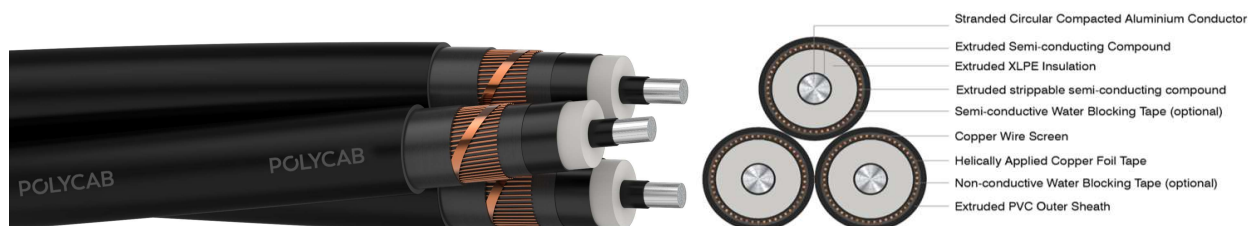


# POLYCAB TRIPLEX MV AS/NZS .1429.1 6.35/11 (12) KV POLYCAB

## MV Cable AL Conductor, XLPE Insulation, Cu Screen - Triplex

IDEAS. CONNECTED.



Images not to scale. Follow table for dimensions

### APPLICATION

POLYCAB MV 6.35/11 KV XLPE insulated with Aluminium conductor Triplex cable is suitable to use for power supply to wide networks i.e. Commercial, Industrial and Urban / Residential.

### CHARACTERISTICS

#### Voltage Rating

Nominal Voltage: 6.35/11 (12) kV

#### Operation Temperature

Min. installation temperature: 0°C

Operating temperature: -25°C to +90°C

Emergency operating temperature: 105°C

(max. operation of 36hrs, at 3 periods for 12 consecutive months use)

Max. Short Circuit Temperature: 250°C

#### Bending Radius:

Fixed Installation: 12D (PVC) / 15D (HDPE)

During Installation: 18D (PVC) / 25D (HDPE)

D is overall diameter of each cable

### CONSTRUCTION

- Conductor: Stranded Compacted Circular aluminium conductor as per AS/NZS 1125
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: XLPE
- Insulation Screen: Extruded Strippable Semi-conductive compound
- Longitudinal Water blocking : Water blocking tape above and below copper screen (Optional)
- Metallic Insulation Screen: Copper Wire Screen + helically applied copper tape (E/F current capacity – Based on requirement)
- Outer Sheath: Extruded Polyvinyl Chloride, Colour: Black
- Termite Protection: Polyamide (Nylon -12) (optional)
- (Alternative Sheath: PVC+HDPE Composite Sheath or LSZH Outer sheath, and parameters will change accordingly)
- Three Single Core Cables twisted and assembled to form triplex formation

### OUTSTANDING FEATURES

- Long life
- UV resistant
- Resistant to chemical exposure
- Resistant to water (AD7/AD8 with HDPE)
- Resistant to weather exposure

### STANDARD FOLLOWS

AS/NZS 1429.1

AS/NZS 1125

AS/NZS 3008

### COMPLIANCE

- Conductor resistance AS/NZS 1125
- Insulation resistance AS/NZS 1429.1
- Voltage test AS/NZS 1429.1

### OUR ACCREDITATIONS



### APPROVAL



### NOTES

| High Voltage Test (kV AC) | Partial discharge test (kV AC) |                       | Impulse test Voltage (kV peak) |
|---------------------------|--------------------------------|-----------------------|--------------------------------|
|                           | 200% to rated voltage          | 150% to rated voltage |                                |
| 21                        | 13                             | 17                    | 95                             |

DIMENSIONALSAL CHARACTERISTICS:

| Product Code              | No. of Single Cores | Core Cross sectional Area | Nominal Diameter |            |         |
|---------------------------|---------------------|---------------------------|------------------|------------|---------|
|                           |                     |                           | Over Screen      | Each Phase | Overall |
|                           | No.                 | mm <sup>2</sup>           | mm               | mm         | mm      |
| MVNZ17AXUAPH001T016SAXXXX | 3                   | 16                        | 16.5             | 20.0       | 44.0    |
| MVNZ17AXUAPH001T025SAXXXX | 3                   | 25                        | 17.8             | 22.0       | 46.0    |
| MVNZ17AXUAPH001T035SAXXXX | 3                   | 35                        | 18.8             | 23.0       | 49.0    |
| MVNZ17AXUAPH001T050SAXXXX | 3                   | 50                        | 19.9             | 24.0       | 51.0    |
| MVNZ17AXUAPH001T070SAXXXX | 3                   | 70                        | 21.5             | 25.0       | 54.0    |
| MVNZ17AXUAPH001T095SAXXXX | 3                   | 95                        | 23.1             | 27.0       | 58.0    |
| MVNZ17AXUAPH001T120SAXXXX | 3                   | 120                       | 24.7             | 29.0       | 61.0    |
| MVNZ17AXUAPH001T150SAXXXX | 3                   | 150                       | 26.0             | 30.0       | 65.0    |
| MVNZ17AXUAPH001T185SAXXXX | 3                   | 185                       | 27.7             | 32.0       | 68.0    |
| MVNZ17AXUAPH001T240SAXXXX | 3                   | 240                       | 30.0             | 34.0       | 74.0    |
| MVNZ17AXUAPH001T300SAXXXX | 3                   | 300                       | 32.2             | 37.0       | 79.0    |
| MVNZ17AXUAPH001T400SAXXXX | 3                   | 400                       | 34.9             | 40.0       | 85.0    |
| MVNZ17AXUAPH001T500SAXXXX | 3                   | 500                       | 38.3             | 43.0       | 93.0    |

• Above mentioned parameters are based on 3kA/sec earth fault current capacity of copper screen

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 | Continuous Current Rating @ ambient 45°C |                  |        |
|--------------|---------------------------|----------------------------|----------------------------|---------------------|--------------------|-------------------|--|------------------|--------|
|              |                           |                            |                            |                     |                    |                   | Buried direct in ground                  | In a buried duct | In Air |
| No.          | mm <sup>2</sup>           | Ω/km                       | Ω/km                       | μF/km               | mH/km              | Ω/km              | Amps                                     |                  |        |
| 3 x 1        | 16                        | 1.91                       | 2.449                      | 0.17                | 0.497              | 0.156             | 78                                       | 67               | 84     |
| 3 x 1        | 25                        | 1.2                        | 1.539                      | 0.2                 | 0.460              | 0.144             | 100                                      | 87               | 110    |
| 3 x 1        | 35                        | 0.868                      | 1.113                      | 0.22                | 0.437              | 0.137             | 119                                      | 103              | 132    |
| 3 x 1        | 50                        | 0.641                      | 0.822                      | 0.25                | 0.417              | 0.131             | 140                                      | 122              | 158    |
| 3 x 1        | 70                        | 0.443                      | 0.568                      | 0.28                | 0.385              | 0.121             | 171                                      | 150              | 196    |

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| 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 | Continuous Current Rating @ ambient 45°C |                  |        |
|--------------|---------------------------|----------------------------|----------------------------|---------------------|--------------------|-------------------|--|------------------|--------|
|              |                           |                            |                            |                     |                    |                   | Buried direct in ground                  | In a buried duct | In Air |
| No.          | mm <sup>2</sup>           | Ω/km                       | Ω/km                       | μF/km               | mH/km              | Ω/km              | Amps                                     |                  |        |
| 3 x 1        | 95                        | 0.32                       | 0.411                      | 0.31                | 0.367              | 0.115             | 203                                      | 179              | 236    |
| 3 x 1        | 120                       | 0.253                      | 0.325                      | 0.35                | 0.349              | 0.110             | 232                                      | 205              | 273    |
| 3 x 1        | 150                       | 0.206                      | 0.265                      | 0.37                | 0.340              | 0.107             | 260                                      | 231              | 309    |
| 3 x 1        | 185                       | 0.164                      | 0.211                      | 0.41                | 0.329              | 0.103             | 294                                      | 262              | 355    |
| 3 x 1        | 240                       | 0.125                      | 0.161                      | 0.46                | 0.317              | 0.099             | 340                                      | 305              | 415    |
| 3 x 1        | 300                       | 0.1                        | 0.130                      | 0.5                 | 0.306              | 0.096             | 384                                      | 346              | 475    |
| 3 x 1        | 400                       | 0.0778                     | 0.102                      | 0.56                | 0.296              | 0.093             | 438                                      | 398              | 552    |
| 3 x 1        | 500                       | 0.0605                     | 0.080                      | 0.63                | 0.286              | 0.090             | 505                                      | 460              | 646    |

\*: Current Ratings are based on IEC 60502-2 & IEC 60287, Max. Conductor Temperature at 90°C, Ambient temperature at 30°C in Air / at 20°C in Ground, Thermal resistivity of Soil 1.5 k.m/W & for earthenware ducts 1.2k.m/W and Depth of Laying 0.8m.

Current rating de-rating factors for other than 30°C ambient air temperature.

|      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|
| 20   | 25   | 35   | 40   | 45   | 50   | 55   | 60   |
| 1.08 | 1.04 | 0.96 | 0.91 | 0.87 | 0.82 | 0.76 | 0.71 |

Current rating de-rating factors for other than 20°C ground temperature.

|      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|
| 10   | 15   | 25   | 30   | 35   | 40   | 45   | 50   |
| 1.07 | 1.04 | 0.96 | 0.93 | 0.89 | 0.85 | 0.80 | 0.76 |

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IDEAS. CONNECTED.

| No. of Cores | Core Cross sectional Area | Max. pulling tension on conductor | Charging Current per phase | Zero sequence impedance | Electric Stress at Conductor Screen | Short circuit rating of phase conductor |
|--------------|---------------------------|-----------------------------------|----------------------------|-------------------------|-------------------------------------|---|
| No.          | mm <sup>2</sup>           | kN                                | Amps/Km                    | Ohms/Km                 | kV/mm                               | kA, 1 sec                               |
| 3 x 1        | 16                        | 0.8                               | 0.34                       | 3.6                     | 2.9                                 | 1.5                                     |
| 3 x 1        | 25                        | 1.3                               | 0.4                        | 2.7                     | 2.7                                 | 2.4                                     |
| 3 x 1        | 35                        | 1.8                               | 0.44                       | 2.3                     | 2.6                                 | 3.3                                     |
| 3 x 1        | 50                        | 2.5                               | 0.5                        | 2.0                     | 2.5                                 | 4.7                                     |
| 3 x 1        | 70                        | 3.5                               | 0.56                       | 1.7                     | 2.4                                 | 6.6                                     |
| 3 x 1        | 95                        | 4.8                               | 0.62                       | 1.6                     | 2.3                                 | 9.0                                     |
| 3 x 1        | 120                       | 6.0                               | 0.7                        | 1.5                     | 2.3                                 | 11.3                                    |
| 3 x 1        | 150                       | 7.5                               | 0.74                       | 1.4                     | 2.3                                 | 14.2                                    |
| 3 x 1        | 185                       | 9.3                               | 0.82                       | 1.4                     | 2.2                                 | 17.4                                    |
| 3 x 1        | 240                       | 12.0                              | 0.92                       | 1.3                     | 2.2                                 | 22.6                                    |
| 3 x 1        | 300                       | 15.0                              | 1                          | 1.3                     | 2.2                                 | 28.3                                    |
| 3 x 1        | 400                       | 20.0                              | 1.12                       | 1.3                     | 2.1                                 | 37.6                                    |
| 3 x 1        | 500                       | 25.0                              | 1.26                       | 1.2                     | 2.1                                 | 47.2                                    |