

Solar cable PV1-F

Single core flexible cable, suited for photovoltaic and solar systems,
up to 1,8kV, special HEPR insulated

standards: IEC 60332-1-2
EN 50267-1-2
EN 50267-2-2
EN 60216
TÜV



Technical data

Temperature range:

- fixed installed: -40°C up to +90 °C
- min. cable temperature at bending/installation: -40 °C
- maximal operating temperature: 120 °C
- at short circuit of max. 5 s: up to 250 °C

Nominal voltage AC: $U_0 / U = 0,7/1,2\text{kV}$

Nominal voltage DC: $U_0 / U = 0,9/1,8\text{kV}$

Test voltage AC: 6kV

Test voltage DC: 10kV

Maximal tensile strength of Cu conductor:

- during operation: 15 N/mm²
- during installation: 50 N/m²

Minimal inner bending radius: 4D

(D = external cable diameter)

Properties under fire:

Flame retardant: acc. to **IEC 60332-1** / EN 60332-1 (earlier EN 50265-2-1) / VDE 0482-332-1

No flame propagation in vertical cable bundle: acc. to **IEC 60332-3** / EN 50266-1,-2 / DIN VDE 0482-266-2-4 (same as DIN VDE 0472 part 804 test method C)

Halogen-free: acc. to **IEC 60754-1** / EN 50267 -1,-2-1 / DIN VDE 0482-267 -1,-2-1 (same as DIN VDE 0472 part 815)

Non-corrosive combustion gases: acc. to **IEC 60754-2** / EN 50267-2-2 / DIN VDE 0482-267-2-2 (same as DIN VDE 0472 part 813)

Low smoke density: acc. to **IEC 61034-2** / EN 61034-2 (earlier EN 50268) / DIN VDE 0482-1034-2 (same as DIN VDE 0472 part 816) - visibility > 70%

Construction

1. **Conductor:** tinned fine wired copper conductor, class 5, acc. to EN 60228
2. **Insulation:** HEPR 120°C similar to IEC 60502-1 (type El6/EI8)
3. **Sheath:** crossed linked compound M21
 - **sheath colour:** black

Core colour identification: natural colour – bright

Additional features:

Ozone-resistant according to EN50396

UV-resistant according to HD605/A1

The cable is tested for durability according to EN 60216 (indicated also in 2P fg 169/08.2007)

Standard interpretation under continuous use temperature 120°C for 20000h (= 2.3, years) continuous use temperature 90°C (= 30 years)



Application

Single core flexible cables suited for photovoltaic and solar system with cross-linked polymer insulation and halogen free sheath. Tested for more 25 years lifetime. These cables can be used up 1800V to earth. Cable suitable for the interconnection of the various elements of photovoltaic systems, suitable for fixed installations outside and indoor, unprotected pipes. For direct, or indirect under-ground wiring.

Heavy duty - LSZH

Dimensions -number of cores x conductor cross-section	Construction of individual conductor (No. of wires x diameter)	External diameter	Conductor diameter	Insulation thickness	Conductor resistance at 20°C	Current load	Cu weight	Cable weight	Packing*
nominal N x mm ²	nominal n x mm	approx. mm	nominal mm	nominal mm	max. Ω/km	nominal A	kg/km	approx. kg/km	
1 x 1,5	30 x 0,25	5,1	1,6	0,7	13,3	30		38,4	CUT
1 x 2,5	50 x 0,25	5,4	2,0	0,7	7,98	41	24	45,4	CUT
1 x 4	56 x 0,30	6,2	2,5	0,7	4,95	55	38,4	60,1	CUT
1 x 6	84 x 0,30	6,9	3,1	0,7	3,30	70	57,6	90,7	CUT
1 x 10	80 x 0,40	8,2	4,1	0,7	1,91	98	96	131,1	CUT
1 x 16	128 x 0,40	9,3	5,2		1,21	132	153,6	187,1	CUT
1 x 25	200 x 0,40	10,8	6,5	0,9	0,78	176	240	276,1	CUT
1 x 35	280 x 0,40	12,1		0,9	0,554	218	336	368,8	CUT
1 x 50	400 x 0,40	14,8	9,0	1,0	0,386	276	480	557	CUT
1 x 70	356 x 0,50	16,9	11,0	1,1	0,272	347	672	767	CUT
1 x 95	485 x 0,50	18,7	12,7	1,1	0,206	416	912	989,6	CUT
1 x 120	614 x 0,50	20,7	13,7		0,161	488	1152	1232,8	CUT

*) Packing:

c.100 = coil 100 m

CUT = cable in different lengths on drum or reel, possible cutting at required length

