

PV cables

This document contains TDS for the following products:

PV1 4mm² *2F

PV1 6mm² *2F

PV1-F 4mm²

PV1-F 6mm²

Technical Specification For Cable PV1 4mm²*2F

Introduction

Widely used in indoor and outdoor solar installation equipment for electrical installations lines. Suited for connecting photovoltaic system components inside and outside of building and equipment.

Features: halogen, excellent cold resistance, UV resistance, ozone and weather resistance. Flame retardant, resistant to cuts, puncture-resistant.

Cable protection level II grade.

Ambient temperature: -40 °C ~ + 90 °C; maximum conductor temperature: 120 °C (5s allowed within short circuit temperature 200 °C);

Rated voltage: AC0.6 / 1kV DC1.8kV

Design life: 25 years

Specifications

Construction	
Conductor	Tinned stranded copper wire (IEC 60228 Class 5) 56、0.3mm
Insulation	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
ID	4.3±0.1mm
Jacket	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
O. D	6*13.2±0.2mm
Marking	TUV 2 Pfg 1169 PV1 4mm ² *2F

Properties	
Maximum resistance of conductor at 20℃	$\leq 5.09 \Omega / \text{km}$
Insulation volume resistance at 20℃	$\geq 10^{14} \Omega \cdot \text{cm}$
Insulation volume resistance at 90℃	$\geq 10^{11} \Omega \cdot \text{cm}$
Surface resistance of jacket	$\geq 10^9 \Omega \cdot \text{cm}$
Voltage test of finished cable	AC 6.5kv or DC 15kv 5 mins, NO break
DC Voltage test of insulation	900v, 240h (85℃, 3%NaCl) 900v, 240h (85℃, 3%NaCl), NO break
Unaged Elongation of insulation	$\geq 125\%$
Tensile strength of jacket	$\geq 10.3 \text{Mpa}$
Aged After aging elongation of jacket	70% min. of the value before aging
After aging tensile strength of jacket	70% min. of the value before aging
Shrinkage resistance of jacket	$\leq 2\%$
Acid and alkali resistant	EN60811-2-1
Ozone resistance	EN50396
UV resistance	HD 605/A1
Dynamic penetrate force	2PFG 1169/08.2007 appendix F
Winding at low temperature	NO Crack
Impact at low temperature	NO Crack
Fire performance	IEC60332-1& UL FT1
Halogen free	PH ≥ 4.3 , HCL $\leq 0.5\%$, HBr $\leq 0.5\%$, F $\leq 0.1\%$
Thermal endurance Test	EN60216-1, EN60216-2, T1120

Technical Specification For Cable PV1 6mm²*2f

Introduction

Widely used in indoor and outdoor solar installation equipment for electrical installations lines. Suited for connecting photovoltaic system components inside and outside of building and equipment.

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Cable protection level II grade.

Ambient temperature: -40 °C ~ + 90 °C; maximum conductor temperature: 120 °C (5s allowed within short circuit temperature 200 °C);

Rated voltage: AC0.6 / 1kV DC1.8kV

Design life: 25 years

Specifications

Construction	
Conductor	Tinned stranded copper wire (IEC 60228 Class 5) 84/0.3mm
Insulation	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
ID	5.2±0.1mm
Jacket	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
O. D	7*15.2±0.2mm
Marking	TUV 2 Pfg 1169 PV1 6mm ² *2F

Properties	
Maximum resistance of conductor at 20℃	$\leq 3.39 \Omega / \text{km}$
Insulation volume resistance at 20℃	$\geq 10^{14} \Omega \cdot \text{cm}$
Insulation volume resistance at 90℃	$\geq 10^{11} \Omega \cdot \text{cm}$
Surface resistance of jacket	$\geq 10^9 \Omega \cdot \text{cm}$
Voltage test of finished cable	AC 6.5kv or DC 15kv 5 mins, NO break
DC Voltage test of insulation	900v, 240h (85℃, 3%NaCl) 900v, 240h(85℃, 3%NaCl), NO break
Unaged Elongation of insulation	$\geq 125\%$
Tensile strength of jacket	$\geq 10.3 \text{Mpa}$
Aged After aging elongation of jacket	70% min. of the value before aging
After aging tensile strength of jacket	70% min. of the value before aging
Shrinkage resistance of jacket	$\leq 2\%$
Acid and alkali resistant	EN60811-2-1
Ozone resistance	EN50396
UV resistance	HD 605/A1
Dynamic penetrate force	2PFG 1169/08.2007 appendix F
Winding at low temperature	NO Crack
Impact at low temperature	NO Crack
Fire performance	IEC60332-1
Halogen free	PH ≥ 4.3 , HCL $\leq 0.5\%$, HBr $\leq 0.5\%$, F $\leq 0.1\%$
Thermal endurance Test	EN60216-1, EN60216-2, T1120

Technical Specification For Cable PV1-F 4mm²

Introduction

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Cable protection level II grade.

Ambient temperature: -40 °C ~ + 90 °C; maximum conductor temperature: 120 °C (5s allowed within short circuit temperature 200 °C);

Rated voltage: AC0.6 / 1kV DC1.8kV

Design life: 25 years

Specifications

Construction	
Conductor	Tinned stranded copper wire (IEC 60228 Class 5) 56/0.3mm
Insulation	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
ID	4.3±0.1mm
Jacket	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
O.D	6±0.2mm
Marking	TUV 2 Pfg 1169 PV1-F 1*4mm ²

Properties	
Maximum resistance of conductor at 20℃	$\leq 5.09 \Omega / \text{km}$
Insulation volume resistance at 20℃	$\geq 10^{14} \Omega \cdot \text{cm}$
Insulation volume resistance at 90℃	$\geq 10^{11} \Omega \cdot \text{cm}$
Surface resistance of jacket	$\geq 10^9 \Omega \cdot \text{cm}$
Voltage test of finished cable	AC 6.5kv or DC 15kv 5 mins, NO break
DC Voltage test of insulation	900v, 240h (85℃, 3%NaCl) 900v, 240h (85℃, 3%NaCl), NO break
Unaged Elongation of insulation	$\geq 125\%$
Tensile strength of jacket	$\geq 10.3 \text{Mpa}$
Aged After aging elongation of jacket	70% min. of the value before aging
After aging tensile strength of jacket	70% min. of the value before aging
Shrinkage resistance of jacket	$\leq 2\%$
Acid and alkali resistant	EN60811-2-1
Ozone resistance	EN50396
UV resistance	HD 605/A1
Dynamic penetrate force	2PFG 1169/08.2007 appendix F
Winding at low temperature	NO Crack
Impact at low temperature	NO Crack
Fire performance	IEC60332-1& UL FT1
Halogen free	PH ≥ 4.3 , HCL $\leq 0.5\%$, HBr $\leq 0.5\%$, F $\leq 0.1\%$
Thermal endurance Test	EN60216-1, EN60216-2, T1120

Technical Specification For Cable PV1-F 6mm²

Introduction

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Cable protection level II grade.

Ambient temperature: -40 °C ~ + 90 °C; maximum conductor temperature: 120 °C (5s allowed within short circuit temperature 200 °C);

Rated voltage: AC0.6 / 1kV DC1.8kV

Design life: 25 years

Specifications

Construction	
Conductor	Tinned stranded copper wire (IEC 60228 Class 5) 84/0.3mm
Insulation	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
ID	5.2±0.1mm
Jacket	Irradiation crosslinked Iszh flame retardant polyolefin Color: black
O. D	7±0.2mm
Marking	TUV 2 Pfg 1169 PV1-F 1*6mm ²

Properties	
Maximum resistance of conductor at 20℃	$\leq 3.39 \Omega / \text{km}$
Insulation volume resistance at 20℃	$\geq 10^{14} \Omega \cdot \text{cm}$
Insulation volume resistance at 90℃	$\geq 10^{11} \Omega \cdot \text{cm}$
Surface resistance of jacket	$\geq 10^9 \Omega \cdot \text{cm}$
Voltage test of finished cable	AC 6.5kv or DC 15kv 5 mins, NO break
DC Voltage test of insulation	900v, 240h (85℃, 3%NaCl) 900v, 240h(85℃, 3%NaCl), NO break
Unaged Elongation of insulation	$\geq 125\%$
Tensile strength of jacket	$\geq 10.3 \text{Mpa}$
Aged After aging elongation of jacket	70% min.of the value before aging
After aging tensile strength of jacket	70% min.of the value before aging
Shrinkage resistance of jacket	$\leq 2\%$
Acid and alkali resistant	EN60811-2-1
Ozone resistance	EN50396
UV resistance	HD 605/A1
Dynamic penetrate force	2PFG 1169/08.2007 appendix F
Winding at low temperature	NO Crack
Impact at low temperature	NO Crack
Fire performance	IEC60332-1
Halogen free	PH ≥ 4.3 , HCL $\leq 0.5\%$, HBr $\leq 0.5\%$, F $\leq 0.1\%$
Thermal endurance Test	EN60216-1, EN60216-2, T1120

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