456 | 435 | 400 | 363 | 641 | 615 |
| 400 | 508 | 474 | 443 | 393 | 734 | 690 |
| 500 | 559 | 509 | 486 | 420 | 828 | 761 |
| 630 | 611 | 543 | 529 | 446 | 929 | 834 |
| 800 | 638 | 549 | 549 | 447 | 1002 | 872 |
| 1000 | 672 | 569 | 575 | 460 | 1083 | 927 |

Air Ambient temperature: 40°C

Ground ambient temperature: 30°C

Conductor operating temperature: 90°C

The above table is in accordance with IS 3961(part 7):2016

De-Rating Factor

Rating factor for variation in ambient air temperature for cable in free air

| Ambient air Temperature | | 25°C | 30°C | 35°C | 40°C | 45°C | 50°C | 55°C | 60°C |
|-------------------------|--|------|------|------|------|------|------|------|------|
| De-Rating Factor | | 1.14 | 1.10 | 1.05 | 1.00 | 0.95 | 0.89 | 0.84 | 0.77 |

Maximum conductor temperature 90°C

Rating factor for variation in ground temperature for direct buried cables.

| Ground Temperature | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C | 50°C |
|--------------------|------|------|------|------|------|------|------|------|
| De-Rating Factor | 1.12 | 1.08 | 1.04 | 1.00 | 0.96 | 0.91 | 0.87 | 0.82 |

Maximum conductor temperature 90°C

Rating factor for variation in ground temperature for cable in duct.

| Ground Temperature | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C | 50°C |
|--------------------|------|------|------|------|------|------|------|------|
| De-Rating Factor | 1.12 | 1.08 | 1.04 | 1.00 | 0.96 | 0.91 | 0.87 | 0.82 |

Maximum conductor temperature 90°C