

PHOTOVOLTAIC CABLES

Energy and Fiber Optical Cables for Solar Energy Systems.



As the worldwide leader in the cable industry, Prysmian Group believes in the effective, efficient and sustainable supply of energy and information as a primary driver in the development of communities.

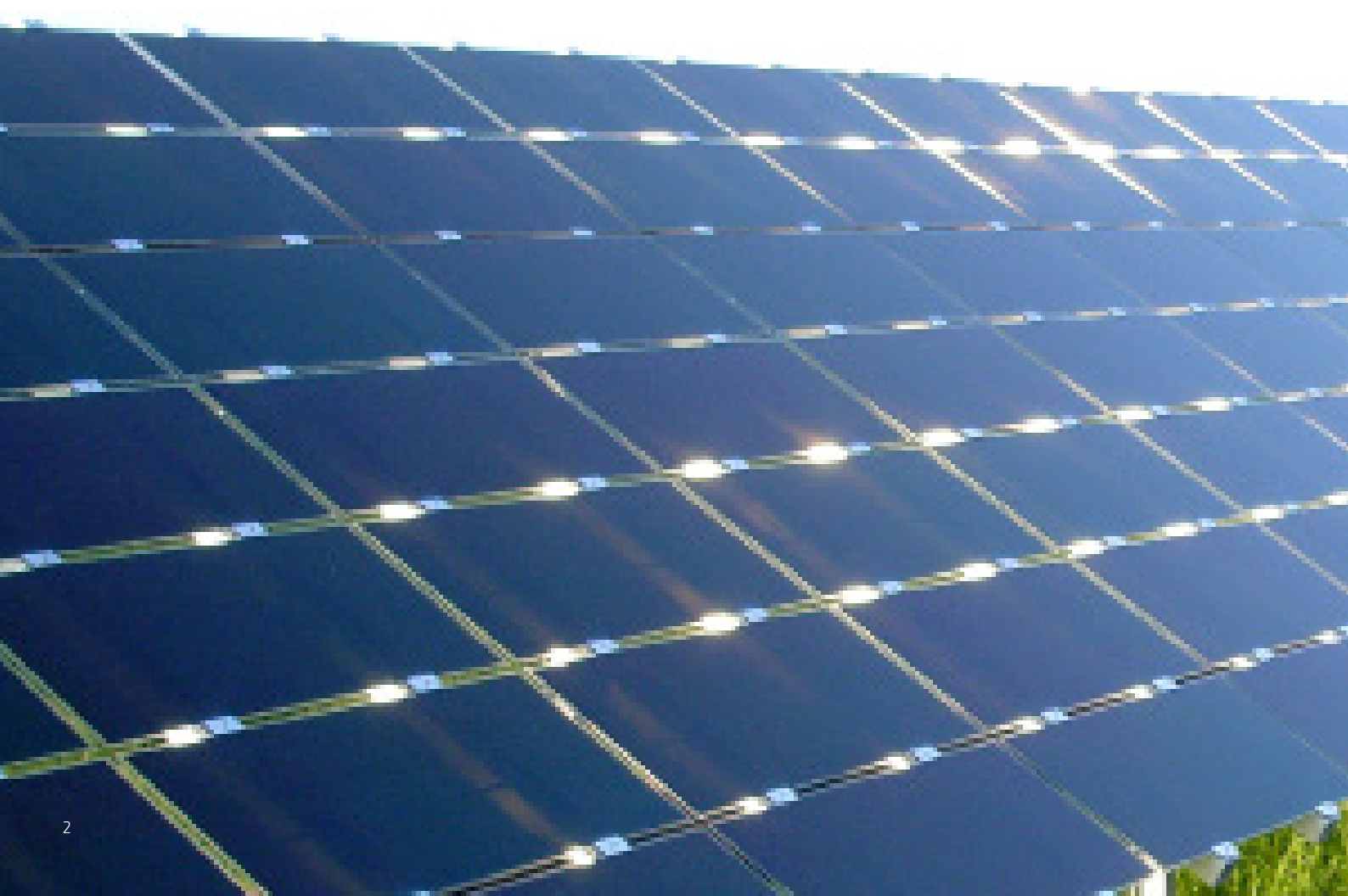
With this in mind, we offer major global organisations across industries with best-in-class cable solutions, based on state-of-the-art technology.

Through our two renowned commercial brands - Prysmian and Draka, represented in almost 50 countries, we're constantly close to our customers. Our product enable them to develop the world's energy and telecoms infrastructures, and achieve sustainable and profitable growth.

In our energy business, we design, produce, distribute and install cables and systems for the transmission and distribution of power at low, medium, high and extra-high voltage.

In telecoms, the Group is a leading manufacturer of all types of copper and fibre cables, systems and accessories - covering voice, video and data transmission.

Drawing on over 130 years' experience and continuously investing in R&D, we apply excellence, understanding and integrity to every thing we do. Our goal is to meet and exceed the precise needs of our customers across all continents, and at the same time shape the evolution of our industry.



*„We link sustainable ideas
to real-world results“*

We enable production and supply of renewable energy

To meet an ever-growing need for power, the world is increasingly turning to renewable and sustainably sourced solar energy. In response to this demand, Prysmian cables are helping businesses in the renewable industry globally to convert these new opportunities into reality.

Our technologies, which include cables used in photovoltaic plants, are used across the renewables sector, supporting the operations of contractors and developers, grid operators, system integrators and panel makers.

Always aware of our responsibility to the environment, we're constantly driving innovation in our industry, aiming to help the renewable industry deliver projects, that benefits the future of our planet and their businesses.





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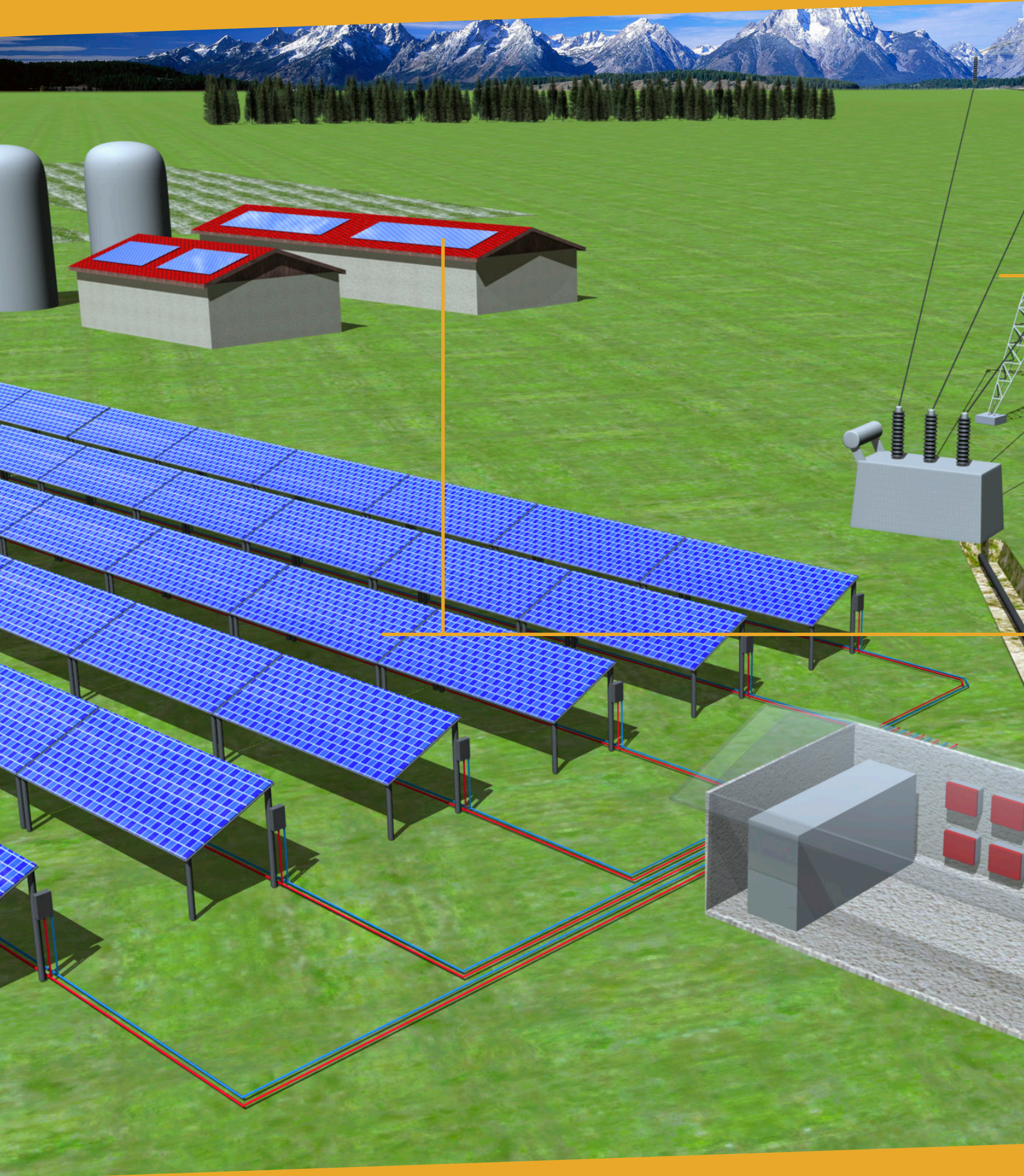
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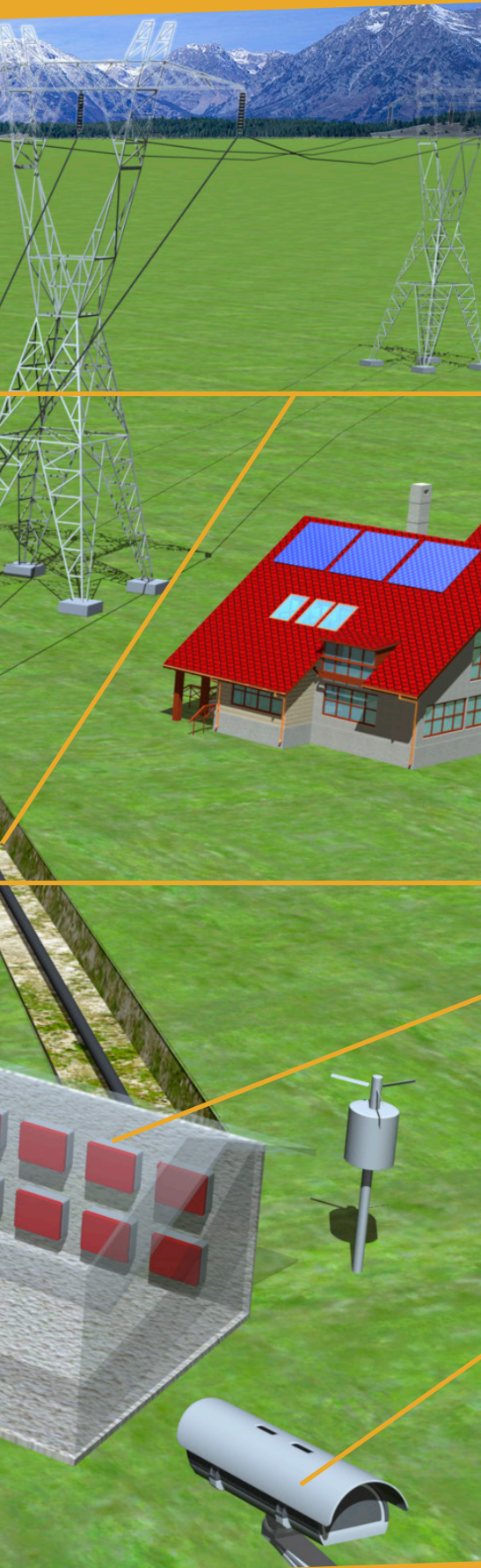
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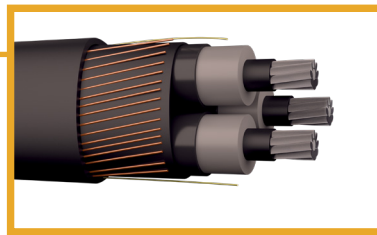
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Photovoltaic system





„Our strategy is to have a full cable portfolio and deliver all the cable types demanded for photovoltaic installation“



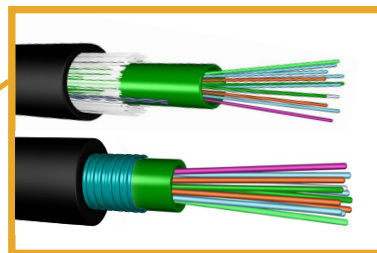
Energy cables

LV cables
MV cables
HV cables



Solar cables

TECSUN (PV) H1Z2Z2-K
TECSUN (PV) S3Z2Z2-K

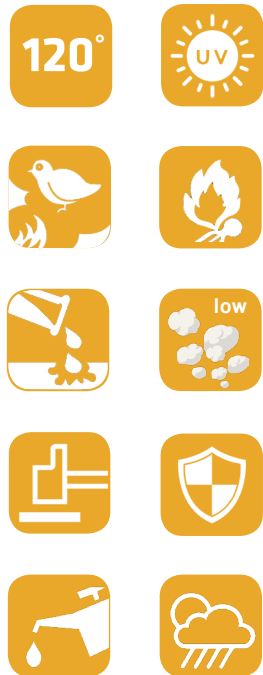
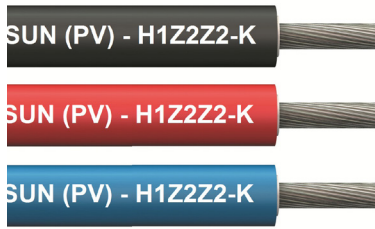


Special cables

Fibre optic cables
Data cables
Control cables

FIXED & FLEXIBLE INSTALLATION

INSTALLATION CABLE HALOGEN-FREE TECSUN (PV) H1Z2Z2-K



Application

PRYSMIAN Solar cables TECSUN (PV) – H1Z2Z2-K is intended for use in photovoltaic power supply systems indoors and outdoors, in industrial and agriculture fields. Suitable for application in equipment with protective insulation (Class II), in explosion hazard areas and may be installed as fixed or freely suspended or free movable.

Applicable for installation in cable trays, conduits, on and in walls as well as for direct burial. The cable is designed to operate at a normal maximum conductor temperature of 90°C, but for a maximum of 20 000 hours a max. conductor temperature of 120 °C at a max. ambient temperature of 90°C, is permitted.

The version TECSUN (PV)(C) H1Z2Z2-K has an additional metallic screen braid, made of tinned copper wires, as a protective element against rodents or impact.

Installation note

TECSUN(PV) cables are suitable for direct burial in ground. Installation conditions per VDE 0800 Section 174 § 5.4.2 and VDE 0891 Section 6 § 4.2 should be taken in consideration.

Technical data

- > Rated voltage: 1,5 kV DC and 1,0 kV AC
- > Max. voltage: 1,8 kV DC and 1,2 kV AC
- > Test voltage: 15 kV DC and 6,5 kV AC
- > Current carrying cap: EN 50618, A-3
- > Electrical tests: EN 50618, Table 2:

Temperature range

- > Conductor temperature: +90°C
- > Max. conductor temperature: +120°C for max. 20,000 hours
- > Short circuit temperature: +250°C 5 sec.
- > Installation temperature: -25°C to +60°C
- > Operating temperature: -40°C to +90°C
- > Resistance to cold: EN 50618, table 2

Standard & Directive & Approval

- > Standard: DIN EN 50618
- > Directive: CE, RoHS, REACH
- > Approval: <VDE>, TÜV-certificate no. 60103637

Construction

Conductor:

- > Electrolytic tinned copper
- > Finely stranded
- > Class 5 acc. to IEC 60228

Insulation:

- > Halogen-free
- > Cross-linked HEPR 120°C, white

Outer sheath:

- > Halogen-free cross-linked
- > EVA rubber 120°C
- > Insulation and sheath solidly bound
- > Colour: Black, blue or red
- > UV-resistant EN 50289-4-17, method A

All information is presumed accurate upon issuing. Prysmian Group reserves the right to change in specifications without prior warning. Product specifications are not contractually binding without prior permission from Prysmian Group.

FIXED & FLEXIBLE INSTALLATION

INSTALLATION CABLE HALOGEN-FREE

TECSUN (PV) H1Z2Z2-K**Chemical parameters**

Resistance to fire:

- > Acc. to EN 50618, Table 2
- > Single Cable Flame Test: EN 60332-1-2
- > Low Smoke Emission: EN 61034-2 (Light Transmittance > 70%)
- > Halogen-free per EN 50525-1, Annex B.

Prysmian internal tests:

- > Multiple Cable Flame Test: EN 50305-9
- > Low Toxicity per EN 50305 (ITC < 3)

Resistance to oil:

PRYSMIAN internal test, on sheath

- > 24h, 100°C (meets VDE 0473-811-404 and EN 60811-404)

Weather resistance

- > Acc. to EN 50618, Annex E and Table 2:
- > UV Resistance on sheath: tensile strength and elongation at break after 720h (360 Cycles) of exposure to UV lights acc. to EN 50289-4-17, Method A.
- > Ozone resistance: per Test Type B (DIN EN 50396).

PRYSMIAN internal test:

- > Water Absorption (Gravimetric) per DIN EN 60811-402.
- > Acid and alkaline resistance Acc. to EN 50618, Annex B:
- > 7 days, 23°C (N-Oxalic Acid, N-Sodium Hydroxide) acc. to EN 60811-404.

Ammonia Resistance:

PRYSMIAN Internal Testing:

- > 30 days in Saturated Ammonia Atmosphere. Environmentally Friendly TECSUN (PV) PV-Wire complies with the RoHS directive 2011/65/EU of the European Union.

Thermal parameters

Max. operating temperature of the conductor:

- > Max. 90°C at conductor (lifetime acc. to EN 50618 = 25 years lifetime acc. to Arrhenius-Diagram TECSUN = 30 years).
- For a maximum of 20.000 hours a max. conductor temperature of 120 °C at a max. ambient temperature of 90 °C is permitted.

Max. short circuit temperature of the conductor:

- > 250 °C (5 s.)

Ambient temperature:

- > Installation and handling: -25°C up to 60°C
- > In operation: -40°C up to +90°C

Resistance to cold:

- > Acc. to EN 50618, Table 2:
- > Cold Bending Test at -40°C acc. to DIN EN 60811-504;
- > Cold Elongation Test at -40°C acc. to DIN EN 60811-505;
- > Cold Impact Test at -40°C acc. to DIN EN 60811-506, EN 50618-C.
- > Damp-Heat Test Acc. to EN 50618, Table 2:
- > 1.000h at 90°C and 85% humidity (test acc. to EN 60068-2-78).

Mechanical parametersMax. tensile load 15 N/mm² in operation:

- > 50 N/mm² during installation per HD 516, DIN VDE 0298 section 3 ¶ 7.1 and Section 300 ¶ 5.4.1

Bending radius:

- > Acc. to EN 50565-1. See table

Abrasion resistance:

PRYSMIAN Internal Testing:

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

Shrinkage Test:

- > Acc. to EN 50618. See table
- > Maximum Shrinkage < 2% (test acc. to EN 60811-503)

Pressure Test at High Temperature:

PRYSMIAN Internal Testing:

- > 50% acc. to EN 60811-508.

Dynamic Penetration Test:

- > Acc. to EN 50618, Annex D:
- > Meets requirements of EN 50618.

Shore-Hardness:

PRYSMIAN Internal Testing:

- > Type A: 85 acc. to DIN EN ISO 868

Durability of Print:

- > Acc. to EN 50618:
- > Test acc. to EN 50396.

Rodent resistance:

- > Safety can be optimized by utilizing protective hoses and cables with spinning or braid metallic coatings

Solar cable

| TECSUN (PV) | | | | | | |
|---|---------------|------------------------|------------------------|-------------------------|--------------|------------------|
| Conductor cross-section mm ² | Sheath colour | Outer diameter min. mm | Outer diameter max. mm | Bending radius fixed mm | Weight Kg/km | Prysmian EAN-no. |
| 1x1,5 | Black | 4.4 | 5.0 | 15 | 40 | 8712943 |
| 1x2,5 | Black | 4.8 | 5.4 | 17 | 50 | 8712943 |
| 1x4 | Black | 5.3 | 5.9 | 18 | 70 | 8712943063548 |
| 1x4 | Blue | 5.3 | 5.9 | 18 | 70 | 8712943140760 |
| 1x4 | Red | 5.3 | 5.9 | 18 | 70 | 8712943140753 |
| 1x6 | Black | 5.8 | 6.4 | 20 | 80 | 8712943140746 |
| 1x6 | Blue | 5.8 | 6.4 | 20 | 80 | 8712943140784 |
| 1x6 | Red | 5.8 | 6.4 | 20 | 80 | 8712943140777 |
| 1x10 | Black | 7.0 | 7.6 | 23 | 130 | 8712943149046 |
| 1x10 | Blue | 7.0 | 7.6 | 23 | 130 | 8712943 |
| 1x10 | Red | 7.0 | 7.6 | 23 | 130 | 8712943149039 |
| 1x16 | Black | 9.0 | 9.8 | 30 | 200 | 8430220138412 |
| 1x25 | Black | 10.4 | 11.2 | 34 | 290 | 8712943 |
| 1x35 | Black | 11.7 | 12.5 | 50 | 400 | 8712943 |
| 1x50 | Black | 13.5 | 14.5 | 58 | 550 | 8712943 |
| 1x70 | Black | 15.5 | 16.5 | 66 | 750 | 8712943 |
| 1x95 | Black | 17.7 | 18.7 | 75 | 970 | 8712943 |
| 1x120 | Black | 19.2 | 20.4 | 82 | 1220 | 8712943 |
| 1x150 | Black | 21.4 | 22.6 | 91 | 1510 | 8712943 |
| 1x185 | Black | 23.7 | 25.1 | 101 | 1850 | 8712943 |
| 1x240 | Black | 27.1 | 28.5 | 114 | 2400 | 8712943 |
| TECSUN (PV)(C) | | | | | | |
| 1x4 (C) | Black | 6 | 6,6 | 26,4 | 90 | 8712943 |
| 1x6 (C) | Black | 6,5 | 7,1 | 28,4 | 110 | 8712943 |

| TECSUN (PV) | | | | | |
|---|----------------------------------|---|--|---|---|
| Conductor cross-section mm ² | Conductor outer diameter max. mm | Max. conductor resistance at 20°C Ω /km | Current carrying capacity A In air at 60°C | Current carrying capacity A On surface 60°C | Short Circuit current kA 1sec. 90-250°C |
| 1x1,5 | 1.6 | 13.7 | 30 | 29 | 0.21 |
| 1x2,5 | 1.9 | 8.21 | 41 | 39 | 0.36 |
| 1x4 | 2.4 | 5.09 | 55 | 52 | 0.57 |
| 1x6 | 2.9 | 3.39 | 70 | 67 | 0.86 |
| 1x10 | 4 | 1.95 | 98 | 93 | 1.43 |
| 1x16 | 5.6 | 1.24 | 132 | 125 | 2.29 |
| 1x25 | 6.4 | 0.795 | 176 | 167 | 3.58 |
| 1x35 | 7.5 | 0.565 | 218 | 207 | 5.01 |
| 1x50 | 9 | 0.393 | 276 | 262 | 7.15 |
| 1x70 | 10.8 | 0.277 | 347 | 330 | 10.01 |
| 1x95 | 12.6 | 0.21 | 416 | 395 | 13.59 |
| 1x120 | 14.2 | 0.164 | 488 | 464 | 17.16 |
| 1x150 | 15.8 | 0.132 | 566 | 538 | 21.45 |
| 1x185 | 17.4 | 0.108 | 644 | 612 | 26.46 |
| 1x240 | 20.4 | 0.082 | 775 | 736 | 34.32 |
| TECSUN (PV)(C) | | | | | |
| 1x4 (C) | 2,4 | 5,09 | 55 | 52 | 0,57 |
| 1x6 (C) | 2,9 | 3,39 | 70 | 67 | 0,86 |

FIXED & FLEXIBLE INSTALLATION

INSTALLATION CABLE HALOGEN-FREE

TECSUN (PV) S3Z2Z2-K 1,8/3 kV AC



Application

Halogen-free single core cables, sheathed, for junction boxes and inverters, with improved fire performance, increased heat resistance and suitable for direct burial. Intended for use in photovoltaic power supply systems, at nominal voltage rate of 1,8/3kV AC, as interconnection between central inverter and transformer station.

Applicable indoor and outdoor in explosive and hazardous areas within industry and agriculture. Also suitable for applications in equipment with protective insulation class II or as short and ground fault protection. Can also be used as unfused connections in switchgear and distribution boards up to 1000 V (DIN VDE 0100-520 and DIN VDE 0660-500) and in accumulator circuits (DIN 5510 part 5).

Installation note

TECSUN(PV) cables are suitable for direct burial in ground. Installation conditions per VDE 0800 Section 174 § 5.4.2 and VDE 0891 Section 6 § 4.2 should be taken in consideration.

Technical data

- > Rated voltage: 1,8/3 kV AC
- > Max. operating voltage AC: 2,1/3,6 kV
- > Max. operating voltage DC: 2,7/5,4 kV
- > AC test voltage: 6,5 kV (5.min)
- > Current carrying cap: DIN VDE 0298-4

Mechanical data

- Tensile load:
- > Max. 15 N/mm² in operation
 - > Max. 50 N/mm² during installation
- Torsion stress:
- > Max. ± 150°/m during installation
- Bending radius:
- > Acc. to DIN VDE 0298 part 3.

Temperature range

- > Operating temperature: +90°C
- > Max. conductor temperature: +120°C for max. 20,000 hours
- > Short circuit temperature: +250°C
- > Fixed installation: -40°C to +90°C
- > Flexible installation: -40°C to +90°C

Standard & Direktive

- > Standard: DIN EN 50618
- > Direktive: CE, RoHS, REACH

Construction

Conductor:

- > Finely stranded tinned copper
- > Class 5 acc. to IEC 60228

Insulation:

- > Halogen-free
- > Heat resistant
- > Cross-linked rubber compound
- > Acc. to DIN VDE 0250-606

Outer sheath:

- > Halogen-free cross-linked
- > Heat resistant
- > Cross-linked rubber compound
- > Acc. to DIN VDE 0250-606
- > Black and meter marked
- > UV-resistant

Chemical data

Flame-retardant:

- > IEC 60332-1-2 single cable
- > IEC 60332-3-24 bunched cables

Smoke emission:

- > EN 61034-2 light emission ≥ 70%

Halogen-free:

- > EN 60754-1

Corrosivity:

- > EN 60754-1
- > pH ≥ 4,3 and
- > Conductivity ≤ 2,5 µS/mm

Toxicity:

- > EN 50305 index ITC = 3

Weather resistance:

- > EN 50618
- > Ozone resistant
- > UV-resistant

Acidity and alkaline resistance:

- > EN 50618

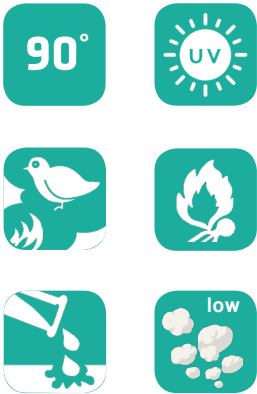
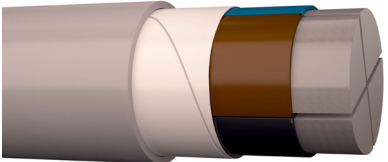
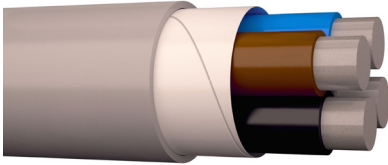
| Conductor cross section mm ² | Outer diameter min.mm | Outer diameter max.mm | Bending radius fixed min.mm | Weight Kg/km | Prysmian EAN-no. |
|---|-----------------------|-----------------------|-----------------------------|--------------|------------------|
| 1x25 | 13.2 | 14.4 | 87 | 380 | |
| 1x35 | 14.3 | 15.5 | 93 | 470 | |
| 1x50 | 15.6 | 17.1 | 103 | 640 | |
| 1x70 | 17.1 | 19.1 | 115 | 820 | |
| 1x95 | 19.4 | 21.4 | 129 | 1060 | |
| 1x120 | 21.5 | 23.5 | 141 | 1320 | |
| 1x150 | 23.1 | 25.1 | 151 | 1590 | |
| 1x185 | 25.1 | 27.1 | 163 | 1910 | |
| 1x240 | 28 | 30 | 180 | 2450 | |
| 1x300 | 31 | 34 | 204 | 3030 | |

| Conductor cross section mm ² | Conductor diameter max.mm | Permissible tensile force max.N | Conductor resistance 20°C max Ω/km | Current carrying cap. Air A | Short circuit current 90-250°C kA |
|---|---------------------------|---------------------------------|------------------------------------|-----------------------------|-----------------------------------|
| 1x25 | 6,3 | 375 | 0.795 | 176 | 3.58 |
| 1x35 | 7,4 | 525 | 0.565 | 218 | 5.01 |
| 1x50 | 8,9 | 750 | 0.393 | 276 | 7.15 |
| 1x70 | 10,6 | 1050 | 0.277 | 347 | 10.01 |
| 1x95 | 12,1 | 1425 | 0.21 | 416 | 13.59 |
| 1x120 | 14,2 | 1800 | 0.164 | 488 | 17.16 |
| 1x150 | 15,8 | 2250 | 0.132 | 566 | 21.45 |
| 1x185 | 17,4 | 2775 | 0.108 | 644 | 26.46 |
| 1x240 | 20,2 | 3600 | 0.082 | 775 | 34.32 |
| 1x300 | 22,9 | 4500 | 0.065 | 898 | 42.9 |

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FIXED INSTALLATION

INSTALLATION CABLE HALOGEN-FREE HIK AL-M 0,6/1 kV



Application

Halogen-free and fire-retardant cable with low smoke and corrosive gas emission during fire. Suitable for application indoors and outdoors in pipes, trays or for direct burial. Can be ploughed down with caution. Must be installed according to S.B.

Technical data

- > Rated voltage: 0,6/1 kV
- > Test voltage: 4000 V
- > Bending radius: 15 x D

Temperature area

- > Max. conductor temperature: +90°C
- > Short circuit temperature: +250°C
- > Lowest tempe. at installation: -20°C
- > Below 0°C caution must be exercised

Standard & Directive & Approval

Standard:

- > Cenelec HD 604-5D, IEC 60502-1
- > Cenelec N1ZC7Z1-U (R-S), N1ZA5Z1-U

Direktive:

- > Fulfills LVD, RoHS & REACH

CPR:

- > CE-marked acc. to class Eca
- > DoP no. 1002845 ($\leq 25 \text{ mm}^2$) [download](#)
- > DoP no. 1004273 ($\geq 50 \text{ mm}^2$) [download](#)
- > DoP finder: www.dop.prysmian.dk

Construction

Conductor:

- > Solid annealed aluminium
- > Acc. to IEC 60228 class 1.
- > From 16-25mm² : round
- > From 150-240mm² : sector shaped

Insulation:

- > PEX

Core colouring:

- > 4-core: brown, black, grey, blue
- > 5-core: brown, black, grey, blue, yellow/green

Separator:

- > Plastic tape

Outer sheath:

- > Halogen-free compound
- > UV-resistant
- > Grey and meter marked

Material characteristics

- > Flame-retardant: IEC 60332-1
- > Halogen-free: IEC 60754-1
- > Corrosivity: IEC 60754-2
- > Smoke density: IEC 61034
- > Current load: Acc. to SB 2001:6

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| Conductor cross section mm ² | Outer diameter mm | Weight kg/km | Max. current load A | Delivery m | Prysmian EAN-no. |
|---|-------------------|--------------|---------------------|------------|------------------|
| 4 x 16 | 20,0 | 506 | 77 | T1000 | 4741532901002 |
| 5 G 16 | 21,3 | 582 | 77 | T1000 | 4741532901026 |
| 4 x 25 | 24,0 | 740 | 97 | T1000 | 4741532901019 |
| 5 G 25 | 25,6 | 856 | 97 | T1000 | 4741532901033 |
| 4 x 50 | 25,4 | 775 | 146 | T1000 | 5701498014849 |
| 4 x 95 | 33,2 | 1393 | 227 | T1000 | 5701498014887 |
| 4 x 150 | 40,1 | 2104 | 304 | T1000 | 5701498014931 |
| 4 x 240 | 49,7 | 3485 | 409 | T1000 | 5701498014986 |

FIXED INSTALLATION

INSTALLATION CABLE HALOGEN-FREE HIK AL-S 0,6/1 kV

Application

Halogen-free fire retardant cable with low smoke and corrosive gas emission during fire. Suitable for application indoors and outdoors in pipes, trays or for directly burial in soil. Can be ploughed down with caution. Must be installed according to S.B.

Technical data

- > Rated voltage: 0,6/1 kV
- > Test voltage: 4000 V
- > Bending radius: 15 x D

Temperature area

- > Max. conductor temperature: +90°C
- > Short circuit temperature: +250°C
- > Lowest temp. at installation: -20°C
- > Below 0°C caution must be exercised

Standard & Direktive & Godkendelse

Standard:

- > Cenelec HD 604-5D, IEC 60502-1

Direktive:

- > Fulfills LVD, RoHS & REACH

CPR:

- > CE-marked iht. class Eca
- > DoP no. 1002844 - download PDF
- > DoP finder: www.dop.prysmian.dk

Construction

Conductor:

- > Stranded annealed aluminium
- > Acc. to EC 60228 class 2.
- > From 50-240 mm²: sector shaped

Insulation:

- > PEX

Core colouring:

- > 4-core: brown, black, grey, blue

Seperator:

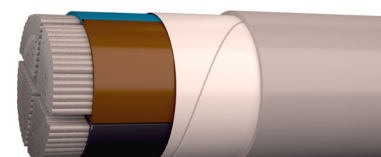
- > Plastic tape

Outer sheath:

- > Halogen-free compound
- > UV-resistant
- > Gray and meter marked

Material characteristics

- > Flame-retardant: IEC 60332-1
- > Halogen-free: IEC 60754-1
- > Corrosivity: IEC 60754-2
- > Smoke density: IEC 61034
- > Current load: Acc. to SB 2001:6

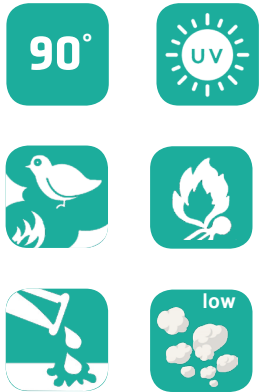
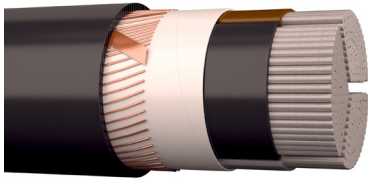


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| Conductor cross section mm ² | Outer diameter mm | Weight kg/km | Max. current load A | Delivery m | Prysmian EAN-no. |
|---|-------------------|--------------|---------------------|------------|------------------|
| 4 x 50 | 27,7 | 900 | 146 | 1000 | 5701498014719 |
| 4 x 70 | 31,0 | 1180 | 187 | 1000 | 4741532901040 |
| 4 x 95 | 35,1 | 1450 | 227 | 1000 | 5701498014726 |
| 4 x 120 | 42,0 | 1945 | 263 | 1000 | 4741532901057 |
| 4 x 150 | 43,6 | 2210 | 304 | 1000 | 5701498014733 |
| 4 x 185 | 48,0 | 2925 | 347 | 1000 | 4741532901064 |
| 4 x 240 | 53,7 | 3485 | 409 | 500 | 5701498014740 |
| 4 x 300 | 59,0 | 4575 | 471 | 500 | 4741532900043 |

FIXED INSTALLATION

INSTALLATION CABLE HALOGEN-FREE **AXQJ PURE 0,6/1 kV**



Application

Halogen-free, flame retardant and self-extinguishing in case of fire. Smoke emission during fire is low, transparent and not harmful to electronic equipment. Applicable as power cable for fixed installation indoors and outdoors, in pipes, ground or water as well as in switchgear and explosive environments. Can with caution be plowed down.

Technical data

- > Rated voltage: 0,6/1 kV
- > Test voltage: 4000 V

Bending radius:

- > Fixed installation 8 x D
- > During installation 12 x D
- > Ploughed down: 8 x D

Temperature area

- > Max. conductor temperature: +90°C
- > Short circuit temperature: +250°C
- > Lowest temp. at installation: -20°C
- > Below 0°C caution must be exercised

Standard & Directive & Approval

Standard:

- > Cenelec HD 603 part 3, section L
- > Cenelec HD 604 - HF materials

Directive:

- > Fulfills LVD, RoHS, REACH-direktives

CPR:

- > CE-marked acc. to class Dca-s2d2a2
- > DoP no. see table
- > DoP finder: www.dop.prysmian.dk

Construction

Conductor:

- > Multi-stranded annealed
- > Sector-shaped
- > Aluminium acc. to IEC/EN 60228 class 2.

Insulation:

- > PEX

Core colouring:

- > 3-core: brown, black, grey
- > 4-core: brown, black, grey, blue

Screen:

- > Concentric screen of annealed copper wire with counter spiral of copper band

Inner sheath:

- > Halogen-free compound

Outer sheath:

- > Halogen-free compound
- > UV-resistant
- > Black and meter marked

Material characteristics

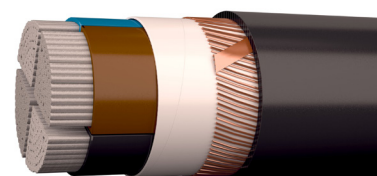
- > Flame-retardant: IEC 60332-1 & 3
- > Halogen-free: IEC 60754-1 & 2
- > Smoke density: IEC 61034
- > Corrosivity: IEC 60754-1 & 2
- > Current load: Acc. to SB 2001:6

All information is presumed accurate upon issuing. Prysmian Group reserves the right to change in specifications without prior warning. Product specifications are not contractually binding without prior permission from Prysmian Group.



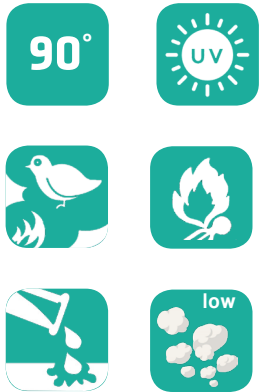
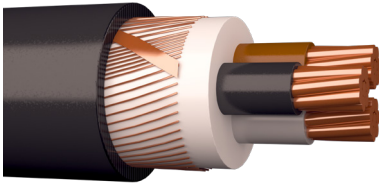
| Conductor cross-section mm ² | Outer diameter mm | Weight kg/km | Max. current load A | Delivery m | DoP no. link to PDF | Prysmian EAN-no. |
|---|-------------------|--------------|---------------------|------------|-------------------------|------------------|
| 3 x 50/15 | 26,4 | 92 | 146 | 500 | 1000140 | 7330384719407 |
| 3 x 70/21 | 29,9 | 122 | 187 | 500 | 1000141 | 7330384719414 |
| 3 x 95/29 | 33,5 | 158 | 227 | 500 | 1000142 | 7330384719421 |
| 3 x 120/41 | 37,4 | 176 | 263 | 500 | 1000143 | 7330384719438 |
| 3 x 150/41 | 40,8 | 208 | 304 | 500 | 1000144 | 7330384719445 |
| 3 x 185/57 | 45,4 | 265 | 347 | 500 | 1000145 | 7330384719452 |
| 3 x 240/72 | 49,7 | 334 | 409 | 500 | 1000146 | 7330384719469 |
| 4 x 50/15 | 29,7 | 113 | 146 | 500 | 1000148 | 7330384719483 |
| 4 x 70/21 | 33,6 | 150 | 187 | 500 | 1000149 | 7330384719490 |
| 4 x 95/29 | 37,7 | 194 | 227 | 500 | 1000150 | 7330384719506 |
| 4 x 120/41 | 42,2 | 217 | 263 | 500 | 1000151 | 7330384719513 |
| 4 x 150/41 | 46,2 | 261 | 304 | 500 | 1000152 | 7330384719520 |
| 4 x 185/57 | 51,3 | 329 | 347 | 500 | 1000153 | 7330384719537 |
| 4 x 240/72 | 56,2 | 415 | 409 | 500 | 1000154 | 7330384719544 |
| 4x300/88 | 61,2 | 538 | 471 | 500 | 1000155 | 7330384719551 |

* Additional cross-sections can be ordered upon request



FIXED INSTALLATION

INSTALLATION CABLE HALOGEN-FREE FXQJ PURE 0,6/1 kV



Application

Halogen-free, flame-retardant and self-extinguishing in case of fire. Smoke emission during fire is low and transparent and not harmful to electronic equipment. Applicable as power cable for fixed installation indoors and outdoors, in pipes, ground or water as well as in switchgear and explosive environments. Can with caution be ploughed down.

Technical data

- > Rated voltage: 0,6/1 kV
- > Test voltage: 4000 V
- Bending radius:
 - > Fixed installation 8 x D
 - > During installation 12 x D
 - > Ploughed down: 8 x D

Temperature area

- > Max. conductor temperature: +90°C
- > Short circuit temperature: +250°C
- > Lowest temp. at installation: -20°C
- > Below 0°C caution must be exercised

Standard & Directive & Approval

Standard:

- > Cenelec HD 603 part 3, section L
- > Cenelec HD 604 - HF materials

Direktive:

- > Fulfills LVD, RoHS & REACH

CPR:

- > CE-marked acc. to class Dca-s2d2a2
- > DoP no. 1001413 - download PDF
- > DoP finder: www.dop.prysmian.dk

Construction

Conductor:

- > Multi stranded annealed copper
- > Acc. to IEC/EN 60228 class 2.
- > Round

Insulation:

- > PEX

Core colouring:

- > 3-core: brown, black, grey
- > 4-core: brown, black, grey, blue

Screen:

- > Concentric screen of annealed copper wire with counter spiral of copper band

Inner sheath:

- > Halogen-free compound, extruded

Outer sheath:

- > Halogen-free compound
- > UV-resistant
- > Black and meter marked

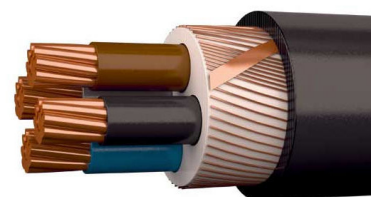
Material characteristics

- > Flame-retardant: IEC 6332-1 & 3
- > Halogen-free: IEC 60754-1, -2
- > Smoke density: IEC 61034-1, -2
- > Corrosivity: IEC 60754-1 & 2
- > Current load: Acc. to SB 2001:6

All information is presumed accurate upon issuing. Prysmian Group reserves the right to change in specifications without prior warning. Product specifications are not contractually binding without prior permission from Prysmian Group.



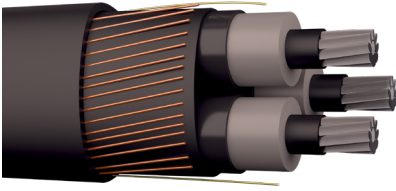
| Conductor cross section mm ² | Outer diameter mm | Weight Kg/km | Delivery m | Drum size | Prysmian EAN-no. |
|---|-------------------|--------------|------------|-----------|------------------|
| 3×2,5/2,5 | 12,9 | 245 | 500 | K07 | 6430010758174 |
| 3×6/6 | 15,8 | 430 | 500 | K09 | 6430010758181 |
| 3×10/10 | 18,3 | 640 | 500 | K11 | 6430010758150 |
| 3×16/16 | 20,7 | 920 | 500 | K11 | 6430010758167 |
| 4×2,5/2,5 | 13,8 | 285 | 500 | K07 | 6430010758211 |
| 4×6/6 | 16,9 | 505 | 500 | K09 | 6430010758228 |
| 4×10/10 | 19,7 | 755 | 500 | K11 | 6430010758198 |
| 4×16/16 | 22,4 | 1095 | 500 | K11 | 6430010758204 |



BURIAL / HANGING INSTALLATION

POWER CABLE HALOGEN-FREE

AXLJ-RMF 6/10 (12) kV



Application

AXLJ-RMF is a 3-core cable designed for replacement of bare overhead lines. Primary developed to be ploughed down but thanks to the robust design the cable can stand the stresses that appears when laid in water with moderate currents and limited depth.

Technical data

- > Rated voltage: 6/12 kV

Bending radius:

- > Fixed 8 x D
- > During laying: 12 x D
- > Ploughed down: 8 x D

Temperature area

- > Max. conductor temperature: +90°C
- > Short-circuit temperature: +250°C
- > Lowest temp. at installation: -20°C
- > Below 0°C caution must be exercised

Standard & Directive

Standard:

- > Cenelec HD 620 part 10, section M

Direktive:

- > Fulfills LVD
- > Fulfills RoHS and REACH-direktives

Construction

Conductor:

- > Multi stranded aluminium
- > Round and compacted
- > Acc. to IEC 60228 class 2.
- > Longitudinal watertight

Inner conductive layer:

- > Sprayed

Insulation:

- > XLPE, thickness 2,96 mm

Outer conductive layer:

- > Adherent

Separator:

- > Conductive tape

Core colouring:

- > 3-core: brown, black, grey
- > 4-core: brown, black, grey, blue

Screen:

- > Concentric screen of annealed copper wires

Draw string:

- > Kevlar

Outer sheath:

- > Composite PE
- > Black and meter marked



All information is presumed accurate upon issuing. Prysmian Group reserves the right to change in specifications without prior warning. Product specifications are not contractually binding without prior permission from Prysmian Group.

| Conductor cross-section mm ² | Diameter over Isolation mm | Outer diameter mm | Weight Kg/km | Delivery m | Drum size | Prysmian EAN-no. |
|---|----------------------------|-------------------|--------------|------------|-----------|------------------|
| 3x50/16 | 15,3 | 42,4 | 1271 | 500 | K18 | |
| 3x95/25 | 18,6 | 49,9 | 1921 | 500 | K20 | |
| 3x150/25 | 21,5 | 56,8 | 2576 | 500 | K22 | |
| 3x240/35 | 25,4 | 65,6 | 3587 | 500 | K24 | |

| Conductor cross section mm ² | Conductor resistance Ω/km | Screen resistance Ω/km | Inductance mH/km | Reactance Ω/km | Capacitance μF/km | Changing current / phase A/km | Earth fault current A/km |
|---|---------------------------|------------------------|------------------|----------------|-------------------|-------------------------------|--------------------------|
| 3x50/16 | 0,641 | 1,2 | 0,34 | 0,11 | 0,23 | 0,5 | 1,4 |
| 3x95/25 | 0,32 | 0,8 | 0,31 | 0,1 | 0,3 | 0,6 | 1,8 |
| 3x150/25 | 0,206 | 0,8 | 0,29 | 0,09 | 0,35 | 0,7 | 2 |
| 3x240/35 | 0,125 | 0,6 | 0,27 | 0,09 | 0,43 | 0,8 | 2,5 |

| Conductor cross-section mm ² | Current rating at core temp. 65°C in ground A | Current rating at core temp. temp. 65°C in air A | Current rating at core temp. temp. 90°C in air A | Max. short-circuit current at 65°C kA | Max. short-circuit current at 90°C kA | Max. pulse current kA |
|---|---|--|--|---------------------------------------|---------------------------------------|-----------------------|
| 3x50/16 | 145 | 130 | 160 | 5,2 | 4,7 | 55 |
| 3x95/25 | 205 | 190 | 230 | 9,9 | 8,9 | 65 |
| 3x150/25 | 260 | 250 | 305 | 15,6 | 14,2 | 70 |
| 3x240/35 | 340 | 330 | 400 | 25 | 22,7 | 70 |

Nominal values unless otherwise specified.

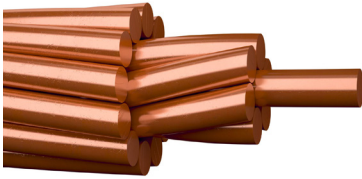
Conditions:

- Maximum operating temperature 90 °C
- Soil temperature 15 °C
- Air temperature 20 °C
- Soil heat resistivity 1.0 °K * m / W
- Accommodation depth 0.65 m
- Frequency 50 Hz

GROUNDING

STRANDED ANNEALED COPPER CONDUCTOR

HK



Application

Annealed copper wire for grounding of metal parts from transformer station to different systems of railway networks.

Technical data

Bending radius:

- > During installation: 15 x D
- > Fixed: 10 x D

Pulling force:

- > Using eye or grip: max. 50 N/mm²

Standard & Directive

Standard:

- > IEC 60228

Directive:

- > Fulfills RoHS

Construction

Conductor:

- > Round
- > Copper wires
- > Annealed
- > Stranded acc. to IEC 60228 class 2.

All information is presumed accurate upon issuing. Prysmian Group reserves the right to change in specifications without prior warning. Product specifications are not contractually binding without prior permission from Prysmian Group.

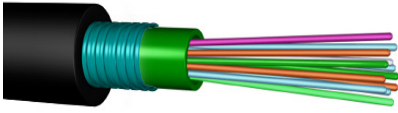
| Conductor cross-section mm ² | Outer diameter mm | Weight kg/km | Standard length m | Prysmian EAN no. |
|---|-------------------|--------------|-------------------|------------------|
| 1 x 16 | 5.1 | 145 | 500 - K6 | 6410001053167 |
| 1 x 16 | 5.1 | 145 | 25 | 6410001052054 |
| 1 x 16 | 5.1 | 145 | 50 | 6410001052061 |
| 1 x 16 | 5.1 | 145 | 100 | 6410001052078 |
| 1 x 25 | 6.5 | 225 | 500 - K6 | 6410001053273 |
| 1 x 25 | 6.5 | 225 | 100 | 6410001053259 |
| 1 x 25 | 6.5 | 225 | 50 | 6410001053242 |
| 1 x 25 | 6.5 | 225 | 25 | 6410001053235 |
| 1 x 35 | 7.6 | 315 | 1000 - K7 | 6410001053358 |
| 1 x 50 | 9 | 430 | 1000 - K7 | 6410001053501 |
| 1 x 70 | 11 | 610 | 1000 - K9 | 6410001053709 |
| 1 x 95 | 13 | 850 | 1000 - K11 | 6410001053952 |
| 1 x 120 | 15 | 1,100 | 500 - K11 | 6410001053976 |
| 1 x 150 | 16 | 1,312 | 500 - K11 | 6410001050142 |



FIXED INSTALLATION

UC FIBRE - OUTDOOR CENTRAL TUBE CABLE

1000N 2-24 FIBRES LLDPE - A-DQ(ZN)B2Y



Application

Outdoor central tube cable with 2-24 fibres, glass elements and LLDPE sheath. Applicable for LAN and WAN backbones, telecom access lines, fibre to business and fibre to the building drop connections as well as fibre to the home drop and access connections. With its LLDPE sheathing this cable is ideal for outdoor installation where the installation conditions are not too harsh.

The cable features a high tensile strength and a degree of rodent protection, effective in many cases. It is equally suited for installation in ducts and on trays.

The cable is UV-resistant, metal-free and longitudinally watertight.

Standard

- > IEC 60794-1
- > ISO 11801 2nd edition
- > EN 50173-1:2002

Construction

Loose tube:

- > $\varnothing 2.8$ mm jelly filled tube with 2-16 fibres
- > $\varnothing 3.5$ mm loose tube with 24 fibres

Strength member:

- > Waterblocker E-Glass fiber element

Fiber colour code $\varnothing 2.8$ mm:

- > Red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink

Fiber colour code $\varnothing 3,5$ mm:

- > Yellow, white, grey, turquoise, orange, pink, yellow, white, grey, turquoise, orange, pink.

Sheath:

- > LLDPE 1.0 mm
- > Acc. to IEC 60811 and IEC 60708
- > Black

Physical properties

Nominal outer diameter:

- > 2-16 fibres: 6,0 mm
- > 18-24 fibres: 6,5 mm

Nominal weight:

- > 2-6 fibres: 40 kg/km
- > 18-24 fibres: 45 kg/km

Tensile strength:

- > Test E1 acc. to IEC 60794-1-2
- > Max. installation: 1000 N
- > Short term: 750 N

Compressive strength (crush):

- > E3 test method: 1500 N

Impact:

- > E4 test method: 15 Nm

Torsion (E7 test method):

- > 5 cycles ± 1 turn

Kink (E10 test method):

- > No kink for loop of diameter 100mm

Bending radius (E11 test method):

- > Unloaded: min. R = 60 mm
- > Loaded: min. R = 100 mm

Temperature range (F1 test method):

- > Storage: -40°C to $+60^{\circ}\text{C}$
- > Installation: -20°C to $+40^{\circ}\text{C}$
- > Operations: -20°C to $+60^{\circ}\text{C}$

Water penetration (F5B test method):

- > No water on free end

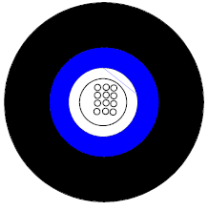
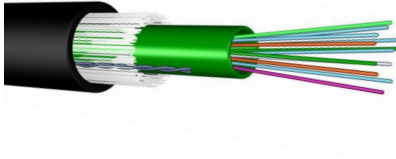
All information is presumed accurate upon issuing. Prysmian Group reserves the right to change in specifications without prior warning. Product specifications are not contractually binding without prior permission from Prysmian Group.

| Product name: E16a datasheet | Fiber count | Fiber type | Fiber datasheet | Material code |
|------------------------------------|-------------|-------------------------------|-----------------|---------------|
| UCFIBRE O CT D DA PE 1.0kN 2 MM51 | 2 | OM2 50/125 multi mode 500/500 | C23 | 1021177 |
| UCFIBRE O CT D DA PE 1.0kN 4 MM51 | 4 | OM2 50/125 multi mode 500/500 | C23 | 1017451 |
| UCFIBRE O CT D DA PE 1.0kN 6 MM51 | 6 | OM2 50/125 multi mode 500/500 | C23 | 1027494 |
| UCFIBRE O CT D DA PE 1.0kN 8 MM51 | 8 | OM2 50/125 multi mode 500/500 | C23 | 1017452 |
| UCFIBRE O CT D DA PE 1.0kN 12 MM51 | 12 | OM2 50/125 multi mode 500/500 | C23 | 1017071 |
| UCFIBRE O CT D DA PE 1.0kN 24 MM51 | 24 | OM2 50/125 multi mode 500/500 | C23 | 1017122 |
| UCFIBRE O CT D DA PE 1.0kN 6 OM3B | 2 | MaxCap-BB-OM3 multi mode | C31 | 1024672 |
| UCFIBRE O CT D DA PE 1.0kN 12 OM3B | 4 | MaxCap-BB-OM3 multi mode | C31 | 1019213 |
| UCFIBRE O CT D DA PE 1.0kN 24 OM3B | 8 | MaxCap-BB-OM3 multi mode | C31 | 1019214 |
| UCFIBRE O CT D DA PE 1.0kN 4 MM61 | 4 | OM1 62.5/125 multi mode | C02 | 1017063 |
| UCFIBRE O CT D DA PE 1.0kN 6 MM61 | 6 | OM1 62.5/125 multi mode | C02 | 1017065 |
| UCFIBRE O CT D DA PE 1.0kN 8 MM61 | 8 | OM1 62.5/125 multi mode | C02 | 1019212 |
| UCFIBRE O CT D DA PE 1.0kN 12 MM61 | 12 | OM1 62.5/125 multi mode | C02 | 1017069 |
| UCFIBRE O CT D DA PE 1.0kN 16 MM61 | 16 | OM1 62.5/125 multi mode | C02 | 1017120 |
| UCFIBRE O CT D DA PE 1.0kN 24 MM61 | 24 | OM1 62.5/125 multi mode | C02 | 1017542 |
| UCFIBRE O CT D DA PE 1.0kN 2 SM2D | 2 | OS2 Single mode | C03e | 1021176 |
| UCFIBRE O CT D DA PE 1.0kN 4 SM2D | 4 | OS2 Single mode | C03e | 1017064 |
| UCFIBRE O CT D DA PE 1.0kN 6 SM2D | 6 | OS2 Single mode | C03e | 1017066 |
| UCFIBRE O CT D DA PE 1.0kN 12 SM2D | 12 | OS2 Single mode | C03e | 1017070 |
| UCFIBRE O CT D DA PE 1.0kN 16 SM2D | 16 | OS2 Single mode | C03e | 1025745 |
| UCFIBRE O CT D DA PE 1.0kN 24 SM2D | 24 | OS2 Single mode | C03e | 1017121 |

FIXED INSTALLATION

UC FIBRE - OUTDOOR CENTRAL TUBE CABLE

1500N 2-24 FIBERS LLDPE A-DQ(ZN)B2Y



Application

Central tube cable with up to 24 fibers and a diameter of 2.8 or 3.5 mm. Coated glass rovings gives the cable a high tensile strength and a certain rodent protection. With its LLDPE sheathing this cable is ideal for outdoor installation. Applicable for primary area (campus backbone) for medium and long distances, with installation in ducts or trays as well as for direct burial with proper sand back filling.

The cable is UV-resistant, metal-free and longitudinally watertight.

Standard

- > IEC 60794-1
- > ISO 11801 2nd edition
- > EN 50173-1

Construction

Loose tube:

- > ø2.8 mm jelly filled with 2-16 fibres
- > ø3.5 mm loose tube with 24 fibres

Strength member:

- > Waterblocker E-Glass fiber element

Fiber colour code ø2.8 mm:

- > Red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink

Fiber colour code ø3,5 mm:

- > Yellow, white, grey, turquoise, orange, pink, yellow, white, grey, turquoise, orange, pink.

Sheath:

- > LLDPE 1.2 mm
- > Acc. to IEC 60811 and IEC 60708
- > Black

Physical properties

Nominal outer diameter:

- > 2-6 fibres: 6,5 mm
- > 24 fibres: 7,0 mm

Nominal weight:

- > 2-6 fibres: 40 kg/km
- > 24 fibres: 45 kg/km

Maximum installation tensile strength:

- > 1500 N

Tensile strength (E1 test method):

- > Dynamic: 1000 N
- > Permanent: 750 N

Compressive strength (crush):

- > E3 test method: 2000 N

Impact:

- > E7 test method: 20 Nm

Torsion (E7 test method):

- > 5 cycles ± 1 turn

Kink (E10 test method):

- > No kink for loop of 200 mm

Bending radius (E11 test method):

- > Unloaded: min. R = 60 mm
- > Loaded: min. R = 100 mm

Temperature range (F1 test method):

- > Storage: -40°C to +60°C
- > Installation: -15°C to +40°C
- > Operations: -30°C to +60°C

Water penetration (F5B test method):

- > No water on free end

All information is presumed accurate upon issuing. Prysmian Group reserves the right to change in specifications without prior warning. Product specifications are not contractually binding without prior permission from Prysmian Group.

| Product name: Datasheet E08a | Fiber count | Fiber type | Fiber datasheet | Material code |
|------------------------------------|-------------|--------------------------|-----------------|---------------|
| UCFIBRE O CT D DA PE 1.5kN 2 OM2B | 2 | MaxCap-BB-OM2 multi mode | C34 | 60029226 |
| UCFIBRE O CT D DA PE 1.5kN 4 OM2B | 4 | MaxCap-BB-OM2 multi mode | C34 | 60011397 |
| UCFIBRE O CT D DA PE 1.5kN 6 OM2B | 6 | MaxCap-BB-OM2 multi mode | C34 | 60011378 |
| UCFIBRE O CT D DA PE 1.5kN 8 OM2B | 8 | MaxCap-BB-OM2 multi mode | C34 | 60018763 |
| UCFIBRE O CT D DA PE 1.5kN 12 OM2B | 12 | MaxCap-BB-OM2 multi mode | C34 | 60011380 |
| UCFIBRE O CT D DA PE 1.5kN 16 OM2B | 16 | MaxCap-BB-OM2 multi mode | C34 | 60019409 |
| UCFIBRE O CT D DA PE 1.5kN 24 OM2B | 24 | MaxCap-BB-OM2 multi mode | C34 | 60011385 |
| UCFIBRE O CT D DA PE 1.5kN 2 OM3B | 2 | MaxCap-BB-OM3 multi mode | C31 | 60020590 |
| UCFIBRE O CT D DA PE 1.5kN 4 OM3B | 4 | MaxCap-BB-OM3 multi mode | C31 | 60020056 |
| UCFIBRE O CT D DA PE 1.5kN 8 OM3B | 8 | MaxCap-BB-OM3 multi mode | C31 | 60028116 |
| UCFIBRE O CT D DA PE 1.5kN 12 OM3B | 12 | MaxCap-BB-OM3 multi mode | C31 | 60019415 |
| UCFIBRE O CT D DA PE 1.5kN 24 OM3B | 24 | MaxCap-BB-OM3 multi mode | C31 | 60019416 |
| UCFIBRE O CT D DA PE 1.5kN 4 OM4B | 4 | MaxCap-BB-OM4 multi mode | C32 | 60019381 |
| UCFIBRE O CT D DA PE 1.5kN 8 OM4B | 8 | MaxCap-BB-OM4 multi mode | C32 | 60019382 |
| UCFIBRE O CT D DA PE 1.5kN 12 OM4B | 12 | MaxCap-BB-OM4 multi mode | C32 | |
| UCFIBRE O CT D DA PE 1.5kN 16 OM4B | 16 | MaxCap-BB-OM4 multi mode | C32 | |
| UCFIBRE O CT D DA PE 1.5kN 24 OM4B | 24 | MaxCap-BB-OM4 multi mode | C32 | |
| UCFIBRE O CT D DA PE 1.5kN 2 MM61 | 2 | OM1 62.5/125 multi mode | C02 | 60019593 |
| UCFIBRE O CT D DA PE 1.5kN 4 MM61 | 4 | OM1 62.5/125 multi mode | C02 | 60011341 |
| UCFIBRE O CT D DA PE 1.5kN 6 MM61 | 6 | OM1 62.5/125 multi mode | C02 | 60018761 |
| UCFIBRE O CT D DA PE 1.5kN 8 MM61 | 8 | OM1 62.5/125 multi mode | C02 | 60018819 |
| UCFIBRE O CT D DA PE 1.5kN 12 MM61 | 12 | OM1 62.5/125 multi mode | C02 | 60018766 |
| UCFIBRE O CT D DA PE 1.5kN 24 MM61 | 24 | OM1 62.5/125 multi mode | C02 | 60018844 |
| UCFIBRE O CT D DA PE 1.5kN 2 SM2D | 2 | OS2 Single mode | C03e | 60018939 |
| UCFIBRE O CT D DA PE 1.5kN 4 SM2D | 4 | OS2 Single mode | C03e | 60018842 |
| UCFIBRE O CT D DA PE 1.5kN 6 SM2D | 6 | OS2 Single mode | C03e | 60018762 |
| UCFIBRE O CT D DA PE 1.5kN 8 SM2D | 8 | OS2 Single mode | C03e | 60018764 |
| UCFIBRE O CT D DA PE 1.5kN 12 SM2D | 12 | OS2 Single mode | C03e | 60018767 |
| UCFIBRE O CT D DA PE 1.5kN 16 SM2D | 16 | OS2 Single mode | C03e | 60018843 |
| UCFIBRE O CT D DA PE 1.5kN 24 SM2D | 24 | OS2 Single mode | C03e | 60018769 |
| UCFIBRE O CT D DA PE 1.5kN 4 SM7B | 4 | BendBright XS G.657.A2 | C24 | |
| UCFIBRE O CT D DA PE 1.5kN 6 SM7B | 6 | BendBright XS G.657.A2 | C24 | 60031854 |
| UCFIBRE O CT D DA PE 1.5kN 8 SM7B | 8 | BendBright XS G.657.A2 | C24 | |
| UCFIBRE O CT D DA PE 1.5kN 12 SM7B | 12 | BendBright XS G.657.A2 | C24 | |
| UCFIBRE O CT D DA PE 1.5kN 16 SM7B | 16 | BendBright XS G.657.A2 | C24 | |
| UCFIBRE O CT D DA PE 1.5kN 24 SM7B | 24 | BendBright XS G.657.A2 | C24 | |

Properties of TECSUN (PV) H1Z2Z2-K acc. to DIN EN 50618

Electrical Parameters

Voltage Rating

| Rated voltage DC | Rated voltage AC | Max. permissible operating voltage DC | Max. permissible operating voltage AC | Test voltage |
|------------------|------------------|---------------------------------------|---------------------------------------|---|
| U_0/U | U_0/U | U_0/U | U_0/U | |
| 1,5/1,5 kV | 1,0/1,0 kV | 1,8/1,8 kV | 1,2/1,2 kV | AC: 6,5 kV (5 min.) DC: 15 kV (5 min.) |

Current Carrying Capacity

The current carrying capacity values (in ampere) for each installation method at an ambient temperature of 60°C are according to EN50618, Table A3.

| Number of cores x nominal cross section | Single cable free in air | Single cable on surface | Two loaded cables touching, on a surface |
|---|--------------------------|-------------------------|--|
| 1 x 1,5 | 30 | 29 | 24 |
| 1 x 2,5 | 41 | 39 | 33 |
| 1 x 4 | 55 | 52 | 44 |
| 1 x 6 | 70 | 67 | 57 |
| 1 x 10 | 98 | 93 | 79 |
| 1 x 16 | 132 | 125 | 107 |
| 1 x 25 | 176 | 167 | 142 |
| 1 x 35 | 218 | 207 | 176 |
| 1 x 50 | 276 | 262 | 221 |
| 1 x 70 | 347 | 330 | 278 |
| 1 x 95 | 416 | 395 | 333 |
| 1 x 120 | 488 | 464 | 390 |
| 1 x 150 | 566 | 538 | 453 |
| 1 x 185 | 644 | 612 | 515 |
| 1 x 240 | 775 | 736 | 620 |

Long-Term Immersion in Water

TECSUN (PV) cables are tested for minimum 10 days completely immersion in water at 85°C, with 1,8kV DC voltage applied.

De-rating Factors

De-rating factors are used to properly calculate the current carrying capacity, taking into account the installation and operating conditions. In case of use at an ambient temperature greater than 60°C, please consider the de-rating factors indicated in EN50618, Table A4. For installation in groups, the de-rating factors from HD60364-5-52 apply.

| Ambient temperature (°C) | Reduction factor |
|--------------------------|------------------|
| up to 60 | 1,00 |
| 70 | 0,92 |
| 80 | 0,84 |
| 90 | 0,75 |

Properties of TECSUN (PV) H1Z2Z2-K acc. to DIN EN 50618

Mechanical Parameters

Tensile Load

The maximum tensile load on the TECSUN (PV) cables is equal to 15 N/mm^2 in operation and 50 N/mm^2 only during installation, according to HD 516, DIN VDE 0298-3 and DIN VDE 0298-300.

Bending Radius

The minimum bending radius is indicated as the product of the overall diameter of the finished cable (D) and a factor (i.e. $3 \times D$). For TECSUN (PV) the minimum bending radius according to EN 50565-1, is $3 \times D$ (for $D \leq 12 \text{ mm}$) or $4 \times D$ (for $D > 12 \text{ mm}$). Smaller bending radii than permitted can cause a reduced service lifetime.

Mechanical Characteristics of Insulation and Sheathing Materials

The properties of the materials (tensile strength and elongation at break) are tested before and after ageing. Hot-Set test and thermal endurance test are performed in addition.

Abrasion Resistance

TECSUN (PV) cables are tested against several abrasive materials:

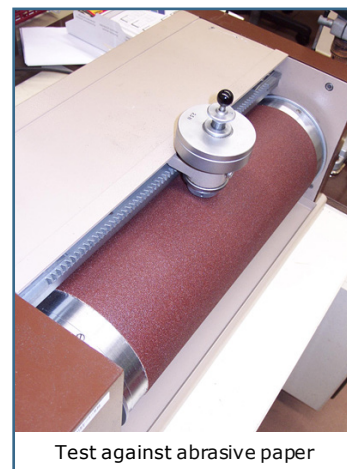
- sheath against abrasive paper
- sheath against sheath
- sheath against metal
- sheath against plastics

Additional Tests

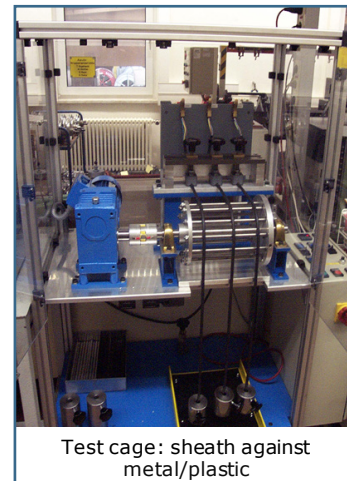
- Shrinkage Test
- Pressure Test at High Temperature
- Dynamic Penetration Test
- Durability of Print
- Sheath-Hardness



Tensile testing equipment



Test against abrasive paper



Test cage: sheath against metal/plastic

Properties of TECSUN (PV) H1Z2Z2-K acc. to DIN EN 50618

Thermal Parameters

Maximum Temperature of the Conductor during Operation

TECSUN (PV) cables are designed to operate at 90°C for a total lifetime equal to 30 years, according to Arrhenius-Diagram (EN 50618 requires a minimum of 25 years). For a maximum of 20.000 hours (= 2,3 years) the cables can operate at a maximum conductor temperature of 120 °C.

Maximum Temperature of the Conductor during Short Circuit

The maximum permitted short-circuit temperature is 250°C, for a duration of 5 seconds.

Ambient Temperature

The temperature range on the surface of the cable during operation is from -40°C to +90°C. During installation and handling, the range is from -25°C to +60°C.

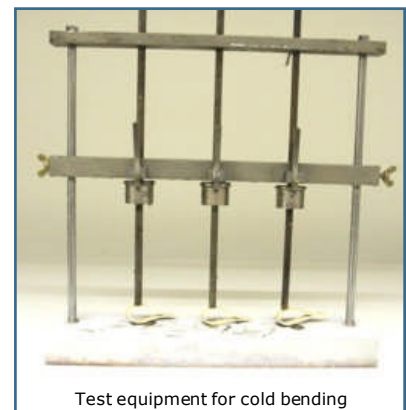
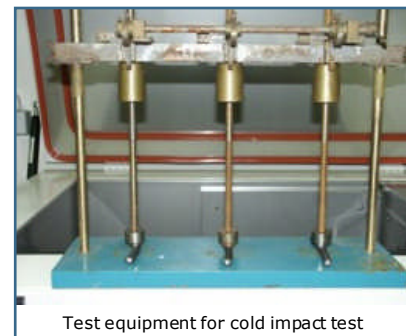
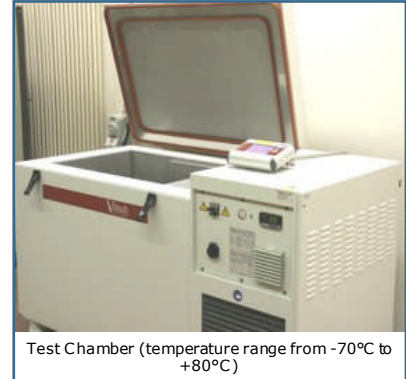
Resistance to Cold

The following tests are performed on TECSUN (PV) cables:

- Cold impact at -40°C
- Cold bending at -40°C
- Cold elongation at -40°C

Damp Heat Test

Mechanical properties of the materials are tested after a 1.000 hours conditioning at +90°C and 85% relative humidity.



Properties of TECSUN (PV) H1Z2Z2-K acc. to DIN EN 50618

Chemical Parameters

Behaviour against Fire

TECSUN (PV) cables are tested for flame propagation on single cable according to EN 60332-1-2 and on multiple cable according to EN 50305-9. The smoke density is tested according to EN 61034-2, with light transmittance > 70%. The cables are halogen-free according to EN 50525-1 - Annex B, and with a toxicity index < 3 (per EN 50305).

Oil Resistance

In addition to the normative requirements, sheathing material is tested for 24 hours immersion in oil at 100°C.

Weather Resistance

External agents related to weather conditions (such as UV radiations, ozone and water) can degrade the rubber materials, causing a reduction of the performances of the cables. Therefore TECSUN (PV) cables are tested in order to ensure:

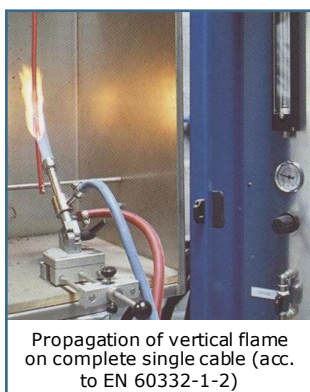
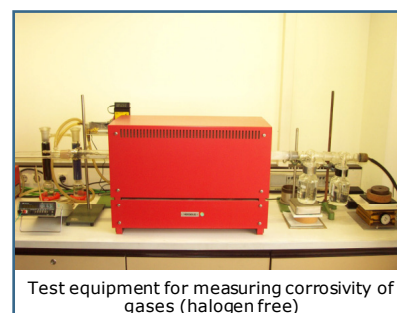
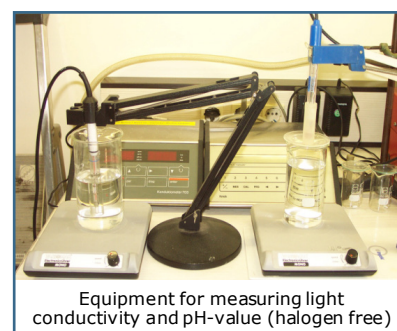
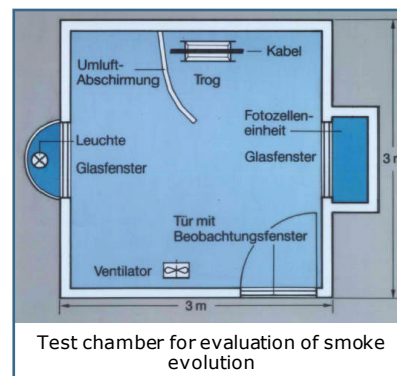
- Ozone resistance: complete cable has no cracks after 72 hours at 40°C, with 55% relative humidity and 2ppm of ozone concentration
- UV resistance: tensile strength and elongation at break are measured after a conditioning of 720 hours (360 cycles) exposed to UV light

Acid and Alkaline Resistance

Resistance of the sheathing material against a 23°C acid (N-Oxalic Acid) and alkaline solution (N-Sodium Hydroxide) is tested for 7 days.

Ammonia Resistance

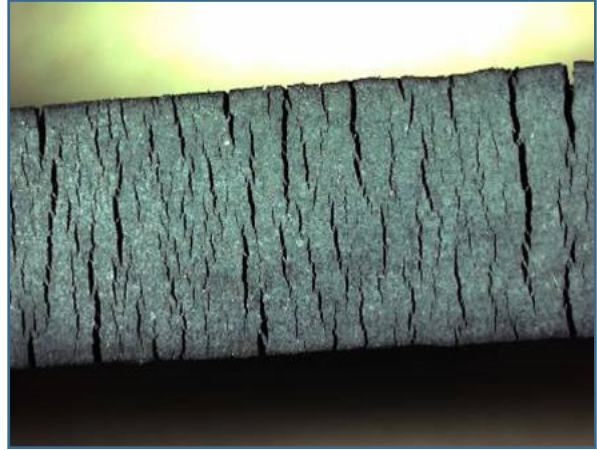
In addition to the normative requirements, TECSUN (PV) is tested for 30 days in saturated ammonia atmosphere.



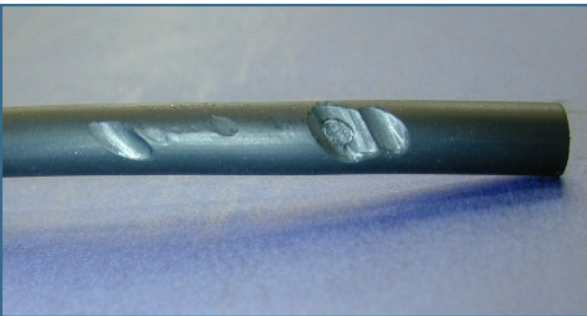
Ageing and Misuse Effects



Cable overheating effect



Ozone damage effect



Cable overheating effect



Ozone damage effect



Cable handling misuse - bending radius too small



Installation misuse - violent pressure

Notes

Linking the future

We are here for you

You are always welcome to contact us directly with technical questions or sales enquires.

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