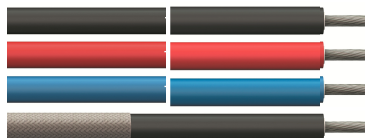


0,6/1kV AC (1,5kV DC) PV cables, rubber insulated, TÜV and VDE certified



Application

Solar cables to TÜV 2PFG 1169/08.2007, are intended for use in Photovoltaic Power Supply Systems at nominal voltage rate up to 1,5kV DC. They are suitable for applications indoor and/or outdoor, in industrial and agriculture fields, in/at equipment with protective insulation (Protecting Class II) and in explosion hazard areas. They may be installed fixed, freely suspended or free movable, in cable trays, conduits, on and in walls. PV cables are also suitable for direct burial, where the corresponding guidelines for direct burial shall be considered.

Global data

Type designation	
Standard	TÜV 2 PFG 1169/08.2007 and requirements for cables for PV systems, DKE/VDE AK
Certifications / Approvals	411.2.3 TÜV Cert.-No. R 60013989; VDE-Reg.No. 7985

Notes on installation

Notes on installation	Thanks to more than 10 years of positive experience with direct burial, not only according to the internal tests performed, but also to the successful installation in PV plants worldwide, the cables are suitable for direct burial in ground. The corresponding installation guidelines shall be taken in consideration.
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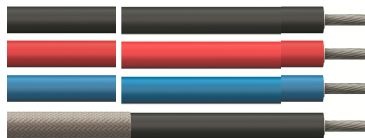
Design features

Conductor	Electrolytic tinned copper, Class 5 in accordance with IEC 60228 (VDE 0295)
Insulation	Cross-linked HEPR 120°C (compound type EI6/EI8)
Outer sheath	Cross-linked EVA rubber 120°C (compound type EM4/EM8). Insulation and sheath are solidly bonded (Two-layer-insulation)
Outer Sheath Colour	Black, blue, red
Protective Braid Screen	Cable additional braid made of tinned copper wires (surface coverage > 80%), as a protective element against rodents or impact

Electrical parameters

Rated voltage	0.6/1 kV (600/1000V)
Maximum PV-System voltage	DC up to 2000 V possible
Max. permissible operating voltage AC	0.7/1.2 kV
Max. permissible operating voltage DC	0.9/1.8 kV
Test voltage	AC: 6,5 kV / DC: 15 kV (5 Min.)
Current Carrying Capacity description	Meets requirements for PV-Wire per TÜV 2 PFG 1169/08.2007
Electrical Tests	TÜV 2PFG 1169/08.2007: meets VDE 0282 Section 2, HD 22.2 and EN 50395 Conductor Resistance, Test Voltages AC and DC, Electric Strength, Surface Resistance, Spark Test on Insulation, EN 50305 Part 6 DC stability (10 days, 85° C, salt water, 1500 V DC), Insulation Resistance at 20° C and 90° C in Water. Internal Testing: Insulation Resistance at 120° C in Air.

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Chemical parameters

Resistance to fire

TÜV 2 PfG 1169/08.2007:

- Flame propagation acc. to IEC 60332-1-2, DIN EN 60332-1-2 (Single Cable Flame Test)
- Halogen-free acc. to IEC 60754-1
- No Corrosivity acc. to IEC 60754-2

PRYSMIAN Internal Testing:

- Multiple Cable Flame Test acc. to DIN EN 50305-9
- Low Smoke Emission acc. to IEC 61034, EN 61034 (Light Transmittance > 70%)
- Low Toxicity acc. to DIN EN 50305, ITC < 3

Resistance to oil

Acc. to VDE 0473-811-404, DIN EN 60811-404, 24h 100° C

Weather resistance

TÜV 2PfG 1169/08.2007:

- Ozone resistance: acc. to DIN EN 50396 Test Type B, HD 22.2 Test Type B
- UV-Resistance: acc. to UL 1581 (Xeno-Test), ISO 4892-2 (Method A) and HD605/A1-2.4.20

PRYSMIAN Internal Testing:

- Absorption of Water (Gravimetric) per DIN EN 60811-1-3

Acid and alkaline resistance

Meets TÜV 2 PfG 1169/08.2007: 7 days, 23° C (N-Oxalic Acid, N-Sodium Hydroxide) as per EN 60811-404

Ammonia Resistance

30 days in Saturated Ammonia Atmosphere

Environmentally Friendly

PV cables comply with RoHS directives 2011/65/EU of the European Union

Thermal parameters

Max. operating temperature of the conductor

Max. 90°C at the conductor (lifetime acc. to Arrhenius-Diagram = 30 years).
20.000 hours of operation at conductor temperature of 120°C (and 90°C ambient temperature) are permitted.

Max. short circuit temperature of the conductor

250 °C (5 s.)

Ambient temperature for fixed installation

min -40 °C ; max +90 °C

Ambient temperature in fully flexible operation

min -40 °C ; max +90 °C

Resistance to cold

Cold Bend Test at -40° C temperature per DIN EN 60811-1-4. Impact Test -40° C temperature similar to DIN EN 50305

Damp-Heat Test

Meets TÜV 2 PfG 1169/08.2007 and EN 60068-2-78: 1.000 h at 90° C and 85% humidity

Mechanical parameters

Max. tensile load

15 N/mm² in operation, 50 N/mm² during installation

Min. bending radius

4 x D

Abrasion resistance

Testing:

- Acc. to DIN ISO 4649 against abrasive paper
- Sheath against sheath
- Sheath against metal
- Sheath against plastics

Shrinkage Test

Meets TÜV 2PfG 1169/08.2007 <2% acc. to EN 60811-1-3

Pressure Test at High Temperature

Meets TÜV 2PfG 1169/08.2007 <50% acc. to EN 60811-3-1

Dynamic Penetration Test

Meets requirements as per TÜV 2 PfG 1169/08.2007

Shore-Hardness

Type A: min. 85 nach DIN EN ISO 868

Rodent resistance

Safety can be optimized by utilizing protective hoses, or protective element, such as a metallic screen braid.

Number of cores x cross section	Colour	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Weight (ca.) kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Current carrying capacity for single cable free in air (60°C ambient temp.) A	Current carrying capacity for single cable on a surface (60°C ambient temp.) A	Short Circuit Current (1s. from 90°C to 250°C) kA
1x1,5	black	20014125	1.6	4.4	4.8	14.4	34	23	13.7	30	29	0.21
1x1,5	blue	20004366	1.6	4.4	4.8	14.4	33	23	13.7	30	29	0.21
1x1,5	red	20004367	1.6	4.4	4.8	14.4	33	23	13.7	30	29	0.21
1x2,5	black	20004369	1.9	4.7	5.1	15.3	44	38	8.21	41	39	0.36
1x2,5	blue	20004370	1.9	4.7	5.1	15.3	44	38	8.21	41	39	0.36
1x2,5	red	20004372	1.9	4.7	5.1	15.3	44	38	8.21	41	39	0.36
1x4	black	20004374	2.4	5.2	5.6	16.8	59	60	5.09	55	52	0.57
1x4	blue	20004377	2.4	5.2	5.6	16.8	59	60	5.09	55	52	0.57
1x4	red	20004379	2.4	5.2	5.6	16.8	59	60	5.09	55	52	0.57
1x6	black	20004382	2.9	5.7	6.13	18.3	81	90	3.39	70	67	0.86
1x6	blue	20004385	2.9	5.7	6.1	18.3	78	90	3.39	70	67	0.86
1x6	red	20004388	2.9	5.7	6.1	18.3	78	90	3.39	70	67	0.86
1x10	black	20004391	4	6.8	7.2	21.6	120	150	1.95	98	93	1.43
1x16	black	20004394	5.6	8.3	8.9	36	190	240	1.24	132	125	2.29
1x25	black	20008077	6.4	10	10.7	43	280	375	0.795	176	167	3.58
1x35	black	20008078	7.5	11.1	11.8	47	380	525	0.565	218	207	5.01
1x50	black	20004396	9	12.6	13.3	53	530	750	0.393	276	262	7.15
1x70	black	20024634	10.8	14.8	15.8	61	720	1050	0.277	347	330	10.01
1x95	black	20004397	12.6	16.2	17	68	900	1425	0.21	416	395	13.59
1x120	black	20008826	14.2	17.7	18.7	75	1150	1800	0.164	488	464	17.16
1x150	black	20008828	15.8	19.7	20.7	83	1420	2250	0.132	566	538	21.45
1x185	black	20038266	17.4	21.3	22.3	89	1710	2775	0.108	644	612	26.46
1x240	black	20008079	20.4	24.2	25.5	102	2200	3600	0.082	775	736	34.32
TECSUN(PV) (C) PV1-F												
1x4 (C)	black		2.4	5.8	6.2	24.8	85		5.09			
1x6 (C)	black		2.9	6.4	6.8	27.2	105		3.39			

For cross-sections >6 mm² and above: blue and red outer sheath available on request
Standard delivery lenght: 500mt.