Material Solutions for
Drone Manufacturing

Drones have become commonplace in today's world, spanning industries such as agriculture, defence, film & entertainment and DIY. These vehicles comprise complex assemblies that are highly digitized, making them prone to failure on multiple fronts. MG Chemicals offers a variety of material solutions that helps ensure the longevity and reliability of your drone.

We offer several adhesives, conformal coatings and conductive coatings that help ruggedize drones against common harms including moisture, overheating, and electromagnetic interference.

Drone Solutions

PCB Protection

MG Chemicals offers an extensive portfolio of solutions tailored to protect PCBs. These include sensors (LiDAR, radar, laser, ultrasonic, thermal, chemical, and hyperspectral), GPS, communication, video and image processing modules.

Our range of products for PCB protection includes conformal coatings, potting resins, and greases.

Battery Pack Reliability and Performance

With growing demand for high performance UAV drones, designing more efficient battery packs has become the center of attention for design engineers and manufacturers.

MG Chemicals offers special adhesives and thermal interface materials that help manufacture light-weight, thermally efficient, and high performing battery packs for UAVs.

EMC Compatibility and Corrosion Protection

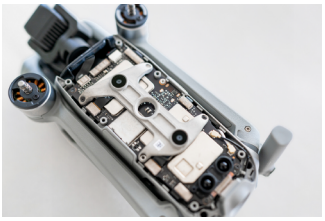
Drones' electronic systems must work to full potential. Connection to the drone must be consistent and without interruption to prevent safety and communication issues.

MG Chemicals' conductive paints not only guarantee EMC compatibility, but also offer corrosion resistance and surface protection to body frames.

Body Panel Durability

To reduce weight and manufacturing costs, structural adhesives can replace complex processes like welding to provide the needed strength and reliability to the drone's outer frame.

Our comprehensive line of specialty adhesives offer a wide range of properties including flame retardancy, flexibility, and high bonding strength.



MG Chemicals

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Conformal Coating for PCB Protection

Protecting PCBs within flight and speed controllers, sensors, location and GPS modules, camera and imaging systems from moisture, water splashes, dust, chemical vapours, and high voltage arcing.

Product	Chemistry	Color	Temperature Range	Features
419D	Acrylic	Clear	-65 ˚C to 125 ˚C (-85˚F to 257 ˚F)	UL 94 V-0, IPC-CC-830B certified
419E	Acrylic	Clear	-65 ˚C to 130 ˚C (-85˚F to 266 ˚F)	UL 746E, IPC-CC-830C certified
422B	Silicone/Acrylic	Clear	-40 ˚C to 200 ˚C (-40 ˚F to 392˚F)	UL 94 V-0 certified
4226A	Alkyd	Clear	-30 ˚C to 180 ˚C (-22 ˚F to 356 ˚F)	High dielectric strength

Potting and Encapsulation for PCB Protection

For more challenging and heavy-duty environmental protection of PCBs, cameras or light fixtures, potting and encapsulating compounds are used.

Product	Chemistry	Color	Temperature Range	Features
832WC	Epoxy	Clear	-40 to 140 ˚C (-40 to 284 ˚F)	Optically clear encapsulant, shock protection
834HTC	Epoxy	Black	-50 to 150 °C (-58 to 302 °F)	Flame retardant, UL 746A Certified
834FX	Epoxy	Black	-50 to 125 °C (-58 to 257 °F)	Flexible, flame retardant
8840	Urethane	Black	-50 to 125 ˚C (-58 to 257 ˚F)	General purpose, flame retardant
RTV627	Silicone	Grey	-60 to 400 ˚C (-76 to 752 ˚F)	Flame retardant, UL 746A Certified

Bonding for Durability and Protection

Our specialty adhesives offer solutions from replacing conventional methods of securing body panels, to dissipating heat from battery packs and heat generating components to chip bonding.

Product	Chemistry	Color	Temperature Range	Features
9200	Epoxy	Grey	-40 to 150 °C (-40 to 302 °F)	Structural
8332	Epoxy	Clear	-40 to 150 °C (-40 to 302 °F)	Fast set – 3-5 min. working time
8329TFF	Epoxy	Off-white	-40 to 150 °C (-40 to 302 °F)	Thermally conductive, UL94 V-0 Certified, 5 min working time
9410	Epoxy	Silver	-65 to 145 °C (-85 to 293 °F)	One part electrically conductive
1035	Silicone	Translucent	-60 to 204 °C (-76 to 400 °F)	One part, high elasticity, fast cure

EMI Shielding for Performance and Protection

Electromagnetic shielding from neighbouring radio signals is essential for high signal fidelity with ground communication systems, maintaining the drone's uninterrupted operation.

Product	Chemistry	Color	Temperature Range	Features
841AR	Nickel/Acrylic	Grey	-40 ˚C to 120 ˚C (-40˚F to 248 ˚F)	Effective shielding attenuation, strong corrosion protection
842ARL	Silver/Acrylic	Silver	-40 ˚C to 120 ˚C (-40˚F to 248 ˚F)	High shielding attenuation, low film thickness
841WB	Nickel/Water-based	Grey	-40 ˚C to 120 ˚C (-40˚F to 248 ˚F)	Low VOC
842ER	Silver/Epoxy	Silver	-40 ˚C to 150 ˚C (-40˚F to 302 ˚F)	High shielding attenuation, strong corrosion protection

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