



Resin Formulators has been solving unique challenges across a wide variety of advanced manufacturing industries for over 60 years. Below are just a few examples of how we can put our custom solutions to work for you.

RF 5407: A BREAKTHROUGH MATERIAL FOR HIGH-VOLTAGE CONTACTORS IN RAPID EV CHARGING STATIONS



CHALLENGE:

An electronic vehicle component manufacturer needed assistance with the completion of their new 1000 amp high voltage contactor unit, intended for use in rapid charging stations. Standard contactor relays are rated for 500 amps, so a new material was required to withstand the temperatures generated during the transmission of higher frequency currents in a high voltage direct contactor relay.

SOLUTION:

RF 5407 was identified as both the hermetic seal and thermal management interface solution for the contactor relay's surface. The result was an improved power transmission through the relay, enabling the creation of sustainable devices capable of withstanding the necessary temperatures for rapid EV charging. RF 5407 is now a qualified material for their device.

EDGE FILLING WITH HIGH TEMPERATURE STABILITY



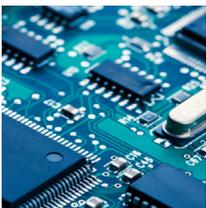
CHALLENGE:

A satellite OEM had two materials approved for their satellite panel edge filling, and needed a custom modification to combine the favorable properties of each product into one solution. The first product provided high-temperature performance but production processing was very difficult. The second product provided low viscosity for easier production use, but lacked the desired temperature performance.

SOLUTION:

After a thorough design and development process, RF 1164 A/B was created as a low density syntactic epoxy system to provide the flow required while maintaining a very high temperature stability. The solution solved the customer process and performance solution for their satellite panel applications.

COST-EFFECTIVE EPOXY SYSTEMS FOR MODERN ELECTRICAL COMPONENT DESIGN



CHALLENGE:

Various aerospace and defense customers were looking for a silver filled epoxy system that would fit new and improved electrical component designs - specifically a product that would wick into extremely small places to complete an electrical connection. The application would require high electrical conductivity, have an ambient or elevated cure formula, and be suitable for electrical circuitry, EMI shielding, or grounding of composites.

SOLUTION:

Resin Formulators began a design and development process where it was decided that multiple versions were needed, including a heat cure and room temperature curing version. The resulting product, RF 2969, met the technical needs for new design requirements, and was also recognized as a cost-effective solution for scalability. The product has now been a successful aerospace solution for over 20 years and is qualified to military aircraft, commercial satellite, rocket, and automotive programs.

IMPROVED PRODUCTION PROCESSING FOR A BROAD RANGE OF APPLICATIONS



CHALLENGE:

The Resin Formulators team anticipated a major market delivery issue when there was a disruption in the supply of a raw material that was used in the production of certain structural adhesives.

SOLUTION:

The resulting product, RF 6110, was created as a two-part structural epoxy with high peel and elevated temperature performance. It proved economically efficient and improved production processing due to its versatility across a broad range of applications. The product is now qualified to commercial aircraft programs.