

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