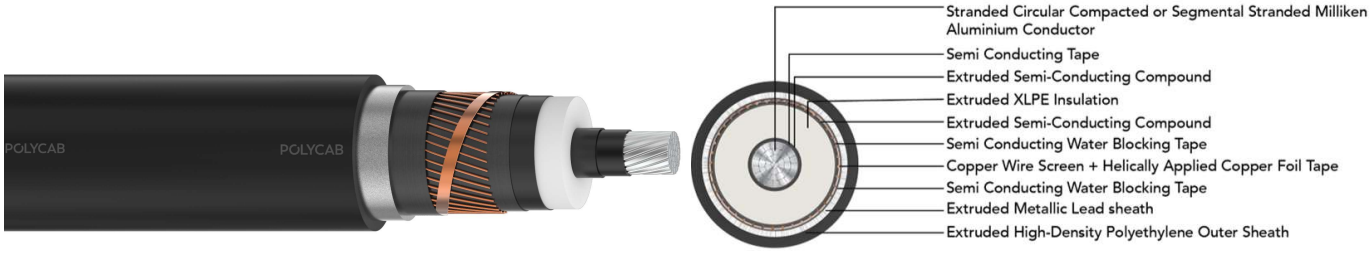
# POLYCAB HV. CS+PB IEC 60840 64/110 KV (123 KV)
## HV Cable with AL Conductor, Cu Screen and Lead Sheath




Images not to scale. Follow table for dimensions

## APPLICATION

POLYCAB HV 64/110 KV (123 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: 64/110 kV (123 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**
550kV

## 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
- Metallic Insulation Screen: Copper Wires + helically applied Copper foil tape
- Separator: Semi Conducting Water Blocking Tape
- Inner Sheath: Extruded Metallic Lead
- Outer Sheath: Extruded High-density polyethylene (HDPE) (PVC, available as per demand), Colour: Black
- Optional Semi-conductive layer

## OUTSTANDING FEATURES

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

## STANDARD FOLLOWS

IEC 60228
IEC 60840
IS 7098-3
ICEA S-108-720

## COMPLIANCE

• Conductor resistance IEC 60228

## OUR ACCREDITATIONS

NABL

## APPROVAL

CPRI APPROVED FQC

# POLYCAB HV. CS+PB IEC 60840 64/110 KV (123 KV)
## HV Cable with AL Conductor, Cu Screen and Lead Sheath

POLYCAB
IDEAS. CONNECTED.

### 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. | $mm^2$ | | mm | mm | mm | Kg/Km |
| EHIS25AXUAPH001C400SAXXXX | 1 | 400 | Compact | 16 | 3.6 | 77.0 | 11500 |
| EHIS25AXUAPH001C500SAXXXX | 1 | 500 | Compact | 16 | 3.8 | 81.0 | 13000 |
| EHIS25AXUAPH001C630SAXXXX | 1 | 630 | Compact | 16 | 4 | 85.0 | 14000 |
| EHIS25AXUAPH001C800SAXXXX | 1 | 800 | Compact | 16 | 4 | 89.0 | 15500 |
| EHIS25AXUAPH001C01KSAXXXX | 1 | 1000 | Compact | 16 | 4 | 95.0 | 17500 |
| EHIS25AXUAPH001C1K2SAXXXX | 1 | 1200 | Milliken | 16 | 4 | 98.0 | 18500 |
| EHIS25AXUAPH001C1K4SAXXXX | 1 | 1400 | Milliken | 16 | 4 | 102.0 | 20000 |
| EHIS25AXUAPH001C1K6SAXXXX | 1 | 1600 | Milliken | 16 | 4 | 105.0 | 21500 |
| EHIS25AXUAPH001C1K8SAXXXX | 1 | 1800 | Milliken | 16 | 4 | 108.0 | 22500 |
| EHIS25AXUAPH001C02KSAXXXX | 1 | 2000 | Milliken | 16 | 4 | 111.0 | 24000 |
| EHIS25AXUAPH001C2K5SAXXXX | 1 | 2500 | Milliken | 16 | 4 | 117.0 | 27000 |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| $mm^2$ | Ω/km | Ω/km | Ω/km | Ω/km | µF/km | Ω | Ω/km | Ω/km | Ω/km |
| 400 | 0.0778 | 0.101 | 0.136 | 0.169 | 0.17 | 51 | 0.175 | 0.0825 | 0.193 |
| 500 | 0.0605 | 0.0791 | 0.131 | 0.153 | 0.19 | 47 | 0.161 | 0.0771 | 0.179 |
| 630 | 0.0469 | 0.0621 | 0.126 | 0.140 | 0.20 | 45 | 0.149 | 0.0727 | 0.166 |
| 800 | 0.0367 | 0.0497 | 0.121 | 0.131 | 0.22 | 42 | 0.142 | 0.0683 | 0.158 |
| 1000 | 0.0291 | 0.0407 | 0.117 | 0.124 | 0.24 | 39 | 0.138 | 0.0642 | 0.152 |
| 1200 | 0.0247 | 0.0320 | 0.113 | 0.117 | 0.26 | 37 | 0.133 | 0.0604 | 0.146 |
| 1400 | 0.0212 | 0.0276 | 0.110 | 0.113 | 0.28 | 35 | 0.133 | 0.0583 | 0.145 |
| 1600 | 0.0186 | 0.0244 | 0.108 | 0.111 | 0.29 | 34 | 0.134 | 0.0565 | 0.145 |
| 1800 | 0.0165 | 0.0218 | 0.106 | 0.108 | 0.30 | 34 | 0.134 | 0.0550 | 0.145 |
| 2000 | 0.0149 | 0.0198 | 0.104 | 0.106 | 0.32 | 32 | 0.134 | 0.0534 | 0.144 |
| 2500 | 0.0127 | 0.0172 | 0.101 | 0.102 | 0.35 | 30 | 0.139 | 0.0504 | 0.148 |

# POLYCAB HV. CS+PB IEC 60840 64/110 KV (123 KV)
## HV Cable with AL Conductor, Cu Screen and Lead Sheath

**CURRENT RATING:**

| Core Cross sectional Area | Continuous current ratings for 3 single core cables, single ended bonded | | | | Short Circuit Rating for 1 Sec. |
|---|---|---|---|---|---|
| | In ground | | In air | | |
| | Trefoil  | Flat  | Trefoil  | Flat  | |
| $mm^2$ | Amps | | | | KAmps |
| 400 | 433 | 458 | 625 | 703 | 37.6 |
| 500 | 493 | 524 | 727 | 821 | 47.0 |
| 630 | 559 | 598 | 839 | 954 | 59.2 |
| 800 | 628 | 679 | 963 | 1104 | 75.2 |
| 1000 | 698 | 761 | 1093 | 1264 | 94.0 |
| 1200 | 787 | 858 | 1260 | 1456 | 112.8 |
| 1400 | 849 | 930 | 1378 | 1601 | 131.6 |
| 1600 | 904 | 996 | 1488 | 1739 | 150.4 |
| 1800 | 956 | 1060 | 1591 | 1870 | 169.2 |
| 2000 | 1001 | 1118 | 1687 | 1994 | 188.0 |
| 2500 | 1079 | 1219 | 1859 | 2222 | 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 |