



# Application Spotlight

Bonding process for photovoltaic panels



## EFFICIENT, HIGH-QUALITY BONDING PROCESS FOR THE PRODUCTION OF SOLAR MODULES

### Technical Data

Medium:	Adhesive/Filler
Temperature:	approx. +20 °C up to +40 °C [+68 °F up to +104 °F]
Pressure:	250 - 300 bar (g) [3,625 - 4,350 psi]
Measuring range:	0.12 - 7.75 ml/s
Viscosity at 20 °C:	270,000 - 300,000 cp
Density at 20 °C:	1.2 - 1.6 kg/l

### Application

Solar energy, as a clean energy source, is used all over the world. Solar modules are the heart of photovoltaic systems, which sometimes cover large areas. High light transmission and smooth operation under harsh environmental conditions (rain, dust, high and low temperatures) are mandatory requirements. Highly efficient silicon panels are used to sustainably ensure high efficiency.

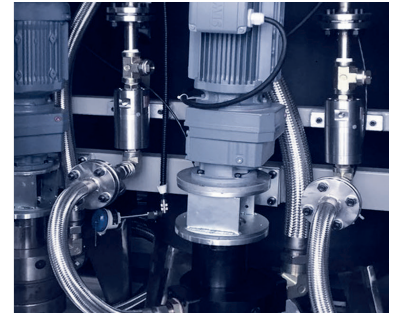
At the same time, solar modules must be produced efficiently. Lightweight construction and sealing concepts are key considerations here. A special bonding process enables fast automated production of modules, but also insulates, conducts heat, seals and relieves cold and thermal expansion stresses. This involves a highly viscous, high-solids and fast-drying single-component adhesive that must meet the high requirements for dynamics and micro-adhesive volume.

### Solution

The special bearing concept of the high-resolution KEM Helical Flow Meter (SRZ Series), his long-term stability and high reproducibility meet the quality standard for the production process. The application takes place in a closed control loop, in order to achieve an efficient and high-quality gluing process. This requires high resolution, in order to dose very small quantities, precisely and reproducibly. A special degree of hardness of the spindles and a bearing concept developed for highly abrasive adhesives are key for success.

### Advantages

- 50 years of experience in high-end applications
- Very fast response time
- High measuring accuracy, high resolution
- High quality materials
- Long-term stability
- Suitable for highly viscous and highly abrasive media
- Suitable for the toughest applications (special bearing concept)
- Compact design (simple system integration)



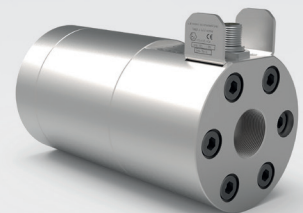
### Certificates:

- ☑ Pressure Equipment Directive 97/23/EC, 2014/68/EU
- ☑ HP0 - Certification
- ☑ Explosion protection according to 2014/34/EU
- ☑ CSA/UL - Certification
- ☑ Accreditation according to ISO 17025

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KEM Helical Flow Meter  
(SRZ High Resolution Series)