

Metallurgical & Mechanical Services

CTLGroup provides solutions to complicated and critical engineering and testing challenges. Our experts are composed of engineers, technicians, machinists, and a metallurgist to provide comprehensive evaluation of the structural and mechanical integrity of metals. Whether requiring standardized testing or creating customized testing procedures, we provide practical, relevant solutions, no matter what the metal. Metallurgical and mechanical services include:

Metallurgical + Mechanical Consulting

- Root Cause Analysis
- Failure Analysis
- Materials: Testing + Characterization
- Microstructure, Heat Treatment + Casting Quality
- Corrosion and Material Degradation
- Weld Evaluation
- Mechanical Design / Mechanical Integrity
- Joint Inspections
- Litigation Support

Mechanical Testing

- Servo-Hydraulics
- Dynamic Testing
- Static Testing

Metallurgical Testing

- Metallography
- Properties (Physical)
- Chemistry
- Scanning Electron Microscopy (SEM)

Representative Engagements

- Steel stud manufacturers analyzed wall assembly test data to determine the limiting wall heights for cold-formed steel stud and drywall assemblies
- Luling Bridge condition assessment + replacement of stay cables
- Railroad track components manufacturers conduct qualification or certification testing per industry standards: AREMA, APTA, AAR
- Railroad vehicle components manufacturers conduct qualification or certification testing per industry standards
- Wire Ropes determine root cause of failures
- Mining developed weld procedures and inspection techniques for down-hole drilling motors. Performed dispute resolution regarding material quality

