

THERMOMECHANICAL FATIGUE (TMF) TESTING



As the operating temperature of turbines continue to increase, it is ever more critical to understand the performance of materials at extreme conditions.

Thermomechanical Fatigue (TMF) allows the superposition of temperature and strain, in order to evaluate the combined effect on the fatigue life of a material. The thermal and mechanical loads are applied in or out-of-phase from one another, and are designed to replicate the conditions of the end-use material application. We have the ability to perform TMF testing according to ASTM E2368, and also develop many programs in collaboration with clients in order to meet their specific applications.

Our knowledge and experience of TMF means we understand the challenges and complexities of simulating complex real-life loading scenarios. The extreme temperature environments in which materials are required to perform can present a wide range of issues relating to property evaluation. Our years of expertise, partnered with state-of-the-art ISO 17025 and Nadcap compliant facilities, enables us to test materials under standard and product-specific loading configurations.

WHAT MAKES US DIFFERENT?

We:

- have extensive material science expertise which allows us to provide solutions, not just test results
- have over 70 years of experience assessing mechanical properties of materials through standardized and custom test programs
- work with you to develop test plans and act as an extension of your internal capabilities, thus complementing your knowledge and solving any problems that may exist - saving you time, money and resources.

TMF APPLICATIONS:

- Hot gas path turbine components
- Composite aircraft brakes.