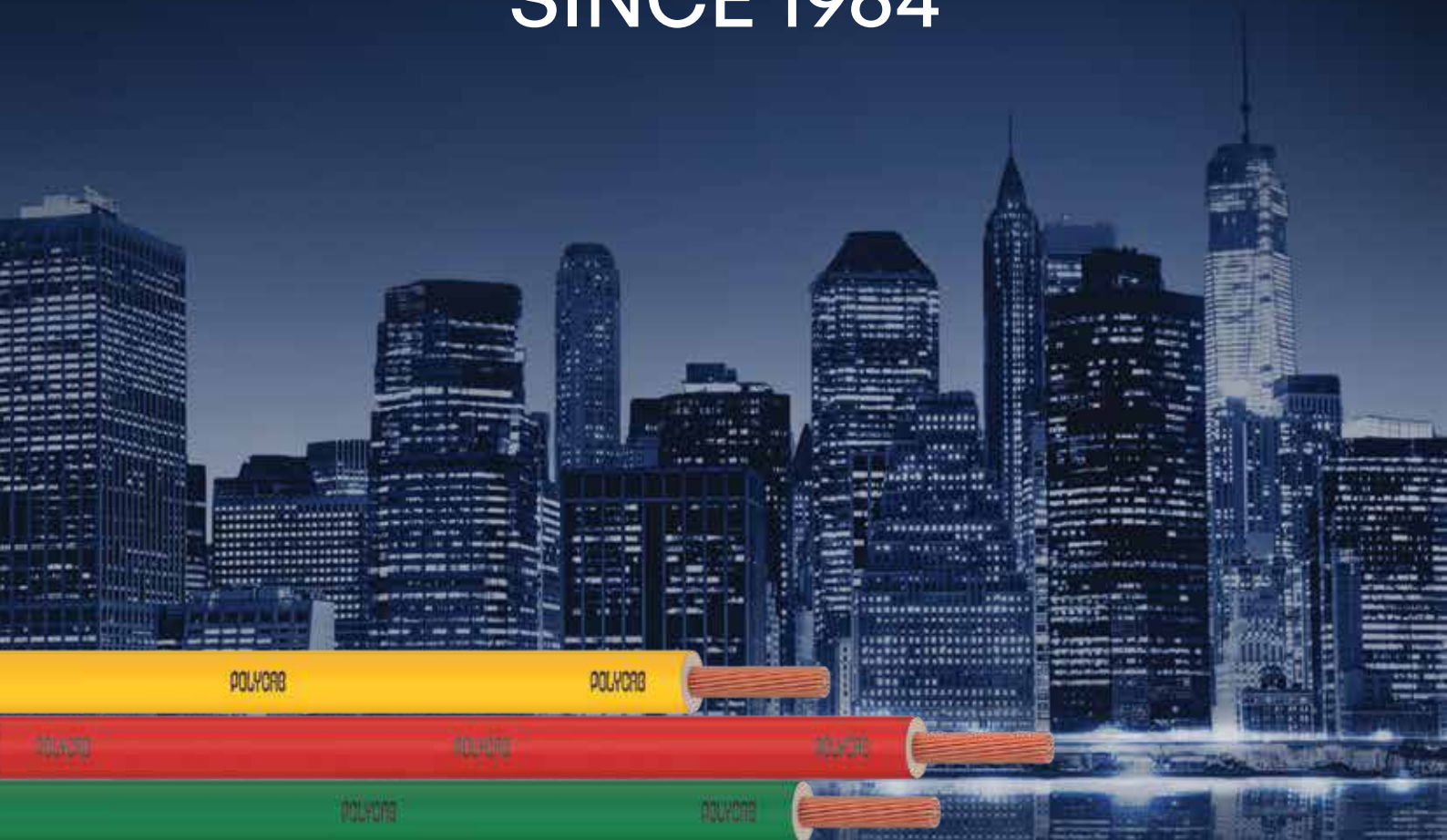


SECURING HOMES AND LIVES  
**SINCE 1964**



**POLYCAB HOUSE WIRES CATALOG**  
FR-LF | FR-LSH | POLYCAB GREEN WIRE | HFFR



## Contents

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- 08. POLYCAB HFFR-01Z-K/03XZ-K SC



## Company Profile

Polycab an ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 company is India's no.1 cables & wires company with a glorious track record of over 4 decades. our manufacturing facilities at Halol (vadodara), Daman, Nashik and Roorkee in India, addresses to the specific needs with state-of-the-art machinery and technology.

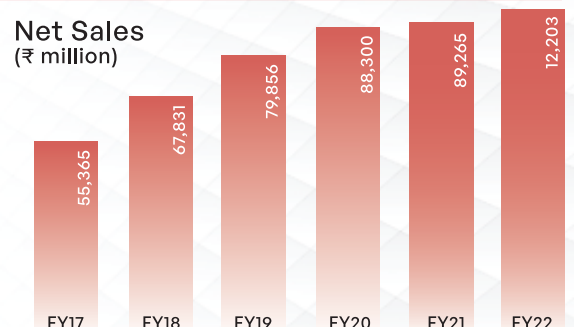
Polycab's turnover has crossed INR 12,000 crore's in the fiscal year 2021-22. Polycab derives its strength from its customers and those being in sectors like utilities, power generation, transmission & distribution, petroleum & oil refineries, oems, epc contractors, steel & metal, cement, chemical, atomic energy, nuclear plants, as well as government partners like BSNL, Railways and private telecom operators like Reliance, Vodafone, Airtel, Aircel, Tata, Idea and many more.

## Things you didn't know about Polycab

- Between its facilities in Daman, Halol (vadodara), Nashik and Roorkee the company has 3.5 million square feet of manufacturing space.
- Polycab manufactures enough cable each year to circumnavigate the earth three and a half times and enough wire to go to the moon and come back - four times.
- Polycab has increased its turnover 100 times in sixteen years.
- Over 300 authorised distributors service its india needs and its overseas interests.

## Polycab offers a variety of services

- Commercially reasonable prices
- Reliable & consistent quality
- Product development as per market
- A target stocking policy
- Technical support for application



## Polycab offers a comprehensive range of building wire in compliance with BIS specification & standard.



Scan to watch our  
House wire  
manufacturing video.

These are low voltage wires of 1100 V grade and widely used for wiring in residential buildings, Hospitals, Industrial parks and schools where safety is the prime requirement. These wires are available with specially designed thermoplastic PVC compound having temperature ratings from 70° C to 85° C.

These wires are flame retardant in characteristic and provide Extra-protection from short circuit and Fire. The wires are supplied especially for indoor application, conduit wiring and surface wiring.

Polycab also offers Green wire, a premium eco-friendly product for additional safety and green building application.

all the above products are RoHS & REACH compliant.

**Conductor:** High conductivity annealed plain bunched/stranded copper conductor produced inhouse from state-of-the art centroid line.

**Insulation:** Inhouse developed high insulation resistant thermoplastic PVC compound with special properties of Fire retardancy and low smoke, as well as low toxicity.

The construction is based on the application and requirement of the user against IS 694.



## POLYCAB FR-LSH

### Building wire, 1100 V AC



### Salient Features

- Optimised current carrying capacity
- Fire retardant and safe for protection
- Low emission of toxic gases
- Low carbon emission
- Low volatile organic content ensures less contamination
- High conductivity electrolytic copper conductor



### Application

**POLYCAB FR-LSH** wire is eco-friendly & suitable for use where high flexibility is of prime importance. This is also suitable for indoor installation in industries, household appliances and building electrification.



1100 V



### Operation Temperature

-15°C to 70°C



### Construction

- Annealed stranded or bunched copper conductor as per IS 8130, class 2 or class 5
- Insulated by PVC Type D with FR-LSH to IS 5831



### Core Identification

Red / Yellow / Blue / Black  
/ Green / any customise colour



### Bending Radii

|                    |                      |
|--------------------|----------------------|
| Fixed installation | 6 x Overall Diameter |
| Occasional         | 4 x Overall Diameter |



### Electrical Property

- High insulation resistance
- Higher current carrying capacity
- Electrical energy saving



### Mechanical & Physical Properties

- High Flexibility
- Free from hazardous substances
- Resistant to Termite & Rodent
- Resistant to moisture for use in wet area
- High abrasion resistance
- Resistant to Acid & Alkali



### Standard and References

IS 8130:2013 | IS 5831:1984 |  
IS 694:2010



### Test Voltage

3000 V AC at room temperature



### Compliance

|                             |             |
|-----------------------------|-------------|
| Conductor resistance test   | IS 8130     |
| Flammability                | IEC 60332-1 |
| Oxygen index                | ASTM D 2863 |
| Temperature index           | ASTM D 2863 |
| Halogen acid gas generation | IEC 60754-1 |
| Smoke density               | ASTM D 2843 |

### Approvals



## POLYCAB FR-LSH

### Building wire, 1100 V AC

| PRODUCT CODE         | Nominal cross sectional area | Class of conductor | No. of wire/wire dia.<br>No. minal | Nominal insulation thickness | Overall dia. (Approx.) |
|----------------------|------------------------------|--------------------|------------------------------------|------------------------------|------------------------|
|                      | MM <sup>2</sup>              |                    | NO./MM                             | MM                           | MM                     |
| LDIS09CYUAYL001C.75S | 0.75                         | 5                  | 24/0.2                             | 0.6                          | 2.32                   |
| LDIS09CYUAYL001C001S | 1                            | 2                  | 14/0.3                             | 0.6                          | 2.5                    |
| LDIS09CYUAYL001C001S | 1                            | 5                  | 32/0.2                             | 0.6                          | 2.49                   |
| LDIS09CYUAYL001C1.5S | 1.5                          | 2                  | 22/0.30                            | 0.7                          | 3.0                    |
| LDIS09CYUAYL001C1.5S | 1.5                          | 5                  | 30/0.25                            | 0.6                          | 2.8                    |
| LDIS09CYUAYL001C2.5S | 2.5                          | 2                  | 36/0.30                            | 0.8                          | 3.4                    |
| LDIS09CYUAYL001C2.5S | 2.5                          | 5                  | 50/0.25                            | 0.7                          | 3.62                   |
| LDIS09CYUAYL001C004S | 4                            | 5                  | 56/0.3                             | 0.8                          | 4.16                   |
| LDIS09CYUAYL001C006  | 6                            | 5                  | 84/0.3                             | 0.8                          | 4.73                   |
| LDIS09CYUAYL001C010S | 10                           | 5                  | 80/0.4                             | 1                            | 6.08                   |
| LDIS09CYUAYL001C016S | 16                           | 5                  | 126/0.4                            | 1                            | 7.12                   |

### Electrical characteristics

Current carrying capacity and Max. DC conductor resistance.

| Nominal cross sectional area | Class of conductor | Reference Method B (enclosed in conduit on a wall or in trunking etc.) | Reference Method C (clipped direct) | Maximum DC conductor resistance at 20°C |
|------------------------------|--------------------|------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|
| MM <sup>2</sup>              |                    | AMP.                                                                   | AMP.                                | Ω/km                                    |
| 0.75                         | 5                  | 7                                                                      | 7.5                                 | 26                                      |
| 1                            | 2                  | 11.6                                                                   | 12.6                                | 18.1                                    |
| 1                            | 5                  | 11                                                                     | 12                                  | 19.5                                    |
| 1.5                          | 2                  | 14.7                                                                   | 16.8                                | 12.1                                    |
| 1.5                          | 5                  | 14                                                                     | 16                                  | 13.3                                    |
| 2.5                          | 2                  | 20                                                                     | 23.1                                | 7.41                                    |
| 2.5                          | 5                  | 19                                                                     | 22                                  | 7.98                                    |
| 4                            | 5                  | 26                                                                     | 29                                  | 4.95                                    |
| 6                            | 5                  | 31                                                                     | 37                                  | 3.3                                     |
| 10                           | 5                  | 42                                                                     | 51                                  | 1.91                                    |
| 16                           | 5                  | 57                                                                     | 68                                  | 1.21                                    |

The ambient temperature is 40°C. Conductor operating temperature 70°C.

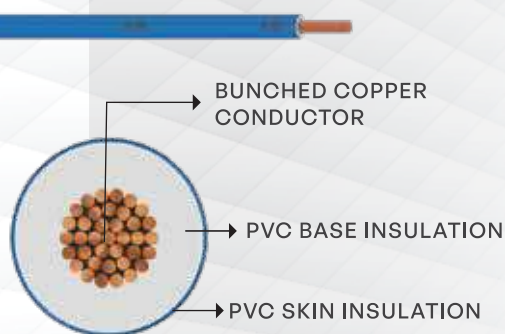
### De-Rating Factor

De-rating factor for various ambient temperature.

| 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  |

## POLYCAB FR-LF

### Building wire, 1100 V AC



#### Application

POLYCAB FR-LF wire is eco-friendly & suitable for use where high flexibility is of prime importance. This is also suitable for indoor installation in industries, household appliances and building electrification.



1100 V



#### Operation Temperature

-15°C to 70°C



#### Construction

- Annealed stranded or bunched copper conductor as per IS 8130, class 2 or class 5
- Insulated by PVC Type D with FR-LF to IS 5831



#### Core Identification

Red / Yellow / Blue / Black  
/ Green / any customise colour



#### Bending Radii

|                    |                      |
|--------------------|----------------------|
| Fixed installation | 6 x Overall Diameter |
| Occasional         | 4 x Overall Diameter |



#### Electrical Property

- High insulation resistance
- Higher current carrying capacity
- Electrical energy saving



#### Salient Features

- Optimised current carrying capacity
- Fire retardant and safe for protection
- Low carbon emission
- Low volatile organic content ensures less contamination
- High conductivity - Energy saving



#### Mechanical & Physical Properties

- High Flexibility
- High surface lubrication suitable to conduit wiring
- Free from hazardous substances
- Resistant to Termite & Rodent
- Resistant to moisture for use in wet area
- High abrasion resistance
- Resistant to Acid & Alkali



#### Standard and References

IS 8130:2013 | IS 5831:1984 |  
IS 694:2010



#### Test Voltage

3000 V AC at room temperature



#### Compliance

|                           |             |
|---------------------------|-------------|
| Conductor resistance test | IS 8130     |
| Flammability              | IEC 60332-1 |
| Oxygen index              | ASTM D 2863 |
| Temperature index         | ASTM D 2863 |

#### Approvals



## POLYCAB FR-LF

### Building wire, 1100 V AC

| PRODUCT CODE         | Nominal cross sectional area | Class of conductor | No. of wire/wire dia.<br>No. minal | Nominal insulation thickness | Overall dia. (Approx.) |
|----------------------|------------------------------|--------------------|------------------------------------|------------------------------|------------------------|
|                      | MM <sup>2</sup>              |                    | NO./MM                             | MM                           | MM                     |
| LDIS09CYUAYL001C.75S | 0.75                         | 5                  | 24/0.2                             | 0.6                          | 2.32                   |
| LDIS09CYUAYL001C001S | 1                            | 2                  | 14/0.3                             | 0.6                          | 2.5                    |
| LDIS09CYUAYL001C001S | 1                            | 5                  | 32/0.2                             | 0.6                          | 2.49                   |
| LDIS09CYUAYL001C1.5S | 1.5                          | 2                  | 22/0.30                            | 0.7                          | 3.0                    |
| LDIS09CYUAYL001C1.5S | 1.5                          | 5                  | 30/0.25                            | 0.6                          | 2.8                    |
| LDIS09CYUAYL001C2.5S | 2.5                          | 2                  | 36/0.30                            | 0.8                          | 3.4                    |
| LDIS09CYUAYL001C2.5S | 2.5                          | 5                  | 50/0.25                            | 0.7                          | 3.62                   |
| LDIS09CYUAYL001C004S | 4                            | 5                  | 56/0.3                             | 0.8                          | 4.16                   |
| LDIS09CYUAYL001C006  | 6                            | 5                  | 84/0.3                             | 0.8                          | 4.73                   |
| LDIS09CYUAYL001C010S | 10                           | 5                  | 80/0.4                             | 1                            | 6.08                   |
| LDIS09CYUAYL001C016S | 16                           | 5                  | 126/0.4                            | 1                            | 7.12                   |

### Electrical characteristics

Current carrying capacity and Max. DC conductor resistance.

| Nominal cross sectional area | Class of conductor | Reference Method B (enclosed in conduit on a wall or in trunking etc.) | Reference Method C (clipped direct) | Maximum DC conductor resistance at 20°C |
|------------------------------|--------------------|------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|
| MM <sup>2</sup>              |                    | AMP.                                                                   | AMP.                                | Ω/km                                    |
| 0.75                         | 5                  | 7                                                                      | 7.5                                 | 26                                      |
| 1                            | 2                  | 11.6                                                                   | 12.6                                | 18.1                                    |
| 1                            | 5                  | 11                                                                     | 12                                  | 19.5                                    |
| 1.5                          | 2                  | 14.7                                                                   | 16.8                                | 12.1                                    |
| 1.5                          | 5                  | 14                                                                     | 16                                  | 13.3                                    |
| 2.5                          | 2                  | 20                                                                     | 23.1                                | 7.41                                    |
| 2.5                          | 5                  | 19                                                                     | 22                                  | 7.98                                    |
| 4                            | 5                  | 26                                                                     | 29                                  | 4.95                                    |
| 6                            | 5                  | 31                                                                     | 37                                  | 3.3                                     |
| 10                           | 5                  | 42                                                                     | 51                                  | 1.91                                    |
| 16                           | 5                  | 57                                                                     | 68                                  | 1.21                                    |

The ambient temperature is 40°C. Conductor operating temperature 70°C.

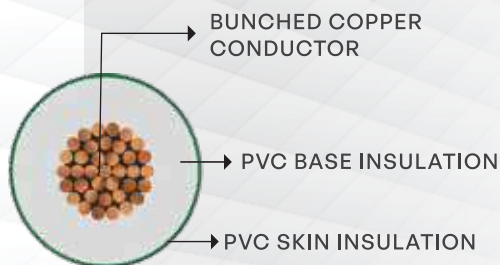
### De-Rating Factor

De-rating factor for various ambient temperature.

| 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  |

## POLYCAB HR FR-LSH-LF GREEN WIRE

### Building wire, 1100 V AC



### Salient Features

- Higher current carrying capacity
- High fire retardancy
- Low emission of toxic gases
- Low carbon emission, eco healthy
- Low volatile organic content ensures less contamination
- High conductivity electrolytic copper conductor



### Application

POLYCAB HR FR-LSH-LF Green wire is highly eco-friendly & suitable for use in places where extra fire safety and heat resistance is required along with high flexibility. This is also suitable for indoor installation in industries, household appliances and building electrification.



1100 V



### Operation Temperature

-15°C to 85°C



### Construction

- Annealed stranded or bunched copper conductor as per IS 8130, class 2 or class 5
- Insulated by Specially developed in-house compound



### Core Identification

Red / Yellow / Blue / Black  
/ Green / any customise colour



### Bending Radii

|                    |                      |
|--------------------|----------------------|
| Fixed installation | 6 x Overall Diameter |
| Occasional         | 4 x Overall Diameter |



### Electrical Property

- High insulation resistance
- Higher current carrying capacity
- Electrical energy saving



### Mechanical & Physical Properties

- High Flexibility
- Free from hazardous substances
- Resistant to Termite & Rodent
- Resistant to moisture for use in wet area
- Resistant heat deformation
- Improved life expectancy
- Resistant to Acid & Alkali



### Standard and References

IS 8130:2013 | IS 5831:1984 |  
IS 694:2010



### Test Voltage

3000 V AC at room temperature



### Compliance

|                             |             |
|-----------------------------|-------------|
| Conductor resistance test   | IS 8130     |
| Flammability                | IEC 60332-1 |
| Oxygen index                | ASTM D 2863 |
| Temperature index           | ASTM D 2863 |
| Halogen acid gas generation | IEC 60754-1 |
| Smoke density               | ASTM D 2843 |

### Approvals



## POLYCAB HR FR-LSH-LF GREEN WIRE

### Building wire, 1100 V AC

| PRODUCT CODE         | Nominal cross sectional area | Class of conductor | No. of wire/wire dia.<br>No. minal | Nominal insulation thickness | Overall dia. (Approx.) |
|----------------------|------------------------------|--------------------|------------------------------------|------------------------------|------------------------|
|                      | MM <sup>2</sup>              |                    | NO./MM                             | MM                           | MM                     |
| LDIS09CYUAYL001C.75S | 0.75                         | 5                  | 24/0.2                             | 0.6                          | 2.32                   |
| LDIS09CYUAYL001C001S | 1                            | 2                  | 14/0.3                             | 0.6                          | 2.5                    |
| LDIS09CYUAYL001C001S | 1                            | 5                  | 32/0.2                             | 0.6                          | 2.49                   |
| LDIS09CYUAYL001C1.5S | 1.5                          | 2                  | 22/0.30                            | 0.7                          | 3.0                    |
| LDIS09CYUAYL001C1.5S | 1.5                          | 5                  | 30/0.25                            | 0.6                          | 2.8                    |
| LDIS09CYUAYL001C2.5S | 2.5                          | 2                  | 36/0.30                            | 0.8                          | 3.4                    |
| LDIS09CYUAYL001C2.5S | 2.5                          | 5                  | 50/0.25                            | 0.7                          | 3.62                   |
| LDIS09CYUAYL001C004S | 4                            | 5                  | 56/0.3                             | 0.8                          | 4.16                   |
| LDIS09CYUAYL001C006  | 6                            | 5                  | 84/0.3                             | 0.8                          | 4.73                   |
| LDIS09CYUAYL001C010S | 10                           | 5                  | 80/0.4                             | 1                            | 6.08                   |
| LDIS09CYUAYL001C016S | 16                           | 5                  | 126/0.4                            | 1                            | 7.12                   |

### Electrical characteristics

Current carrying capacity and Max. DC conductor resistance.

| Nominal cross sectional area | Class of conductor | Reference Method B (enclosed in conduit on a wall or in trunking etc.) | Reference Method C (clipped direct) | Maximum DC conductor resistance at 20°C |
|------------------------------|--------------------|------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|
| MM <sup>2</sup>              |                    | AMP.                                                                   | AMP.                                | Ω/km                                    |
| 0.75                         | 5                  | 7                                                                      | 7.5                                 | 26                                      |
| 1                            | 2                  | 11.6                                                                   | 12.6                                | 18.1                                    |
| 1                            | 5                  | 11                                                                     | 12                                  | 19.5                                    |
| 1.5                          | 2                  | 14.7                                                                   | 16.8                                | 12.1                                    |
| 1.5                          | 5                  | 14                                                                     | 16                                  | 13.3                                    |
| 2.5                          | 2                  | 20                                                                     | 23.1                                | 7.41                                    |
| 2.5                          | 5                  | 19                                                                     | 22                                  | 7.98                                    |
| 4                            | 5                  | 26                                                                     | 29                                  | 4.95                                    |
| 6                            | 5                  | 31                                                                     | 37                                  | 3.3                                     |
| 10                           | 5                  | 42                                                                     | 51                                  | 1.91                                    |
| 16                           | 5                  | 57                                                                     | 68                                  | 1.21                                    |

The ambient temperature is 40°C. Conductor operating temperature 85°C.

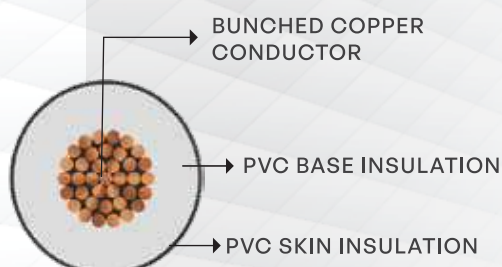
### De-Rating Factor

De-rating factor for various ambient temperature.

| Ambient Temperature | 35°C | 40°C | 45°C | 50°C | 55°C | 60°C | 65°C | 70°C | 75°C | 80°C |
|---------------------|------|------|------|------|------|------|------|------|------|------|
| De-Rating Factor    | 1.05 | 1    | 0.94 | 0.88 | 0.82 | 0.75 | 0.6  | 0.58 | 0.47 | 0.33 |

## ETIRA FR

### Building wire, 1100 V AC



### Salient Features

- Optimised current carrying capacity
- Fire retardant and safe for protection
- Low carbon emission
- Low volatile organic content ensures less contamination
- High conductivity electrolytic copper conductor



### Application

ETIRA FR wire is suitable for use where high flexibility is of prime importance. This is also suitable for indoor installation in industries, household appliances and building electrification



1100 V



### Operation Temperature

-15°C to 70°C



### Construction

- Annealed bunched copper conductor as per IS 8130, class 5
- Insulated by PVC Type D with FR compound to IS 5831



### Core Identification

Red / Yellow / Blue / Black / Green / any customise colour



### Bending Radii

|                    |                      |
|--------------------|----------------------|
| Fixed installation | 6 x Overall Diameter |
| Occasional         | 4 x Overall Diameter |



### Electrical Property

- High insulation resistance
- Higher current carrying capacity



### Mechanical & Physical Properties

- High Flexibility
- High surface lubrication suitable to conduit wiring
- Resistant to moisture for use in wet area
- High abrasion resistance
- Resistant to Acid & Alkali



### Standard and References

IS 8130:2013 | IS 5831:1984 | IS 694:2010



### Test Voltage

3000 V AC at room temperature



### Compliance

|                           |             |
|---------------------------|-------------|
| Conductor resistance test | IS 8130     |
| Flammability              | IEC 60332-1 |
| Oxygen index              | ASTM D 2863 |
| Temperature index         | ASTM D 2863 |

### Approvals



## ETIRA FR

### Building wire, 1100 V AC

| PRODUCT CODE         | Nominal cross sectional area | No. of wire/wire dia.<br>No. minial | Nominal insulation thickness | Overall dia.<br>(Approx.) |
|----------------------|------------------------------|-------------------------------------|------------------------------|---------------------------|
|                      | MM <sup>2</sup>              | NO./MM                              | MM                           | MM                        |
| LDIS09CYUAYF001C.75S | 0.75                         | 24/0.2                              | 0.6                          | 2.32                      |
| LDIS09CYUAYF001C001S | 1                            | 32/0                                | 0.6                          | 2.49                      |
| LDIS09CYUAYF001C1.5S | 1.5                          | 30/0.25                             | 0.6                          | 2.8                       |
| LDIS09CYUAYF001C2.5S | 2.5                          | 50/0.2                              | 0.7                          | 3.62                      |
| LDIS09CYUAYF001C004S | 4                            | 56/0.3                              | 0.8                          | 4.16                      |
| LDIS09CYUAYF001C006S | 6                            | 84/0.3                              | 0.8                          | 4.73                      |

### Electrical characteristics

Current carrying capacity and Max. 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) | Maximum DC conductor resistance at 20 °C |
|------------------------------|------------------------------------------------------------------------|-------------------------------------|------------------------------------------|
| MM <sup>2</sup>              | AMP                                                                    | AMP                                 | Ω/km                                     |
| 0.75                         | 7                                                                      | 7.5                                 | 26                                       |
| 1                            | 11                                                                     | 12                                  | 19.5                                     |
| 1.5                          | 14                                                                     | 16                                  | 13.3                                     |
| 2.5                          | 19                                                                     | 22                                  | 7.98                                     |
| 4                            | 26                                                                     | 29                                  | 4.95                                     |
| 6                            | 31                                                                     | 37                                  | 3.3                                      |

The ambient temperature is 40°C. Conductor operating temperature 70°C.

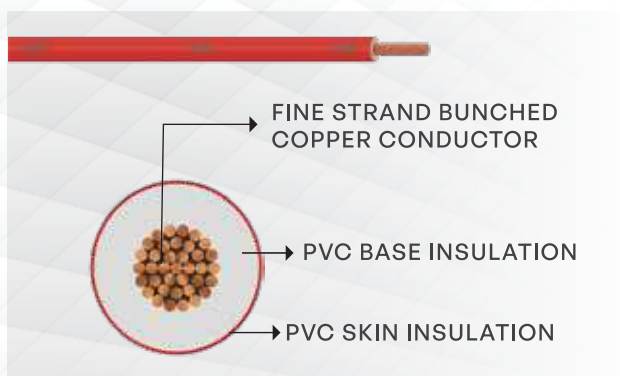
### De-Rating Factor

De-rating factor for various ambient temperature.

| 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  |

## ETIRA FR-LSH

### Building wire, 1100 V AC



### Salient Features

- Optimised current carrying capacity
- Fire retardant and safe for protection
- Low emission of toxic gases
- Low carbon emission
- Low volatile organic content ensures less contamination
- High conductivity electrolytic copper conductor



### Application

ETIRA FR-LSH wire is suitable for use where high flexibility is of prime importance. This is also suitable for indoor installation in industries, household appliances and building electrification.



1100 V



### Operation Temperature

-15°C to 70°C



### Construction

- Annealed bunched copper conductor as per IS 8130, class 5
- Insulated by PVC Type D with FR compound to IS 5831



### Core Identification

Red / Yellow / Blue / Black  
/ Green / any customise colour



### Bending Radii

|                    |                      |
|--------------------|----------------------|
| Fixed installation | 6 x Overall Diameter |
| Occasional         | 4 x Overall Diameter |



### Electrical Property

- High insulation resistance
- Higher current carrying capacity



### Mechanical & Physical Properties

- High Flexibility
- High surface lubrication suitable to conduit wiring
- Resistant to moisture for use in wet area
- High abrasion resistance
- Resistant to Acid & Alkali



### Standard and References

IS 8130:2013 | IS 5831:1984 |  
IS 694:2010



### Test Voltage

3000 V AC at room temperature



### Compliance

|                             |             |
|-----------------------------|-------------|
| Conductor resistance test   | IS 8130     |
| Flammability                | IEC 60332-1 |
| Oxygen index                | ASTM D 2863 |
| Temperature index           | ASTM D 2863 |
| Halogen acid gas generation | IEC 60754-1 |
| Smoke density               | ASTM D 2843 |

### Approvals



## ETIRA FR-LSH

### Building wire, 1100 V AC

| PRODUCT CODE         | Nominal cross sectional area | No. of wire/wire dia.<br>No. minial | Nominal insulation thickness | Overall dia.<br>(Approx.) |
|----------------------|------------------------------|-------------------------------------|------------------------------|---------------------------|
|                      | MM <sup>2</sup>              | NO./MM                              | MM                           | MM                        |
| LDIS09CYUAYF001C.75S | 0.75                         | 24/0.2                              | 0.6                          | 2.32                      |
| LDIS09CYUAYF001C001  | 1                            | 32/0                                | 0.6                          | 2.49                      |
| LDIS09CYUAYF001C1.5S | 1.5                          | 30/0.25                             | 0.6                          | 2.8                       |
| LDIS09CYUAYF001C2.5S | 2.5                          | 50/0.2                              | 0.7                          | 3.62                      |
| LDIS09CYUAYF001C004S | 4                            | 56/0.3                              | 0.8                          | 4.16                      |
| LDIS09CYUAYF001C006S | 6                            | 84/0.3                              | 0.8                          | 4.73                      |

### Electrical characteristics

Current carrying capacity and Max. 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) | Maximum DC conductor resistance at 20°C |
|------------------------------|------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|
| MM <sup>2</sup>              | AMP                                                                    | AMP                                 | Ω/km                                    |
| 0.75                         | 7                                                                      | 7.5                                 | 26                                      |
| 1                            | 11                                                                     | 12                                  | 19.5                                    |
| 1.5                          | 14                                                                     | 16                                  | 13.3                                    |
| 2.5                          | 19                                                                     | 22                                  | 7.98                                    |
| 4                            | 26                                                                     | 29                                  | 4.95                                    |
| 6                            | 31                                                                     | 37                                  | 3.3                                     |

The ambient temperature is 40°C. Conductor operating temperature 70°C.

### De-Rating Factor

De-rating factor for various ambient temperature.

| 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  |

## Polycab offers a comprehensive range of HFFR Building wire conforming to IS 17048.



These are low voltage cable of 1100 V grade and widely used for wiring in residential buildings, Hospitals, Industrial parks and schools where safety is the prime requirement. These cables are available with thermoplastic HFFR or cross linked HFFR thermoset compound of temperature rating from 70° C to 90° C.

These wires are halogen free, flame retardant in characteristic and provide Extra-protection from short circuit and Fire. The wires are supplied especially for indoor application and conduit or surface wiring.

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

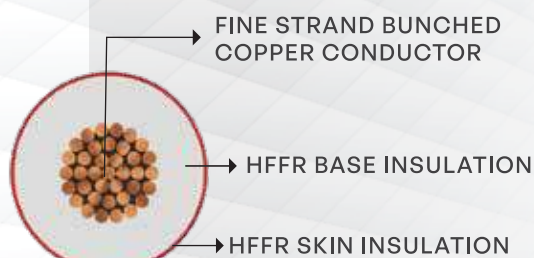
**Insulation:** In-house developed high insulation resistance thermoplastic HFFR or cross linked thermoset HFFR compound.

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



## POLYCAB HFFR-04XZ-K SC

### Building wire, 1100 V AC



### Salient Features

- High flexibility
- High conductivity electrolytic copper conductor
- Flame retardant
- Low smoke emission
- Zero halogen content



### Application

**POLYCAB HFFR-04XZ-K SC**, Single core cable insulated with cross linked halogen free flame retardant compound having low smoke emission and corrosive gases when exposed to fire condition. This cable is designed to use in conduit and for fixed protected installation. This is also suitable to use high rise buildings, hospitals, and offices where Smoke emission and toxic fume create a potential risk to life as well as the life saving equipment.



1100 V



### Operation Temperature

-15°C to 90°C



### Construction

- Annealed bare or tinned bunched copper conductor as per IS 8130, class 5
- Insulated with cross linked halogen free flame retardant compound type HFI-XL90 to IS 17048



### Core Identification

Red/Black/Blue/Yellow/White/  
Grey/Green-Yellow



### Bending Radii

Fixed installation 6 x Overall Diameter  
Occasional 4 x Overall Diameter



### Standard and References

IS 8130 | IS 17048 |  
IES 60332:1:2



### Test Voltage

3000V AC at room temperature



### Compliance

|                           |                                |
|---------------------------|--------------------------------|
| Conductor resistance test | IS 8130                        |
| Insulation resistance     | IS 17048:2018                  |
| Oxygen index              | 31% As per<br>ASTM D2863       |
| Smoke emission test       | < 6% As Per<br>ASTM D2843      |
| Acid gas generation       | <0.0 As per<br>IEC 60754-1     |
| Test on vertical flame    | Resist as per<br>IEC 60332-1-2 |

### Approvals



## POLYCAB HFFR-04XZ-K SC

### Building wire, 1100 V AC

| PRODUCT CODE         | Nominal cross sectional area | Class of conductor | No. of wire/wire dia.<br>No. minimal | Nominal insulation thickness | Overall dia.<br>(Approx.) |
|----------------------|------------------------------|--------------------|--------------------------------------|------------------------------|---------------------------|
|                      | MM <sup>2</sup>              |                    | NO./MM                               | MM                           | MM                        |
| LDIS09CLUALC001C0.5S | 0.5                          | 5                  | 0.6                                  | 2.11                         | 9                         |
| LDIS09CLUALC001C.75S | 0.75                         | 5                  | 0.6                                  | 2.32                         | 11                        |
| LDIS09CLUALC001C001S | 1                            | 2                  | 0.7                                  | 2.67                         | 15                        |
| LDIS09CLUALC001C001S | 1                            | 5                  | 0.6                                  | 2.49                         | 14                        |
| LDIS09CLUALC001C1.5S | 1.5                          | 2                  | 0.7                                  | 3                            | 21                        |
| LDIS09CLUALC001C1.5S | 1.5                          | 5                  | 0.6                                  | 2.76                         | 19                        |
| LDIS09CLUALC001C2.5S | 2.5                          | 2                  | 0.8                                  | 3.62                         | 32                        |
| LDIS09CLUALC001C2.5S | 2.5                          | 5                  | 0.7                                  | 3.42                         | 31                        |
| LDIS09CLUALC001C004S | 4                            | 5                  | 0.8                                  | 4.07                         | 45                        |
| LDIS09CLUALC001C006S | 6                            | 5                  | 0.8                                  | 4.62                         | 64                        |
| LDIS09CLUALC001C010S | 10                           | 5                  | 1                                    | 5.92                         | 106                       |
| LDIS09CLUALC001C016S | 16                           | 5                  | 1                                    | 6.97                         | 162                       |

### Electrical characteristics

Current carrying capacity and Max. DC conductor resistance.

| Nominal cross sectional area | Class of conductor | Reference Method B (enclosed in conduit on a wall or in trunking etc.) | Reference Method C (clipped direct) | Reference Method C (clipped direct) |
|------------------------------|--------------------|------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| MM <sup>2</sup>              |                    | AMP.                                                                   | AMP.                                | Ω/km                                |
| 0.5                          | 5                  | 5                                                                      | 5                                   | 39                                  |
| 0.75                         | 5                  | 9                                                                      | 10                                  | 26                                  |
| 1                            | 2                  | 15.5                                                                   | 17                                  | 18.1                                |
| 1                            | 5                  | 15                                                                     | 16                                  | 19.5                                |
| 1.5                          | 2                  | 21                                                                     | 23                                  | 12.1                                |
| 1.5                          | 5                  | 20                                                                     | 22                                  | 13.3                                |
| 2.5                          | 2                  | 28                                                                     | 31                                  | 7.41                                |
| 2.5                          | 5                  | 27                                                                     | 29                                  | 7.98                                |
| 4                            | 5                  | 36                                                                     | 40                                  | 4.95                                |
| 6                            | 5                  | 47                                                                     | 51                                  | 3.3                                 |
| 10                           | 5                  | 65                                                                     | 70                                  | 1.91                                |
| 16                           | 5                  | 86                                                                     | 94                                  | 1.21                                |

The ambient temperature is 40°C. Conductor operating temperature 90°C.

The above table is in accordance with BS 7671(Table 4E1A)

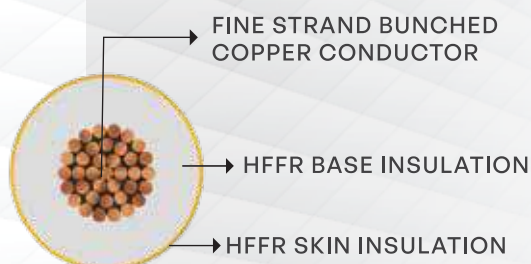
### De-Rating Factor

De-rating factor for various ambient temperature.

| Ambient Temperature | 35°C | 40°C | 45°C | 50°C | 55°C | 60°C | 65°C | 70°C | 75°C | 80°C | 85°C |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|
| De-Rating Factor    | 1.04 | 1.0  | 0.95 | 0.89 | 0.84 | 0.82 | 0.77 | 0.63 | 0.55 | 0.45 | 0.32 |

## POLYCAB HFFR-01Z-K/03XZ-K SC

### Building wire, 1100 V AC



### Salient Features

- High flexibility
- High conductivity electrolytic copper conductor
- Flame retardant
- Low smoke emission
- Zero halogen content



### Application

**POLYCAB HFFR-01Z-K/03XZ-K SC**, insulated with cross linked halogen free flame retardant compound thermoplastic or cross linked thermoset compound having low smoke emission and corrosive gases when exposed to fire condition. This cable is designed to use in conduit and for fixed protected installation. This is also suitable to use high-rise buildings, hospitals, and offices where Smoke emission and toxic fume create a potential risk to life as well as the lifesaving equipment..



1100 V



### Operation Temperature

-15°C to 70°C



### Construction

- Annealed 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 type HFI-XL 70 as per IS 17048



### Core Identification

Red/Black/Blue/Yellow/White/  
Grey/Green-Yellow



### Bending Radii

Fixed installation 6 x Overall Diameter  
Occasional 4 x Overall Diameter



### Standard and References

IS 8130 | IS 17048 |  
IES 60332:1:2



### Test Voltage

3000V AC at room temperature



### Compliance

|                      |                            |
|----------------------|----------------------------|
| 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 |

### Approvals



## POLYCAB HFFR-01Z-K/03XZ-K SC

### Building wire, 1100 V AC

| PRODUCT CODE         | Nominal cross sectional area | Class of conductor | No. of wire/wire dia.<br>No. minial | Nominal insulation thickness | Overall dia.<br>(Approx.) |
|----------------------|------------------------------|--------------------|-------------------------------------|------------------------------|---------------------------|
|                      | MM <sup>2</sup>              |                    | NO./MM                              | MM                           | MM                        |
| LDIS09CLUALC001C0.5S | 0.5                          | 5                  | 0.6                                 | 2.11                         | 9                         |
| LDIS09CLUALC001C.75S | 0.75                         | 5                  | 0.6                                 | 2.32                         | 11                        |
| LDIS09CLUALC001C001S | 1                            | 2                  | 0.7                                 | 2.67                         | 15                        |
| LDIS09CLUALC001C001S | 1                            | 5                  | 0.6                                 | 2.49                         | 14                        |
| LDIS09CLUALC001C1.5S | 1.5                          | 2                  | 0.7                                 | 3                            | 21                        |
| LDIS09CLUALC001C1.5S | 1.5                          | 5                  | 0.6                                 | 2.76                         | 19                        |
| LDIS09CLUALC001C2.5S | 2.5                          | 2                  | 0.8                                 | 3.62                         | 32                        |
| LDIS09CLUALC001C2.5S | 2.5                          | 5                  | 0.7                                 | 3.42                         | 31                        |
| LDIS09CLUALC001C004S | 4                            | 5                  | 0.8                                 | 4.07                         | 45                        |
| LDIS09CLUALC001C006S | 6                            | 5                  | 0.8                                 | 4.62                         | 64                        |
| LDIS09CLUALC001C010S | 10                           | 5                  | 1                                   | 5.92                         | 106                       |
| LDIS09CLUALC001C016S | 16                           | 5                  | 1                                   | 6.97                         | 162                       |

#### Electrical characteristics

Current carrying capacity and Max. DC conductor resistance.

| Nominal cross sectional area | Class of conductor | Reference Method B (enclosed in conduit on a wall or in trunking etc.) | Reference Method C (clipped direct) | Reference Method C (clipped direct) |
|------------------------------|--------------------|------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| MM <sup>2</sup>              |                    | AMP.                                                                   | AMP.                                | Ω/km                                |
| 0.5                          | 5                  | 5                                                                      | 5                                   | 39                                  |
| 0.75                         | 5                  | 9                                                                      | 10                                  | 26                                  |
| 1                            | 2                  | 15.5                                                                   | 17                                  | 18.1                                |
| 1                            | 5                  | 15                                                                     | 16                                  | 19.5                                |
| 1.5                          | 2                  | 21                                                                     | 23                                  | 12.1                                |
| 1.5                          | 5                  | 20                                                                     | 22                                  | 13.3                                |
| 2.5                          | 2                  | 28                                                                     | 31                                  | 7.41                                |
| 2.5                          | 5                  | 27                                                                     | 29                                  | 7.98                                |
| 4                            | 5                  | 36                                                                     | 40                                  | 4.95                                |
| 6                            | 5                  | 47                                                                     | 51                                  | 3.3                                 |
| 10                           | 5                  | 65                                                                     | 70                                  | 1.91                                |
| 16                           | 5                  | 86                                                                     | 94                                  | 1.21                                |

The ambient temperature is 40°C. Conductor operating temperature 70°C.  
The above table is in accordance with the BS 7671(Table 4D1A)

#### De-Rating Factor

De-rating factor for various ambient temperature.

| 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:** Cable with HFI XL-70 insulation is available on demand.





CORPORATE OFFICE:

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