



**OmanCables**  
الكابلات العمانية

# PHOTOVOLTAIC CABLES SOLUTIONS



# **OMAN CABLES PHOTOVOLTAIC CABLES**

MKXS004.00







# PRYSUN

## APPLICATION

PRYSUN solar PV cables are a Prysmian Group solution 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.

## DESIGN & CONSTRUCTION

### 1 CONDUCTOR

Flexible tinned copper conductor Class 5 according to IEC 60228.

### 2 INSULATION

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618.

### 3 OUTER SHEATH

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618.

**Color: Black or Red**





# SPECIAL PERFORMANCE PV CABLES

## RODENT AND TERMITE REPELLENT DESIGN & CONSTRUCTION

### 1 CONDUCTOR

Flexible tinned copper conductor Class 5 according to IEC 60228.

### 2 INSULATION

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618.

### 3 OUTER SHEATH

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618 with a special rodent and termite repellent additive.

**Colour: Black or Red**



#### UV resistant

UV resistant per IEC 62930 Annex E and EN 0618 Annex E



#### Flexible

Flexible tinned copper conductor Class 5 per IEC 60228



#### LSZH

Low smoke emission per EN IEC 61034-2 Halogen free per IEC 62821-1 and EN 50525-1 Annex B



#### Acid and Alkaline resistant

IEC 62930 Annex B, EN 50618 Annex B"



#### Fire behavior

Flame retardant per EN IEC 60332-1-2



#### Operation temperature

-40°C to +90°C



#### Rodent and Termite Retardant

Note: Special performance PV cables are based on TUV certified products with additional protection features.



# SPECIAL PERFORMANCE PV CABLES

## IMPROVED MECHANICAL PROTECTION (ARMOURED)

### DESIGN & CONSTRUCTION

#### 1 CONDUCTOR

Flexible tinned copper conductor Class 5 according to IEC 60228.

#### 2 INSULATION

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618.

#### 3 SHEATH

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618.

**Colour: Black**

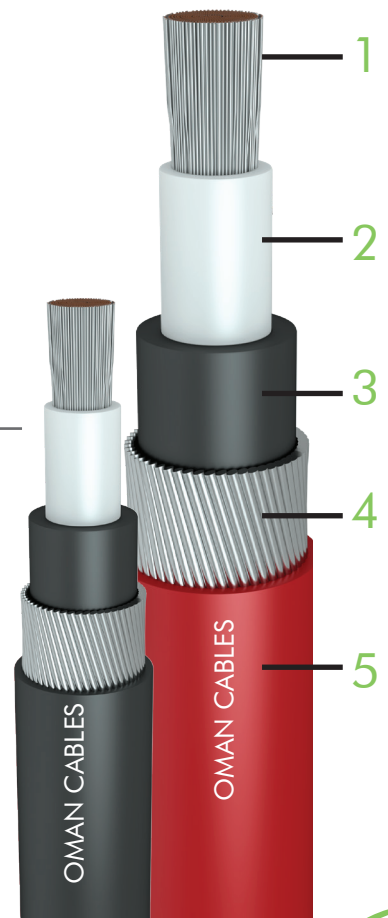
#### 4 ARMOUR

Round aluminium wire armour according to IEC 60502-1.

#### 5 OUTER SHEATH

PVC (ST2) or Low Smoke Zero Halogen (ST8) according to IEC 60502-1.

**Colour: Black or Red**



##### UV resistant

UV resistant per IEC 62930 Annex E and EN 0618 Annex E



##### Flexible

Flexible tinned copper conductor Class 5 per IEC 60228



##### LSZH

Low smoke emission per EN IEC 61034-2 Halogen free per IEC 62821-1 and EN 50525-1 Annex B (For LSZH sheath only)



##### Acid and Alkaline resistant

IEC 62930 Annex B, EN 50618 Annex B" (Applicable for cross-linked sheath)



##### Fire behavior

Flame retardant per EN IEC 60332-1-2



##### Operation temperature

-40°C to +90°C



##### Mechanical Impact Medium

Note: Special performance PV cables are based on TUV certified products with additional protection features.

# PRYSMIAN PRYSOLAR

## APPLICATION

Prysmian PRYSOLAR is our innovative solution, designed to face the most unpredictable challenges and anticipate the future. 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. Suitable for applications in/at equipment with protective insulation (Protecting Class II).

**Estimated thermal lifetime extended to 30 years. Enhanced with long term resistance in water up to 1.8 kV DC.**

## DESIGN & CONSTRUCTION

### 1 CONDUCTOR

Flexible tinned copper conductor Class 5 according to IEC 60228.

### 2 INSULATION

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618.

### 3 OUTER SHEATH

Halogen free cross-linked compound according to Table B.1 Annex B of IEC 62930 and EN 50618.

**Color: Black or Red**



# PHOTOVOLTAIC CABLES

## Industrial Specialties - Solar

### TECHNICAL DATA FOR PV CABLES

<b>Standards</b>	EN 50618 IEC 62930
<b>Rated voltage</b>	1,5/1,5 kV DC 1,0/1,0 kV AC
<b>Max. permissible operating voltage</b>	1,8 kV DC 1,2 kV AC
<b>Test voltage (5 min)</b>	15 kV DC 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 as per EN IEC 60332-1-2 Annex A Low smoke emission as per EN IEC 61034-2 Halogen free as per EN 50525-1 and IEC 62821-1 Annex B
<b>Water Performance</b> (For PRYSMIAN PRYSOLAR only)	WET-I 1500 Prysmian Group proprietary test for long term resistance in water up to 1500 V DC





# PHOTOVOLTAIC CABLES

## Characteristics

### CHEMICAL, THERMAL & MECHANICAL CHARACTERISTICS

<b>Fire Performance</b>	<p>Vertical flame propagation on complete cable per IEC 60332-1-2, EN 60332-1-2</p> <p>Halogen-free per IEC 62821-1 Annex B , EN 50525-1 Annex B</p> <p>Low Smoke Emission per IEC 61034-2, EN 61034-2 (Light Transmittance &gt; 60%)</p>
<b>Weather Resistance</b>	<p>Ozone resistance per IEC 62930 Tab.3 per IEC 60811-403, EN 50618 Tab.2 per EN 50396 Test Type B</p> <p>Weathering/UV resistance on sheath per IEC 62930 Annex E and EN 50618 Annex E</p>
<b>Acid and Alkaline Solution Resistance</b>	<p>According to 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</p>
<b>Long Term Resistance of Insulation to DC</b>	<p>According to IEC 62821-2, EN 50395-9 (240h/85°C water/ 1.8kV DC)</p>
<b>Maximum Operating Temperature of the Conductor</b>	<p>According to 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</p>
<b>Damp-Heat Test</b>	<p>Meets IEC 62930 Tab.2 and EN 50618 Tab.2</p> <p>1.000 h at 90°C and 85% humidity per IEC 60068-2-78, EN 60068-2-78</p>
<b>Shrinkage Test on Sheath</b>	<p>According to IEC 62930 Tab. 2 per IEC 60811-503 and EN 50618 Tab. 2 per EN 60811-503 (Max Shrinkage 2%)</p>
<b>Dynamic Penetration Test</b>	<p>According to IEC 62930 Annex D and EN 50618 Annex D</p>
<b>Durability of Print</b>	<p>According to IEC 62930 and EN 50396</p>

# PHOTOVOLTAIC CABLES

## Industrial Specialties - Solar

### TECHNICAL DATA SHEET FOR PV CABLES

S.NO.	DESCRIPTION	UNIT	1C x 4mm <sup>2</sup>	1C x 6mm <sup>2</sup>	1C x 10mm <sup>2</sup>
1.00	<u>GENERAL</u>				
1.01	Cable Size		1C x 4mm <sup>2</sup>	1C x 6mm <sup>2</sup>	1C x 10mm <sup>2</sup>
1.02	Voltage Grade	kV	1.5 kV (DC) 1.0/1.0 kV (AC)	1.5 kV (DC) 1.0/1.0 kV (AC)	1.5 kV (DC) 1.0/1.0 kV (AC)
1.03	Applicable Standard		EN 50618 IEC 62930	EN 50618 IEC 62930	EN 50618 IEC 62930
1.04	Number of Cores	Nos.	1	1	1
1.05	Normal Continuous Operating Temp.	°C	90	90	90
2.00	<u>CONDUCTOR</u>				
2.01	Material		Tinned Copper	Tinned Copper	Tinned Copper
2.02	Nominal Area	mm <sup>2</sup>	4	6	10
2.03	Max. Strand Wire Diameter	mm	0.31	0.31	0.41
2.04	Flexibility Class		Class 5	Class 5	Class 5
2.05	Shape		Circular	Circular	Circular
3.00	<u>INSULATION</u>				
3.01	Material		LSZH	LSZH	LSZH
3.02	Average Thickness	mm	0.7	0.7	0.7
3.03	Minimum Thickness	mm	0.53	0.53	0.53
4.00	<u>SHEATH</u>				
4.01	Material		LSZH	LSZH	LSZH
4.02	Average Thickness	mm	0.8	0.8	0.8
4.03	Minimum Thickness	mm	0.58	0.58	0.58
4.04	Core Colour		Red or Black	Red or Black	Red or Black
4.05	Overall Diameter - Approx.	mm	6.6	7.4	8.8
5.00	<u>WEIGHT</u>				
5.01	Approx. Net Weight	kg/km	55.0	75.0	115.0
6.00	<u>ELECTRICAL PARAMETERS</u>				
6.01	Max. Conductor DC Resistance at 20°C	Ω/km	5.09	3.39	1.95
6.02	Single Cable in Free Air *	Amps	57	72	98
6.03	Single Cable On a Surface Air *	Amps	54	69	96

Note: Data sheet for armoured PV Cables is available upon request



Part of  prysmian



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