



OVERAIR SELECTS TORAY TO PROVIDE ADVANCED MATERIALS FOR BUTTERFLY EVTOL PROTOTYPE PROGRAM

News / Manufacturer



Overair and Toray Composite Materials America announced a strategic collaboration on utilization of Toray's advanced prepreg system in Overair's Butterfly prototype program. Butterfly is a low-noise, zero-emission eVTOL aircraft that will provide sustainable aerial ridesharing in densely populated cities where traffic is a problem.

The Butterfly prototype aircraft utilizes Toray's T1100/3960 prepreg system, a material that is formulated for high-performance aerospace applications where the optimal ratio of strength to modulus properties is critical. Toray's 3960 is a highly-toughened 350°F/177°C cure epoxy resin with a glass transition temperature (Tg) of 400°F/204°C. It is optimized for increased performance and allows for autoclave and out-of-autoclave curing. The resin is synergistic with the TORAYCA T1100 next-generation intermediate modulus plus (IM+) carbon fiber, which is the highest tensile strength fiber available today. The T1100/3960 unidirectional and plain weave prepreg is utilized in the Butterfly's airframe structure and propulsion units.

"We're excited to be working closely with Toray's advanced materials as we continue the development of our all-electric Butterfly experimental prototype aircraft," said Ben Tigner, Co-

Founder and CEO at Overair. "Our unique propulsion system requires materials that provide a unique combination of high stiffness and high strength, while also maintaining the optimal weight targets for the vehicle."

Overair recently completed full-scale testing of Butterfly's propulsion system. The successful testing program validated Overair's design choices and Butterfly's expected performance capabilities. Butterfly's propeller will be showcased at the Farnborough International Air Show from July 18 to July 22 in Farnborough, England.

"It is an honor for Toray to partner with Overair on this endeavor and provide the Butterfly a unique performance advantage with our 3960 prepreg system," according to Jeff Cross, Director of Business Development for Aerospace at Toray. "We're excited for the future as Overair proceeds with full-scale development and testing. The proven performance of our materials gives me confidence that we can help achieve Overair's objective of producing the safest, most efficient, and reliable eVTOL aircraft."

09 JULY 2022

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