

# Metallurgical Services

Product failure is deceptively difficult to understand. It may depend not just on how the product was used, but also on the intrinsic properties of each component and the response of those components to wildly varying conditions. When metal components fail, the results are often catastrophic. Serious harm can occur to the general public, as well as to the individuals involved in operation or use of the component.

When these types of failures occur, the resultant forensic analysis is used as a guide to identify the causes for the failure, to give recommendations to improve future components or develop systems to prevent recurrence, and to aid in the determination of liability for the failure.

## Metallurgical Evaluation

CTLGroup's Materials Technology multi-disciplinary team of engineers and scientists bring a broad range of expertise in performance of the following metallurgical services:

- Forensic metallurgical failure analysis and prevention
- Fracture mechanics and stress analysis
- Structural/manufacturing defects
- Fitness for service evaluation
- Weld inspection, analysis, and consulting
- Corrosion analysis and testing
- Materials assessment, evaluation, and selection
- Special process troubleshooting (heat treatment, casting, welding, platings, and coatings)
- Tribology and wear
- Nondestructive evaluation

