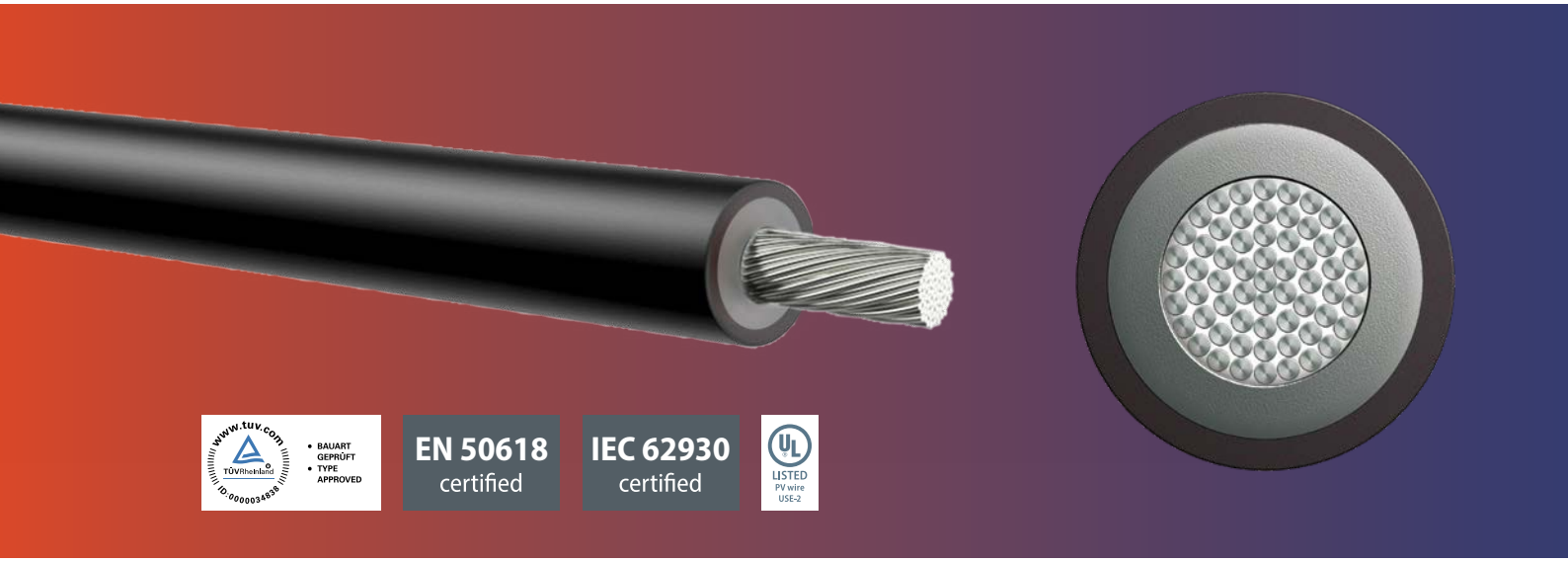
PHOTOVOLTAIC MODULE CABLES

BETAflam® Solar 125 S flex UL / EN

Photovoltaic power cables, halogen-free, flame retardant



Applications

Double insulated, electron-beam cross-linked cables for photovoltaic power applications.

Construction

Conductor	Tinned fine copper strands, acc. to VDE 0295 / IEC 60228, class 5
Insulation	XLPO, flame retardant, halogen-free, electron-beam cross-linked
Jacket	XLPO, flame retardant, halogen-free, electron-beam cross-linked, UV and ozone resistant
Jacket colour	Black

Benefits

- UL 4703 PV wire, EN 50618, IEC 62930 approval
- Electron-beam cross-linked compounds
- UV, ozone and hydrolysis resistant
- High temperature resistance, the materials do not melt or flow
- Very long service life[1], good cold flexibility
- Compatible to all popular connectors
- Improved encapsulation properties

Electrical properties

Rated value	U_0	1500 V DC / EN 50618 (max. permitted voltage U_0 1800 V DC) UL 2000 V

Thermal properties

Operating temperature	−40 °C up to +120 °C −40 °F up to +248 °F
Ambient temperature min. 25 years[1]	−40 °C up to +90 °C −40 °F up to +194 °F
Max. short circuit temperature	+280 °C / 5 s +536 °F / 5 s

Bending radius

Fixed installation	>4 × outer Ø
Occasionally moved	>5 × outer Ø

Standards / Material properties

Fire performance	IEC 60332-1; UL 1581 2556 / FV1
Smoke emission	IEC 61034; EN 61034-2
Low fire load	DIN 51900
Approvals	EN 50618; H1Z2Z2-K; UL 4703 PV wire; IEC 62930
Application standards	NEC 2008 / UL PV wire; EN 50618; IEC 62930

Nominal cross section (n × mm²)		Conductor Ø (mm)	Outer Ø (mm)	Resistance max. at 20 °C (mΩ/m)	Weight (kg/km)	Fire load (kWh/m)	Order no.		
								8 × 1000 m	1 × 5000 m
1 × 2.5	14 AWG	1.95	6.40	8.21	63	0.194	313504	*	313504V4
1 × 4	12 AWG	2.45	6.55	5.09	74	0.196	313505	313505V3	313505V4
1 × 6	10 AWG	3.00	7.10	3.39	94	0.221	313506	313506V3	*
1 × 10	8 AWG	3.90	8.70	1.95	150	0.329	317020	*	*

* on request.

Further packaging units on request.

[1] Subject to the standard IEC 60216-1 (Thermal endurance properties – Ageing procedures and evaluation of test results) and the test conditions specified in the EN 50618 – 2014 (Electric cables for photovoltaic systems), a cable material should pass a test with specific test conditions described therein. The standard IEC60216-1 further states that these test conditions simulate a lifetime of min. 25 years. Studer Cables warrants that the cables would successfully pass this test before the delivery to the customer.