



## Industrial Specialties - Solar

### Photovoltaic Cables

# PRYSUN™

## PRYSUN™ SOLAR PV Cables

PRYSUN™ solar PV cables are intended for use in photovoltaic systems at nominal voltage rating of 1,5 kV DC.

### APPLICATION

PRYSUN™ solar PV cables are designed for the interconnection of various elements in photovoltaic systems, including panel interconnection, between panels and string boxes or from string boxes to the inverter. They are suitable for applications in/at equipment with protective insulation (Protecting Class II), and may be installed as fixed or freely suspended or free movable, indoor or outdoor. Installation is also possible in ducts and pipes.

### TECHNICAL DATA

|  |  |
|--|--|
| <b>Standards</b>                                       | EN 50618<br>IEC 62930  |
| <b>Rated voltage</b>                                   | 1,5/1,5 kV DC<br>1,0/1,0 kV AC   |
| <b>Max. permissible operating voltage</b>              | 1,8 kV DC<br>1,2 kV AC   |
| <b>Test voltage (5 min)</b>                            | 15 kV DC<br>6,5 kV AC  |
| <b>Max. conductor operating temperature</b>            | 90°C (120°C for 20,000 hours)  |
| <b>Max. short circuit temperature of the conductor</b> | 250°C (5s)   |
| <b>Operation temperature</b>                           | -40°C to +90°C   |
| <b>Fire behavior</b>                                   | Flame retardant per EN IEC 60332-1-2 Annex A<br>Low smoke emission per EN IEC 61034-2<br>Halogen free per EN 50525-1 and IEC 62821-1 Annex B |

### DESIGN & CONSTRUCTION

#### 1 CONDUCTOR

Flexible tinned copper conductor Class 5 according to IEC 60228

#### 2 INSULATION

Halogen free cross-linked compound

#### 3 OUTER SHEATH

Halogen free cross-linked compound. Color: Black (red, blue and other colors available upon request)



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## TECHNICAL CHARACTERISTICS

### Chemical Parameters

|                                 |  |   |
|---------------------------------|--|---|
| <b>Reaction to Fire</b>         |  | Vertical flame propagation on complete cable per IEC 60332-1-2, EN 60332-1-2  |
|                                 | Fire Performance                         | Halogen-free per IEC 62821-1 Annex B , EN 50525-1 Annex B<br>Low Smoke Emission per IEC 61034-2, EN 61034-2 (Light Transmittance > 60%) |
|                                 | Construction Product Regulation (CPR)    | Upon request or where applicable, CPR reaction to fire acc. to EN 50575. Euroclass: Eca   |
| <b>Weather Resistance</b>       |  | Ozone resistance per IEC 62930 Tab.3 per IEC 60811-403, EN 50618 Tab.2 per EN 50396 Test Type B   |
|                                 | Weather Resistance                       | Weathering/UV resistance on sheath per IEC 62930 Annex E and EN 50618 Annex E   |
| <b>Chemical Resistance</b>      | Acid and Alkaline Solution Resistance    | Acc. IEC 62930 Annex B, EN 50618 Annex B : 7 days, 23°C (N-Oxalic Acid, N-Sodium Hydroxide) per IEC 60811-404, EN 60811-404             |
| <b>DC Stability</b>             | Long Term Resistance of Insulation to DC | Acc. IEC 62821-2, EN 50395-9 (240h/85°C water/ 1.8kV DC)  |
| <b>Environmentally Friendly</b> | Environmentally Friendly                 | PRYSUN cables comply with the RoHS Directive 2011/65/EU of the European Union   |

### Mechanical and Thermal Parameters

|                              |  |   |
|------------------------------|--|---|
| <b>Operating Temperature</b> | Maximum Operating Temperature of the Conductor | Acc. IEC 62930 and EN 50618: the cables are designed to operate at a normal continuous maximum conductor temperature of 90 °C. 20,000 h in operation at maximum conductor temperature of 120°C are permitted. |
|                              | <b>Resistance to Cold Environment</b>          | Bending and Elongation at -40°C temperature acc. IEC 62930 Tab.2 per IEC 60811-504 and -505, acc. EN 50618 Tab2 per EN 60811-1-4 and EN 60811-504 and -505.   |
| Resistance to Cold           |  | Cold Impact Test at -40°C temperature acc. IEC 62930 Annex C per IEC 60811-506, acc. EN 50618 Annex C per EN 60811-506  |
| <b>Damp-Heat</b>             | Damp-Heat Test                                 | Meets IEC 62930 Tab.2 and EN 50618 Tab.2<br>1.000 h at 90°C and 85% humidity per IEC 60068-2-78, EN 60068-2-78  |
|                              | <b>Mechanical and Printing</b>                 | Shrinkage Test on Sheath  |
| Dynamic Penetration Test     |  | Acc. IEC 62930 Annex D and EN 50618 Annex D   |
| Durability of Print          |  | Acc. IEC 62930 and EN 50396.  |

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#### TECHNICAL CHARACTERISTICS

| Number of Cores x Cross Section * | Nominal Outer Diameter | Approx. Cable Weight | Minimum Bending Radius | Max. Conductor Resistance at 20°C | DC Current carrying capacity-<br>Single cable free in air, Ambient temperature: 60 °C | DC Current carrying capacity-<br>Single cable on a surface, Ambient temperature: 60 °C | DC Current carrying capacity-<br>Two loaded cables touching, on a surface, Ambient temperature: 60 °C |
|-----------------------------------|------------------------|----------------------|------------------------|-----------------------------------|---|--|---|
| [mm <sup>2</sup> ]                | [mm]                   | [kg/km]              | [mm]                   | [Ω/km]                            | [A]   | [A]  | [A]   |
| 1x4                               | 5,4                    | 57                   | 22                     | 5,09                              | 55  | 52   | 44  |
| 1x6                               | 6,1                    | 78                   | 25                     | 3,39                              | 70  | 67   | 57  |
| 1x10                              | 7,1                    | 120                  | 29                     | 1,95                              | 98  | 93   | 79  |
| 1x16                              | 8,7                    | 185                  | 44                     | 1,24                              | 132   | 125  | 107   |
| 1x25                              | 10,5                   | 285                  | 53                     | 0,795                             | 176   | 167  | 142   |

\*Other sections may be available upon request.  
Values are subject to manufacturing tolerances.