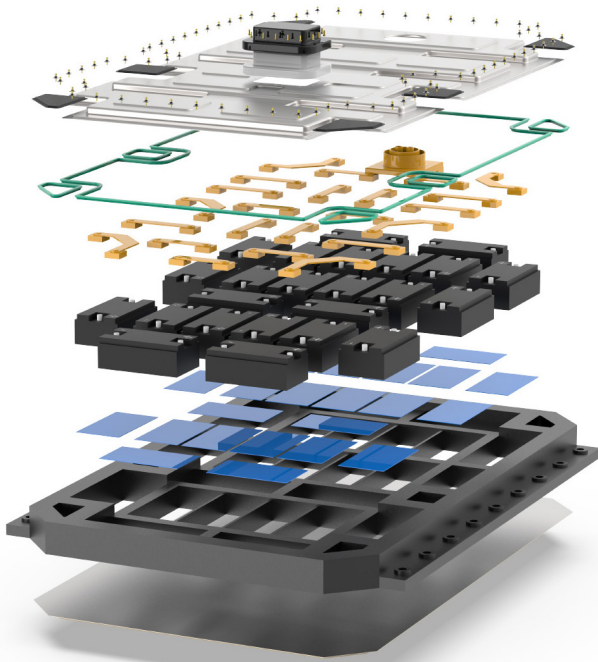
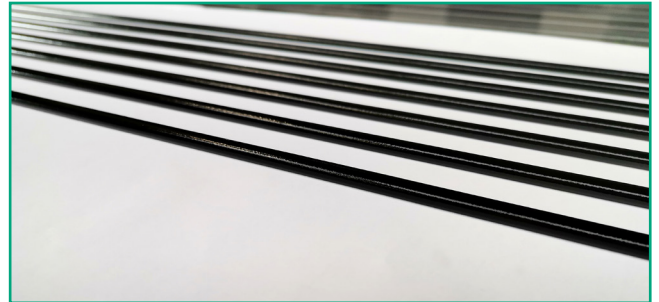


## Hot Butyl as a flexible sealant in Battery Assembly

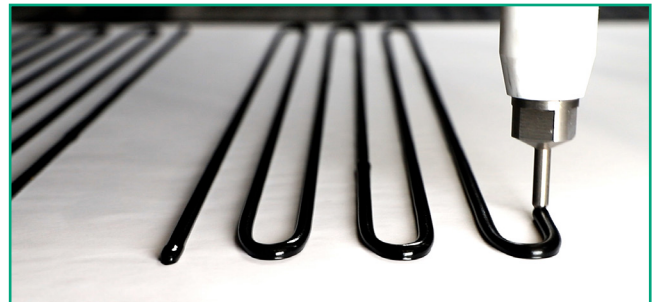
System Technology for optimum Leak-tightness of Battery Covers



Hot Butyl (green) as sealant of the Battery Cover



Endless Dosing of Hot Butyl



Application of Hot Butyl

### Areas of Use of Hot Butyles

Battery packs must be sealed before closing. This prevents leaks of gases and liquids, which pose a risk to vehicle occupants. For maintenance of the battery trays, the battery cover must still be removable and must not be tightly closed.

With its durability, heat resistance and excellent adhesion, Hot Butyl offers many special and useful characteristics as a flexible sealant in battery assembly.

In addition, battery packs tend to expand and contract. As a flexible sealant, Hot Butyl moves with the battery pack without cracking or splitting. Leaks of gases and liquids are thus prevented.

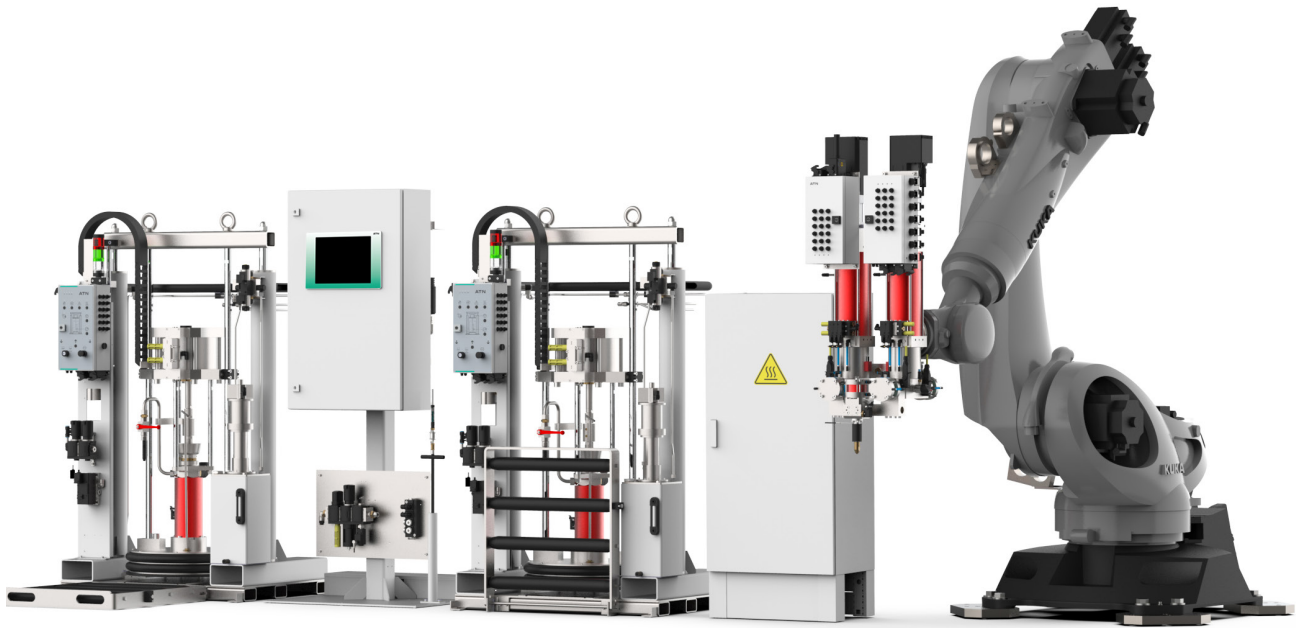
### Challenges

Hot Butyl is processed at temperatures of up to 180° C, which requires robust and resistant application technology. The fully heated system must ensure reliable temperature control of the material in order to apply the Hot Butyl with the correct viscosity and pressure ratio. For optimum sealing properties of the Hot Butyl, the bead must be uninterrupted, have a precise start and end and a uniform height.

### Solutions by ATN

- ✓ Our robust and wear-resistant application technology ensures optimum processing of Hot Butyles at temperatures of up to 180° C
- ✓ Fully heatable products from the drum pump to the applicator increase process stability and your productivity
- ✓ Our dual dosing units enable continuous dosing of Hot Butyl without interruption
- ✓ Special anodised surfaces of our dosing units increase their durability and improve wear behaviour
- ✓ 3D adhesive bead monitoring designed for high temperatures ensures perfect application of Hot Butyles
- ✓ ATN's IFC control system programmes heating cycles tailored to production cycles in order to save energy
- ✓ In addition, we offer an expert-supported preliminary investigation and consultation of your process through our Engineering Consulting service

# Application Technology of the ATN



\* schematic illustration

## Barrel Pump

- Container sizes from 20 - 200 litres
- Residue-optimised follower plate enables almost complete conveying of Hot Butyles
- Double drum systems ensure uninterrupted conveying of the material
- Fully heatable drum pump enables constant temperature control of the Hot Butyles at all times

## Dosing Unit

- Dual dosing unit enables uninterrupted and continuous dosing and application of the Hot Butyl
- Special anodising increases resistance
- Repeatability over 99%
- Simple and intuitive setting of all application parameters via ATN control system IFC
- Special material adaptations of certain components for processing Hot Butyles up to 180° C

## Applicator

- Broad product portfolio and experience enables almost any possible material composition
- Additional equipment with vision system designed for high temperatures up to 180° C
- Use of precise needle valves VN6 and VN8 ensures uniform bead height
- Robust and resistant products for long service lives

## Functional enhancements & additional ATN services

- Expansion and use of vision technology from renowned suppliers
  - Seamless monitoring of the application
- Realisation of further upstream or downstream processes in battery assembly
  - Surface pre-treatment of the workpieces to be processed
  - Robot-guided and fully automated insertion of battery cells
  - Application of Gap Fillers for optimum heat management
  - Screwing and sealing of battery covers