



AMMTIAC Preserves Composite Test Design Data

AMMTIAC now houses the many volumes of valuable data generated under the \$152M Air Force Composite Affordability Initiative (CAI) in their National Materials Information System (NAMIS). By selecting NAMIS as its data depository, the Air Force was able to benefit from the document storage, database access and security mechanisms for managing and accessing export controlled information that NAMIS already offered. AMMTIAC developed a data module and an interface for authorized users to access the information. In addition, CAI was featured in the cover article of the *AMMTIAC Quarterly*, Vol. 1, No. 3.

In the mid-1990's, the Air Force Research Laboratory's Materials and Manufacturing Directorate (AFRL/ML) initiated an 11-year, \$152M effort to breach the affordability barriers that were preventing widespread use of composite structures in air vehicles. This effort included the entire industrial base of aerospace primes as well as the Air Force and the Navy. All participants agreed to a single set of testing standards for validating the performance of new and emerging classes of composite structures. Over its course, CAI generated thousands of data sets of valuable design information, which has provided structural engineers an information foundation to design composite structures with confidence.

To preserve this data and disseminate the results, the CAI program developed a database that captured the test data generated by participating aerospace primes related to maturing improved manufacturing process, advanced materials and structural design. The database captures the materials and manufacturing pedigree of composite test data by preserving metadata such as pretest preparations, test conditions, manufacturing processes used, and the composite architecture. The database includes high value data from full-scale development projects that have resulted in transition to real systems such as the F-35, X45, and the C-17. AMMTIAC provides a means to maintain the data for future use by Army, Navy, and Air Force manufacturing technology programs as well as weapon system programs offices.



The CAI Database will continue to provide company designers, engineers, and weapon system program offices with the data they require to introduce advanced composite technologies into current and future weapon systems. The database will also minimize the financial burden of testing required to implement these new technologies as well as reduce the risk and accelerate the transition of the technologies. Qualified users can access this data through NAMIS at <http://namis.alionscience.com>.

Please visit our Web site at <http://ammtiac.alionscience.com>

or send an E-mail to jguthrie@alionscience.com