INNO TAPE

CASE STUDY

BATTERY BASE SPACER

DOUBLE-SIDED ADHESIVE TAPE SOLUTION FOR AIR CIRCULATION IN HIGH-VOLTAGE AREAS

We developed moulded parts made of double-sided adhesive tape for air circulation in the battery floor of an electric vehicle – precisely tailored to the customer's existing application device. By using alternative materials, simplified geometry and wider grip tabs, we were able to reduce material costs by around 20% and integrate the process for 9.6 million parts into series production in a reliable manner.

Fast. Safe. Economical. From the first sampling to millions of units.

BATTERY BASE SPACER

PROCESS-OPTIMISED AND ECONOMICALLY IMPLEMENTED

INITIAL SITUATION

An automobile manufacturer required a spacer layer in the battery base of an electric vehicle to ensure air circulation and thermal stability in the battery housing. The spacing was specified and was to be achieved by the material thickness of a double-sided adhesive tape.

The plan was to produce 1.2 million battery modules – 8 adhesive tape moulded parts per module. That's a total of 9.6 million parts. The application device had already been specified.

The key question was: How can we produce the adhesive tape parts in such a way that they fit optimally into the existing process – and remain economical?

CHALLENGE

- High volume requirements
- Clear cycle time specifications
- Components must fit the application device exactly
- Air layer must not be compromised
- Lowest possible material and tooling costs

OUR APPROACH

Material selection – not automatically the standard

We suggested several suitable materials and provided samples in different variants. The customer deliberately chose not to go with the standard solution commonly used in the industry, thereby saving approximately 20% in material costs.

Geometry development
– precisely tailored to the fixture

To ensure that the components function perfectly in the customer's process, we tailor everything precisely to their requirements:

- Positioning of parts at the correct distance
- Precise feed of parts for double application
- Defined distance to the side edge

The parts are always manufactured in pairs: 2 moulded parts – 1 handle. Ideal for automated removal.

Process optimisation
– simpler, faster, cheaper
Originally, a partial pull tab was planned. Our recommendation: it is better to go across the full width.

advantages:

- Easier handling during removal
- Lower tool complexity
- Better cycle time
- Lower production costs

In addition, we have not implemented any radii. This reduces tool and process complexity – and speeds up production.
All in all, it saves costs.

BENEFITS FOR THE CUSTOMER

Economic efficiency
The conscious choice of materials resulted in savings of around 20 per cent in material costs. At the same time, the simplified design reduces tooling costs and enables cost-effective production – even for large quantities.

Process reliability
The moulded parts are precisely matched to the existing application device. The wide grip tab facilitates handling and, together with the double application, ensures a fast, robust and stable process in series production.

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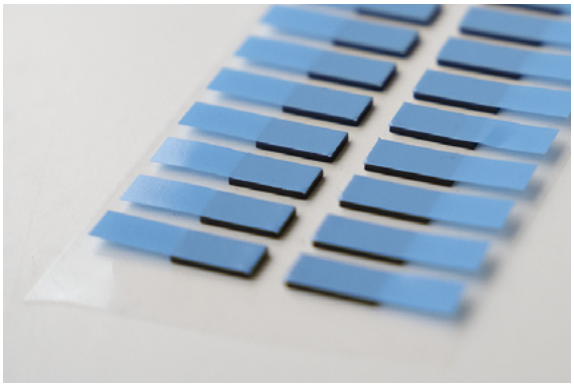
THE RESULT

The coordinated development of materials and geometry has resulted in an economical and robust series solution that integrates seamlessly into the existing application process. The spacers reliably fulfil their function of air circulation in the battery base and can be manufactured and processed in large quantities in a stable manner. This ensures a safe, efficient and permanently stable process result for the customer.



WHY INNO TAPE

We always consider material, geometry and process as a complete system. This results in solutions that not only work, but also run efficiently in series production. With extensive automotive experience and strong process expertise, we bring projects into production quickly and economically.

AND WHAT CAN WE DO FOR YOU?

Are you planning adhesive tape solutions for battery applications or high volumes?
We can support you with:

- Material selection and sampling
- Process-optimised geometry development
- Precisely tailored production and delivery formats
- Series production experience for millions of parts

Together, we will find the solution that really suits your process.

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