

PHOTOVOLTAIC STRING AND MODULE CABLES

BETAflam® Solar 125 RV+ flex 1500V DC

Photovoltaic power cables, halogen-free, flame retardant



Application

Used as a photovoltaic cable between the solar modules and as a string cable to the inverter of a photovoltaic system with the nominal voltage $U_0 = 1.5 \text{ kV DC}$.

Construction

Conductor	Tinned fine copper strand acc. to VDE 0295 / IEC 60228, class 5
Insulation	Polyolefin Copolymer, electron beam cross-linked
Sheath	Polyolefin Copolymer, electron beam cross-linked
Sheath colour	Black with white or red marking and stripe

Advantages

- EN 50618, IEC 62930 approval
- Electron-beam cross-linked compounds
- UV, ozone and hydrolysis resistant
- Very high resistance to temperature
- High fire performance acc. to the Construction Product Regulation
- Very long service life > 25 years at 90°C
- Compatible to all popular connectors

Electrical properties

Rated voltage	U ₀	1500 V DC
Maximum voltage	U _{0m}	1800 V DC
Test voltage		6.5 kV, 50 Hz / 5 min.

Thermal properties

Max. operating temperature		+120°C
Min. ambient temperature		-50°C
Max. ambient temperature		+90°C
Max. short circuit temperature		+280°C (max. 5s)

Mechanical properties

Bending radius	fixed installation	≥ 4 x Ø
Bending radius	occasionally moved	≥ 5 x Ø

Material properties / Standards

Fire performance	IEC 60332-1
Smoke emission	IEC 61034; DIN EN 61034-2

Material properties / Standards

Low fire load	DIN 51900
Fire properties acc. to CPR	
Cca s1a, d2, a1	DIN EN 50575; DIN EN 13501-6
Fire performance Cca	DIN EN 50399
Very low smoke emission s1a	DIN EN 50399
Flaming droplets d2	DIN EN 50399
Very low corrosivity of combustion gases – halogen free a1	DIN EN 60754-2
No flame propagation	DIN EN 60332-1-2
Properties in water*	AD8 based on DIN EN 50525-2-21

Approvals

EN 50618; H1Z2Z2-K, IEC 62930

Additional information

*Temporary water submersion (3 months/a)

Construction Cross-sec.	Conductor-Ø	Color code	R ₂₀	Outer-Ø	Weight	Fire load	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.
[n x mm ²]	[mm]		[mΩ/m]	[mm]	[kg/km]	[kWh/m]		PU* (8x500m)	PU* (18x500m)	PU* (8x1000m)	PU* (2x2500m)	PU* (4x3000m)
1x4mm ²	2.45	white	5.09	5.5	61	0.110	317550		317550V2	317550V3		31755030
1x4mm ²	2.45	red	5.09	5.5	61	0.110	317551		317551V2	317551V3		31755130
1x6mm ²	3.00	white	3.39	6.1	82	0.128	317552		317552V2	317552V3		31755230
1x6mm ²	3.00	red	3.39	6.1	82	0.128	317553		317553V2	317553V3		31755330
1x10mm ²	3.90	white	1.95	7.2	126	0.168	317554	317554V3			317554V9	
1x10mm ²	3.90	red	1.95	7.2	126	0.168	317555	317555V3			317555V9	

*PU Packaging unit = reel x cable length/pallet