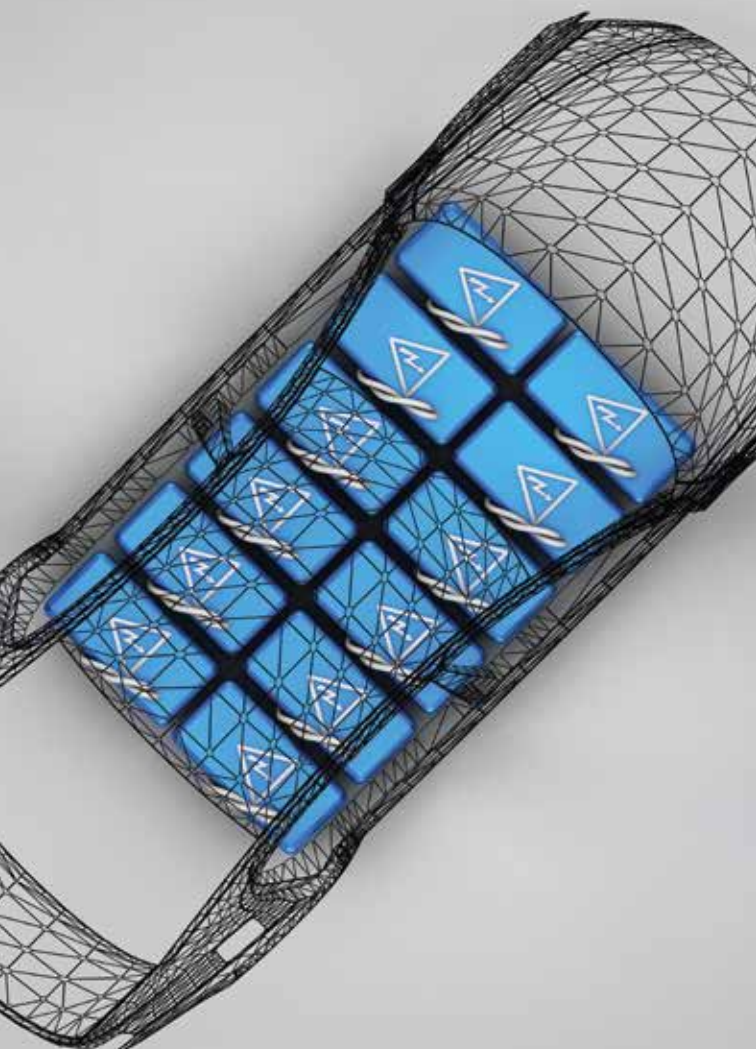


BATTERY PRODUCTION

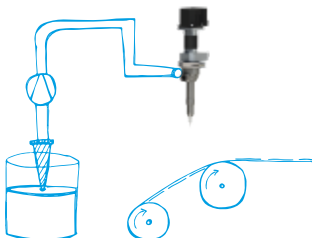


# DOSING TECHNOLOGY FOR BATTERY PRODUCTION



# BATTERY PRODUCTION WITH VISCOTEC

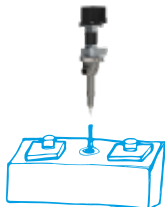
## DOSING SLURRY ON THE CONDUCTOR FOILS



In the electrode manufacturing an accurate and repeatable dosing process of slurry materials is essential and one of the key steps of the battery manufacturing.

- Easy integration in existing machines / production
- Accurate application of the slurry onto the separator fleece
- Continuous dosing process with the endless piston principle
- Processing of low up to high viscosity materials (up to 7,000,000 mPas)

## FILLING OF BATTERY CELLS WITH ELECTROLYTE FLUIDS



The filling and wetting are partial steps in the electrolyte filling process and have to be realized very carefully. The absence of any air bubbles is essential.

- No introduction of air bubbles into dispense material
- High repeatability (> 99 %)
- Least material residues due to optimized pail emptying systems



## **BATTERY FRAME AND BATTERY CELL GLUEING**

In order to ensure a complete closure of the battery cell, a gluing process on the edges is required. The sealing bead is responsible for protecting the inner parts from contamination.

- Continuous dosing process without interruptions or gaps
- Constant bead geometry despite changing robot speeds
- Perfectly cured product due to precisely mixed 2-component materials

## **DOSING OF THERMALLY CONDUCTIVE ADHESIVES ON OUTER BATTERY CELL HOUSING**

These highly filled materials are applied between the battery housing and the bottom of the vehicle in order to assure a constant heat transportation between the functional parts.

- Low costs of maintenance due to high resistance against abrasive materials
- High process stability and reliability
- Stable material properties due to gentle progressive cavity pump technology



# ELECTRIC MOTOR PRODUCTION WITH VISCOTEC



## MAGNET BONDING

In order to withstand the forces during operation, the fixation of the magnets needs to be reliable. Depending on the sizes, the quantities of the dispensed adhesive vary widely.

- Handling of 1-component or 2-component adhesives
- Low shear & high precision dispensing of materials with micro fillers (glass spheres / spacers)
- Exact dosing of minimum quantities  $< 1\mu\text{l}$
- Dispensing beads and dots in arbitrary positions (horizontally / vertically)

## POTTING OF THE STATOR

Low viscosity potting compounds need to be applied air bubble free and with the exact quantity, in order to guarantee 100 % protection and reliability of the parts.

- Perfect handling of 2-component materials even with very equal mixing ratios
- High repeatability ( $> 99\%$ )
- No dripping and stringing with the help of the “suck-back function” – no additional valves needed

More information can be found at: [www.viscotec.de/en](http://www.viscotec.de/en)

# 100% METAL FREE RD-EC DISPENSER

Perfect for the high standards in many manufacturing processes:

Highly reactive materials like sulphuric acids, anaerobic curing UV acrylates and electrolytes that require special treatment in the battery manufacturing process can be dispensed with the highest repeatability and accuracy ViscoTec products have always been standing for.

In order to prevent chemical reactions, like curing or crystallizing, within the dispense process any presence of metal particles has been eliminated in the wetted area of the 100 % metal free dispenser.

## Suitable for many materials:

- Anaerobic curing adhesives
- Sulphuric acids
- Acetic acid
- Bases
- Sulphur and chloride based electrolytes
- Sodium hypochloride (bleaching lye)
- Hydrogen peroxide
- Ionic liquids
- And many more!



## Your advantages:

- Special polymer pump and sealing housing
- 100 % metal free rotor shaft
- Special rotor / stator geometry
- Wide range of stator materials
- Luer adapter for dispense tips

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