



## EPOXY RESINS FOR ELECTRIC AND HYBRID VEHICLES

### ADHESIVES, POTTING AND ENCAPSULANTS, LAMINATING, FILAMENT WINDING, SYNTACTICS, CURING AGENTS

**Resin Formulators** – exclusively engineered by the manufacturing division of GracoRoberts – is the time-tested and trusted brand of epoxy specialty materials that can be uniquely customized, tested and certified on-demand. Resin Formulators can help you with proprietary formulations for a specialty material, improving cure rates, or modifying color or viscosity.

Complete with a Director of Product Development, a Senior Research Chemist, a formulation and packaging team, and a lab designed for state-of-the-art product development, Resin Formulators has been delivering high-quality solutions to meet your advanced engineering needs for over 60 years.

## COMMITMENT TO QUALITY AND SERVICE

GracoRoberts and Resin Formulators are fully qualified to design, manufacture, and distribute products to a variety of industries.

### Certifications:

- ISO 9001:2015
- AS9100 (Rev. D)
- AS9120 (Rev. B)

To verify compliance with the requirements of these certifications, we engage in routine on-site examinations and audits of our processes. These certifications and our stringent self examination practices help ensure that we provide the highest quality products and services to our customers.

## FEATURED PRODUCTS

**RF 5407** Electrical insulation and high thermal conductivity

**RF 2022 (Modification 1)** Electrical isolation protection

**RF 2969 (Modification 7)** Electrically conductive bonding

**RF 1710** Potting foam system to prevent vibration and secure components

**RF 1146** A low density and high compressive strength potting epoxy

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Application	Product	Capabilities
<b>Structural Bonding</b>	<b>RF 1120</b>	A semi-thixotropic adhesive that can be used on vertical surfaces without excessive bleed from the bond line. It has excellent adhesion to a variety of substrates (metal, plastic, and composites).
	<b>RF 6100</b>	Medium viscosity, high temperature bonding adhesive with service conditions up to 350 °F. It is ideal for metal and composite structures.
<b>Electrical Bonding</b> Batteries, Capacitors, Transducers, Transmitters	<b>RF 2969</b>	Thixotropic, electrically conductive epoxy that is E595 certified. Specially designed for applications where hot soldering is impractical or on parts that cannot be subjected to heat. Also available in one part pre-mixed and frozen. Room temperature or elevated temperature cure profile.
<b>Thermal, Electrical and Environmental Protection</b> Circuits, Charging Systems, EMI Filters	<b>RF 5407*</b>	Aluminum oxide filled epoxy with excellent electrical insulation properties, high thermal conductivity and high service temperatures. <small>*RF 5407 FR, flame retardant version which meets UL 94 V-0 requirements</small>
	<b>RF 4407</b>	Electrically isolating, self extinguishing, filled resin. The cured system is a thermally conductive plastic. Meets UL 94 V-0 requirements.
	<b>RF 2022</b>	Low viscosity, self extinguishing, high electrical isolation epoxy with good thermal conductivity properties. Protects against vibration, dust, particles, humidity and extreme temperatures.
<b>Potting</b> Batteries, Antennas, Pipes, Tanks, Panels	<b>RF 1146</b>	Low density and high compressive strength potting epoxy that prevents vibration and secures components. Offers protection against environmental elements. Room temperature, low exothermic cure profile.
	<b>RF 1366</b>	Medium viscosity Bisphenol A epoxy. Useful for filament winding, dry fabric infusion, and potting applications.
	<b>RF 1710</b>	Polyurethane rigid closed cell foam system that prevents vibration, secures components and provides environmental protection. It resists high temperatures, has excellent Resonance Frequency (RF) properties and provides strong thermal insulation. Cures at high humidity or low temperatures.
<b>Anti-Corrosion for Aluminum Substrates</b>	<b>RF 2388</b>	Non-corrosive, one-component paste adhesive with high temperature structural properties for aluminum substrates. Prevents damage and extends component life.

## SPECIALTY PACKAGING AND DISPENSING

Tailor the amount, choose the format, and modify the packaging. Every product can be enhanced with custom packaging and dispensing to ensure accuracy and eliminate waste at the point-of-use.

### A wide range of services and options are available:

- Bulk containers: drums, 5 gallon, gallon, quart, pint
- Injection and barrier kits
- Single component cartridges (single cartridge system)
- Side-by-side cartridges (dual cartridge system)
- Bi-packs
- Syringes
- Pre-mixed and frozen
- Volume mix ratios (1:1, 2:1, 4:1, 10:1, 2:3)