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

PRODUCT SPECIFICATION

INDOCABLES HR-FR-LSH-LF GREEN WIRE, 1100 V AC

FIG. 1 — SHEATH PRINT AND BUNCHED CONDUCTOR

Images not to scale. Follow table for dimensions

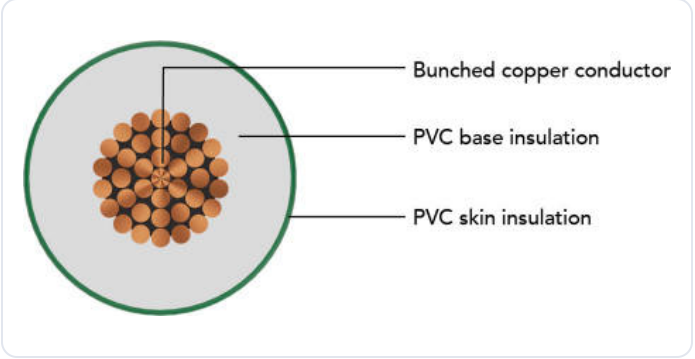

FIG. 2 — CONSTRUCTION, CROSS SECTION

APPLICATION

INDOCABLES 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.

CHARACTERISTICS

Voltage Rating	1100 V
Operation Temperature	Fixed: −15 °C to 85 °C
Bending Radius	Fixed installation 6 × Overall Diameter · Occasional 4 × Overall Diameter

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 customized colour

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

Test Voltage	3000 V AC at (20 ± 5) °C

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STANDARD FOLLOWS

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

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 2843-19
Flame resistance	ASTM D 2863

WEIGHT & DIMENSIONAL 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-HR	0.75	5	24/0.2	0.6	2.3
IC-HW-01-00100-CU-PVC-H07VR-0450-IS694-FRLH-HR †	1	2	14/0.3	0.6	2.5
IC-HW-01-00100-CU-PVC-H07VK-0450-IS694-FRLH-HR	1	5	32/0.2	0.6	2.5
IC-HW-01-00150-CU-PVC-H07VR-0450-IS694-FRLH-HR	1.5	2	22/0.30	0.7	3.0
IC-HW-01-00150-CU-PVC-H07VK-0450-IS694-FRLH-HR	1.5	5	30/0.25	0.6	2.8
IC-HW-01-00250-CU-PVC-H07VR-0450-IS694-FRLH-HR	2.5	2	36/0.30	0.8	3.4
IC-HW-01-00250-CU-PVC-H07VK-0450-IS694-FRLH-HR	2.5	5	50/0.25	0.7	3.6
IC-HW-01-00400-CU-PVC-H07VK-0450-IS694-FRLH-HR	4	5	56/0.3	0.8	4.2
IC-HW-01-00600-CU-PVC-H07VK-0450-IS694-FRLH-HR	6	5	84/0.3	0.8	4.7
IC-HW-01-01000-CU-PVC-H07VK-0450-IS694-FRLH-HR	10	5	80/0.4	1	6.1
IC-HW-01-01600-CU-PVC-H07VK-0450-IS694-FRLH-HR	16	5	126/0.4	1	7.1

All codes on this sheet carry the derived -HR option — heat-resistant 85 °C is not yet a registered option code. † Base item also absent from 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	8.0	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	22.0	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.

AIR 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	0.67	0.58	0.47	0.33

OUTSTANDING FEATURES

- **HIGHER CURRENT CARRYING CAPACITY.**
- **HIGH FIRE RETARDANCY**
- **LOW EMISSION OF TOXIC GASES**
- **LOW CARBON EMISSION, ECO HEALTHY**
- **LOW VOLATILE ORGANIC CONTENT – LESS CONTAMINATION**
- **HIGH CONDUCTIVITY ELECTROLYTIC COPPER CONDUCTOR**

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

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INTERNAL FLAGGED FOR THE CODE STEWARD

1. **No HR option code exists.** The register's option list (lst_OPT) has no entry for heat resistance. `FRLH` alone would collide with sheet BW-04 (FR-LSH, 70 °C), so every row here carries a derived second option `-HR` in alphabetical position. Please add `HR` — "heat resistant, 85 °C conductor" — to lst_OPT and register the 11 items.
2. **No LF option code exists.** Lead-free is not an option in the register; it is carried by the RoHS / REACH claim instead of a code segment. The options list allows a maximum of two, so LF could not be added alongside FRLH and HR. Please confirm this is acceptable, or supply a combined code.
3. **One base 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.
4. **Voltage grade.** The sheet states 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.
5. **Insulation segment vs. construction text.** Construction reads "Insulated by specially developed in-house compound", which has no register equivalent; the code segment stays `PVC` because that is the only insulation value registered for HW. The standards list still cites IS 5831:1984 (PVC compound).
6. **85 °C against IS 694.** IS 694 / IS 5831 PVC insulation is normally rated 70 °C continuous; the sheet claims 85 °C on an in-house compound. Reproduced as written — please supply the type-test report that supports it.
7. **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.
8. **Oxygen index, temperature index and flame resistance all cite ASTM D 2863.** Temperature index and oxygen index share that method, but flame resistance is normally quoted against IEC 60332-1 / IS 10810 Part 61. Reproduced as written.
9. **Section order.** Application → Characteristics → Construction (with Core Identification, Electrical Property, Mechanical & Physical Properties, Test Voltage) → Standard Follows → Compliance → Weight & Dimensional Data → Electrical Characteristics → De-Rating Factor. Outstanding Features icons and the Accreditations / Approval marks sit at the foot of the sheet only, as instructed — nowhere else, including the running footer.
10. **Images.** Fig. 1 sheath print reads INDOCABLES and Fig. 2 cross section (bunched copper conductor / PVC base insulation / PVC skin insulation) are both retained from the source file.
11. **Make in India lion is a low-resolution crop.** No lion artwork exists in the source files; the 80 px mark used in the accreditation block was cut from the supplied screenshot. Please supply the official vector or hi-res PNG before print.
12. **Outstanding Features icons** are the brand's own illustrated set. Two are nearest-match stand-ins: lead-free for "Low carbon emission, eco healthy" and REACH for "Low volatile organic content" — commission matching icons if these read wrong.
13. **Third-party marks removed.** The source "Our Accreditations" and "Approval" blocks carried CPRI Approved, FQC and CE artwork; all removed. ISI mark, ISO 9001 badge and Make in India lion stand in their place at the foot of the sheet.
14. **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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