

SOLAR DC CABLE • TWO SINGLE CORES TWISTED • ALUMINIUM • ANTI TERMITE • CROSS LINKED INSULATION • PVC SHEATHED

# INDOCABLES SOLAR AS/NZS 5000 PVC — TWIST ANTI TERMITE

PHOTOVOLTAIC POWER CABLE, FLAME RETARDANT — AS/NZS 5000.1

## INDO CABLES ITEM CODE

IC-S0-02-«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 the solar line only as tinned copper XLPO to EN 50618, in sizes up to 240 sq.mm. These codes are derived from the register's own code structure, and follow sheets RC-06 and RC-15 for the PVC anti-termite construction. Insulation HFI, designation A2XY and standard ASNZS5000P1 are not yet in tab 5 and must be typed there; the register also carries no reference value for a twisted construction. Options FR, UV and ATR are registered values. Item IDs and ACTIVE status must be issued by the code steward before quoting or sale.

## APPLICATION

INDOCABLES low smoke, flame retardant, two single cores twisted 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 — Two single cores twisted, cut back to the stranded aluminium conductors. Core identification black and black with red strip.



Figure 1 — Cross section of both cores: stranded aluminium conductor, cross linked insulation, anti termite jacket, outer sheath.

Images not to scale. Follow table for dimensions

INDO CABLES

91807833289

91808810785

91701105815

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**CHARACTERISTICS**

**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

**CONSTRUCTION**

**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**

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| NO. OF CORES × CORE CROSS SECTIONAL AREA<br>No. × mm <sup>2</sup> | NOMINAL INSULATION THICKNESS<br>mm | MIN. NYLON JACKET THICKNESS<br>mm | NOMINAL SHEATH THICKNESS<br>mm | APPROX. OVERALL DIAMETER<br>mm | WEIGHT (APPROX.)<br>Kg/Km |
|-------------------------------------------------------------------|------------------------------------|-----------------------------------|--------------------------------|--------------------------------|---------------------------|
| 2 × 120                                                           | 1.2                                | 0.2                               | 1.5                            | 20.3 x 40.6                    | 1100                      |
| 2 × 150                                                           | 1.4                                | 0.2                               | 1.6                            | 22.4 x 44.8                    | 1360                      |
| 2 × 185                                                           | 1.6                                | 0.2                               | 1.6                            | 24.4 x 48.8                    | 1620                      |
| 2 × 240                                                           | 1.7                                | 0.2                               | 1.7                            | 27.3 x 54.6                    | 2050                      |
| 2 × 300                                                           | 1.8                                | 0.2                               | 1.8                            | 29.9 x 59.8                    | 2490                      |
| 2 × 400                                                           | 2.0                                | 0.2                               | 1.9                            | 33.7 x 67.4                    | 3210                      |
| 2 × 500                                                           | 2.2                                | 0.2                               | 2.0                            | 37.2 x 74.4                    | 3940                      |
| 2 × 630                                                           | 2.4                                | 0.2                               | 2.2                            | 42.3 x 84.6                    | 5050                      |

**ELECTRICAL CHARACTERISTICS**

| NO. OF CORES × CROSS SECTIONAL AREA<br>No. × mm <sup>2</sup> | MAX. DC RESISTANCE AT 20 °C<br>Ω/km | MAX. AC RESISTANCE AT 90 °C<br>Ω/km | APPROX. CABLE CAPACITANCE<br>mfd/km | APPROX. CABLE REACTANCE<br>Ωhm/km | IMPEDANCE OF CABLE AT 90 °C<br>Ωhm/km | CURRENT RATING CAPACITY<br>Amp.                    |                                       |                                                   |
|--------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|----------------------------------------------------|---------------------------------------|---------------------------------------------------|
|                                                              |                                     |                                     |                                     |                                   |                                       | Two cables touching in air unenclosed from surface | Two cables touching in air on surface | Two cable cores touching in enclosure underground |
| 2 × 120                                                      | 0.253                               | 0.325                               | 0.81                                | 0.0982                            | 0.339                                 | 305                                                | 253                                   | 252                                               |
| 2 × 150                                                      | 0.206                               | 0.265                               | 0.77                                | 0.0965                            | 0.282                                 | 350                                                | 291                                   | 283                                               |
| 2 × 185                                                      | 0.164                               | 0.212                               | 0.75                                | 0.0945                            | 0.231                                 | 406                                                | 340                                   | 329                                               |
| 2 × 240                                                      | 0.125                               | 0.162                               | 0.81                                | 0.0918                            | 0.186                                 | 485                                                | 408                                   | 388                                               |
| 2 × 300                                                      | 0.100                               | 0.130                               | 0.85                                | 0.089                             | 0.158                                 | 562                                                | 473                                   | 440                                               |
| 2 × 400                                                      | 0.0778                              | 0.103                               | 0.87                                | 0.089                             | 0.135                                 | 660                                                | 559                                   | 516                                               |
| 2 × 500                                                      | 0.0605                              | 0.0813                              | 0.9                                 | 0.0869                            | 0.118                                 | 772                                                | 656                                   | 590                                               |
| 2 × 630                                                      | 0.0469                              | 0.0649                              | 0.92                                | 0.0853                            | 0.107                                 | 904                                                | 772                                   | 695                                               |

**DE-RATING FACTOR**

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 km/W, Depth of Laying 0.5 m.

AMBIENT AIR TEMPERATURE OTHER THAN 40 °C

INDO CABLES

91807833289

91808810735

917011005815

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| TEMPERATURE °C | 15   | 20   | 25   | 30   | 35   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 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 |

**GROUND TEMPERATURE OTHER THAN 25 °C**

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

**ORDERING — INDO CABLES PRODUCT CODES**

Two single cores twisted, 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 S0, cores 02, conductor AL, insulation HFI, designation A2XY, voltage 1500, options FR, UV and ATR.

| SIZE MM <sup>2</sup> | DERIVED ITEM CODE                                     | NEAREST REGISTERED ITEM          |
|----------------------|-------------------------------------------------------|----------------------------------|
| 2 × 120              | IC-S0-02-12000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006362 · TC / XLPO / EN 50618 |
| 2 × 150              | IC-S0-02-15000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006363 · TC / XLPO / EN 50618 |
| 2 × 185              | IC-S0-02-18500-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006364 · TC / XLPO / EN 50618 |
| 2 × 240              | IC-S0-02-24000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | IC1006365 · TC / XLPO / EN 50618 |
| 2 × 300              | IC-S0-02-30000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line S0       |
| 2 × 400              | IC-S0-02-40000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line S0       |
| 2 × 500              | IC-S0-02-50000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line S0       |
| 2 × 630              | IC-S0-02-63000-AL-HFI-A2XY-1500-ASNZS5000P1-FR-UV-ATR | none — size not on line S0       |

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.

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**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