



Facility Factsheet

Aerospace Structures Test Complex

Material and Testing Lab (M&T Lab)

Purpose: The M&T Lab tests coupon and subcomponent scale structural test articles, utilizing both standardized and highly customized experimental methods. It provides data to validate structural models and predictions.

Capabilities: The M&T Lab is located in the Facility for Innovative Research in Structures Technology (FIRST). Its capabilities include:

- 13 servo-hydraulic axial test frames ranging from 1,000 lb_f to 500,000 lb_f
- 3 axial electro-mechanical test frames ranging from 50 lb_f to 20,000 lb_f
- Numerous test fixtures for ASTM standard tests
- Traditional strain, temperature, contact & laser extensometry measurements as well as digital image correlation, acoustic emission and ultrasonic inspection
- Instrumented impact tower with 54 mph impact velocity with a max dropping mass of 154 lb and a max potential energy of 1,330 ft-lb
- Test temperature capability from -320°F to 3,000°F
- Hot/wet environmental test control of -31°F to 302°F with 20% to 95% humidity
- Liquid and gaseous nitrogen; argon gas
- Chilled water cooling
- 100 psig compressed air
- 90 gpm 3,000 psi hydraulic system
- 14 ft x 5 ft Modular Multi-axis Structural Test Fixture with 3-10,000 lb_f actuators

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