

# POLYCAB HV. AL.COR IEC 62067 127/220 KV (245 KV)

## HV Cable with AL Conductor, AL Corrugated Sheath

**POLYCAB**  
IDEAS. CONNECTED.



Images not to scale. Follow table for dimensions

### APPLICATION

POLYCAB HV 127/220 KV (145 kV) XLPE insulated cable with Aluminium conductor is suitable to use in high voltage transmission for external and direct burial applications in power network system.

### CHARACTERISTICS

#### Voltage Rating

Nominal Voltage: 127/220 kV (145 kV)

#### Operation Temperature

Max. operating temperature: +90°C

Max. Short Circuit Temperature: 250°C

#### Bending Radius: 20D

: D is overall diameter of cable

#### Impulse Test Voltage

1050kV

### CONSTRUCTION

- Conductor: Circular Compacted or segmental stranded Milliken Aluminium conductor as per IEC 60228, class 2
- Separator: Semi Conducting Tape
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: Crosslinked polyethylene
- Non-Metallic Insulation Screen: Extruded Semi-conductive compound
- Separator: Semi Conducting Water Blocking Tape
- Shield: Aluminium Corrugated Sheath
- Outer Sheath: Extruded High-density polyethylene (HDPE) (PVC, also available per request), Colour: Black
- Optional Semi-conductive layer

### OUTSTANDING FEATURES

- High life
- UV resistance
- Longitudinal water resistant
- Radial water resistant

### STANDARD FOLLOWS

IEC 60228

IEC 62067

IS 7098-3

ICEA S-108-720

### COMPLIANCE

- Conductor resistance IEC 60228

### OUR ACCREDITATIONS



### APPROVAL



**DIMENSIONS AND WEIGHT:**

| Product Code              | No. of Cores | Core Cross sectional Area | Conductor type | Insulation thickness (Approx.) | Sheath thickness (Approx.) | Diameter Overall (Nominal) | Weight (Approx.) |
|---------------------------|--------------|---------------------------|----------------|--------------------------------|----------------------------|----------------------------|------------------|
|                           | No.          | mm <sup>2</sup>           |                | mm                             | mm                         | mm                         | Kg/Km            |
| EHIS27AXATPH001C400SAXXXX | 1            | 400                       | Compact        | 27                             | 4                          | 100.0                      | 10000            |
| EHIS27AXATPH001C500SAXXXX | 1            | 500                       | Compact        | 27                             | 4                          | 104.0                      | 10800            |
| EHIS27AXATPH001C630SAXXXX | 1            | 630                       | Compact        | 27                             | 4                          | 107.0                      | 11600            |
| EHIS27AXATPH001C800SAXXXX | 1            | 800                       | Compact        | 27                             | 4                          | 111.0                      | 11900            |
| EHIS27AXATPH001C01KSAXXXX | 1            | 1000                      | Compact        | 27                             | 4                          | 116.0                      | 13100            |
| EHIS27AXATPH001C1K2SAXXXX | 1            | 1200                      | Milliken       | 27                             | 4                          | 123.0                      | 14700            |
| EHIS27AXATPH001C1K4SAXXXX | 1            | 1400                      | Milliken       | 27                             | 4                          | 127.0                      | 15700            |
| EHIS27AXATPH001C1K6SAXXXX | 1            | 1600                      | Milliken       | 27                             | 4                          | 130.0                      | 16700            |
| EHIS27AXATPH001C1K8SAXXXX | 1            | 1800                      | Milliken       | 27                             | 4                          | 133.0                      | 17600            |
| EHIS27AXATPH001C02KSAXXXX | 1            | 2000                      | Milliken       | 27                             | 4                          | 136.0                      | 18400            |
| EHIS27AXATPH001C2K5SAXXXX | 1            | 2500                      | Milliken       | 27                             | 4                          | 142.0                      | 20500            |

**ELECTRICAL CHARACTERISTICS:**

| Core Cross sectional Area | Max. DC Resistance at 20°C | Max. AC Resistance at 90°C | Approx. Star Reactance | Approx. Star Impedance | Approx. Capacitance | Surge Impedance | Cable Zero sequence Resistance | Cable Zero sequence Reactance | Cable Zero sequence Impedance |
|---------------------------|----------------------------|----------------------------|------------------------|------------------------|---------------------|-----------------|--------------------------------|-------------------------------|-------------------------------|
| mm <sup>2</sup>           | Ω/km                       | Ω/km                       | Ω/km                   | Ω/km                   | μF/km               | Ω               | Ω/km                           | Ω/km                          | Ω/km                          |
| 400                       | 0.0778                     | 0.101                      | 0.157                  | 0.187                  | 0.12                | 65              | 0.143                          | 0.104                         | 0.177                         |
| 500                       | 0.0605                     | 0.0789                     | 0.150                  | 0.169                  | 0.13                | 61              | 0.125                          | 0.0977                        | 0.159                         |
| 630                       | 0.0469                     | 0.0618                     | 0.145                  | 0.158                  | 0.14                | 57              | 0.112                          | 0.0925                        | 0.145                         |
| 800                       | 0.0367                     | 0.0493                     | 0.139                  | 0.147                  | 0.15                | 54              | 0.102                          | 0.0870                        | 0.134                         |
| 1000                      | 0.0291                     | 0.0401                     | 0.133                  | 0.139                  | 0.17                | 50              | 0.0944                         | 0.0817                        | 0.125                         |
| 1200                      | 0.0247                     | 0.0319                     | 0.129                  | 0.133                  | 0.18                | 48              | 0.0845                         | 0.0772                        | 0.114                         |
| 1400                      | 0.0212                     | 0.0275                     | 0.125                  | 0.128                  | 0.19                | 46              | 0.0792                         | 0.0743                        | 0.109                         |
| 1600                      | 0.0186                     | 0.0242                     | 0.123                  | 0.125                  | 0.20                | 44              | 0.0750                         | 0.0719                        | 0.104                         |
| 1800                      | 0.0165                     | 0.0216                     | 0.121                  | 0.123                  | 0.21                | 43              | 0.0712                         | 0.0703                        | 0.100                         |
| 2000                      | 0.0149                     | 0.0196                     | 0.119                  | 0.121                  | 0.21                | 42              | 0.0683                         | 0.0683                        | 0.0966                        |
| 2500                      | 0.0127                     | 0.0169                     | 0.115                  | 0.116                  | 0.23                | 40              | 0.0635                         | 0.0646                        | 0.0906                        |

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## HV Cable with AL Conductor, AL Corrugated Sheath

### CURRENT RATING:

| Core Cross<br>sectional Area | Continuous current ratings for 3 single core cables, single ended bonded          |                                                                                   |                                                                                   |                                                                                    | Short Circuit<br>Rating for 1<br>Sec. |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------|
|                              | In ground                                                                         |                                                                                   | In air                                                                            |                                                                                    |                                       |
|                              | Trefoil                                                                           | Flat                                                                              | Trefoil                                                                           | Flat                                                                               |                                       |
|                              |  |  |  |  |                                       |
| mm <sup>2</sup>              | Amps                                                                              |                                                                                   |                                                                                   |                                                                                    | KAmps                                 |
| 400                          | 422                                                                               | 450                                                                               | 593                                                                               | 649                                                                                | 37.6                                  |
| 500                          | 479                                                                               | 514                                                                               | 687                                                                               | 755                                                                                | 47.0                                  |
| 630                          | 542                                                                               | 586                                                                               | 791                                                                               | 874                                                                                | 59.2                                  |
| 800                          | 607                                                                               | 662                                                                               | 905                                                                               | 1007                                                                               | 75.2                                  |
| 1000                         | 672                                                                               | 740                                                                               | 1025                                                                              | 1150                                                                               | 94.0                                  |
| 1200                         | 747                                                                               | 830                                                                               | 1169                                                                              | 1316                                                                               | 112.8                                 |
| 1400                         | 799                                                                               | 896                                                                               | 1272                                                                              | 1443                                                                               | 131.6                                 |
| 1600                         | 844                                                                               | 954                                                                               | 1365                                                                              | 1560                                                                               | 150.4                                 |
| 1800                         | 885                                                                               | 1011                                                                              | 1451                                                                              | 1671                                                                               | 169.2                                 |
| 2000                         | 920                                                                               | 1062                                                                              | 1531                                                                              | 1777                                                                               | 188.0                                 |
| 2500                         | 975                                                                               | 1146                                                                              | 1669                                                                              | 1966                                                                               | 235.0                                 |

Current ratings based on IEC 60287

|                               |           |
|-------------------------------|-----------|
| Supply frequency              | 50 Hz     |
| Maximum conductor temperature | 90°C      |
| Ambient air temperature       | 40°C      |
| Ground temperature            | 30°C      |
| Depth of laying               | 1000 m    |
| Thermal resistivity of soil   | 1.5 K.m/W |