

TECHNICAL DATA SHEET

FR House Wire Cable (FRLS)

Electrical Cable Manufacturer | Gujarat, India

Last Updated: April 2026

BIS Certified | ISO 9001:2015

Standard: IS 694:2016 FRLS

1. PRODUCT OVERVIEW

Vita Cable FR House Wire is a single-core, flame-retardant PVC insulated copper conductor cable designed for indoor and outdoor wiring applications in residential, commercial, and light industrial installations. Manufactured under strict quality control and fully compliant with IS 694:2016 FRLS standards.

Key Features:

• Flame Retardant PVC Insulation (FRLS grade) • High Copper Purity (99.97%) • Low Smoke Halogen (LSH) Properties • Excellent Flexibility • Superior Durability • BIS Certified & IS/IEC Compliant • Available in all standard sizes (0.5 sqmm to 70 sqmm)

2. TECHNICAL SPECIFICATIONS

2.1 Conductor Specifications

Parameter	Specification	Standard Reference
Conductor Material	Electrolytic Grade Copper	IS 694:2016
Conductor Type	Stranded (Class 2)	IS 694:2016
Copper Purity	99.97% minimum	IS 694:2016
Cross-Section Range	0.5 sqmm to 70 sqmm	—
Number of Strands	Size dependent (7 to 126 wires)	IS 694:2016

2.2 Insulation Specifications

Parameter	Specification	Standard Reference
Insulation Material	Flame Retardant PVC (FRLS)	IS 694:2016
Insulation Color	Red, Black, Yellow, Green, Blue, White, Brown	IS 694:2016
Flame Retardancy Grade	FRLS (Low Smoke Halogen)	IS 694:2016
Operating Temperature	-5°C to +90°C continuous	IS 694:2016
Insulation Resistance	≥10 MΩ/km at 20°C	IS 694:2016

2.3 Voltage & Current Ratings (Per IS 694:2016)

Cross-Section (sqmm)	Voltage Rating	Current Rating (Amps @ 90°C)	Resistance (Ω/km)
0.5	230V/415V	6A	36.0

1.0	230V/415V	10A	18.1
1.5	230V/415V	15A	12.1
2.5	230V/415V	20A	7.41
4.0	230V/415V	26A	4.62
6.0	230V/415V	34A	3.08
10	230V/415V	46A	1.83
16	230V/415V	61A	1.15
25	230V/415V	80A	0.727
35	230V/415V	106A	0.524
50	230V/415V	134A	0.387
70	230V/415V	171A	0.268

Note: Current ratings are based on IS 694:2016 FRLS standard for single core cables in ambient temperature of 30°C with 30°C rise.

2.4 Physical Specifications

Parameter	Specification
Outer Diameter Range	1.5 mm (0.5 sqmm) to 8.5 mm (70 sqmm)
Weight Range	2.5 kg/km (0.5 sqmm) to 180 kg/km (70 sqmm)
Minimum Bending Radius	3 × Outer Diameter (at -5°C)
Tensile Strength	≥ 5 MPa (insulation)
Elongation at Break	≥ 200% (insulation)

3. STANDARDS & CERTIFICATIONS

Manufacturing Standards:

- ✓ **IS 694:2016** — Single core PVC insulated cables for rated voltages up to and including 450/750V
- ✓ **IEC 60227** — PVC insulated cables (International Electrotechnical Commission)
- ✓ **BIS Certified** — Bureau of Indian Standards certification
- ✓ **ISO 9001:2015** — Quality Management System certified manufacturing

4. APPLICATIONS

Recommended Uses:

- ✓ **Residential Wiring:** Household installations, distribution boards, lighting and power circuits
- ✓ **Commercial & Office:** Building wiring, lighting installations, power distribution
- ✓ **Light Industrial:** Factory wiring, machine control circuits, emergency lighting
- ✓ **Safety-Critical:** Hospitals, schools, fire-rated building sections

5. CONTACT & SUPPORT

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