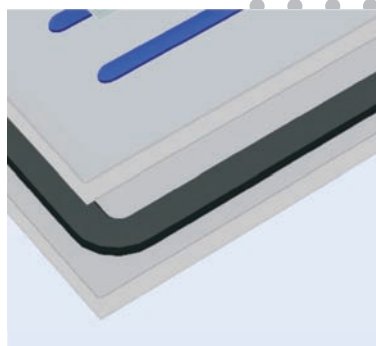
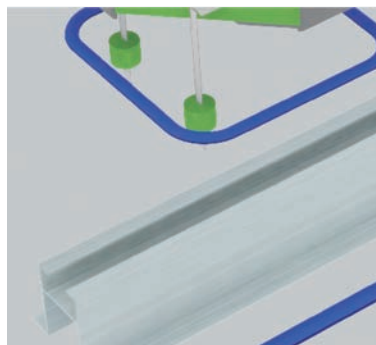
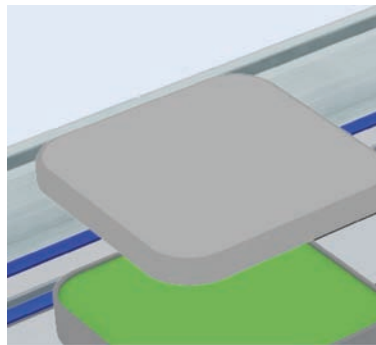
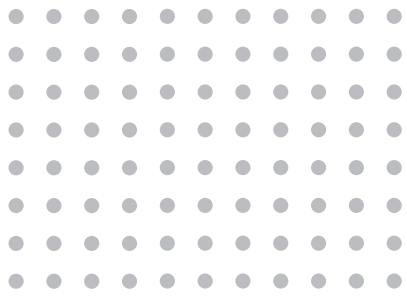
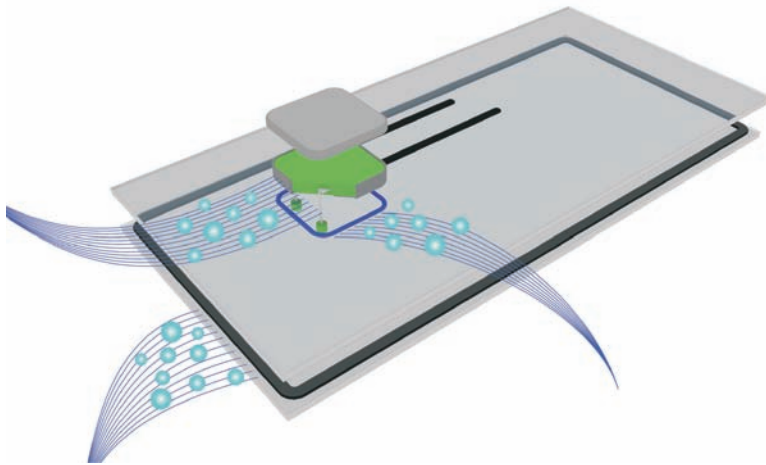


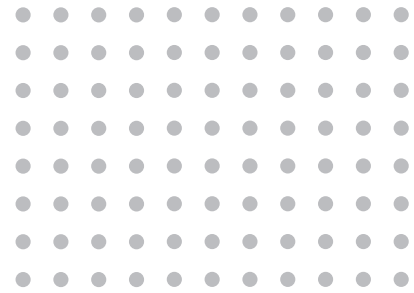
HELIOSEAL® / HELIOBOND®
SEALANTS AND ADHESIVES FOR
PHOTOVOLTAIC AND SOLAR THERMAL





HELIOSEAL® / HELIOBOND®

PRODUCT OVERVIEW

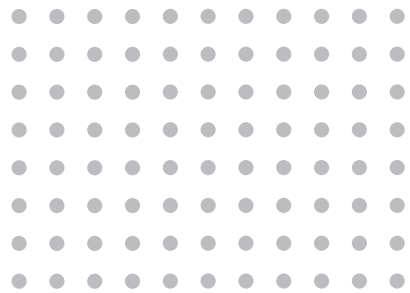


The KÖMMERLING HelioSeal®- and HelioBond® technologies are the result of decades of experience in related fields such as insulating glass, structural glazing, roofing and automotive. KÖMMERLING stands for outstanding adhesive performance, excellent mechanical properties, consistent high quality and superior long-term stability of its products.

| HelioSeal® | Base | Properties | Applications | UL listed |
|------------|----------------------------------|---|---|-----------|
| PVS 100 | Modified PIB | Moisture vapour barrier Desiccant inside High temperature stability | Edge sealing of ST modules | |
| PVS 101 | Modified PIB | Moisture vapour barrier Desiccant inside High volume resistivity | Edge sealing of crystalline and thin film modules | UL |
| PVS 800 | Modified PIB | Moisture vapour barrier High volume resistivity | J-box potting and back hole sealing | UL |
| PVS 210 | 1-part silicone Alcoxy curing | UV resistant Excellent ageing resistance High elongation Wide adhesion range | Sealing of joints and gaps of PV and ST modules | UL |

| HelioBond® | Base | Properties | Applications | UL listed |
|------------|---------------------------------|--|---|-----------|
| PVA 200 | 2-part silicone | UV resistant High modulus Meets the requirements of ETAG 002 | Structural bonding of PV modules Bonding of cover glass of ST modules Back rail bonding | UL |
| PVA 200 F | 2-part silicone | UV resistant High modulus Fast curing | Structural bonding of PV modules and Back rail bonding Bonding of cover glass of ST modules | |
| PVA 200 SL | 2-part silicone | UV resistant High modulus Self levelling | Structural bonding of PV modules Bonding of cover glass of ST modules | |
| PVA 205 | 1-part silicone Oxime curing | UV resistant High modulus | Manufacturing and installation of PV modules Frame assembly and bonding of the j-box | UL |
| PVA 303 AT | Acrylic tape | High initial adhesion High strength | Frame assembly and bonding of the j-box Assembly aid | UL |
| PVA 400 | MS polymer | Good adhesive properties Very good ageing resistance | Silicone free bonding and sealing of PV and ST components | UL |
| PVA 500 | 2-part polyurethane | High modulus Fast curing | Back rail bonding | |
| PVA 600 BT | Thermal set butyl (Tape) | Very low creep High strength | Extensive bonding of flexible PV modules on roofs | UL |



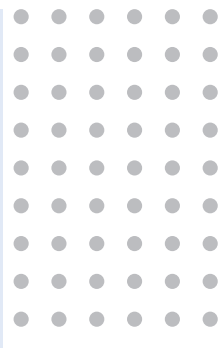
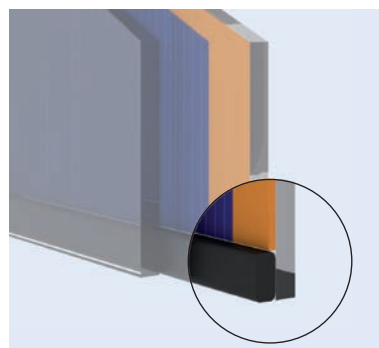


EDGE SEALING OF PV MODULES

HelioSeal® PVS 101

Modified PIB

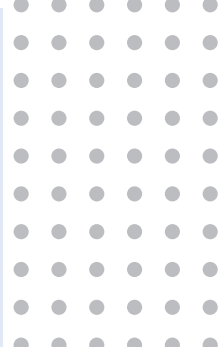
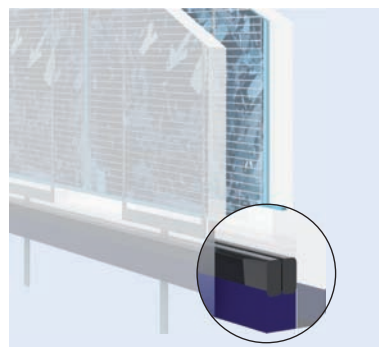
- Moisture vapour barrier
- Excellent UV resistance
- High volume resistivity
- Additional chemical bonding
- Processable as hotmelt or tape
- Excellent long term stability
- UL listed



HelioBond® PVA 200

2-part silicone

- Structural bonding
- Meets the requirements of ETAG 002
- Excellent UV resistance
- High modulus
- UL listed



BACK RAIL BONDING

HelioBond® PVA 200

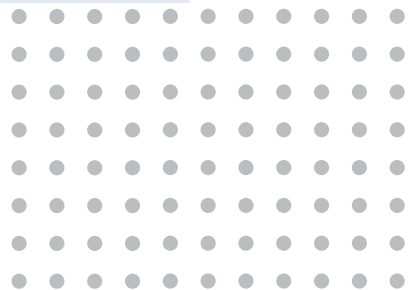
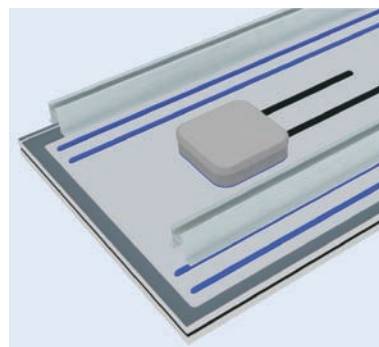
2-part silicone for the structural bonding of PV modules and back rail bonding

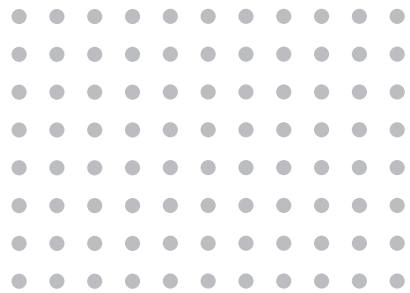
- Wide adhesion range
- High bonding power
- Meets the requirements of ETAG 002
- UL listed

HelioBond® PVA 500

2-part polyurethane for the structural bonding of PV modules and back rail bonding

- Very low creeping behaviour
- High modulus





BONDING AND POTTING OF THE J-BOX

HelioBond® PVA 200 / HelioBond® PVA 205

- 2-part and 1-part silicone
- Neutral curing
- Excellent long term stability
- Excellent UV resistance
- Wide adhesion range
- High strength
- UL listed

HelioSeal® PVS 210

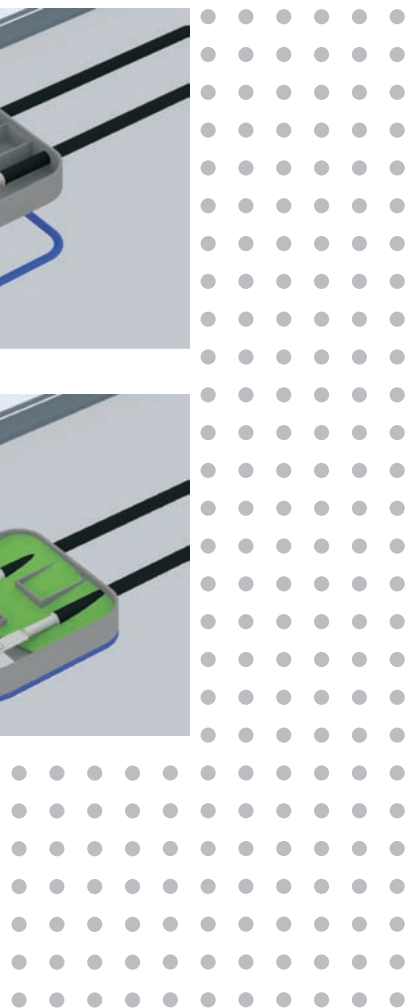
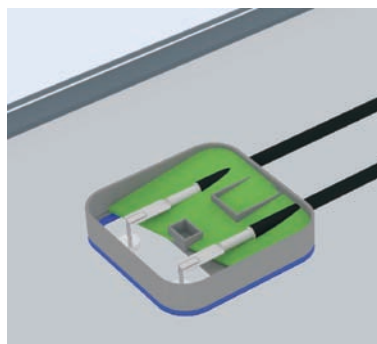
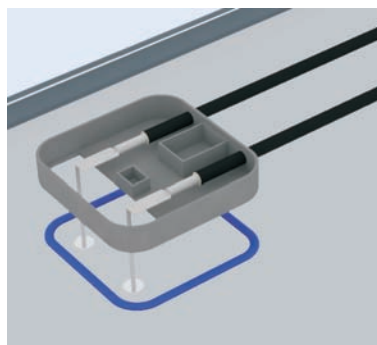
- 1-part silicone
- Neutral curing
- Excellent long term stability
- Excellent UV resistance
- Wide adhesion range
- High elongation
- UL listed

HelioBond® PVA 303AT

- Acrylic tape for the fixing and bonding of the J-box
- High initial strength
- Moisture resistant
- Excellent weathering properties
- UL listed

HelioSeal® PVS 800

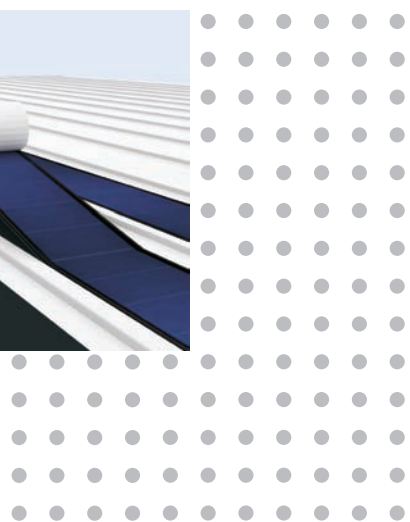
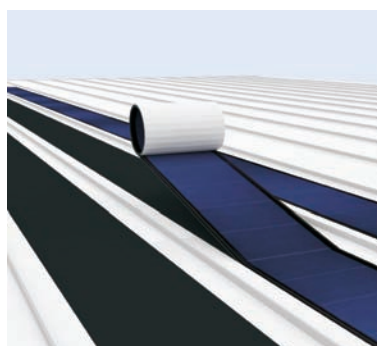
- Modified PIB for the potting of the J-box
- Moisture vapour barrier
- High volume resistivity
- High dielectric strength
- UL listed

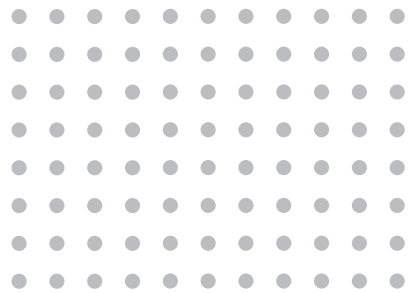


BONDING OF FLEXIBLE PV MODULES

HelioBond® PVA 600 BT

- Adhesive tape for the bonding of flexible PV modules
- Excellent tack
- Wide adhesion range to roof membranes
- Very good long term stability
- Easy installation



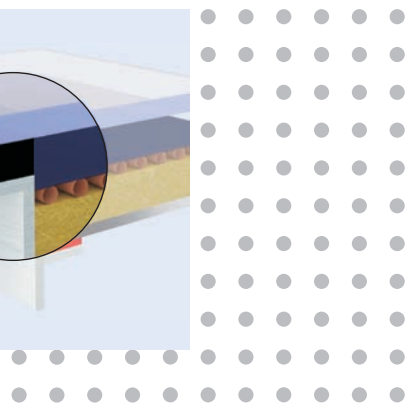
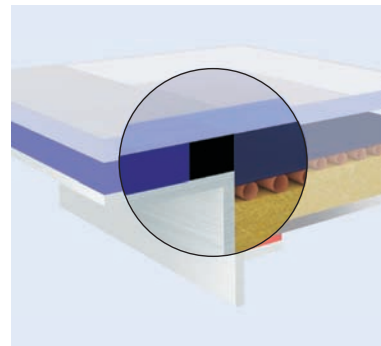


EDGE SEALING OF ST MODULES

HelioSeal® PVS 100

Modified PIB as moisture vapour barrier

- Flexible spacer
- Desiccant inside
- High temperature resistance



BONDING OF COVER GLASS OF ST MODULES

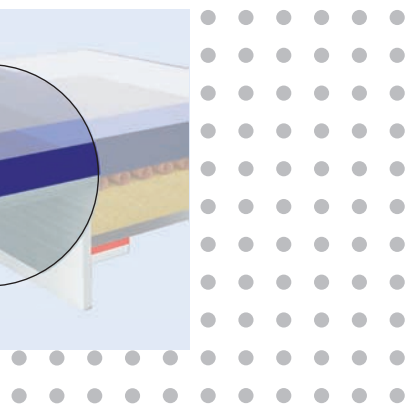
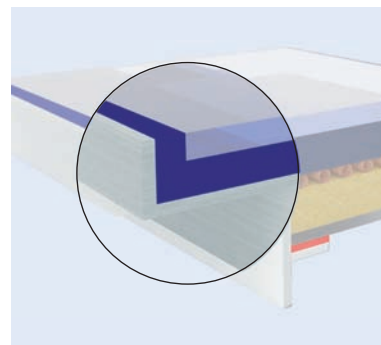
HelioBond® PVA 200

HelioBond® PVA 200 F (fast curing)

HelioBond® PVA 200 SL (self levelling)

2-part silicone for the bonding of cover glass

- Neutral curing
- Very good long term stability
- Excellent UV resistance
- Wide adhesion range
- High strength
- UL listed (HelioBond® PVA 200)

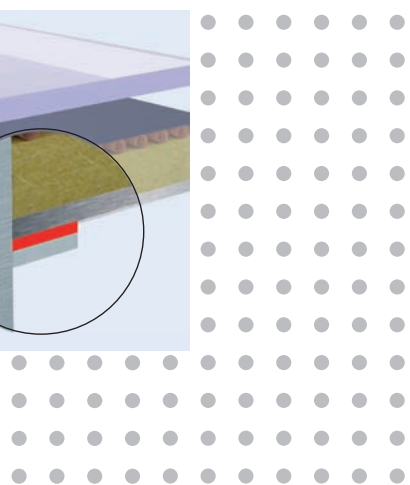
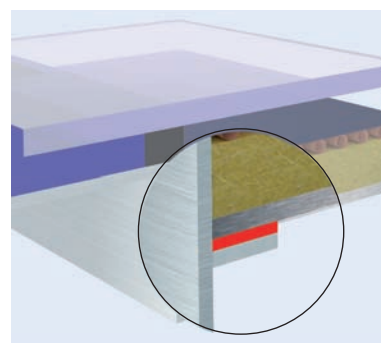


BONDING AND SEALING OF ST COMPONENTS

HelioBond® PVA 400

MS polymer for the bonding and sealing of the back sheet

- Silicone free
- Wide adhesion range
- Excellent durability
- For a faster curing also available as 2-part system
- UL listed



KÖMMERLING WORLDWIDE



KÖMMERLING

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