

# VITA CABLE

VEEHI ENGINEERING PRIVATE LIMITED

## SOLAR PV CABLE

### 1KV DC PHOTOVOLTAIC CABLE.

CPRI TESTED & CERTIFIED  
IEC 61931 | IEC 62930 | IEC 60811

## 1 PRODUCT DESCRIPTION

VITA Solar PV Cable is a specialized, single-core cable designed for DC applications in photovoltaic systems. Manufactured with high-purity copper conductors and XLPE insulation with PVC outer sheath, this cable delivers superior UV resistance, weather durability, and electrical safety. CPRI tested and certified for compliance with international solar energy standards, VITA Solar PV Cable is suitable for rooftop systems, solar farms, and utility-scale installations across India.

## 2 KEY FEATURES

- CPRI Certified: Tested and approved by Central Power Research Institute (India)
- UV & Weather Resistant: 25+ years outdoor durability
- XLPE Insulation: Superior electrical and mechanical protection
- Flame Retardant: Enhanced fire safety (IEC 60811)
- PVC Outer Sheath: Moisture and dust protection
- Pure Copper: 99.9% copper (IEC 60228 Class 6 - Flexible)
- Temperature Rated: -40°C to +90°C (normal), +120°C (emergency)

## 3 TECHNICAL SPECIFICATION

### 3.1 Conductor & Insulation

Parameter	Specification
Conductor Material	Bare Copper - 99.9% Pure (IEC 60228)
Conductor Class	Class 6 (Flexible)
Conductor Size	1.5 mm <sup>2</sup> to 16 mm <sup>2</sup>
Insulation Material	XLPE (Cross-linked Polyethylene)
Insulation Thickness	2.0 mm (1.5-6 mm <sup>2</sup> ); 2.5 mm (10-16 mm <sup>2</sup> )
Outer Sheath	PVC (Polyvinyl Chloride)
Sheath thickness	1.5-1.5mm
Rated Voltage	1 KV DC (1000V)

### 3.2 Electrical Properties.

Parameter	Value/ Specification
Insulation Resistance	Min. 100 MW·km @ 20°C
Dielectric Strength	Min. 6 kV (5 min) - CPRI Tested
Tensile Strength Min. 15 MPa	Min. 15 MPa
Elongation at Break	Min. 150%
Resistance @ 20°C	1.5 mm <sup>2</sup> : 12.1 W/km   16 mm <sup>2</sup> : 1.15 W/km
Operating Temp -40°C to +90°C (Continuous)	-20°C to +90°C (Continuous)
Short Circuit Limit	+120°C (Emergency - 5 sec max)
Dielectric Strength	Min. 6 kV (5 min) - CPRI Tested

### 3.3 Environmental & Safety Properties

Parameter	Specification
UV Resistance	IEC 60811-2-1   Min. 5000 hrs to 50% strength
Flame	Retardancy IEC 60811-2-2   No flaming droplets
Halogen Content	Halogen-Free (RoHS Compliant)
Ozone Resistance	Grade 1 (IEC 60811-2-1)
Water Absorption	Max. 0.3% after 24 hrs immersion
Weather Life	25+ years outdoor exposure

## 4 CONDUCTOR SIZE SPECIFICATIONS & DIMENSIONS

Cross Section (Sqmm)	Conductor Diameter (mm)	Outer Diameter (mm)	Weight (Kg/km)	Min. Breaking Strength (kN)
1.5	1.38	5.0	47	0.35
2.5	1.78	6.0	78	0.58
4.0	2.26	6.8	125	0.93
6.0	2.76	7.8	188	1.40
10.0	3.57	9.3	313	2.32
16.0	4.51	10.8	600	3.71

## 5 STANDARDS & CERTIFICATIONS

VITA Solar PV Cable is manufactured and tested in compliance with the following international standards

Standard/Certifications	Description
IEC 61931	Test methods for cables in photovoltaic systems
IEC 62930	Cords and cables for photovoltaic installations
IEC 60811	Insulation and sheath test methods
IEC 60227	PVC insulated cables - 450/750 V rated
IEC 60228	Conductors of insulated cables
CPRI Certified	Central Power Research Institute (India) approval

## 6 SUITABLE APPLICATIONS

VITA Solar PV Cable is designed for:

- Rooftop Solar PV Systems (Residential & Commercial)
- Grid-Connected & Off-Grid Solar Installations
- Solar Farms & Utility-Scale Power Projects
- DC Wiring in Junction Boxes, Combiner Boxes & Inverters
- Flexible Conduit Routing in Solar Panel Arrays
- Government Tender & Subsidy-Based Solar Projects
- Industrial & Agricultural Solar Applications

## 7 INSTALLATION & SAFETY GUIDELINES

**Installation:** Cable must be installed by qualified electricians. Minimum bending radius is 5 times the cable diameter. UV-protective conduits recommended for exposed outdoor routing. All connections must comply with relevant solar installation codes.

**Storage & Handling:** Store in cool, dry environment away from direct sunlight and extreme temperatures. Shelf life: 24 months from manufacturing date (under optimal conditions).

### 8 WARRANTY & TECHNICAL SUPPORT

**5-Year Warranty:** VITA Cable offers 5-year warranty against manufacturing defects including conductor

breaks, insulation failures, and sheath degradation under normal operating conditions.

**Technical Support:** Contact our technical team for installation guidance and specifications.

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