



## ENCAPSULATION & POTTING SERVICES

### WHY CME?

CME offers encapsulation and potting services to meet the most demanding device application specifications; something we have been doing for 18 years now!

CME applies encapsulation and potting materials to insulate electronic or electrical assemblies or components using manual, semi-automated, or automated dispense systems, and variable ratio, meter mix machines. Since each product design and manufacturing process can be custom or unique, it may be difficult to find a material that will exactly meet all the requirements. CME can assist you in finding the most suitable process and/or compounds to fit your needs.

Potting and encapsulation delivers a thicker and more robust solution versus conformal coating to protect your electronic assemblies from harsher environments, tin whiskers, and to keep them functioning properly for longer lengths of time, and/or to keep them protected from security threats, such as tampering or reverse engineering. Potting and encapsulation combined epoxy coatings also create a strong barrier against moisture, dust, fungus and corrosion. These processes also enhance circuit reliability by eliminating leakage from high voltage circuits, and protecting against voltage arcs and short circuits by preventing the formation of tin whiskers.



*CME Manufacturing Services: Encapsulation & Potting*

### APPLICATIONS

Typical products encapsulated include cable splice, coils, power supplies, sensors, transducers, switches, and control modules.

- Potting and vacuum encapsulation of electronic/electrical assemblies, sensors, connectors, coils, and other electronic components.
- Overmolding of harness breakouts, watertight electrical connectors, cables, cable end seals, and other printed circuitry.
- Bonding or sealing.

### KEY FEATURES & BENEFITS

We use a variety of compounds to provide consistent material performance achieving the most exacting electronic potting application properties. Some examples our materials performance potting include dielectric, electrical insulation resistance, thermal conductivity, thermal shock resistance, mechanical strength, adhesion, hardness, cure speed and chemical resistance.

- Potting is a hermetic-like seal using low-cost shells.
- Encapsulation is a hermetic-like seal with reusable molds.

*We Love to Design and Build!*

## WHAT IS ENCAPSULATION & POTTING?

Encapsulation and Potting is the process of encasing and protecting an electronic or cable assembly, typically using a thermosetting material which provides resistance to shock and vibration, or exclusion of moisture and corrosive agents. The main difference between potting and encapsulating is that with the latter, the electronics are contained within the encapsulation for protection of the assembly. Electrical and electronic potting insulates and protects electrical and electronic components from application and environmental stresses.

## SUMMARY

CME is process oriented and our electronic potting and encapsulating products are selected for ease of processing in manual and automated potting, encapsulating, casting, dipping and vacuum impregnating production operations. Encapsulation protects electronic components, connections or terminations from moisture, dirt, oil or other chemicals in the environment by completely encasing and sealing them with either a single- or plural-component resin. Resins may include epoxies, silicones or urethanes. In the potting process, a reservoir is filled with either a single-component or two-component resin to protect electronic components, connections or terminations. Resins may include epoxies, silicones and urethanes. Potting can be accomplished either at atmospheric pressure or under vacuum pressure when voids within the resin are undesirable, a process called vacuum encapsulation.

We offer customers turnkey solutions for conformal coating and potting application requirements that includes:

- Process, Material, and/or Equipment specification
- Application/Process development
- Prototype fabrication
- Subcontract application services
- Acceptance and Qualification test
- Engineering services
- Electronic assembly



At our 49K sq. ft. Tampa Bay facility, CME holds both AS9100C and ISO9001 registrations; and has been recognized for ISO/TS 16949 Conformance. Our production associates are certified under the IPC-A-610, *Acceptability of Electronic Assemblies*; IPC J-STD-001, *Requirements for Soldered Electrical and Electronic Assemblies*; as well as IPC/WHMA-A-620, *Requirements and Acceptance for Cable and Wire Harness Assemblies*. All production personnel are also trained and certified in ESD protection and prevention per the requirements of ANSI/ESD S20.20-1999, MIL-HDBK-263B, and MIL-STD-1686C.



*Potting and Encapsulation of Various Electronic/Electrical Assemblies and Cable Overmolds*

