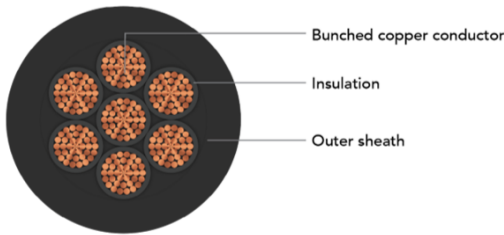


POLYCAB HFFR-04XZZ-K/04XZXXZ-K MC

Industrial cable, 1100 V AC



Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB HFFR-04XZZ-K/04XZXXZ-K MC flexible cable insulated and sheathed with halogen free flame-retardant thermoplastic or cross linked halogen free flame retardant thermosetting compound confirming to IS 17048 is suitable to use in electric power and lighting for indoor use in AC single phase or three phase (earthed or unearthed) systems with rated voltage up to and including 1100 V. This cable is also suitable for DC systems with rated voltage up to and including 1500 V to earth.

CHARACTERISTICS

Voltage Rating
1100 V

Operation Temperature
Fixed: -15°C to 90°C

CONSTRUCTION

- Bare or tinned bunched copper conductor as per IS 8130, class 5
- Insulated with cross linked halogen free flame retardant compound type HFI-XL 90 (HFFR) to IS 17048
- Sheathed with halogen free flame retardant HFS TP 90 or cross-linked halogen free flame retardant compound type HFS-XL 90 (HFFR) to IS 17048

Core Identification

Black with white numbering

Bending Radius

Fixed installation 6 x Overall diameter
Occasional 8 x Overall diameter

OUTSTANDING FEATURES

- Low Smoke
- Halogen Free
- Flame Retardant
- Highly Flexible
- Heat Resistant

STANDARD FOLLOWS

IS 8130:2013
IS 5831:1984
IEC 60332-1-2

COMPLIANCE

Conductor resistance - IS 8130
Insulation resistance - IS 17048:2018
Oxygen Index > 31% As per ASTM D2863
Smoke emission test < 6% As Per ASTM D2843
Acid gas Generation - <0.0 As per IEC 60754-1
Under fire condition - Resist as per EN 60332-1-2

OUR ACCREDITATIONS



APPROVAL



Weight & Dimension Data

| Product Code | Conductor size | Nominal insulation thickness | Overall diameter (Approx.) | Weight (Approx.) kg/km |
|----------------------|---------------------|------------------------------|-------------------------------|---------------------------|
| | n x mm ² | mm | mm | |
| LDIS09CLUALS006C0.5S | 6 x 0.5 | 0.6 | 8.1 | 86 |
| LDIS09CLUALS006C.75S | 6 x 0.75 | 0.6 | 9 | 111 |
| LDIS09CLUALS006C001S | 6 x 1 | 0.6 | 9.5 | 130 |
| LDIS09CLUALS006C1.5S | 6 x 1.5 | 0.6 | 10.3 | 164 |
| LDIS09CLUALS006C2.5S | 6 x 2.5 | 0.7 | 12.4 | 251 |
| LDIS09CLUALS006C004S | 6 x 4 | 0.8 | 14.9 | 375 |
| LDIS09CLUALS007C0.5S | 7 x 0.5 | 0.6 | 8.1 | 95 |
| LDIS09CLUALS007C.75S | 7 x 0.75 | 0.6 | 9 | 123 |
| LDIS09CLUALS007C001S | 7 x 1 | 0.6 | 9.5 | 145 |
| LDIS09CLUALS007C1.5S | 7 x 1.5 | 0.6 | 10.3 | 184 |
| LDIS09CLUALS007C2.5S | 7 x 2.5 | 0.7 | 12.4 | 282 |
| LDIS09CLUALS007C004S | 7 x 4 | 0.8 | 14.9 | 423 |
| LDIS09CLUALS008C0.5S | 8 x 0.5 | 0.6 | 9.3 | 113 |
| LDIS09CLUALS008C.75S | 8 x 0.75 | 0.6 | 10 | 140 |
| LDIS09CLUALS008C001S | 8 x 1 | 0.6 | 10.6 | 165 |
| LDIS09CLUALS008C1.5S | 8 x 1.5 | 0.6 | 11.7 | 216 |
| LDIS09CLUALS008C2.5S | 8 x 2.5 | 0.7 | 14.2 | 329 |
| LDIS09CLUALS008C004S | 8 x 4 | 0.8 | 16.9 | 492 |
| LDIS09CLUALS009C0.5S | 9 x 0.5 | 0.6 | 10 | 126 |
| LDIS09CLUALS009C.75S | 9 x 0.75 | 0.6 | 11 | 161 |
| LDIS09CLUALS009C001S | 9 x 1 | 0.6 | 11.7 | 190 |
| LDIS09CLUALS009C1.5S | 9 x 1.5 | 0.6 | 12.7 | 240 |
| LDIS09CLUALS009C2.5S | 9 x 2.5 | 0.7 | 15.6 | 376 |
| LDIS09CLUALS009C004S | 9 x 4 | 0.8 | 18.6 | 560 |
| LDIS09CLUALS010C0.5S | 10 x 0.5 | 0.6 | 10.4 | 137 |
| LDIS09CLUALS010C.75S | 10 x 0.75 | 0.6 | 11.5 | 175 |
| LDIS09CLUALS010C001S | 10 x 1 | 0.6 | 12.2 | 207 |
| LDIS09CLUALS010C1.5S | 10 x 1.5 | 0.6 | 13.2 | 263 |
| LDIS09CLUALS010C2.5S | 10 x 2.5 | 0.7 | 16.3 | 411 |
| LDIS09CLUALS010C004S | 10 x 4 | 0.8 | 19.4 | 614 |
| LDIS09CLUALS011C0.5S | 11 x 0.5 | 0.6 | 10.4 | 145 |
| LDIS09CLUALS011C.75S | 11 x 0.75 | 0.6 | 11.5 | 187 |
| LDIS09CLUALS011C001S | 11 x 1 | 0.6 | 12.2 | 221 |
| LDIS09CLUALS011C1.5S | 11 x 1.5 | 0.6 | 13.2 | 282 |
| LDIS09CLUALS011C2.5S | 11 x 2.5 | 0.7 | 16.3 | 442 |
| LDIS09CLUALS011C004S | 11 x 4 | 0.8 | 19.4 | 662 |

| Product Code | Conductor size | Nominal insulation thickness | Overall diameter (Approx.) | Weight (Approx.) |
|----------------------|---------------------|------------------------------|-------------------------------|------------------|
| | n x mm ² | mm | mm | kg/km |
| LDIS09CLUALS012C0.5S | 12 x 0.5 | 0.6 | 10.8 | 156 |
| LDIS09CLUALS012C.75S | 12 x 0.75 | 0.6 | 11.8 | 200 |
| LDIS09CLUALS012C001S | 12 x 1 | 0.6 | 12.6 | 237 |
| LDIS09CLUALS012C1.5S | 12 x 1.5 | 0.6 | 13.7 | 304 |
| LDIS09CLUALS012C2.5S | 12 x 2.5 | 0.7 | 16.8 | 477 |
| LDIS09CLUALS012C004S | 12 x 4 | 0.8 | 20.1 | 715 |
| LDIS09CLUALS013C0.5S | 13 x 0.5 | 0.6 | 11.3 | 167 |
| LDIS09CLUALS013C.75S | 13 x 0.75 | 0.6 | 12.4 | 215 |
| LDIS09CLUALS013C001S | 13 x 1 | 0.6 | 13.2 | 255 |
| LDIS09CLUALS013C1.5S | 13 x 1.5 | 0.6 | 14.6 | 335 |
| LDIS09CLUALS013C2.5S | 13 x 2.5 | 0.7 | 17.7 | 513 |
| LDIS09CLUALS013C004S | 13 x 4 | 0.8 | 21.1 | 770 |
| LDIS09CLUALS014C0.5S | 14 x 0.5 | 0.6 | 11.5 | 182 |
| LDIS09CLUALS014C.75S | 14 x 0.75 | 0.6 | 12.4 | 227 |
| LDIS09CLUALS014C001S | 14 x 1 | 0.6 | 13.2 | 269 |
| LDIS09CLUALS014C1.5S | 14 x 1.5 | 0.6 | 14.6 | 354 |
| LDIS09CLUALS014C2.5S | 14 x 2.5 | 0.7 | 17.7 | 544 |
| LDIS09CLUALS014C004S | 14 x 4 | 0.8 | 21.1 | 818 |
| LDIS09CLUALS015C0.5S | 15 x 0.5 | 0.6 | 12.1 | 194 |
| LDIS09CLUALS015C.75S | 15 x 0.75 | 0.6 | 13.3 | 249 |
| LDIS09CLUALS015C001S | 15 x 1 | 0.6 | 14.1 | 295 |
| LDIS09CLUALS015C1.5S | 15 x 1.5 | 0.6 | 15.4 | 378 |
| LDIS09CLUALS015C2.5S | 15 x 2.5 | 0.7 | 18.9 | 592 |
| LDIS09CLUALS015C004S | 15 x 4 | 0.8 | 22.5 | 887 |
| LDIS09CLUALS016C0.5S | 16 x 0.5 | 0.6 | 12.1 | 203 |
| LDIS09CLUALS016C.75S | 16 x 0.75 | 0.6 | 13.3 | 261 |
| LDIS09CLUALS016C001S | 16 x 1 | 0.6 | 14.1 | 310 |
| LDIS09CLUALS016C1.5S | 16 x 1.5 | 0.6 | 15.4 | 397 |
| LDIS09CLUALS016C2.5S | 16 x 2.5 | 0.7 | 18.9 | 622 |
| LDIS09CLUALS016C004S | 16 x 4 | 0.8 | 22.5 | 935 |
| LDIS09CLUALS017C0.5S | 17 x 0.5 | 0.6 | 12.8 | 215 |
| LDIS09CLUALS017C.75S | 17 x 0.75 | 0.6 | 14 | 276 |
| LDIS09CLUALS017C001S | 17 x 1 | 0.6 | 14.8 | 329 |
| LDIS09CLUALS017C1.5S | 17 x 1.5 | 0.6 | 16.4 | 430 |
| LDIS09CLUALS017C2.5S | 17 x 2.5 | 0.7 | 19.9 | 661 |
| LDIS09CLUALS017C004S | 17 x 4 | 0.8 | 23.8 | 993 |
| LDIS09CLUALS018C0.5S | 18 x 0.5 | 0.6 | 12.8 | 223 |

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| Product Code | Conductor size | Nominal insulation thickness | Overall diameter | Weight (Approx.) |
|----------------------|---------------------|------------------------------|------------------|------------------|
| | n x mm ² | mm | (Approx.) mm | kg/km |
| LDIS09CLUALS018C.75S | 18 x 0.75 | 0.6 | 14 | 288 |
| LDIS09CLUALS018C001S | 18 x 1 | 0.6 | 15 | 351 |
| LDIS09CLUALS018C1.5S | 18 x 1.5 | 0.6 | 16.4 | 449 |
| LDIS09CLUALS018C2.5S | 18 x 2.5 | 0.7 | 19.9 | 692 |
| LDIS09CLUALS018C004S | 18 x 4 | 0.8 | 23.8 | 1041 |
| LDIS09CLUALS019C0.5S | 19 x 0.5 | 0.6 | 12.8 | 232 |
| LDIS09CLUALS019C.75S | 19 x 0.75 | 0.6 | 14 | 299 |
| LDIS09CLUALS019C001S | 19 x 1 | 0.6 | 15 | 365 |
| LDIS09CLUALS019C1.5S | 19 x 1.5 | 0.6 | 16.4 | 469 |
| LDIS09CLUALS019C2.5S | 19 x 2.5 | 0.7 | 19.9 | 722 |
| LDIS09CLUALS019C004S | 19 x 4 | 0.8 | 23.8 | 1089 |
| LDIS09CLUALS020C0.5S | 20 x 0.5 | 0.6 | 13.7 | 252 |
| LDIS09CLUALS020C.75S | 20 x 0.75 | 0.6 | 14.9 | 324 |
| LDIS09CLUALS020C001S | 20 x 1 | 0.6 | 16.1 | 393 |
| LDIS09CLUALS020C1.5S | 20 x 1.5 | 0.6 | 17.5 | 503 |
| LDIS09CLUALS020C2.5S | 20 x 2.5 | 0.7 | 21.2 | 773 |
| LDIS09CLUALS020C004S | 20 x 4 | 0.8 | 25.4 | 1161 |
| LDIS09CLUALS021C0.5S | 21 x 0.5 | 0.6 | 13.7 | 261 |
| LDIS09CLUALS021C.75S | 21 x 0.75 | 0.6 | 14.9 | 335 |
| LDIS09CLUALS021C001S | 21 x 1 | 0.6 | 16.1 | 407 |
| LDIS09CLUALS021C1.5S | 21 x 1.5 | 0.6 | 17.5 | 523 |
| LDIS09CLUALS021C2.5S | 21 x 2.5 | 0.7 | 21.2 | 803 |
| LDIS09CLUALS021C004S | 21 x 4 | 0.8 | 25.4 | 1209 |
| LDIS09CLUALS022C0.5S | 22 x 0.5 | 0.6 | 14.4 | 274 |
| LDIS09CLUALS022C.75S | 22 x 0.75 | 0.6 | 15.7 | 352 |
| LDIS09CLUALS022C001S | 22 x 1 | 0.6 | 16.9 | 428 |
| LDIS09CLUALS022C1.5S | 22 x 1.5 | 0.6 | 18.5 | 549 |
| LDIS09CLUALS022C2.5S | 22 x 2.5 | 0.7 | 22.4 | 843 |
| LDIS09CLUALS022C004S | 22 x 4 | 0.8 | 26.8 | 1269 |
| LDIS09CLUALS023C0.5S | 23 x 0.5 | 0.6 | 14.4 | 282 |
| LDIS09CLUALS023C.75S | 23 x 0.75 | 0.6 | 15.7 | 363 |
| LDIS09CLUALS023C001S | 23 x 1 | 0.6 | 16.9 | 442 |
| LDIS09CLUALS023C1.5S | 23 x 1.5 | 0.6 | 18.5 | 568 |
| LDIS09CLUALS023C2.5S | 23 x 2.5 | 0.7 | 22.4 | 874 |
| LDIS09CLUALS023C004S | 23 x 4 | 0.8 | 26.8 | 1317 |
| LDIS09CLUALS024C0.5S | 24 x 0.5 | 0.6 | 15.1 | 296 |
| LDIS09CLUALS024C.75S | 24 x 0.75 | 0.6 | 16.5 | 380 |

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| Product Code | Conductor size | Nominal insulation thickness | Overall diameter (Approx.) | Weight (Approx.) |
|----------------------|---------------------|------------------------------|-------------------------------|------------------|
| | n x mm ² | mm | mm | kg/km |
| LDIS09CLUALS024C001S | 24 x 1 | 0.6 | 17.7 | 462 |
| LDIS09CLUALS024C1.5S | 24 x 1.5 | 0.6 | 19.4 | 594 |
| LDIS09CLUALS024C2.5S | 24 x 2.5 | 0.7 | 23.5 | 914 |
| LDIS09CLUALS024C004S | 24 x 4 | 0.8 | 28.2 | 1376 |
| LDIS09CLUALS025C0.5S | 25 x 0.5 | 0.6 | 15.1 | 304 |
| LDIS09CLUALS025C.75S | 25 x 0.75 | 0.6 | 16.5 | 391 |
| LDIS09CLUALS025C001S | 25 x 1 | 0.6 | 17.7 | 477 |
| LDIS09CLUALS025C1.5S | 25 x 1.5 | 0.6 | 19.4 | 613 |
| LDIS09CLUALS025C2.5S | 25 x 2.5 | 0.7 | 23.5 | 945 |
| LDIS09CLUALS025C004S | 25 x 4 | 0.8 | 28.2 | 1424 |
| LDIS09CLUALS030C0.5S | 30 x 0.5 | 0.6 | 16.1 | 361 |
| LDIS09CLUALS030C.75S | 30 x 0.75 | 0.6 | 17.5 | 455 |
| LDIS09CLUALS030C001S | 30 x 1 | 0.6 | 18.8 | 555 |
| LDIS09CLUALS030C1.5S | 30 x 1.5 | 0.6 | 20.5 | 717 |
| LDIS09CLUALS030C2.5S | 30 x 2.5 | 0.7 | 24.9 | 1110 |
| LDIS09CLUALS030C004S | 30 x 4 | 0.8 | 29.9 | 1678 |

Electrical characteristics

Current carrying capacity and maximum DC conductor resistance.

| Nominal cross-sectional area | Reference method B (enclosed in conduit on a wall or in trunking etc) | | Reference method C (clipped direct) | | Reference method E (free air or on a perforated cable tray etc horizontal or vertical) | | Maximum DC conductor resistance at 20°C |
|------------------------------|---|---|--|---|--|---|---|
| | 1 two core cable single phase ac or dc | 1 three or four core cable three phase ac | 1 two core cable single phase ac or dc | 1 three or four core cable three phase ac | 1 two core cable single phase ac or dc | 1 three or four core cable three phase ac | |
| mm ² | Amp. | Amp. | Amp. | Amp. | Amp. | Amp. | Ω/km |
| 0.5 | 5 | 4 | 5 | 5 | - | - | 39 |
| 0.75 | 9 | 8 | 10 | 9 | - | - | 26 |
| 1 | 15 | 13 | 16 | 15 | 18 | 16 | 19.5 |
| 1.5 | 19 | 17 | 21 | 19 | 22 | 20 | 13.3 |
| 2.5 | 26 | 22 | 29 | 26 | 31 | 28 | 7.98 |
| 4 | 35 | 30 | 39 | 35 | 42 | 36 | 4.95 |

Ambient temperature: 40°C, Conductor operating temperature: 90°C

The above table is in accordance with BS 7671 (Table 4E2A)

De-Rating Factor

De-rating factor for various ambient temperature.

| Air Temperature | 35°C to 50°C | 55°C | 60°C | 65°C | 70°C |
|------------------|--------------|------|------|------|------|
| De-Rating Factor | 1 | 0.96 | 0.83 | 0.67 | 0.47 |