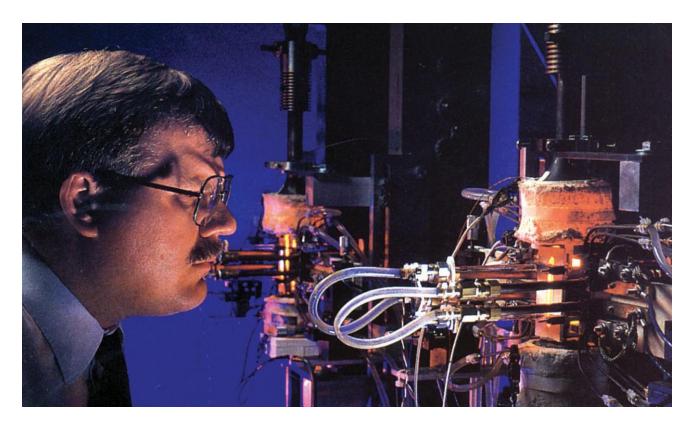


## Test Methods for Lifetime Studies of Materials in High-Temperature Air Environments



Since 1986, Kratos SRE has worked to develop test capabilities to measure mechanical properties at elevated temperatures in air. These efforts have been directed toward developing facilities to test coated and/or inhibited carbon-carbon composites, ceramic matrix composites, monolithic ceramics, and intermetallic and metal matrix composites. Two basic test methods have been developed: a tensile test for evaluationsup to 3200°F and a compressive test for evaluations to 2800°F. The compressive tests have been designed to give lateral support for thin coupons. Continuous strain measurements are made with both test facilities. More recent work has carried the furnace capabilities in both standard pressure air, and low pressure air, to temperatures in excess of 4000°F. Using these basic test set-ups, Kratos SRE can perform mechanical property/behavior tests in air at:

- Monotonic Tension and Compression
- Tensile and Compressive Fatigue
- Tensile and Compressive Creep

- Tensile and Compressive Stress Rupture
- Tensile Thermomechanical Fatigue
- Double-notch Shear



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