

POWER GENERATION SERVICES

COATING SYSTEM
DEVELOPMENT

CONVENTIONALLY &
ADDITIVELY MANUFACTURED
PART QUALIFICATION

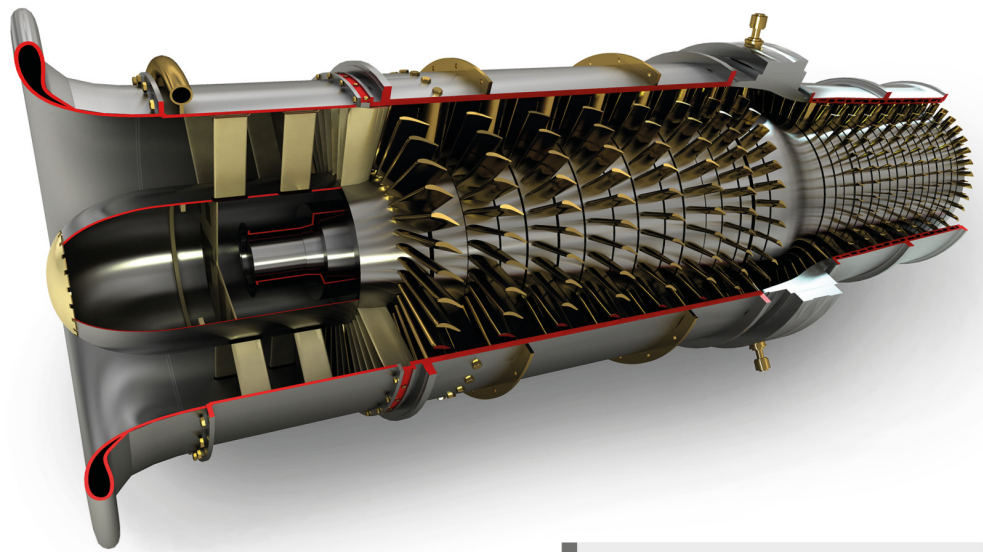
ALLOY DEVELOPMENT &
SELECTION

HIGH TEMPERATURE
OXIDIZATION TESTING

FAILURE ANALYSIS

CREEP TESTING

PROCESS / REPAIR
QUALIFICATIONS



CASTING EVALUATIONS

BRAZE ANALYSIS

INSULATION SYSTEM
VERIFICATION & INVESTIGATIONS

CONVENTIONALLY & ADDITIVELY MANUFACTURED PART QUALIFICATION

At Lucideon, we offer a range of comprehensive support services, including analysis of powder materials and raw stock, metallurgical evaluation, chemical analysis, mechanical property characterization, failure analysis and recommendations for improvement.

COATING SYSTEM DEVELOPMENT

Expert metallographic preparation of applied wear coatings is key to assessing coating material selection, homogeneity, bonding, interface interactions and effects from wear. Techniques ranging from optical microscopy to surface analysis techniques applied to cross-section analysis are used to develop fundamental understanding of wear coating performance and to expedite new product development.

HIGH TEMPERATURE OXIDIZATION TESTING

Our experts can evaluate the performance of gas turbine materials in an oxidizing environment. Small-scale samples of high-temperature coatings and substrates can be subjected to long-term exposures up to 2100°F, providing a cost-effective alternative to full-scale testing for materials screening and development.

ALLOY DEVELOPMENT & SELECTION

Utilize our materials expertise to expedite selection of materials fit for custom applications, and develop incoming material specifications to ensure supplier quality.

CREEP TESTING

Our experts analyze the time-dependent behavior of metals and composites at elevated temperatures under applied stress. Deformation is measured as a function of time. We have the capability to conduct the following tests up to 1800°F in temperature and 10,000 lbs in load.

PROCESS & REPAIR QUALIFICATIONS

We provide data and evidence that supports utilizing new techniques and procedures to provide high-quality, repeatable results.

CASTING EVALUATIONS

At Lucideon, we utilize expert metallurgical examinations of the grain structure of castings through macro etching, imaging and analysis to assess casting parameters.

BRAZE ANALYSIS

Expert metallographic preparation, microstructural analysis, imaging and feature measurement is applied by our experts to assess braze joints in components such as stator bar clips.

FAILURE ANALYSIS

The Lucideon team specializes in complete physical and chemical characterization to analyze failures in metallic and non-metallic materials. Our expertise in metallic materials encompasses analysis of corrosion, erosion, wear, fatigue, impact, heat treatment, castings, coatings and surface treatments, powder metallurgy, welding, brazing, component design, and the analysis of contamination.

INSULATION SYSTEM VERIFICATION & INVESTIGATIONS

Our experts perform failure analysis of stator bar insulation systems leading to generator failure. Insurance companies and site owners rely on our materials and industry expertise to conduct independent and credible third-party investigations.