

# GTAS<sup>®</sup> Inorganic & Robust Battery Cell Lids

Reduce battery housing complexity with simple, yet more robust design

## Battery packaging impacts battery capacity and service lifetime

- Lithium-Ion Batteries for xEVs, during operation, are exposed to multiple strains e.g. extreme temperatures, humidity, vibration, salt fog and harmful gases.
- Therefore, battery housing and cooling is key for the battery performance and lifetime.
- Today's battery packaging, especially the lid technology, is rather complex, using multiple components to ensure battery performance and safety.



## Multi-component Battery Cell Lids



## GTAS<sup>®</sup> Battery Cell Lids – Simple & Robust



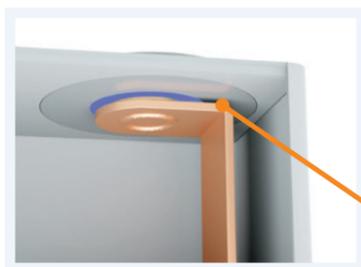
## Reduce parts to simplify battery lid construction

GTAS<sup>®</sup> Battery Lids are developed to increase leak-tightness and to eliminate moisture intrusion into battery cell.

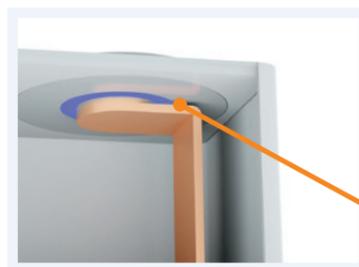
This is achieved by employing a special glass seal for the battery terminals, replacing the multiple organic polymer-based sealing components.

GTAS<sup>®</sup> inorganic and robust lid design allow the battery developer to reduce the parts used. This enables a simplified the lid construction, potentially even reduce the number of parts used for the battery packaging as reliable, long-term hermeticity is brought to the cell level.

## Flexible designs of current collectors



**Laser welded**  
**Contacting option 1**  
Sealed Pin contacted to current collector by laser welding  
only 1mm distance between glass and current collector is needed



**Continuous Pin**  
**Contacting option 2**  
Direct sealing of current collector (continuous Pin design)  
only 1mm distance between glass and current collector is needed

## Glass-to-metal sealed Battery Lids – The preferred and proven packaging technology for Lithium Primary Batteries

Glass-to-aluminium sealing (GTAS) is a proprietary technology developed based on SCHOTT's expertise in glass-to-metal sealing (GTMS) since 1939. Glass-to-metal sealing is the standard packaging for millions of high-performing, long life Lithium Primary Batteries in automotive and other applications.



**SCHOTT**  
glass made of ideas