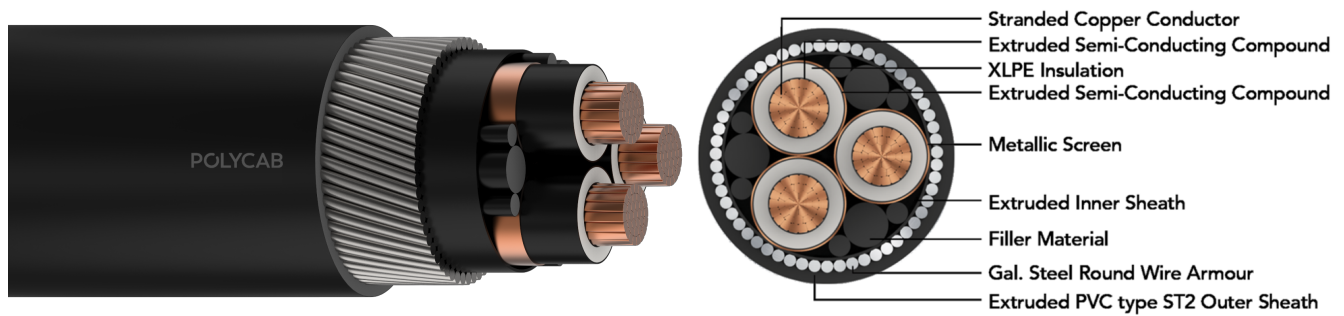


# POLYCAB MV MC CU IS 7098-2, 3.3/3.3 KV(UE) Medium Voltage Multi Core Copper Armoured Cable, 3.3/3.3 KV (UE) AC



Images not to scale. Follow table for dimensions

## APPLICATION

POLYCAB MV 3.3/3.3 KV(UE) 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: 3.3/3.3 KV (UE)

### 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: Galvanised steel Round/Flat Wire Armoured
- Outer Sheath: Extruded Polyvinyl Chloride

Colour: Black

## OUTSTANDING FEATURES

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

## 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

## OUR ACCREDITATIONS



## APPROVAL



## NOTES

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

### Test Voltage

10kV AC 50 Hz

# POLYCAB MV MC CU IS 7098-2, 3.3/3.3 KV(UE) Medium Voltage Multi Core Copper Armoured Cable, 3.3/3.3 KV (UE) AC

## DIMENSIONS AND WEIGHTS:

| Product Code<br><br>2XWY  | No. of<br>Cores<br><br>No. | Core<br>Cross<br>sectional<br>Area<br><br>mm <sup>2</sup> | Nominal Diameter          |                          |                   | Weight<br>(Approx.)<br><br>Kg/Km |
|---------------------------|----------------------------|-----------------------------------------------------------|---------------------------|--------------------------|-------------------|----------------------------------|
|                           |                            |                                                           | Under<br>armour<br><br>mm | Over<br>armour<br><br>mm | Overall<br><br>mm |                                  |
| MVIS14CXSWY2003C025SA001S | 3C                         | 25                                                        | 27.0                      | 31.0                     | 34.2              | 2455                             |
| MVIS14CXSWY2003C035SA001S | 3C                         | 35                                                        | 29.5                      | 33.5                     | 36.6              | 2904                             |
| MVIS14CXSWY2003C050SA001S | 3C                         | 50                                                        | 32.8                      | 36.8                     | 40.3              | 3601                             |
| MVIS14CXSWY2003C070SA001S | 3C                         | 70                                                        | 36.5                      | 40.5                     | 44.2              | 4451                             |
| MVIS14CXSWY2003C095SA001S | 3C                         | 95                                                        | 40.3                      | 45.3                     | 49.4              | 5862                             |
| MVIS14CXSWY2003C120SA001S | 3C                         | 120                                                       | 43.7                      | 48.7                     | 52.8              | 6838                             |
| MVIS14CXSWY2003C150SA001S | 3C                         | 150                                                       | 47.6                      | 52.6                     | 57.0              | 8114                             |
| MVIS14CXSWY2003C185SA001S | 3C                         | 185                                                       | 51.2                      | 56.2                     | 61.0              | 9431                             |
| MVIS14CXSWY2003C240SA001S | 3C                         | 240                                                       | 56.8                      | 63.1                     | 68.1              | 12276                            |
| MVIS14CXSWY2003C300SA001S | 3C                         | 300                                                       | 62.2                      | 68.5                     | 73.8              | 14655                            |
| MVIS14CXSWY2003C400SA001S | 3C                         | 400                                                       | 69.1                      | 75.4                     | 81.4              | 18123                            |
| MVIS14CXSWY2003C500SA001S | 3C                         | 500                                                       | 77.1                      | 85.1                     | 91.1              | 23406                            |
| MVIS14CXSWY2003C630SA001S | 3C                         | 630                                                       | 85.2                      | 93.2                     | 99.2              | 27955                            |

| Product Code<br><br>2XFY  | No. of<br>Cores<br><br>No. | Core<br>Cross<br>sectional<br>Area<br><br>mm <sup>2</sup> | Nominal Diameter          |                          |                   | Weight<br>(Approx.)<br><br>Kg/Km |
|---------------------------|----------------------------|-----------------------------------------------------------|---------------------------|--------------------------|-------------------|----------------------------------|
|                           |                            |                                                           | Under<br>armour<br><br>mm | Over<br>armour<br><br>mm | Overall<br><br>mm |                                  |
| MVIS14CXSFY2003C025SA001S | 3C                         | 25                                                        | 27.0                      | 28.6                     | 31.8              | 1827                             |
| MVIS14CXSFY2003C035SA001S | 3C                         | 35                                                        | 29.5                      | 31.1                     | 34.2              | 2216                             |
| MVIS14CXSFY2003C050SA001S | 3C                         | 50                                                        | 32.8                      | 34.4                     | 37.6              | 2796                             |
| MVIS14CXSFY2003C070SA001S | 3C                         | 70                                                        | 36.5                      | 38.1                     | 41.5              | 3551                             |
| MVIS14CXSFY2003C095SA001S | 3C                         | 95                                                        | 40.3                      | 41.9                     | 45.7              | 4480                             |
| MVIS14CXSFY2003C120SA001S | 3C                         | 120                                                       | 43.7                      | 45.3                     | 49.4              | 5395                             |
| MVIS14CXSFY2003C150SA001S | 3C                         | 150                                                       | 47.6                      | 49.2                     | 53.3              | 6492                             |
| MVIS14CXSFY2003C185SA001S | 3C                         | 185                                                       | 51.2                      | 52.8                     | 57.2              | 7667                             |
| MVIS14CXSFY2003C240SA001S | 3C                         | 240                                                       | 56.8                      | 58.4                     | 63.1              | 9596                             |
| MVIS14CXSFY2003C300SA001S | 3C                         | 300                                                       | 62.2                      | 63.8                     | 68.8              | 11737                            |

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# POLYCAB MV MC CU IS 7098-2, 3.3/3.3 KV(UE) Medium Voltage Multi Core Copper Armoured Cable, 3.3/3.3 KV (UE) AC

| Product Code              | No. of Cores | Core Cross sectional Area | Nominal Diameter |             |         | Weight (Approx.) |
|---------------------------|--------------|---------------------------|------------------|-------------|---------|------------------|
|                           |              |                           | Under armour     | Over armour | Overall |                  |
| 2XFY                      | No.          | mm <sup>2</sup>           | mm               | mm          | mm      | Kg/Km            |
| MVIS14CXSFY2003C400SA001S | 3C           | 400                       | 69.1             | 70.7        | 76.4    | 14878            |
| MVIS14CXSFY2003C500SA001S | 3C           | 500                       | 77.1             | 78.7        | 84.7    | 18533            |
| MVIS14CXSFY2003C630SA001S | 3C           | 630                       | 85.2             | 86.8        | 92.8    | 22603            |

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 <sup>2</sup>           | Ω/km                       | Ω/km                       | μF/km               | mH/km              |      | Ω/km              |       |
|              |                           |                            |                            |                     | 2XFY               | 2XWY | 2XFY              | 2XWY  |
| 3            | 25                        | 0.727                      | 0.932                      | 0.24                | 0.33               | 0.33 | 0.103             | 0.103 |
| 3            | 35                        | 0.524                      | 0.672                      | 0.27                | 0.31               | 0.31 | 0.099             | 0.099 |
| 3            | 50                        | 0.387                      | 0.496                      | 0.32                | 0.29               | 0.29 | 0.091             | 0.091 |
| 3            | 70                        | 0.268                      | 0.344                      | 0.36                | 0.28               | 0.28 | 0.088             | 0.088 |
| 3            | 95                        | 0.193                      | 0.248                      | 0.41                | 0.27               | 0.27 | 0.084             | 0.084 |
| 3            | 120                       | 0.153                      | 0.197                      | 0.46                | 0.26               | 0.26 | 0.081             | 0.081 |
| 3            | 150                       | 0.124                      | 0.159                      | 0.51                | 0.25               | 0.25 | 0.079             | 0.079 |
| 3            | 185                       | 0.0991                     | 0.128                      | 0.55                | 0.25               | 0.25 | 0.078             | 0.078 |
| 3            | 240                       | 0.0754                     | 0.098                      | 0.62                | 0.24               | 0.24 | 0.075             | 0.075 |
| 3            | 300                       | 0.0601                     | 0.078                      | 0.69                | 0.24               | 0.24 | 0.074             | 0.074 |
| 3            | 400                       | 0.047                      | 0.062                      | 0.78                | 0.23               | 0.23 | 0.072             | 0.072 |
| 3            | 500                       | 0.0366                     | 0.049                      | 0.81                | 0.23               | 0.23 | 0.072             | 0.072 |
| 3            | 630                       | 0.0283                     | 0.038                      | 0.84                | 0.23               | 0.23 | 0.071             | 0.071 |

# POLYCAB MV MC CU IS 7098-2, 3.3/3.3 KV(UE) Medium Voltage Multi Core Copper Armoured Cable, 3.3/3.3 KV (UE) AC

## CURRENT CARRYING CAPACITY:

| Nominal area of conductor | Buried direct in ground | In a buried duct | In air |
|---------------------------|-------------------------|------------------|--------|
| Sqmm                      | A                       | A                | A      |
| 25                        | 121                     | 104              | 132    |
| 35                        | 144                     | 124              | 159    |
| 50                        | 169                     | 146              | 188    |
| 70                        | 206                     | 178              | 234    |
| 95                        | 246                     | 212              | 284    |
| 120                       | 278                     | 240              | 326    |
| 150                       | 310                     | 268              | 368    |
| 185                       | 350                     | 302              | 422    |
| 240                       | 401                     | 353              | 492    |
| 300                       | 449                     | 395              | 559    |
| 400                       | 506                     | 445              | 642    |
| 500                       | 565                     | 497              | 730    |

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