

Polycab offers a HFFR Submersible cable conforming to IS 17048 standards.



These are low voltage cable of 1100 V grade and designed for critical space requirement, protection against indefinite immersion in water under specified condition, protection against rainwater and ingress of small foreign bodies and Smoke emission and toxic fume create a potential risk to life as well as the lifesaving equipment.

These cables are available with Halogen Free Flame Retardant (HFFR) compound having temperature rating of 70° C to 90°C.

Conductor: High conductivity annealed plain bunched/stranded copper conductor produced in-house from state-of-the art machine.

Insulation: In-house developed high insulation resistance thermoplastic or cross linked halogen free compound.

Sheath: The insulated cores are laid horizontally; sheathing is provided with specially formulated thermoplastic or cross linked halogen free compound to facilitate stripping and withstand mechanical abrasion while in use.

Polycab assures the highest quality standard in every product by having stringent quality control with requisite testing which are applied at every single stage from raw material to finished goods.

The construction is based on the application and requirement of the user against IS 17048:2018.



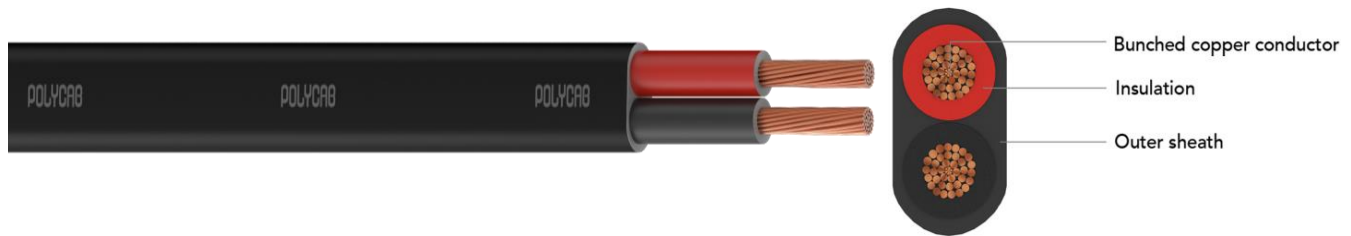
[POLYCAB HFFR-04XZZ-K/04XZZZ-K flat - Industrial Cords, 1100 V AC](#)



[POLYCAB HFFR-01ZZ-K/03XZZZ-K flat - Industrial Cords, 1100 V AC](#)

POLYCAB HFFR-01ZZ-K/03XZZ-K flat

Industrial Cords, 1100 V AC



Application

POLYCAB HFFR-01ZZ-K/03XZZ-K flat, insulated and sheathed with halogen free flame retardant (HFFR) thermoplastic or cross-linked halogen free thermosetting compound confirming to IS 17048 is suitable to use in electric power and lighting for indoor use in AC single phase 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.

Voltage Rating

1100 V

Operation Temperature

Fixed: -15°C to 70°C

Construction

- Bare or tinned bunched copper conductor as per IS 8130, class 5
- Insulated with halogen free flame retardant compound type HFI TP 70 or cross linked halogen free flame retardant compound (HFFR) type HFI-XL 70 to IS 17048
- Sheathed with halogen free flame retardant compound type HFS TP 70 or cross linked halogen free flame retardant compound (HFFR) type HFS-XL 70 to IS 17048

Core Identification

Two core Red and Black

Bending Radius

Fixed installation 6 x Overall diameter
Occasional 4 x Overall diameter

Standard and References

IS 8130:2013
IS 17048:2018
IEC 60332-1-2

Test Voltage

3000V AC at room temperature

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

Approval



OUR ACCREDITATION



POLYCAB HFFR-01ZZ-K/03XZZ-K flat

Industrial Cords, 1100 V AC

Product Code	Conductor size	Nominal insulation thickness	Overall dimension (Approx.)	Weight (Approx.)
	n x mm ²	mm	mm	kg/km
LDIS09CLUALS002C0.5S	2 x 0.5	0.6	6 x 3.9	46
LDIS09CLUALS002C.75S	2 x 0.75	0.6	6.4 x 4.1	54
LDIS09CLUALS002C001S	2 x 1	0.6	6.8 x 4.3	61
LDIS09CLUALS002C1.5S	2 x 1.5	0.6	7.3 x 4.6	74
LDIS09CLUALS002C2.5S	2 x 2.5	0.7	8.8 x 5.4	109
LDIS09CLUALS002C004S	2 x 4	0.8	10.1 x 6.1	144

Electrical characteristics

Current carrying capacity and maximum DC conductor resistance.

Nominal cross sectional area mm ²	Current rating Amp.	Maximum DC conductor resistance at 20°C Ω/km
0.5	4	39
0.75	7	26
1	11	19.5
1.5	14	13.3
2.5	19	7.98
4	26	4.95

Air Ambient temperature: 40°C,

Conductor operating temperature: 70°C

The above table is in accordance with IS:3961(Part 5)

De-Rating Factor

De-rating factor for 70°C thermoplastic or thermosetting insulated cable

Ambient Temperature	35°C	40°C	45°C	50°C	55°C	60°C	65°C
De-Rating Factor	1.08	1	0.91	0.82	0.7	0.57	0.4

Note:

Sheathing with cross linked halogen free flame retardant HFS-XL 70 available on demand.

OUR ACCREDITATION



POLYCAB HFFR-04XZZ-K/04XZZXZ-K flat

Industrial Cords, 1100 V AC



Application

POLYCAB HFFR-04XZZ-K/04XZZXZ-K flat, 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 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.

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 (HFFR) compound type HFI-XL 90 to IS 17048
- Sheathed with halogen free flame retardant compound type HFS TP 90 or cross linked halogen free flame retardant (HFFR) compound type HFS-XL 90 to IS 17048

Core Identification

Two core Red and Black

Bending Radius

Fixed installation 6 x Overall diameter
Occasional 4 x Overall diameter

Standard and References

IS 8130:2013
IS 17048:2018
IEC 60332-1-2

Test Voltage

3000V AC at room temperature

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

Approval



OUR ACCREDITATION



Industrial Cords, 1100 V AC

Product Code	Conductor size	Nominal insulation thickness	Overall dimension (Approx.)	Weight (Approx.)
	n x mm ²	mm	mm	kg/km
LDIS09CLUALS002C0.5S	2 x 0.5	0.6	6 x 3.9	46
LDIS09CLUALS002C.75S	2 x 0.75	0.6	6.4 x 4.1	54
LDIS09CLUALS002C001S	2 x 1	0.6	6.8 x 4.3	61
LDIS09CLUALS002C1.5S	2 x 1.5	0.6	7.3 x 4.6	74
LDIS09CLUALS002C2.5S	2 x 2.5	0.7	8.8 x 5.4	109
LDIS09CLUALS002C004S	2 x 4	0.8	10.1 x 6.1	144

Electrical characteristics

Current carrying capacity and maximum DC conductor resistance.

Nominal cross sectional area mm ²	Current-carrying capacity Amp.	Maximum DC conductor resistance at 20°C Ω/km
0.5	5	39
0.75	9	26
1	14	19.5
1.5	18	13.3
2.5	24	7.98
4	33	4.95

Air Ambient temperature: 40°C,

Conductor operating temperature: 90°C

De-Rating Factor

De-rating factor for 90°C thermosetting insulated cable.

Air Temperature	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C	85°C
De-Rating Factor	0.94	0.89	0.83	0.77	0.70	0.63	0.54	0.44	0.31

Note:

Sheathing with cross linked halogen free flame retardant HFS XL 90 available on demand

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