FR-LSH IS 694 BUILDING WIRE, 1100 V AC

PRODUCT SPECIFICATION

INDOCABLES FR-LSH IS-694 BUILDING WIRE, 1100 V AC

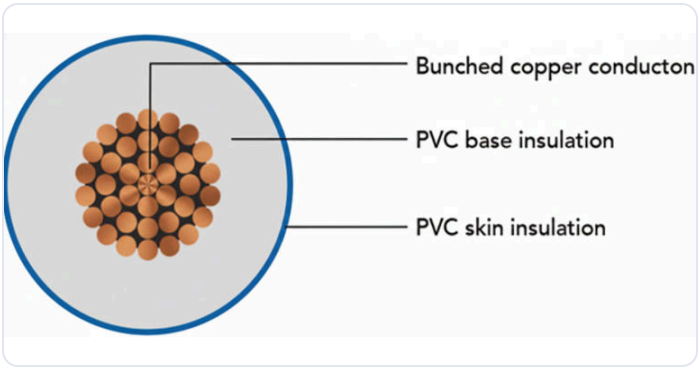

FIG. 1 — CONSTRUCTION, CROSS SECTION

FIG. 2 — SHEATH PRINT AND BUNCHED CONDUCTOR

Images not to scale. Follow table for dimensions

APPLICATION

INDOCABLES 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.

CHARACTERISTICS

Voltage Rating	1100 V
Operation Temperature	Fixed: −15 °C to 70 °C
Bending Radii	Fixed installation 6 × Overall Diameter · Occasional 4 × Overall Diameter
Test Voltage	3000 V AC at (20 ± 5) °C
Core Identification	Red / Yellow / Blue / Black / Green / any customize colour

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

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

FIRE RETARDANT

LOW SMOKE LOW TOXIC GAS

HIGHLY FLEXIBLE

FREE FROM HAZARDOUS SUBSTANCES

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OUTSTANDING FEATURES

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

STANDARD FOLLOWS

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

ORDERING

Order by product code and size. State conductor class (2 stranded or 5 bunched flexible) and core colour.

COMPLIANCE

Conductor resistance test	IS 8130
Flammability	IEC 60332-1
Oxygen index	ASTM D 2863
Temperature index	IEC 60332-1
Halogen acid gas generation	IEC 60754-1
Smoke density	ASTM D 2843-19

WEIGHT & DIMENSION DATA

PRODUCT CODE	NOMINAL CROSS-SECTIONAL AREA MM²	CLASS OF CONDUCTOR	NO. OF WIRE / WIRE DIA. NO./MM	NOMINAL INSULATION THICKNESS MM	OVERALL DIA. (APPROX.) MM
IC-HW-01-00075-CU-PVC-H07VK-0450-IS694-FRLH	0.75	5	24/0.2	0.6	2.3
IC-HW-01-00100-CU-PVC-H07VR-0450-IS694-FRLH *	1	2	14/0.3	0.6	2.5
IC-HW-01-00100-CU-PVC-H07VK-0450-IS694-FRLH	1	5	32/0.2	0.6	2.5
IC-HW-01-00150-CU-PVC-H07VR-0450-IS694-FRLH	1.5	2	22/0.30	0.7	3.0
IC-HW-01-00150-CU-PVC-H07VK-0450-IS694-FRLH	1.5	5	30/0.25	0.6	2.8
IC-HW-01-00250-CU-PVC-H07VR-0450-IS694-FRLH	2.5	2	36/0.30	0.8	3.4
IC-HW-01-00250-CU-PVC-H07VK-0450-IS694-FRLH	2.5	5	50/0.25	0.7	3.6
IC-HW-01-00400-CU-PVC-H07VK-0450-IS694-FRLH	4	5	56/0.3	0.8	4.2
IC-HW-01-00600-CU-PVC-H07VK-0450-IS694-FRLH	6	5	84/0.3	0.8	4.7
IC-HW-01-01000-CU-PVC-H07VK-0450-IS694-FRLH	10	5	80/0.4	1	6.1
IC-HW-01-01600-CU-PVC-H07VK-0450-IS694-FRLH	16	5	126/0.4	1	7.1

* Code derived to the register grammar — item not yet present in the ITEM MASTER. See flagged notes.

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ELECTRICAL CHARACTERISTICS

Current carrying capacity and Max. DC conductor resistance.

NOMINAL CROSS-SECTIONAL AREA MM²	CLASS OF CONDUCTOR	REFERENCE METHOD B (enclosed in conduit on a wall or in trunking etc.) Amp.	REFERENCE METHOD C (clipped direct) Amp.	MAXIMUM DC CONDUCTOR RESISTANCE AT 20 °C 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

CERTIFICATIONS & APPROVALS

ISO 9001
Cert. 99 100 22646 (TÜV SÜD)

ISI
Bureau of Indian Standards · CM/L 6200267207

RoHS
Compliant

REACH
Compliant

Make in India
Manufactured in India

INTERNAL FLAGGED FOR THE CODE STEWARD

1. **One item is not in the register.** `IC-HW-01-00100-CU-PVC-H07VR-0450-IS694-FRLH` (1.0 mm², class 2 stranded) does not exist in the ITEM MASTER — the register carries 1.0 mm² only as H07VK class 5. Derived to the register grammar; every segment is a registered value. Please add the item.
2. **Voltage grade.** The sheet title and characteristics state 1100 V, but every registered HW item carries `0450` (450/750 V). Register codes reproduced as they stand; the 1100 V text reproduced as written. Please reconcile.
3. **Option code.** FR-LSH maps to register option `FRLH` — "flame retardant low smoke halogen free", plain name FRLSH. Used on all rows.
4. **Overall diameter at 2.5 mm².** Class 2 is listed as 3.4 mm with 0.8 mm insulation while class 5 is 3.6 mm with 0.7 mm insulation — the thinner-insulated wire is the larger of the two. Reproduced as written, not corrected.
5. **Temperature index cites IEC 60332-1**, the same standard given for flammability; temperature index is normally quoted against ASTM D 2863 / IS 10810 Part 64. Reproduced as written.

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6. **Insulation description.** Construction reads "Insulated by PVC Type D with FR-LSH to IS 5831", while the Fig. 1 callouts read "PVC base insulation" and "PVC skin insulation" (dual-layer). Both reproduced as supplied; confirm which is correct for the sheet.
7. **Fig. 1 callout typo.** The supplied render reads "Bunched copper conducton". Image kept as-is per instruction — needs a corrected render.
8. **Third-party marks removed.** The accreditation and approval blocks carried third-party artwork; removed. ISI mark and ISO 9001 badge added to the footer of every sheet plus the certification block.
9. **Images.** Fig. 2 sheath print reads INDOCABLES, so the original render is retained. Fig. 1 cross section kept as-is.
10. **Make in India mark is low resolution.** The only file in the brand set is 80 × 41 px, which upscales soft at print size. A vector or high-resolution version is needed.

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