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[Home](#) » [Applications](#)

Potting and Encapsulation



Our line of products consists of epoxies, silicones, polyurethanes and UV curable systems. They are used in low, medium, high voltage applications and feature outstanding electrical insulation properties, superior adhesive strength, thermal stability and superb chemical resistance. Products provide reliable long term performance for microelectronic, electronic, electrical devices, components including:

- Power supplies
- Switches
- Ignition coils
- Electronic modules
- Motors
- Connectors
- Sensors
- Cable harness assemblies
- Capacitors
- Transformers
- Rectifiers

Properties of Potting, Encapsulation and Casting Systems

From "under the hood" to photovoltaic junction box assembly LED packaging to marine modules to submersible pumps Master Bond potting, encapsulation, casting materials are impervious to hostile environmental conditions. They offer the following advantages:

- Enhanced thermal management properties
- Exceptionally low coefficients of thermal expansion
- Crack resistance
- Protection against corrosion
- Elevated temperature and cryogenic serviceability
- Withstand rigorous thermal cycling and shock

Specific grades are used for tamper proofing, infiltrating densely packed components, sealing tightly wound coils, underfills, for high voltage indoor/outdoor applications where arcing/tracking are a concern and high vacuum situations. Additionally Master Bond offers optically clear UV curable systems including dual cure (UV/heat curable) compounds for "shadowed out" areas that pass 1000 hours at 85°C/85% RH testing.

Special Potting, Encapsulation and Casting Formulations

Many of our compounds have been formulated to meet strict industry standards, including:

- ✓ **UL 94V-0 for flame resistance**
- ✓ **UL 746A high amp arc ignition resistance and UL 94HB for flame retardancy**
- ✓ **UL 1203 for explosion-proof and dust-ignition-proof**
- ✓ **NASA low outgassing**
- ✓ **USP Class VI for medical use**
- ✓ **FDA CFR 175.300 for food grade**

Low viscosity, self leveling rigid, semi-rigid and flexible compositions eliminate gas entrapment and are ideal for high volume production applications. These solvent free 100% solid systems feature low shrinkage, outstanding dimensional stability, excellent mechanical properties and can be dispensed manually/automatically. They guard against abrasion, shock, vibration, impact, UV, fungus, moisture exposure including salt water immersion. Specific grades exhibit superior thermal dissipation characteristics and have high glass transition temperatures. Heat activated systems can be cured at low temperatures and exhibit low exotherm even in various wide cross section thicknesses. Soft, low durometer, resilient compositions have excellent stress relief properties for fragile, sensitive components. All products are ROHS compliant.



[Learn more about the importance of a long pot life and low exotherm in potting, encapsulation and casting applications.](#)



Some of Our Most Popular Potting, Encapsulation & Casting Epoxy Systems



[EP30FL](#)

Low viscosity, optically clear epoxy. Ideal for thermal cycling and bonding sensitive components. Room temperature or low elevated temperature cure. Good flexibility. Superb impact resistance. Shore D hardness 25-40. Serviceable from 4k to +250°F.



[EP36AO](#)

Thermally conductive, electrically insulative B-stage toughened epoxy. One part system. Ideal for potting and encapsulation. Capable of withstanding rigorous thermal shocks. Serviceable from -100°F to +500°F. Available in 30 gram cookies. Meets NASA low outgassing specifications.



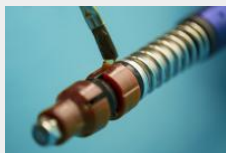
[EP37-3FLFAO](#)

Flexible, low viscosity, thermally conductive epoxy. Meets NASA low outgassing specifications. Superb electrical insulator. Good physical strength. Chemical resistant. Long working life. Withstands 1,000 hours 85°C/85% RH. Guards against mechanical shock and vibration. Excellent flowability. Ideal for potting and casting.



[EP21LV](#)

Epoxy adhesive, sealant, coating resists acids, alkalis and many solvents. Low viscosity room temperature curing. Contains no solvents. Serviceable from -60°F to +300°F. Castable to thicknesses exceeding 2-3 inches. Excellent electrical insulator.



[EP42HT-2](#)

Bonding, sealing, coating, potting compound. Heat, chemical, steam resistant. Superior optical transmission properties. Solvent free. Withstands exposure to acids, alkalis and many solvents. Castable up to 2-3 inches. Cures readily at ambient temperature. Service temperature range -60°F to +450°F.



[EP21FRNS-2](#)

Durable potting, encapsulation, casting compound meets UV 94V-0 flame retardant specifications. Convenient one to one mix ratio by weight. Features a non-halogen filler. Superb flow properties. Outstanding electrical insulation. Low smoke generation. Serviceable from -51°C to +90°C.



[EP30M4](#)

Potting compound offering low exotherm. Outstanding chemical resistance and electrical insulation properties. Protects against exposure to Skydrol, xylene, 70% sulfuric acid, 98% sulfuric acid, 50% sodium hydroxide and bleach. Cures at ambient temperatures or more quickly at elevated temperatures.

Moderate viscosity. Service operating temperature range from -80°F to +300°F. Withstands 1,000 hours 85°C/85% RH.



[EP29LPSPA0](#)

Low exotherm potting/encapsulation compound. Heat curing two component thermal conductive/electrical insulative system. Can withstand cryogenic shocks. Superior electrical insulation properties. Good chemical resistance. High dimensional stability. Vacuum compatible. Service operating temperature range from 4K to +275°F.

[Master Bond Expanded Product List](#)



[Need technical assistance?](#)

