

CABLE FOR PHOTOVOLTAICS

FlexiSun®



for photovoltaic systems

may be used indoors, outdoors, in potentially explosive areas, for industrial purposes, in commercial and agricultural firms

can also be laid:
=> in cable conduits
=> on, in and under plaster
=> in electrical installation ducts
=> in devices

suitable for use in and on double-insulated devices and systems (protection class II)

protected against short circuits and ground leakages

VDE-tested (VDE Reg. no. 8026)

TÜV-tested (German Technical Supervisory Association, certificate R60014271)

for movable, freely suspended or fixed installation in photovoltaic systems within a temperature range between -40°C and +120°C

max. ambient temperature up to +120°C (movable and fixed installation) Rating according to IEC 60216: Continuous temperature 120°C = 20,000h (= 2.3 years), max. 90°C continuous temperature = 30 years

halogen free

improved fire-resistant performance

low smoke emission in the event of fire

ammonia-resistant

UV and ozone resistant

Technical Data

electrical parameters

nominal voltage AC
max. PV system voltage DC
max. permissible operating voltage AC
max. permissible operating voltage DC
test voltage AC/DC
current-carrying capacity

U₀/U 0.6/1.0 KV
2.0 KV
0.7/1.2 KV line-earth/line-line
0.9/1.8 KV line-earth/line-line
6 KV/10 KV (test duration 15 min)
of a cable lying on the surface during continuous operation using direct current, alternating or three-phase current with 50 to 60 Hz at an ambient temperature of 30°C (see selection table)

thermal parameters

ambient temperature

-40°C to +120°C (movable and fixed installation)
rating according to IEC60216: continuous temperature
120°C = 20,000 h (2.3 years), at max. 90°C
continuous temperature = 30 years
+120°C (20.000 h)

max. permissible temperature at conductor
max. permissible short circuit temperature at conductor
Resistance to cold

+250°C (at cable max. 5 sec.)
-40°C (cold bending and elongation test according to EN 60811-1-4, cold impact test according to EN 50305)

mechanical parameters

permissible tensile loading
min. permissible bending radius
abrasion

15 N/mm² in use, 50N/mm² during installation
see selection table
against sandpaper (according to DIN 53516), jacket against jacket (int. test), jacket against metal (int. test)
85 (according to DIN 53505)

shore hardness

resistance against external influences:

mineral oil resistance
ozone resistance

tested according to DIN EN 60811-2-1
tested according to DIN VDE 0282-2, HD 22.2 test type B

UV resistance
acid and alkali resistance
ammonia-resistance
water absorption (gravimetric)

tested according to UL 1581 xeno test according to EN 50264-1
internal testing
EN 60811-1-3

reaction to fire:

- flame propagation, single cable
- flame propagation, multiple cable
- smoke emission, light transmission >70%
- low corrosivity
- low toxicity

EN 60332-1-2
EN 50266-2-5
DIN EN 50268-2
EN 50264-1
EN 50305 (index ITC <3)
have been taken concerning recycling and disposal as well as energy-saving production (free of pollutants and halogen, no environmentally-harmful pollutants are created during thermal recycling)

Subject to modifications that represent progress.

ecological safety measures:

design criteria:

conductor

copper, tin-plated, class 5 finely stranded wires according to DIN VDE 0295/HD383/IEC 60228

insulation

free of halogen, heat and ozone resistant, special mixture of cross-linked HEPR-based (ethylene-propylene-rubber) elastomer according to EN 60502-1

jacket

free of halogen, heat- and ozone-resistant, special mixture of cross-linked EVA-based (ethylene-vinyl-acetate) elastomer ozone-, UV-, oil- and chemical-resistant according to HD 22.1 (mixture type EM4/EM8)

identification mark

FlexiSun® (cross section) PV01 0.6/1KV VDE Reg. no. 8026/TÜV-certified R60014271

In case of a deviating ambient temperature, the current load values in the selection table must be converted using the following factors:

°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
f	1,15	1,15	1,08	1,04	1,00	0,96	0,91	0,87	0,82	0,76	0,71	0,65	0,58	0,50	0,41

selection table

type FlexiSun®	1 x 2,5	1 x 4	1 x 6	1 x 10
nominal cross section	2,5	4	6	10
colour	black	black	black	black
cu number	24	38	58	96
conductor diameter (mm)	1,9	2,5	3,0	3,9
external diameter (minimum value) (mm)	5,0	5,1	6,6	7,0
external diameter (highest value) (mm)	5,5	5,9	7,3	7,9
weight of cable (kg/km)	46	58	90	127
min. bending radius (mm)	16,5	18,0	22,0	24,0
max. permissible tensile loading (N)	38	60	90	150
current load at 30°C (A)	49	65	82	116
item number	7000201003	7000201004	7000201006	7000201010