

PU 108: Battery Assembly Materials for Electric Vehicles

- Basic concept of battery
- Battery Materials- NCM and LFP
- Battery types: Cylindrical, Prismatic, and Pouch
- Battery Design and in battery pack: and the PU support
 - a. Cylindrical
 - i. Can be compacted in battery pack
 - ii. Minimum swelling
 - iii. Protection: Potting, TCA
 - b. Pouch
 - i. High swelling
 - ii. Need to keep it cooling: put cooling plates with FPC around it
 - c. Prismatic:
 - i. Strong and heavy
 - ii. Have one venting side
- EV battery market
- Battery assembly materials
- Thermal interface materials (TIMs)
- Interfacial effects in thermal conductivity
- Key performance requirements for TIMs for EV
- Testing of thermal interface materials
- Design challenges, considerations, and trends