

# Solutions for Solar Systems and DC Cabling

Clean Cables for Clean Energy

**Service Life  
and  
UV Resistance  
> 25 Years!**

- Extremely resistant against cold and hot conditions due to electro beam cross-linking
- Especially suitable for high alpine applications (reservoirs, dams, high alpine open spaces)
- Long service life (> 25 years)
- Direct burial
- High UV resistance
- High fire safety classifications (BauPV / CPR)
- In-house plastic formulations and manufacturing
- Various certifications such as EN, IEC, TÜV, and UL



Studer Cables AG is the first and only manufacturer of solar cables in Switzerland! Since 2006, we have been producing reliable and safe solar cables for the world.

Solar energy is one of the most important pillars in the field of renewable energies. Cables play a central role as the connecting link between the electrical components of a PV system. With its **BETAflam**<sup>®</sup> Solar and **SOLARpower**<sup>®</sup> cables, Studer Cables offers a complete product portfolio for photovoltaic system cabling. Our high-quality and innovative cable solutions range from string and module cables to PV energy cables for direct burial, and even solar cables for floating photovoltaic systems. This way, we make our valuable contribution to the energy transition.

## Our 4 market segments in the field of solar systems and DC cabling



### Rooftop installations

These range from small systems for residential roofs to larger installations on industrial and logistics buildings.

Suitable Studer Cables products for rooftop installations:

- **BETAflam**<sup>®</sup> Solar 125 RV+ flex 1500V DC (installation cable)
- **BETAflam**<sup>®</sup> Solar 125 S flex UL/EN (connection cable for PV modules)
- **SOLARpower**<sup>®</sup> Outdoor XS (power cable for large rooftop systems)



### Ground-mounted installations

This includes medium (10 MWp) to large ground-mounted installations (300 MWp).

Suitable Studer Cables products for ground-mounted installations:

- **BETAflam**<sup>®</sup> Solar 125 RV+ flex 1500V DC 4-10 mm<sup>2</sup> (installation cable)
- **BETAflam**<sup>®</sup> Solar 125 flex WR 1500 4-400 mm<sup>2</sup> (installation cable for direct burial)
- **SOLARpower**<sup>®</sup> Alu-ATA XS (power cable)
- **SOLARpower**<sup>®</sup> Outdoor XS (power cable)



### Floating and high alpine PV installations

This market segment includes small to medium floating PV installations (inland and coastal waters in conjunction with wind power plants). Additionally, we supply floating PV systems in high mountain regions on reservoirs or mounted on dams or infrastructure facilities.

Suitable Studer Cables products for floating and high alpine solar installations:

- **BETAflam**<sup>®</sup> Solar 125 flex WR 1500 (installation cable)
- **SOLARpower**<sup>®</sup> Alu-ATA XS (power cable)
- **SOLARpower**<sup>®</sup> Outdoor XS (power cable)
- **Roflex**<sup>®</sup> (power cable)

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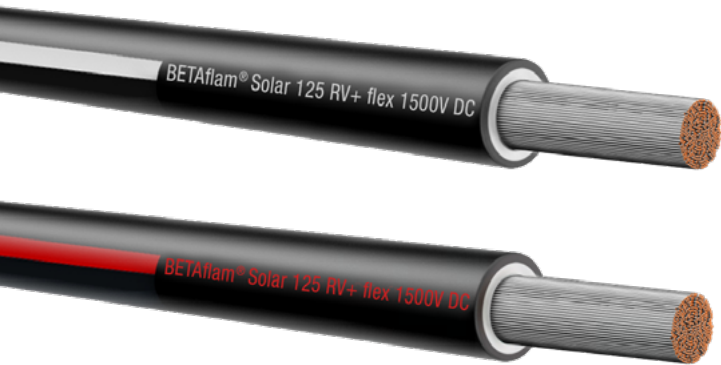
### EV charging infrastructure and battery storage

We offer a wide range of cable products for fast-charging infrastructure for cars, trucks, and buses. These are often connected with battery storage and medium voltage connections.

Suitable Studer Cables products for charging infrastructure and battery storage:

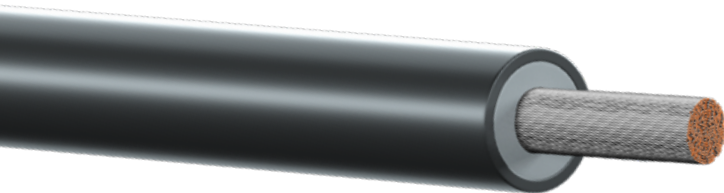
- **BETAflam**<sup>®</sup> Solar 125 flex WR 1500 (installation cable)
- **Roflex**<sup>®</sup> (power cable)
- **BETAflam**<sup>®</sup> TRAFO-FLEX (power cable) for flexible applications
- **SOLARpower**<sup>®</sup> Alu-ATA XS (power cable) as well as
- **SOLARpower**<sup>®</sup> Outdoor XS (power cable) for direct burial and large bending radii

## Properties of Studer Cables solar cables



### BETAflam® Solar 125 RV+ flex 1500V DC

- Connection between PV modules and from PV modules to the generator junction box or inverter
- Suitable for indoor and outdoor use, fixed or freely suspended, installed in conduits, plaster, as well as in devices
- Certification: EN 50618, IEC 62930
- CPR fire classification: B2<sub>ca</sub>-s1a, d2, a1
- Suitable for rooftop and ground-mounted installations



### BETAflam® Solar 125 WR 1500

- Connection between PV modules and generator junction box or inverter for floating solar systems (FPV)
- Due to its high robustness, it is especially suitable for high alpine applications (on reservoirs or fixed installations on dams or in high alpine terrain)
- Flexible connection for EV charging stations and battery storage
- Particularly robust design for indoor and outdoor use, Suitable for direct burial
- The first solar cable with TÜV certification according to the new 2PFG 2750 09/20 «Requirements for cables with improved water resistance for installation in photovoltaic systems»



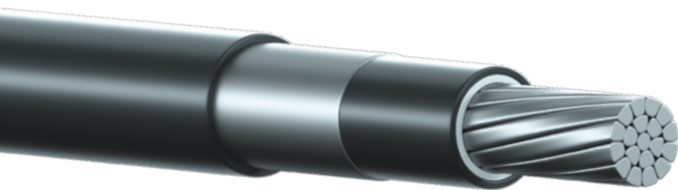
### BETAflam® Solar 125 S flex UL/EN

- Module connection cable for linking photovoltaic module junction boxes
- Suitable for indoor and outdoor use, fixed or freely suspended, installed in conduits, plaster, as well as in devices, with EU and US certifications
- Certification: EN 50618, UL 4703, IEC 62930



### **SOLARpower® Outdoor Alu XS**

- Connection between generator junction box and inverter
- Large battery storage and inverters
- DC connection for direct current railways
- Protected installation in outdoor areas
- Simple connection technology
- Certification: TÜV Rheinland certification according to 2 PFG 2642 11.17



### **SOLARpower® Alu-ATA XS**

- Connection between generator junction box and inverter
- Large battery storage (containers) and inverters
- DC connection for direct current railways
- Direct burial installation
- Protection against rodents and termites
- Durable due to cross-water tightness
- Also suitable for fixed installation underwater
- Simple connection technology
- Certification: TÜV Rheinland certification according to 2 PFG 2642 11.17

## **Why are Studer Solar Cables only available in black?**

- The black compound developed by Studer Cables is particularly UV-stable: > 25 years!
- Coloured compounds require additional additives to achieve the same UV stability.
- The effectiveness of these additives diminishes over time, and for cost reasons, they are often used in quantities just sufficient to meet the minimum UV test requirements (720 hours).
- Because Studer Cables cross-links its cables using electron beams, they are less attractive to rodents compared to chemically cross-linked cables.

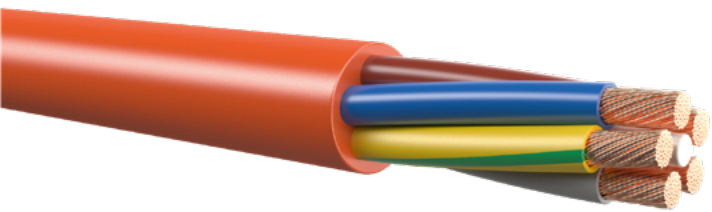
Studer Cables marks its solar cables with white and red print for visual identification.

## Energy and installation cables for solar systems



### BETAflam® TRAFO-FLEX

- Flexible low-voltage connection between transformer and, for example, switchgear within buildings and transformer stations
- CPR construction product class D<sub>ca</sub>-s1,d2,a1
- Halogen-free and flame-retardant
- Compact stranded construction suitable for standard and DIN cable lugs
- Cross-linked EPR insulation
- Excellent EMC standard due to unique stranded design (with short lay lengths)



### Roflex®

- Highly flexible low-voltage connection under extreme environmental conditions
- Certification: ESTI approval CH-N1BQ-F (not VDE H05BQ-F and H07BQ-F)
- Tough outer sheath for heavy mechanical loads
- Resistant to UV, ozone, and mineral oils
- Very good cold flexibility (down to -40°C)
- Wide range of applications, such as in the food and chemical industries, and electrical trades
- Installation in water (freshwater and saltwater)

## Planning, consulting, logistics, and installation



We ensure that cabling systems for solar installations are properly dimensioned and function flawlessly. We are also happy to support you in collaboration with your own installation teams. Our own fleet of vehicles, specialized machinery, and equipment, as well as our experience from numerous cable installations under challenging conditions, can be put to good use. Challenge us!