

Case study: UV curing gasket aids serviceable Li-Ion battery packaging in automotive industry

GenZe dedicate themselves purely to getting customers where they need to be with their two wheeled electric vehicles. A leading pioneer in the field, GenZe has developed leading edge engineering, R&D, and design innovations in areas including Li-Ion battery production.



Packaging state-of-the-art electronics with energy-dense Li-Ion battery cells presents some unique challenges and opportunities

The Problem

Packaging state-of-the-art electronics with energy-dense Li-Ion battery cells presents some unique challenges and opportunities. After an extensive design process GenZe engineers created a safe, aesthetically pleasing, yet extremely complex removable battery system without compromising other

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design aspects such as weight, performance, and safety. The manufacturing engineering team then had to develop a process suitable for mass production that would allow the team to assemble the system, disassemble the system for servicing and then reseal the system reliably and repeatedly. Extensive **trialling of different options ranging from solid die cut gaskets to individual O-rings and liquid materials were run but none of the trials proved to be a solution** to provide the necessary sealing performance while being easy to apply.

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engineers

The Solution

After visiting the GenZe production floor to assess the process, a team from our partners **Dymax** suggested a solution – **Dymax GA-201 UV Curing Form-In-Place (FIP) Gasket** – that would satisfy the needs of the application, not only in terms of sealing protection, but also in terms of manufacturability. This dispensable gasketing material demonstrated **previously unseen flexibility** to the product engineers. By using this material, the product's styling and packaging would no longer be limited by its sealing requirements.

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In a very short time, battery assemblies that power the GenZe 2.0 scooter were in production

The Results

After running months of performance and validation testing, **Dymax GA-201 UV curing gasket proved to be the solution GenZe was searching for**. The Dymax team also assisted GenZe process engineers with the selection of the proper **dispensing and UV curing systems**, allowing the process to be implemented as soon as possible. A complex manufacturing cell, which includes a 6-axis robot complete with **precision dispensing equipment** and a **Dymax BlueWave® 200 curing unit**, was installed. In a very short time, battery assemblies that power the GenZe 2.0 scooter were in production and passing the rigorous in-process tests with flying colours.

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