



BRAHMA3

LIVE PCB ENCAPSULATION

Proprietary Low Temperature Low Pressure (LTLP) Encapsulation
for live PCBs



How we invented encapsulation for live PCB protection

A case story of achieving Tyre Management Unit (TMU) encapsulation under thermal and barometric constraints

The Problem

PCB damage during production & in field trials and low mechanical strength of molded PCB.

The Challenge

Achieving high adhesion and flexural strength at low pressure and temperature conditions.

Our Approach

We looked beyond conventional methods and devised novel methods to invent LTLP encapsulation process.

Our Work

We built our proprietary LTLP (Low Temperature Low Pressure) encapsulation for live PCBs and have now expanded into optical encapsulation & clear case solutions for lensing, diffusion and light guides.

Our Process

We started with the understanding of boundary conditions for manufacturing. We innovated on the process and focused on the identification & trials of various tooling options with advanced composite materials.

Our versatile tooling greatly enhanced cost effectiveness by allowing the usage of same tooling and process for prototypes, small batches & volume batch production.

The Result

The encapsulated TMUs manufactured through our proprietary LTLP encapsulation process successfully passed rigorous field trials including drum tests. We are now in active production. This solution helped our partner Bosch take the product to market in a timely manner through our rapid industrialization methodology.



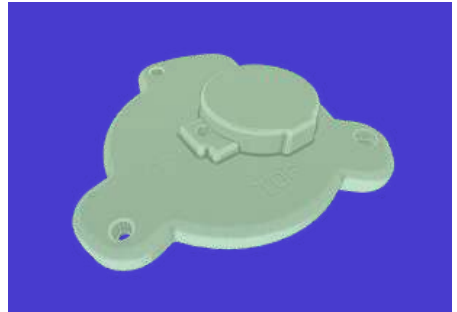
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Protection of live PCBs through Encapsulation

Our LTLP encapsulation achieves cost effectiveness for low batch to high volume production and eliminates the need for casings & enclosures.

Encapsulating live PCB

Technology to achieve required mechanical properties over live boards with batteries under thermal and barometric constraints.



Encapsulated unit

Optic encapsulations

Clear optical grade casing solutions for lensing, diffusion and light guides

LTLP encapsulation

Proprietary encapsulation technique with low temperature (<70 °C), low pressure (1 bar) ensuring complete performance & safety of live PCBs.

Volume support

Seamless & cost effective manufacturing of low volumes (0 to 5 units) to large volumes (upwards of 5000 units) with the same tooling.

“Brahma3 has closely worked with our engineering teams to come up with a novel solution to protect and encapsulate our live functional PCBs. We are working with them to expand their solution on caseless potting to other domains.”

- Vertical head, Engineering department, Bosch

Reach out!



BRAHMA3

info@brahma3.com

www.brahma3.com

+91 88610 64660 | +91 99867 25215