

Abstract

Quality assurance in the highly dynamic battery production landscape – electrodes and assemblies

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Since established in 2014, the Research Production Line (FPL) at ZSW Ulm provides close-to-production conditions for LIBs in PHEV-1 format in order to support the transfer of laboratory research results to mass-production. High standards are set regarding quality, automation as well as reproducibility and continuously optimized during the large amount of conducted orders for cell production on the FPL over the last years. Increasing production output and making bigger and better cells have been two major trends during the past years. While materials and process technology is steadily improving, the requirements for novel testing methods are ever-present. Especially intermediate products such as electrodes and electrode assemblies are particularly relevant for cell performance and quality.

In this presentation, an overview will be given about the experience at the largest research production line for Li-ion cells in Europe at the ZSW. The improvements in material as well as formulations will be described and effects on the testing and quality assurance highlighted.

For new processes within the cell assembly process chain the newly arisen demands for quality control will be demonstrated and a feasible solution will be discussed.