

CASE STUDIES

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.

EDGE CLOSE OUT AND INSERT POTTING FOR HIGH PRODUCTION THROUGHPUT DEMAND



CHALLENGE:

An aerospace OEM customer needed a material which would be extremely lightweight while providing sufficient adhesion, compression and non-slumping properties for edge close out, insert potting, and densification of honeycomb structures. A product that would meet high production throughput demand and a room temperature cure profile was required.

SOLUTION:

RF 1141 was created as a low-density syntactic epoxy system, with a 30-40 minute work life, 3000+ psi compression strength and .46-.48 specific gravity. The product is now qualified on satellite and commercial aviation programs.

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.