

TECHNICAL DATA SHEET

PVC Insulated Submersible Flat Cable (3-Core & 4-Core)

Electrical Cable Manufacturer | Gujarat, India

Last Updated: April 2026

BIS Certified | ISO 9001:2015

Standard: IS 694:2016

1. PRODUCT OVERVIEW

Vita Cable PVC Insulated Submersible Flat Cables are specifically designed for submersible pump installations, deep well applications, and borewell motor wiring. The flat construction allows for easy winding and installation while providing superior moisture and abrasion resistance. Available in 3-core and 4-core configurations with voltage rating up to 1100V.

Key Features:

- Flat cable construction for easy installation in boreholes
- High PVC insulation for moisture resistance
- Suitable for submersible pump motor wiring
- 1100V voltage rating for high-capacity applications
- Copper conductor (99.97% purity)
- Available in 3-core and 4-core options
- Cross-section range: 1.0 sqmm to 70 sqmm
- BIS compliant & ISO certified manufacturing

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	1.0 sqmm to 70 sqmm	—
Number of Strands	Size dependent	IS 694:2016

2.2 Insulation Specifications

Parameter	Specification	Standard Reference
Insulation Material	PVC (Polyvinyl Chloride)	IS 694:2016
Insulation Color	Black with core identification	IS 694:2016
Core Configuration	3-Core or 4-Core Flat	IS 694:2016
Operating Temperature	-5°C to +60°C continuous	IS 694:2016
Insulation Resistance	$\geq 10 \text{ M}\Omega/\text{km}$ at 20°C	IS 694:2016
Voltage Rating	1100V	IS 694:2016

2.3 Voltage & Current Ratings (3-Core Configuration)

Cross-Section (sqmm)	Voltage Rating	Current Rating (Amps @ 60°C)	Resistance (Ω/km)
1.0	1100V	10A	18.1
1.5	1100V	15A	12.1
2.5	1100V	20A	7.41
4.0	1100V	26A	4.62
6.0	1100V	34A	3.08
10	1100V	46A	1.83
16	1100V	61A	1.15
25	1100V	80A	0.727
35	1100V	106A	0.524
50	1100V	134A	0.387
70	1100V	171A	0.268

Note: Current ratings for 3-core are based on IS 694:2016 at ambient temperature of 30°C with 30°C rise. 4-core ratings are 5-10% lower due to increased core density.

2.4 Physical Specifications

Parameter	Specification
Cable Construction	Flat (3-core or 4-core)
Outer Width	12 mm (1.0-1.5 sqmm) to 45 mm (70 sqmm)
Outer Thickness	8 mm (1.0-1.5 sqmm) to 18 mm (70 sqmm)
Weight Range	3.5 kg/km (1.0 sqmm) to 200 kg/km (70 sqmm)
Minimum Bending Radius	4 × Outer Width (at -5°C)
Tensile Strength	≥ 5 MPa (insulation)
Elongation at Break	≥ 200% (insulation)

3. STANDARDS & CERTIFICATIONS

Manufacturing Standards:

- ✓ **IS 694:2016** — PVC insulated cables for rated voltages up to and including 450/750V
- ✓ **IS 8130** — Submersible motor cables (where applicable)
- ✓ **BIS Certified** — Bureau of Indian Standards certification
- ✓ **ISO 9001:2015** — Quality Management System certified manufacturing

4. APPLICATIONS

Recommended Uses:

- ✓ **Submersible Pump Installations:** Deep well and borewell motor wiring
- ✓ **Agricultural Applications:** Farm pump installations, irrigation systems
- ✓ **Water Supply Systems:** Municipal and industrial water supply
- ✓ **Underground Installations:** Protected underground wiring
- ✓ **Wet Environments:** Applications requiring moisture resistance

5. INSTALLATION GUIDELINES

Installation Precautions:

1. **Bending Radius:** Do not exceed 4 × outer width of cable
2. **Load Rating:** Do not exceed current ratings specified in Section 2.3
3. **Grounding:** Ensure proper earthing for motor wiring
4. **Storage:** Store in cool, dry place away from sunlight (shelf life: 24 months)
5. **Termination:** Use appropriate lugs and connectors for conductor size
6. **Protection:** Protect from mechanical damage during installation

6. CONTACT & SUPPORT

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