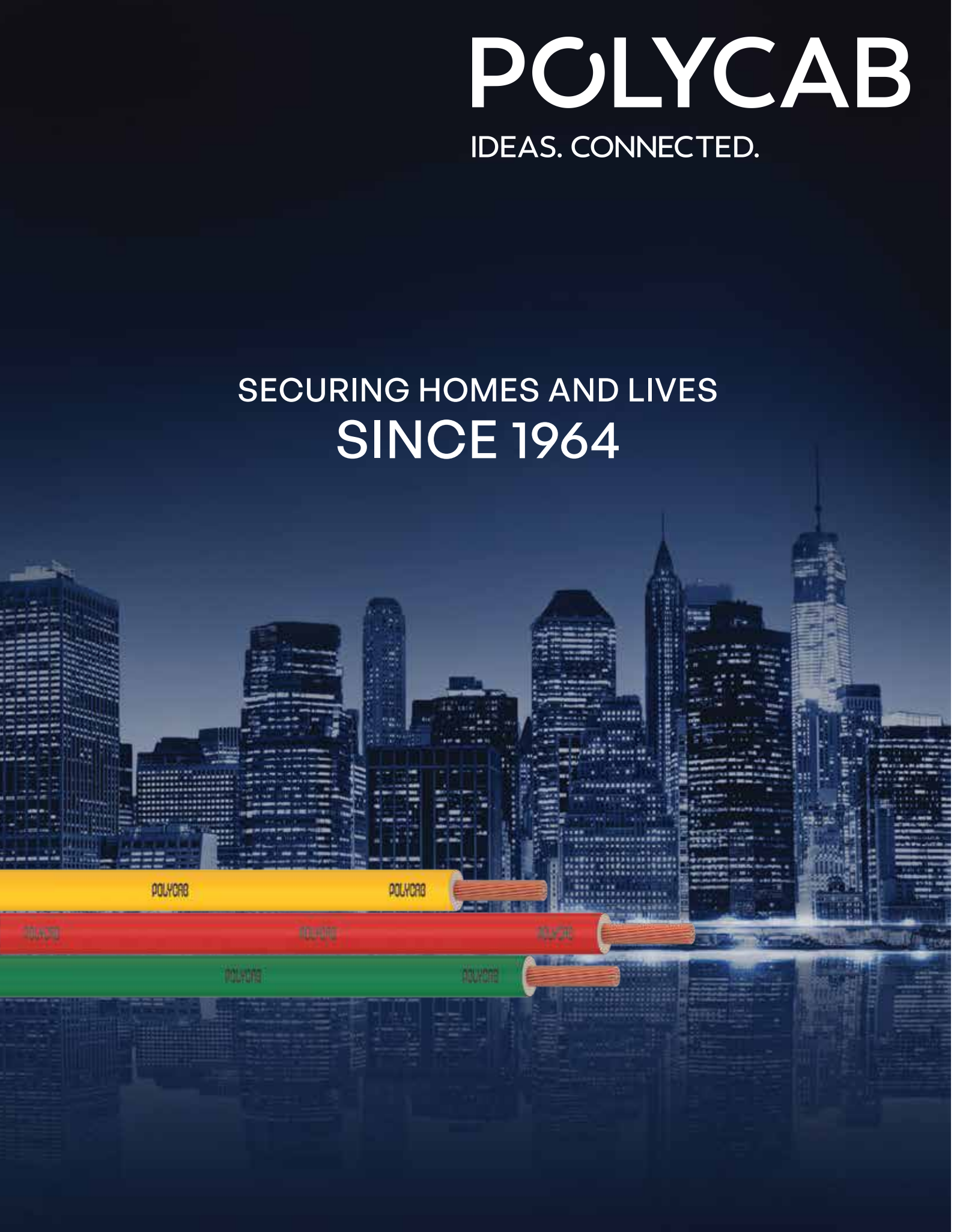
POLYCAB

IDEAS. CONNECTED.

SECURING HOMES AND LIVES

SINCE 1964



POLYCAB HOUSE WIRES CATALOG

FR-LF | FR-LSH | POLYCAB GREEN WIRE | HFFR

Contents

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.

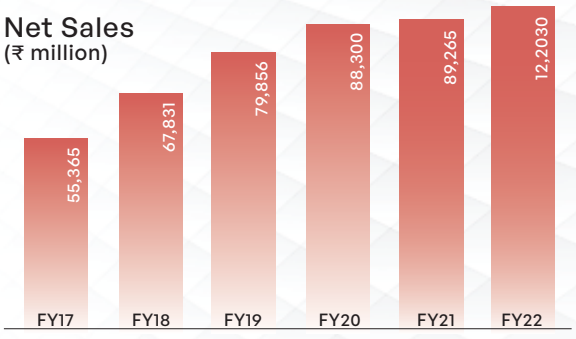
Polycab's turnover has crossed INR 12,000 crore's in the fiscal year 2021-22. Polycab derives its strength from its custmers and those being in sectors like utilities, power generation, transmission & distribution, petroleum & oil refineries, oems, epc contractors, steel & metal, cement, chemical, atomic energy, nuclear plants, as well as govermment 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 - LF - BUILDING WIRE, 1100 V AC

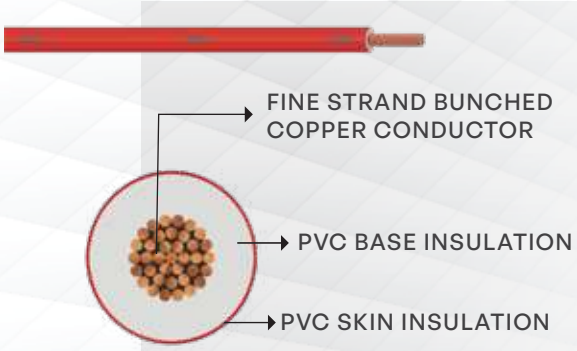
POLYCAB FR-LSH- BUILDING WIRE, 1100 V AC

POLYCAB HR-FR-LSH-LF- GREEN WIRE - BUILDING WIRE, 1100 V AC

ETIRA FR - BUILDING WIRE, 1100 V AC

ETIRA FR - LSH - BUILDING WIRE, 1100 V AC

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.

Voltage Rating

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	IS 10810-53/IEC 60332-1
Oxygen Index	Min. 29% as per IS 694/IS 10810 (Part 58)
Temperature Index	Min. 250°C as per IS 694/IS 10810 (Part 64)
Smoke density	Max. 60% as per IS 694/IS 13360 (Part 6/see 9)
Halogen acid gas evaluation	Max. 20% as per IS 694/IS 10810 (Part 59)

Approvals

POLYCAB FR-LSH
Building wire, 1100 V AC

PRODUCT CODE	Nominal cross sectional area	Class of conductor	No. of wire/wire dia. No minal	Nominal insulation thickness	Overall dia. (Approx.)
	MM^2		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^2		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

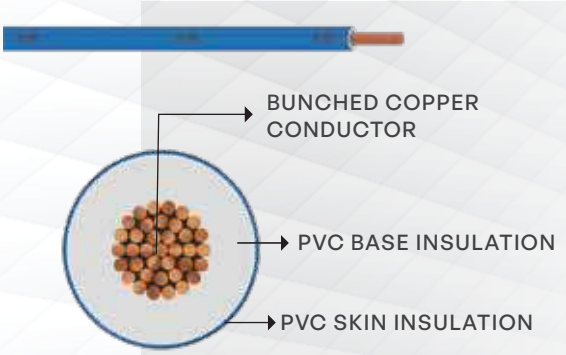
The ambient temperature is 40°C. Conductor operating temperature 70°C.

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



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

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.

Voltage Rating

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

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	IS 10810-53/IEC 60332-1
Oxygen Index	Min. 29% as per IS 694/IS 10810 (Part 58)
Temperature Index	Min. 250°C as per IS 694/IS 10810 (Part 64)

Approvals

POLYCAB FR-LF
Building wire, 1100 V AC

PRODUCT CODE	Nominal cross sectional area	Class of conductor	No. of wire/wire dia. No minal	Nominal insulation thickness	Overall dia. (Approx.)
	MM^2		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^2		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

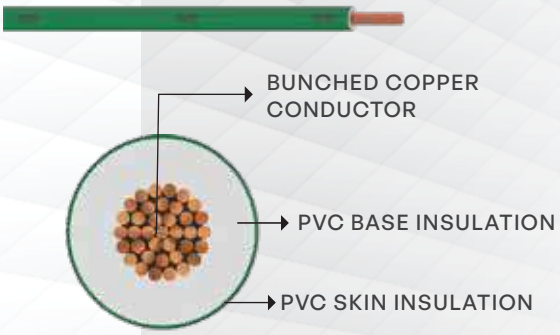
The ambient temperature is 40°C. Conductor operating temperature 70°C.

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 indoorinstallation in industries, household appliances and building electrification.

Voltage Rating

1100 V

Operation Temperature

-15˚C to 85ºC

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	IS 10810-53/IEC 60332-1
Oxygen Index	Min. 29% as per IS 694/IS 10810 (Part 58)
Temperature Index	Min. 250ºC as per IS 694/IS 10810 (Part 64)
Smoke density	Max. 60% as per IS 694/IS 13360 (Part 6/see 9)
Halogen acid gas evaluation	Max. 20% as per IS 694/IS 10810 (Part 59)

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. No minal	Nominal insulation thickness	Overall dia. (Approx.)
	MM^2		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^2		AMP.	AMP.	Ω/km
0.75	5	8	8.54	26
1	2	13.5	14.64	18.1
1	5	12.7	13.9	19.5
1.5	2	17.1	19.52	12.1
1.5	5	16.2	18.5	13.3
2.5	2	23.2	26.84	7.41
2.5	5	22	25.5	7.98
4	5	31.2	34.8	4.95
6	5	37.2	44.4	3.3
10	5	50.4	61.2	1.91
16	5	68.4	81.6	1.21

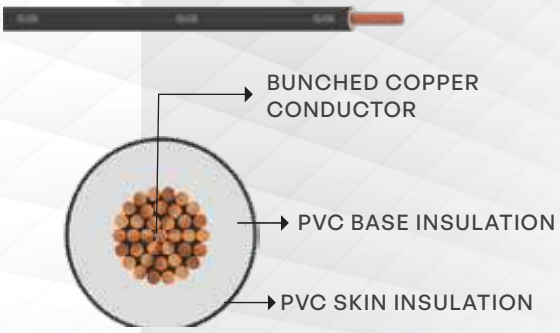
The ambient temperature is 40°C. Conductor operating temperature 85°C.

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

Voltage Rating

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	IS 10810-53/IEC 60332-1
Oxygen Index	Min. 29% as per IS 694/IS 10810 (Part 58)
Temperature Index	Min. 250°C as per IS 694/IS 10810 (Part 64)

Approvals

ETIRA FR
Building wire, 1100 V AC

PRODUCT CODE	Nominal cross sectional area	No. of wire/wire dia. No minal	Nominal insulation thickness	Overall dia. (Approx.)
	MM^2	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^2	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

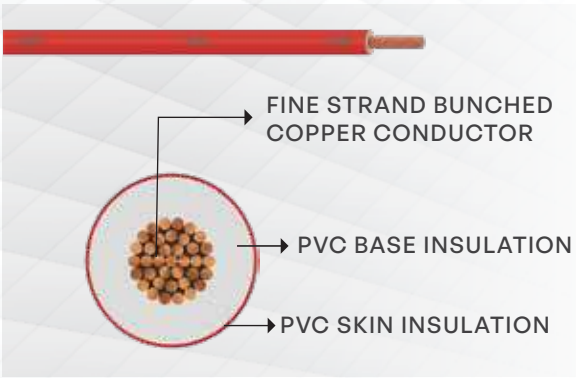
The ambient temperature is 40°C. Conductor operating temperature 70°C.

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.

Voltage Rating

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	IS 10810-53/IEC 60332-1
Oxygen Index	Min. 29% as per IS 694/IS 10810 (Part 58)
Temperature Index	Min. 250°C as per IS 694/IS 10810 (Part 64)
Smoke density	Max. 60% as per IS 694/IS 13360 (Part 6/see 9)
Halogen acid gas evaluation	Max. 20% as per IS 694/IS 10810 (Part 59)

Approvals

ETIRA FR-LSH
Building wire, 1100 V AC

PRODUCT CODE	Nominal cross sectional area	No. of wire/wire dia. No minal	Nominal insulation thickness	Overall dia. (Approx.)
	MM²	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
MM²	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.

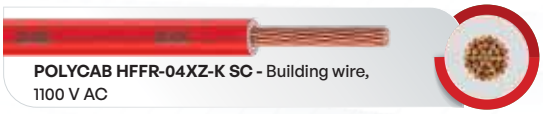
These wires are halogen free, flame retardant in characteristic and provide Extra-protection from short circuit and Fire. The wires are supplied especially for indoor application and conduit or surface wiring.

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.

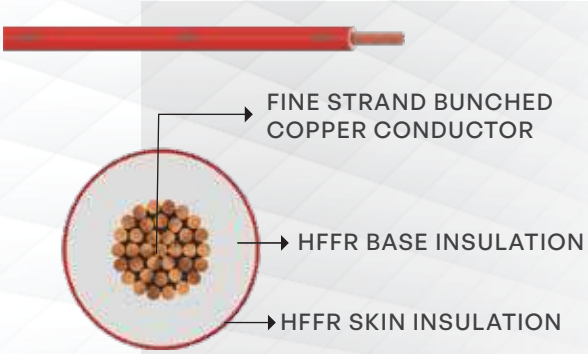
The construction is based on the application and requirement of the user against IS 17048.

POLYCAB HFFR-01Z-K/03XZ-K SC - Building wire, 1100 V AC



POLYCAB HFFR-04XZ-K SC - Building wire, 1100 V AC

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.

Voltage Rating

1100 V

Operation Temperature

-15˚C to 90ºC

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	Min. 31% as per IS 10810 (Part 58) /ASTM D2863
Smoke density	Min. 70% as per IS 10810 (Part 63) /ASTM D2843
Assessment of halogens	As per IS 10810 (Part 59)/IS 17048

Approvals

POLYCAB HFFR-04XZ-K SC
Building wire, 1100 V AC

PRODUCT CODE	Nominal cross sectional area	Class of conductor	Nominal insulation thickness mm	Overall dia. (Approx.) mm	Weight (Approx.) Kg/Km
	MM^2				
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^2		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

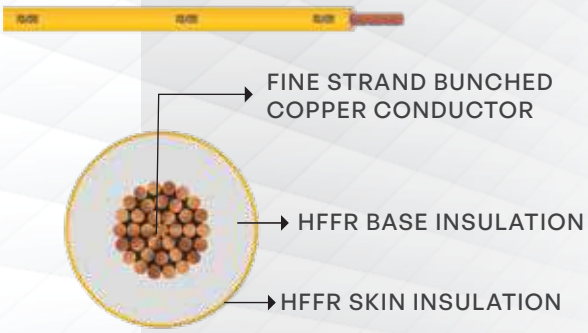
The ambient temperature is 40°C. Conductor operating temperature 90°C.
The above table is in accordance with BS 7671(Table 4E1A)

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..

Voltage Rating

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

Conductor resistance test	IS 8130
Insulation resistance	IS 17048:2018
Oxygen Index	Min. 31% as per IS 10810 (Part 58) /ASTM D2863
Smoke density	Min. 70% as per IS 10810 (Part 63) /ASTM D2843
Assessment of halogens	As per IS 10810 (Part 59)/IS 17048

Approvals

POLYCAB HFFR-01Z-K/03XZ-K SC
Building wire, 1100 V AC

PRODUCT CODE	Nominal cross sectional area	Class of conductor	Nominal insulation thickness mm	Overall diameter (Approx.) mm	Weight (Approx.) kg/km
	MM^2				
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^2		AMP.	AMP.	Ω/km
0.5	5	4	4.6	39
0.75	5	7	8	26
1	2	11.7	13.5	18.1
1	5	11.2	12.8	19.5
1.5	2	15.2	17.4	12.1
1.5	5	14.5	16.5	13.3
2.5	2	20.9	23.5	7.41
2.5	5	19.8	22.3	7.98
4	5	26.6	30.6	4.95
6	5	33.9	38.8	3.3
10	5	47.1	53.5	1.91
16	5	62.8	71.9	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.

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