

Premi-SMC in electric vehicle battery enclosures



As the transportation market shifts from internal combustion engines (ICE) to battery-powered Electric Vehicles (EV), a few things remain consistent; vehicles need to be lighter, more efficient, and have equal or better performance than an ICE.

Premi-SMC (Sheet Molding Compounds) from LYB are an attractive alternative to traditional materials when it comes to the manufacture of EV battery trays and covers. Furthermore, when using SMC in the compression molding process, Tier 1 and Tier 2 suppliers can experience cost efficiencies when factoring in the life and output of an automotive program.

Product benefits

- Mold complex 3-D geometry
- Part consolidation
- Light-weighting
- Chemical resistance
- Low shrink
- High strength
- Design flexibility
- Fast cycle times
- Flame resistance

Premi-SMC property range for EV battery enclosures

Physical/mechanicals	Typical	Units	Test method
Density	1.73 - 1.88	g/cm ³	ASTM D792
Tensile strength	12,000 - 30,500	psi	ASTM D638
Tensile modulus	1.5 - 3.0	Mpsi	ASTM D638
Izod notched impact strength	10.0 - 32.0	ft-lb/in	ASTM D256

Note: This is a typical property range for SMC in battery enclosures and is not to be considered as specification nor reflective of the full SMC portfolio.

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