SOLAR PV DC SINGLE CORE · ALUMINIUM · ANTI TERMITE · 1500 V DC

# INDOCABLES SOLAR AS/NZS 5000 PVC — ANTI TERMITE

## PHOTOVOLTAIC POWER CABLE, FLAME RETARDANT — AS/NZS 5000.1

INDO CABLES ITEM CODE

IC-SO-01-«SIZE»-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR

Size field = sq.mm × 100
Per-size item codes in the ordering table

**DERIVED — NOT YET IN REGISTER**

The Product Code Master holds no aluminium AS/NZS solar items, with or without an anti-termite jacket. These codes are derived from the register's own code structure using conductor AL, insulation HFI, designation A2XY and option blocks FR, UV and ATR. Item IDs and ACTIVE status must be issued by the code steward before quoting or sale.

## APPLICATION

INDOCABLES low smoke, flame retardant, single core cable with cross linked insulation is designed to use for Photovoltaic installation at the Direct current side. These cables are suitable for permanent outdoor use under variable climatic condition.

Figure 2 — Core identification: black & black with red strip.

Figure 1 — Cross section: stranded aluminium conductor, XLPO insulation, anti termite jacket, outer sheath.

Images not to scale. Follow table for dimensions

## CHARACTERISTICS

## CONSTRUCTION

INDO CABLES
EVERY CONNECTION MATTERS

**PRODUCT DATASHEET**
AS/NZS 5000.1 · PVC

**RC-06**
SHEET NO.

## SOLAR PV DC SINGLE CORE · ALUMINIUM · ANTI TERMITE · 1500 V DC

### VOLTAGE RATING
Nominal Voltage: 1500 V DC between conductors as well as conductor and earth. Max permitted voltage: 1800 V

### OPERATION TEMPERATURE
Fixed: -20 °C to +90 °C
Maximum conductor temperature: +90 °C

### BENDING RADIUS
For fixed installation > 15 D. For occasional moved > 18 D

### TEST VOLTAGE
6.5 kV AC 50 Hz

### CONDUCTOR
Aluminium conductor as per IEC 60228, class 2 / AS-NZS 5000.1

### INSULATION
Cross linked halogen free flame retardant material, Colour: Black

### ANTI TERMITE JACKET
Polyamide (Nylon), Colour: Black

### SHEATH
Polyvinyl Chloride

### CORE IDENTIFICATION
Black & Black with red Strip

## OUTSTANDING FEATURES

Flame retardant

High life

UV, ozone resistant

Hydrolysis resistant

Termite resistant

## STANDARD FOLLOWS

IEC 60228 · EN 50618 · AS/NZS 5000.1 · AS/NZS 3808

## COMPLIANCE

| | |
|---|---|
| Flame Retardant | EN 60332-1 |
| UV resistance | ASTM G-154 |

## DIMENSIONS AND WEIGHTS

## SOLAR PV DC SINGLE CORE · ALUMINIUM · ANTI TERMITE · 1500 V DC

| NO. OF CORES × CORE CROSS SECTIONAL AREA no. × mm² | NOMINAL INSULATION THICKNESS mm | MIN. NYLON JACKET THICKNESS mm | NOMINAL SHEATH THICKNESS mm | APPROX. OVERALL DIAMETER mm | WEIGHT (APPROX.) Kg/Km |
|---|---|---|---|---|---|
| 1 × 120 | 1.2 | 0.2 | 1.5 | 20.3 | 555 |
| 1 × 150 | 1.4 | 0.2 | 1.6 | 22.4 | 680 |
| 1 × 185 | 1.6 | 0.2 | 1.6 | 24.4 | 810 |
| 1 × 240 | 1.7 | 0.2 | 1.7 | 27.3 | 1025 |
| 1 × 300 | 1.8 | 0.2 | 1.8 | 29.9 | 1245 |
| 1 × 400 | 2.0 | 0.2 | 1.9 | 33.7 | 1605 |
| 1 × 500 | 2.2 | 0.2 | 2.0 | 37.2 | 1970 |
| 1 × 630 | 2.4 | 0.2 | 2.2 | 42.3 | 2520 |

## ELECTRICAL CHARACTERISTICS

| NO. OF CORES × CORE CROSS SECTIONAL AREA no. × mm² | MAX. DC RESISTANCE AT 20 °C Ω/km | MAX. AC RESISTANCE AT 90 °C Ω/km | APPROX. CABLE CAPACITANCE mfd/km | APPROX. CABLE REACTANCE Ohm/km | IMPEDANCE OF CABLE AT 90 °C Ohm/km | CURRENT RATING CAPACITY Amp. | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Two cables touching in air unenclosed, spaced from surface | Two cable touching in air on surface | Two cable touching in enclosure, underground |
| 1 × 120 | 0.253 | 0.325 | 0.81 | 0.0982 | 0.339 | 305 | 253 | 252 |
| 1 × 150 | 0.206 | 0.265 | 0.77 | 0.0965 | 0.282 | 350 | 291 | 283 |
| 1 × 185 | 0.164 | 0.212 | 0.75 | 0.0945 | 0.231 | 406 | 340 | 329 |
| 1 × 240 | 0.125 | 0.162 | 0.81 | 0.0918 | 0.186 | 485 | 408 | 388 |
| 1 × 300 | 0.100 | 0.130 | 0.85 | 0.089 | 0.158 | 562 | 473 | 440 |
| 1 × 400 | 0.0778 | 0.103 | 0.87 | 0.089 | 0.135 | 660 | 559 | 516 |
| 1 × 500 | 0.0605 | 0.0813 | 0.9 | 0.0869 | 0.118 | 772 | 656 | 590 |
| 1 × 630 | 0.0469 | 0.0649 | 0.92 | 0.0853 | 0.107 | 904 | 772 | 695 |

Current Ratings are based on AS/NZS 3008 std, Max. Conductor Temperature at 90 °C, Ambient temperature at 40 °C in Air, Ambient temperature at 25 °C in Ground, Soil thermal resistivity 1.2 k.m/W, Depth of Laying 0.5 m.

## DE-RATING FACTOR

Current rating de-rating factors for other than 40 °C ambient air temperature.

## SOLAR PV DC SINGLE CORE · ALUMINIUM · ANTI TERMITE · 1500 V DC

| AMBIENT TEMPERATURE °C | 15 | 20 | 25 | 30 | 35 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DE-RATING FACTOR | 1.26 | 1.20 | 1.15 | 1.10 | 1.05 | 0.94 | 0.88 | 0.81 | 0.73 | 0.65 | 0.57 | 0.47 | 0.34 | 0.19 |

Current rating de-rating factors for other than 25 °C ground temperature.

| GROUND TEMPERATURE °C | 10 | 15 | 20 | 30 | 35 | 40 |
|---|---|---|---|---|---|---|
| DE-RATING FACTOR | 1.11 | 1.07 | 1.03 | 0.97 | 0.93 | 0.89 |

## ORDERING — INDO CABLES PRODUCT CODES

Single core, aluminium, cross-linked halogen free flame retardant insulated, polyamide anti-termite jacketed, PVC sheathed, unarmoured, 1.5 kV DC, to AS/NZS 5000.1. Codes below are derived from the register's code structure — line SO, cores 01, conductor AL, insulation HFI, designation A2XY, option 1 FR, option 2 UV, option 3 ATR (anti termite and anti rodent).

| SIZE MM² | DERIVED ITEM CODE | NEAREST REGISTERED ITEM |
|---|---|---|
| 1 × 120 | IC-SO-01-12000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006347 · TC / XLPO / EN 50618 |
| 1 × 150 | IC-SO-01-15000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006348 · TC / XLPO / EN 50618 |
| 1 × 185 | IC-SO-01-18500-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006349 · TC / XLPO / EN 50618 |
| 1 × 240 | IC-SO-01-24000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006350 · TC / XLPO / EN 50618 |
| 1 × 300 | IC-SO-01-30000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line SO |
| 1 × 400 | IC-SO-01-40000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line SO |
| 1 × 500 | IC-SO-01-50000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line SO |
| 1 × 630 | IC-SO-01-63000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line SO |

No item IDs are shown because none of these eight items exists in the Product Code Master yet. The register's next free ID for this item class is IC1006462. AS/NZS 5000.1 is not an IS standard, so no BIS CM/L number applies to these items.

## SOLAR PV DC SINGLE CORE · ALUMINIUM · ANTI TERMITE · 1500 V DC

### CERTIFICATIONS & COMPLIANCE

**ISO 9001**
Cert. 99 100 22646 (TÜV SÜD)

**ISI**
Bureau of Indian Standards

**RoHS**
Compliant

**REACH**
Compliant

**Make in India**
Manufactured in India

INDO CABLES

+91 80 3533 3289

+91 8088 10785

+91 70110 05815