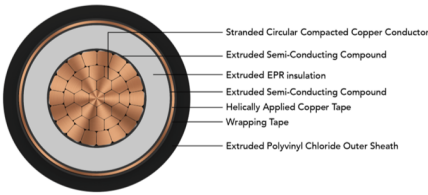


# POLYCAB MV SC SCR ICEA S-93-639 15KV

## MV Cable with Copper Conductor, EPR Insulation and Copper Screen



Images not to scale. Follow table for dimensions

### APPLICATION

POLYCAB MV 15KV EPR insulated with Copper conductor single core cable is suitable to use in conduits, ducts, troughs, trays, direct burial in wet and dry conditions for power supply to wide networks.

### CHARACTERISTICS

#### Voltage Rating

Nominal Voltage: 15kV AC

#### Operation Temperature

Operating temperature: -35°C to +105°C

Emergency operating temperature: 140°C

Max. Short Circuit Temperature: 250°C

### CONSTRUCTION

- Conductor: Circular Compacted Copper conductor as per ASTM B496
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: Extruded EPR (TR-XLPE will be provided on demand)
- Insulation Screen: Extruded Semi-conductive compound
- Metallic Insulation Screen: Helically applied copper tape
- Outer Sheath: Extruded Polyvinyl Chloride, Colour: Black

#### Bending Radius: 12D

D is overall diameter of cable

| Voltage Rating<br>(kV AC) | High Voltage<br>Test<br><br>(kV AC) |               | Min. Partial<br>discharge test (kV<br>AC) |               |
|---------------------------|-------------------------------------|---------------|---|---------------|
|                           | 100%<br>level                       | 133%<br>level | 100%<br>level                             | 133%<br>level |
|                           | 15                                  | 35            | 44  | 11            |

### OUTSTANDING FEATURES

- Flame retardant
- High life
- Sunlight resistant
- Oil, Acid and Alkalies resistant
- Corona resistant
- Treeing resistant
- Moisture resistant

### STANDARD FOLLOWS

ASTM B496

ICEA S-93-639 (NEMA WC-74)

UL 1072

UL 1685 / FT-1

IEEE 1202

UL 2556

### COMPLIANCE

|                       |               |
|-----------------------|---------------|
| Conductor resistance  | ICEA S-93-639 |
| Insulation resistance | ICEA S-93-639 |
| Vertical Tray Flame   | UL 1685       |
| Smoke release         | UL 1685       |
| Flame Test            | IEEE 1202     |

### OUR ACCREDITATIONS



### APPROVAL



### NOTES

Round wire / Corrugated copper screen will be provided on demand  
Alternative Sheath: CPE Outer Sheath or LSZH Outer sheath, and parameters will change accordingly

# POLYCAB MV SC SCR ICEA S-93-639 15KV

## MV Cable with Copper Conductor, EPR Insulation and Copper Screen

### DIMENSIONS, WEIGHT AND AMPACITY:

#### 133% insulation:

| Product Code              | No. of Cores | Core Cross sectional Area | Nominal Diameter      |                      |         | Weight (Approx.) | Current rating *          |        |
|---------------------------|--------------|---------------------------|-----------------------|----------------------|---------|------------------|---------------------------|--------|
|                           |              |                           | Under metallic screen | Over metallic screen | Overall |                  | Directly buried in ground | In air |
|                           | No.          | AWG / MCM                 | mm                    | mm                   | mm      | Kg/Km            | Amps                      |        |
| MVIC37CRUAYF001C002AA001P | 1            | 2 AWG                     | 20.4                  | 20.9                 | 25.0    | 950              | 140                       | 210    |
| MVIC37CRUAYF001C001AA001P | 1            | 1 AWG                     | 21.3                  | 21.8                 | 26.0    | 1050             | 160                       | 240    |
| MVIC37CRUAYF001C1X0AA001P | 1            | 1/0 AWG                   | 22.2                  | 22.7                 | 27.0    | 1200             | 185                       | 285    |
| MVIC37CRUAYF001C2X0AA001P | 1            | 2/0 AWG                   | 23.3                  | 23.8                 | 28.0    | 1350             | 215                       | 330    |
| MVIC37CRUAYF001C3X0AA001P | 1            | 3/0 AWG                   | 24.4                  | 24.9                 | 29.0    | 1550             | 245                       | 385    |
| MVIC37CRUAYF001C4X0AA001P | 1            | 4/0 AWG                   | 25.8                  | 26.3                 | 30.5    | 1800             | 285                       | 445    |
| MVIC37CRUAYF001C250CA001P | 1            | 250 MCM                   | 27.0                  | 27.6                 | 31.5    | 2050             | 315                       | 500    |
| MVIC37CRUAYF001C350CA001P | 1            | 350 MCM                   | 29.5                  | 30.0                 | 34.0    | 2600             | 385                       | 625    |
| MVIC37CRUAYF001C500CA001P | 1            | 500 MCM                   | 32.5                  | 33.0                 | 37.0    | 3350             | 470                       | 765    |
| MVIC37CRUAYF001C600CA001P | 1            | 600 MCM                   | 35.1                  | 35.6                 | 39.5    | 3950             | 520                       | 855    |
| MVIC37CRUAYF001C750CA001P | 1            | 750 MCM                   | 37.5                  | 38.0                 | 42.0    | 4750             | 585                       | 970    |
| MVIC37CRUAYF001C01KCA001P | 1            | 1000 MCM                  | 41.0                  | 41.5                 | 47.0    | 6150             | 675                       | 1155   |

#### 100% insulation:

| Product Code              | No. of Cores | Core Cross sectional Area | Nominal Diameter      |                      |         | Weight (Approx.) | Current rating *          |        |
|---------------------------|--------------|---------------------------|-----------------------|----------------------|---------|------------------|---------------------------|--------|
|                           |              |                           | Under metallic screen | Over metallic screen | Overall |                  | Directly buried in ground | In air |
|                           | No.          | AWG / MCM                 | mm                    | mm                   | mm      | Kg/Km            | Amps                      |        |
| MVIC37CRUAYF001C002AA002P | 1            | 2 AWG                     | 18.1                  | 18.7                 | 22.0    | 800              | 140                       | 210    |
| MVIC37CRUAYF001C001AA002P | 1            | 1 AWG                     | 19.0                  | 19.5                 | 23.5    | 950              | 160                       | 240    |
| MVIC37CRUAYF001C1X0AA002P | 1            | 1/0 AWG                   | 19.9                  | 20.4                 | 24.5    | 1050             | 185                       | 285    |
| MVIC37CRUAYF001C2X0AA002P | 1            | 2/0 AWG                   | 21.0                  | 21.5                 | 25.5    | 1250             | 215                       | 330    |
| MVIC37CRUAYF001C3X0AA002P | 1            | 3/0 AWG                   | 22.2                  | 22.7                 | 26.5    | 1450             | 245                       | 385    |
| MVIC37CRUAYF001C4X0AA002P | 1            | 4/0 AWG                   | 23.5                  | 24.0                 | 28.0    | 1650             | 285                       | 445    |
| MVIC37CRUAYF001C250CA002P | 1            | 250 MCM                   | 24.8                  | 25.3                 | 29.5    | 1900             | 315                       | 500    |
| MVIC37CRUAYF001C350CA002P | 1            | 350 MCM                   | 27.2                  | 27.7                 | 31.5    | 2450             | 385                       | 625    |
| MVIC37CRUAYF001C500CA002P | 1            | 500 MCM                   | 30.2                  | 30.7                 | 35.0    | 3200             | 470                       | 765    |
| MVIC37CRUAYF001C600CA002P | 1            | 600 MCM                   | 32.2                  | 32.7                 | 37.0    | 3750             | 520                       | 855    |
| MVIC37CRUAYF001C750CA002P | 1            | 750 MCM                   | 34.6                  | 35.1                 | 39.0    | 4500             | 585                       | 970    |
| MVIC37CRUAYF001C01KCA002P | 1            | 1000 MCM                  | 38.2                  | 38.7                 | 44.5    | 5900             | 675                       | 1155   |

# POLYCAB MV SC SCR ICEA S-93-639 15KV

## MV Cable with Copper Conductor, EPR Insulation and Copper Screen



### ELECTRICAL CHARACTERISTICS:

#### 133% insulation:

| No. of Cores | Core Cross sectional Area | Nom. DC Resistance at 25°C | Nom. AC Resistance at 90°C | Approx. Capacitance | Approx. Inductance | Approx. Reactance | Max. pulling tension on conductor | Charging Current per phase | Positive sequence impedance | Electric Stress at Conductor Screen | Short circuit rating |                 |
|--------------|---------------------------|----------------------------|----------------------------|---------------------|--------------------|-------------------|-----------------------------------|----------------------------|-----------------------------|-------------------------------------|----------------------|-----------------|
|              |                           |                            |                            |                     |                    |                   |                                   |                            |                             |                                     | Phase conductor      | Metallic screen |
| No.          | AWG / MCM                 | Ω/km                       | Ω/km                       | μF/km               | mH/km              | Ω/km              | kN                                | Amps/Km                    | Ohms/Km                     | kV/mm                               | kA/S                 |                 |
| 1            | 2 AWG                     | 0.531                      | 0.666                      | 0.19                | 0.46               | 0.18              | 2.4                               | 1.05                       | 0.69                        | 1.61                                | 4.3                  | 4.8             |
| 1            | 1 AWG                     | 0.423                      | 0.528                      | 0.20                | 0.45               | 0.17              | 3.0                               | 1.13                       | 0.56                        | 1.43                                | 4.1                  | 6.1             |
| 1            | 1/0 AWG                   | 0.335                      | 0.420                      | 0.21                | 0.43               | 0.16              | 3.7                               | 1.21                       | 0.45                        | 1.29                                | 4.0                  | 7.7             |
| 1            | 2/0 AWG                   | 0.266                      | 0.331                      | 0.23                | 0.41               | 0.15              | 4.7                               | 1.30                       | 0.37                        | 1.16                                | 3.8                  | 9.7             |
| 1            | 3/0 AWG                   | 0.211                      | 0.266                      | 0.25                | 0.39               | 0.15              | 6.0                               | 1.41                       | 0.30                        | 1.06                                | 3.7                  | 12.2            |
| 1            | 4/0 AWG                   | 0.167                      | 0.210                      | 0.27                | 0.38               | 0.14              | 7.5                               | 1.52                       | 0.25                        | 0.96                                | 3.6                  | 15.3            |
| 1            | 250 MCM                   | 0.141                      | 0.177                      | 0.29                | 0.37               | 0.14              | 8.9                               | 1.64                       | 0.23                        | 0.89                                | 3.4                  | 18.1            |
| 1            | 350 MCM                   | 0.101                      | 0.128                      | 0.33                | 0.35               | 0.13              | 12.4                              | 1.84                       | 0.18                        | 0.79                                | 3.3                  | 25.4            |
| 1            | 500 MCM                   | 0.071                      | 0.092                      | 0.37                | 0.33               | 0.12              | 17.7                              | 2.11                       | 0.15                        | 0.69                                | 3.2                  | 36.2            |
| 1            | 600 MCM                   | 0.059                      | 0.076                      | 0.41                | 0.32               | 0.12              | 21.3                              | 2.33                       | 0.14                        | 0.56                                | 3.0                  | 43.5            |
| 1            | 750 MCM                   | 0.047                      | 0.066                      | 0.45                | 0.31               | 0.12              | 26.6                              | 2.53                       | 0.14                        | 0.59                                | 2.9                  | 54.4            |
| 1            | 1000 MCM                  | 0.035                      | 0.052                      | 0.50                | 0.31               | 0.12              | 35.4                              | 2.83                       | 0.13                        | 0.53                                | 2.8                  | 72.5            |

#### 100% insulation:

| No. of Cores | Core Cross sectional Area | Nom. DC Resistance at 25°C | Nom. AC Resistance at 90°C | Approx. Capacitance | Approx. Inductance | Approx. Reactance | Max. pulling tension on conductor | Charging Current per phase | Positive sequence impedance | Electric Stress at Conductor Screen | Short circuit rating |                 |
|--------------|---------------------------|----------------------------|----------------------------|---------------------|--------------------|-------------------|-----------------------------------|----------------------------|-----------------------------|-------------------------------------|----------------------|-----------------|
|              |                           |                            |                            |                     |                    |                   |                                   |                            |                             |                                     | Phase conductor      | Metallic screen |
| No.          | AWG / MCM                 | Ω/km                       | Ω/km                       | μF/km               | mH/km              | Ω/km              | kN                                | Amps/Km                    | Ohms/Km                     | kV/mm                               | kA/S                 |                 |
| 1            | 2 AWG                     | 0.531                      | 0.666                      | 0.22                | 0.44               | 0.17              | 2.4                               | 1.23                       | 0.69                        | 1.72                                | 4.9                  | 4.8             |
| 1            | 1 AWG                     | 0.423                      | 0.528                      | 0.23                | 0.43               | 0.16              | 3.0                               | 1.32                       | 0.56                        | 1.54                                | 4.8                  | 6.1             |
| 1            | 1/0 AWG                   | 0.335                      | 0.420                      | 0.25                | 0.41               | 0.16              | 3.7                               | 1.43                       | 0.45                        | 1.38                                | 4.6                  | 7.7             |
| 1            | 2/0 AWG                   | 0.266                      | 0.331                      | 0.27                | 0.39               | 0.15              | 4.7                               | 1.54                       | 0.36                        | 1.25                                | 4.4                  | 9.7             |
| 1            | 3/0 AWG                   | 0.211                      | 0.266                      | 0.30                | 0.38               | 0.14              | 6.0                               | 1.67                       | 0.30                        | 1.14                                | 4.3                  | 12.2            |
| 1            | 4/0 AWG                   | 0.167                      | 0.210                      | 0.32                | 0.36               | 0.14              | 7.5                               | 1.81                       | 0.25                        | 1.03                                | 4.2                  | 15.3            |
| 1            | 250 MCM                   | 0.141                      | 0.177                      | 0.35                | 0.35               | 0.13              | 8.9                               | 1.95                       | 0.22                        | 0.96                                | 4.0                  | 18.1            |
| 1            | 350 MCM                   | 0.101                      | 0.128                      | 0.39                | 0.33               | 0.13              | 12.4                              | 2.22                       | 0.18                        | 0.84                                | 3.9                  | 25.4            |
| 1            | 500 MCM                   | 0.071                      | 0.092                      | 0.45                | 0.32               | 0.12              | 17.7                              | 2.54                       | 0.15                        | 0.73                                | 3.7                  | 36.2            |
| 1            | 600 MCM                   | 0.059                      | 0.076                      | 0.49                | 0.31               | 0.12              | 21.3                              | 2.76                       | 0.14                        | 0.60                                | 3.6                  | 43.5            |
| 1            | 750 MCM                   | 0.047                      | 0.066                      | 0.53                | 0.30               | 0.11              | 26.6                              | 3.01                       | 0.13                        | 0.63                                | 3.5                  | 54.4            |
| 1            | 1000 MCM                  | 0.035                      | 0.052                      | 0.60                | 0.29               | 0.11              | 35.4                              | 3.39                       | 0.12                        | 0.56                                | 3.5                  | 72.5            |