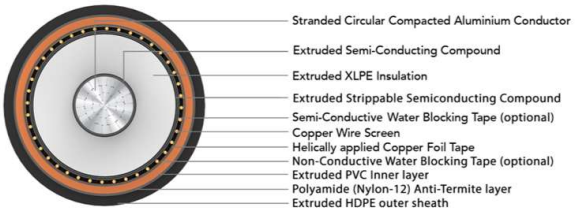
# POLYCAB SC ANTI-TERMITE MV AS/NZS 1429.1 19/33 (36) KV

## MV Cable AL Conductor, XLPE Insulation, CU Screen and UA


Images not to scale. Follow table for dimensions

## APPLICATION

POLYCAB MV 19/33 KV XLPE insulated with Aluminium conductor single core cable is suitable to use for power supply to wide networks i.e. Commercial, Industrial and Urban / Residential.

## CHARACTERISTICS

**Voltage Rating**
Nominal Voltage: 19/33 (36) 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: 20D
During Installation: 30D
D is diameter over nylon

## 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)

**Composite sheath**

- Inner layer : Extruded Polyvinyl Chloride, Colour: Orange
- Termite Protection: Polyamide (Nylon -12)
- Outer layer: HDPE (Black)

## OUTSTANDING FEATURES

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

## STANDARD FOLLOWS

AS/NZS 1429.1
AS/NZS 1125
AS/NZS 3808

## COMPLIANCE

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

## OUR ACCREDITATIONS

NABL

## APPROVAL

FQC CE CPRI APPROVED

## NOTES

| High Voltage Test (kV AC) | Partial discharge test (kV AC) | | Impulse test Voltage (kV peak) |
|---|---|---|---|
| | 200% to rated voltage | 150% to rated voltage | |
| 63 | 38 | 29 | 200 |

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### DIMENSIONSAL CHARACTERISTICS:

| Product Code | No. of Cores | Core Cross sectional Area | Nominal Diameter | | |
|---|---|---|---|---|---|
| | | | Under metallic screen | Over metallic screen | Overall |
| | No. | $mm^2$ | mm | mm | mm |
| MVNZ54AXUAPH001C050SAXXXX | 1 | 50 | 27.2 | 29.1 | 36.0 |
| MVNZ54AXUAPH001C070SAXXXX | 1 | 70 | 28.8 | 30.7 | 37.0 |
| MVNZ54AXUAPH001C095SAXXXX | 1 | 95 | 30.4 | 32.3 | 39.0 |
| MVNZ54AXUAPH001C120SAXXXX | 1 | 120 | 32 | 33.9 | 41.0 |
| MVNZ54AXUAPH001C150SAXXXX | 1 | 150 | 33.3 | 35.2 | 42.0 |
| MVNZ54AXUAPH001C185SAXXXX | 1 | 185 | 35 | 36.9 | 44.0 |
| MVNZ54AXUAPH001C240SAXXXX | 1 | 240 | 37.3 | 39.2 | 46.0 |
| MVNZ54AXUAPH001C300SAXXXX | 1 | 300 | 39.5 | 41.4 | 49.0 |
| MVNZ54AXUAPH001C400SAXXXX | 1 | 400 | 42.2 | 44.1 | 52.0 |
| MVNZ54AXUAPH001C500SAXXXX | 1 | 500 | 45.6 | 47.5 | 55.0 |
| MVNZ54AXUAPH001C630SAXXXX | 1 | 630 | 48.8 | 50.7 | 59.0 |
| MVNZ54AXUAPH001C800SAXXXX | 1 | 800 | 52.7 | 54.6 | 63.0 |
| MVNZ54AXUAPH001C01KSAXXXX | 1 | 1000 | 57.2 | 59.1 | 68.0 |

• 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 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | In ground at 20°C | | In Ducts | | In air at 30°C | |
| | | | | | | | Flat | Trefoil | Flat | Trefoil | Flat | Trefoil |
| No. | $mm^2$ | Ω/km | Ω/km | µF/km | mH/km | Ω/km | Amps | | | | | |
| 1 | 50 | 0.641 | 0.822 | 0.14 | 0.500 | 0.157 | 157 | 152 | 146 | 142 | 189 | 184 |
| 1 | 70 | 0.443 | 0.568 | 0.15 | 0.464 | 0.146 | 192 | 186 | 178 | 176 | 236 | 230 |
| 1 | 95 | 0.32 | 0.411 | 0.17 | 0.443 | 0.139 | 229 | 221 | 213 | 210 | 287 | 280 |
| 1 | 120 | 0.253 | 0.325 | 0.18 | 0.422 | 0.132 | 260 | 252 | 242 | 240 | 332 | 324 |
| 1 | 150 | 0.206 | 0.265 | 0.19 | 0.409 | 0.128 | 288 | 281 | 271 | 267 | 376 | 368 |
| 1 | 185 | 0.164 | 0.211 | 0.21 | 0.394 | 0.124 | 324 | 317 | 307 | 303 | 432 | 424 |
| 1 | 240 | 0.125 | 0.161 | 0.23 | 0.377 | 0.118 | 373 | 367 | 356 | 351 | 511 | 502 |
| 1 | 300 | 0.1 | 0.129 | 0.25 | 0.363 | 0.114 | 419 | 414 | 402 | 397 | 586 | 577 |
| 1 | 400 | 0.0778 | 0.101 | 0.27 | 0.350 | 0.110 | 466 | 470 | 457 | 451 | 676 | 673 |
| 1 | 500 | 0.0605 | 0.080 | 0.3 | 0.337 | 0.106 | 525 | 530 | 510 | 505 | 760 | 750 |
| 1 | 630 | 0.0469 | 0.063 | 0.33 | 0.326 | 0.102 | 580 | 585 | 560 | 555 | 860 | 850 |

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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 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | In ground at 20°C | | In Ducts | | In air at 30°C | |
| | | | | | | | Flat | Trefoil | Flat | Trefoil | Flat | Trefoil |
| No. | $mm^2$ | Ω/km | Ω/km | µF/km | mH/km | Ω/km | Amps | | | | | |
| 1 | 800 | 0.0367 | 0.051 | 0.36 | 0.315 | 0.099 | 650 | 655 | 620 | 615 | 960 | 950 |
| 1 | 1000 | 0.0291 | 0.042 | 0.4 | 0.306 | 0.096 | 715 | 705 | 670 | 665 | 1060 | 1050 |

*: 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 |