



**CONFIDENCE BUILT ON DATA.
 DECISIONS BACKED BY EXPERIENCE.**

Element Cincinnati has supported manufacturers operating in high-risk, high-performance environments for more than four decades. Known globally for its depth in mechanical and materials testing, the laboratory delivers accurate, defensible data that helps customers reduce technical risk, shorten development cycles, and move to market with confidence.

As part of Element’s global laboratory network, Element Cincinnati combines deep local expertise with worldwide reach—allowing customers to consolidate testing, simplify vendor management, and rely on consistent quality across programs and regions.

CORE CAPABILITIES AT A GLANCE

MATERIALS & MECHANICAL TESTING

Element Cincinnati is internationally recognized for advanced mechanical testing, particularly in fatigue-driven and elevated-temperature applications where performance margins are tight and failure is not an option.

Key services include:

- Fatigue testing (HCF, LCF, axial, torsional, bending, multi-axis)
- Tensile, compression, torsion, and stress-strain testing
- Fracture mechanics and fracture toughness

These capabilities support critical decisions in material selection, qualification, life prediction, and root-cause analysis—helping customers prevent costly failures before products ever enter service.

MEDICAL DEVICE & BIOMEDICAL TESTING EXPERTISE

Element Cincinnati is a trusted testing partner for medical device manufacturers, supporting the full product lifecycle from early research and development through regulatory submission and post-market validation.

Medical and biomedical testing services include:

- Static and fatigue loading for orthopedic, spine, trauma, and extremity devices
- Coating adhesion, morphology, and mechanical integrity
- Tissue and cadaveric testing
- Biomechanical and kinematic studies
- Wear debris analysis and particle counting
- Packaging, shelf-life, and environmental conditioning support
- Wear, friction, and tribological testing
- Trace metals and ion release analysis

Devices commonly tested:

- Hip, knee, spine, trauma, extremity, and dental devices
- Cardiovascular and implantable components
- Combination products and advanced materials
- Diagnostic and therapeutic equipment

Testing is performed with regulatory expectations in mind, helping customers submit with confidence while minimizing review cycles, rework, and delays.



CAPACITY INVESTMENTS & SERVICE GROWTH

Element Cincinnati has made sustained investments to expand testing capacity, technical depth, and operational flexibility—ensuring customers receive reliable lead times even as program demands increase.

Key investments include:

- Extensive servo-hydraulic test frame capacity, including axial-torsion systems up to 100,000 lbf
- Expanded in-house machine shop with CNC lathes, mills, grinders, wire EDM, and specimen preparation
- Dedicated fatigue, and rotating bending systems enabling parallel testing
- Scalable staffing and scheduling models to support surge testing and critical-path programs

These investments are designed around one goal: keeping customer programs moving without compromising data quality, traceability, or technical rigor.

WHY ELEMENT CINCINNATI

PROVEN EXPERIENCE WHERE IT MATTERS

Decades of focused expertise in fatigue, fracture, and high-temperature testing mean potential issues are identified earlier—when they are faster and less costly to correct.

INTEGRATED MATERIALS AND DEVICE EXPERTISE

From raw materials to finished components and devices, customers benefit from coordinated testing strategies that eliminate handoffs, reduce delays, and improve data continuity.

REGULATORY-READY RESULTS

Testing is executed with certification and regulatory expectations in mind, reducing submission risk and accelerating approvals.

INDUSTRIES SERVED

- Aerospace & Defense
- Oil & Gas
- Transportation
- Power Generation
- Medical Devices & Biomedical
- Advanced Industrial Manufacturing

PARTNER WITH CONFIDENCE

Whether qualifying materials for flight-critical applications, validating medical devices, or investigating in-service failures, Element Cincinnati delivers results you can trust—and expertise you can rely on to make informed decisions.

Element Cincinnati
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