

Battery solutions

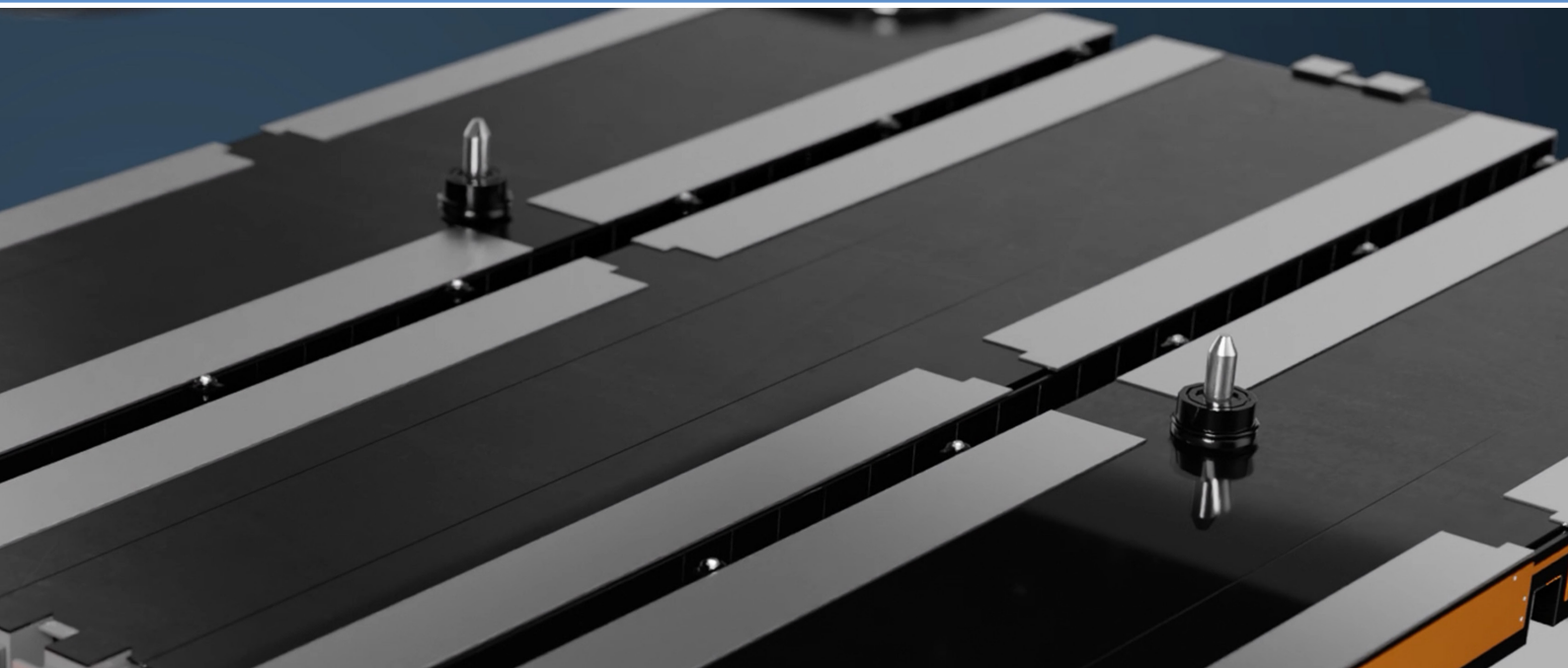
Aluminum battery housings



General Metal Finishing

Product portfolio

atotech.com



Cost-conscious and environmentally friendly aluminum surface preparation

As the first true substitute for internal combustion, the electric vehicle offers a greener and more sustainable alternative for the automotive market. The lithium-ion battery is the heart and the most sensitive element of the electric vehicle. Despite being designed on different formats, the primary material used for most battery components is aluminum which supports lightweight initiatives for range efficiency and provides higher natural corrosion-resistant characteristics. However, with a variety of alloys used for their properties, aluminum battery components require unique surface finishing solutions to ensure high battery performance and passenger safety.

Utilizing a combination of cleaners and conversion coatings along with accompanying etch and deoxidation processes, we offer a surface finishing solution capable of meeting the requirements for covers and trays, module and pouch covers, and cooling trays among other aluminum components critical for the electric vehicle battery. Our processes also offer superior sustained yield for applicators, supporting the overall sustainability of the battery electric vehicle.

Tailormade solutions for battery components

Battery housing covers and trays

Acting as the primary safety barrier for battery cells, the top cover and lower tray must meet stringent corrosion performances like other underbody components so as not to compromise the structural integrity. Utilization of surface preparation processes can enhance the adhesion of glue or paint and support the dielectric properties of paint when required.

Module and pouch covers

EV battery modules and pouch covers contribute to overall efficiency, reliability, and longevity of electric vehicles. Adequate surface cleanliness and conversion coating are essential to ensure proper protection of the battery from failure propagation.

Cooling trays

The cooling tray is an integral component of the battery system to ensure proper temperature regulation for optimized battery efficiency. It must exhibit excellent corrosion resistance while also achieving minimal impedance for surface resistivity so as not to impact the battery's performance.

Atotech® surface-finishing processes for aluminum battery components

