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BLOG

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Soucy Baron

ELECTRIC VEHICLE

Advancing EVs with rubber solutions

Manufacturers at the forefront of electric vehicle development benefit from the insulating properties of rubber

The electric vehicle (EV) market continues to grow, not just for consumers, but also for fleets. Many applications are proving to be excellent uses for EVs such as mowers, tractors, and utility trucks. Fleets that can take advantage of on-site charging such as warehouse forklifts and airport ground support are often ideal candidates for EV adoption.

Companies that are interested in converting their fleets to EVs are watching the market for available vehicles that meet their requirements. By anticipating EV fleet electrification needs, OEMs can meet the demand for vehicles that perform.

Custom rubber formulations play a key role for EV manufacturers in multiple ways:

- **Mitigating risks associated with thermal runaway events**
- **Optimizing efficiency and improving performance**
- **Peeding time to market and scaling up production**

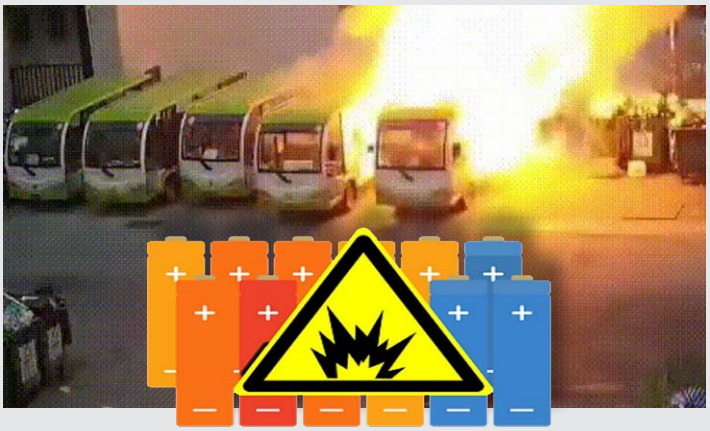
Find out how rubber solutions can be custom-engineered to enhance electric vehicle design and manufacturing!

Mitigating risks associated with thermal runaway events

Thermal events are a major point of concern with lithium batteries. Thermal runaway happens when a battery cell stops dissipating heat and overheats, even causing a domino effect of overheating other cells.

Proper design and protection of battery cells can help mitigate the risk of a thermal runaway event. Rubber formulations with flame retardant and insulating properties are good candidates for components that can withstand high temperatures.

Preventing damage is extremely important to preserve the internal chemistry and heat dissipation capabilities of batteries and battery cells. By damping noise and vibration, custom-engineered rubber solutions offer mechanical protection to avoid damage to battery cells.



Experienced rubber component designers are uniquely qualified to make recommendations on using rubber as an isolator to protect critical components. A rubber solutions specialist can be consulted on EV designs to determine if a barrier, seal, or other rubber component could mitigate thermal event risk.

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Augmenting efficiency and improving EV performance

Efficient design is extremely important in EV development. Effective coolant channels are one example of a critical design requirement for EVs. In addition to the thermal management properties of rubber described above, expertise in rubber overmolding and adhesion to metal are also advantageous in building optimized coolant channels.

Traction inverters are another core design component of EVs where thermal and electrical insulation is a necessity. Custom rubber seals, bushings, mounting systems, and other components can be designed and formulated to protect against shock and manage vibration.

EVs that promise the high level of performance required for demanding applications need efficient and effective thermal management and traction inverter performance. Custom-engineered rubber solutions offer precise designs and formulations for pliability, temperature, and durability that meet the needs of specific applications.

However, not all types of rubber have the same properties, so deep knowledge and expertise of different formulations, curing processes and surface treatments are needed to produce components that behave as needed.

Meeting demand by scaling up production with a North American supplier

As the EV market grows, manufacturers will be under pressure to satisfy demand. The ability to quickly scale up production and meet delivery deadlines can be a determining factor in whether or not companies decide to convert fleets to EVs.

The right partner is an asset when scaling up production. For manufacturers in North America, a nearby component supplier can speed time to market and meet increased demand.

For EV manufacturers that need rubber component expertise, Soucy Baron provides technical dominance in materials engineering, a library of over 900 recipes, and in-house formula development and mixing. Manufacturers have relied on Soucy Baron for over 50 years to design, test, and produce quality, high-performance compounds and components that meet specific requirements. With facilities in North America and overseas, Soucy Baron offers a wide range of capabilities.

Soucy Baron helps you:

- Improve thermal and electrical insulation in EVs
- Reduce noise, vibration, and harshness
- Protect critical parts
- Speed time to market
- And much more

To learn more about how custom rubber solutions can improve EV design and performance, contact us.