DIMENSIONAL/INSPECTION LABORATORY

In DTB’s Dimensional Lab, our highly trained staff examines your products from a critical perspective. Dimensional Inspection assures product compliance with design specifications by assessing the geometric characteristics that can affect both the reliability and functionality of the part. Our facility provides the capability to nondestructively/destructively inspect selected parts from a first article or production lot, to confirm conformance to drawing requirements.

Services we offer include

- Inspection per ASME Y14.5
- First Article Inspection
- CMM Inspection
- Part to CAD Inspections
- Gear & Spline Inspection using CMM
- Surface Roughness Properties
- Nondestructive Testing:
  - Magnetic Particle
  - Liquid Penetrant

www.dtbtest.com

A World of Engineering and Testing Under One Roof™
DTB’s 1,000 sq. ft. Temperature Controlled Dimensional Lab Equipment includes:
• Leitz Precision CMM
• Mitutoyo CMM
• Starrett CMM
• Surface Roughness
• Optical Comparator
• Comprehensive Inventory of:
  • Gauge Pins, Thread Gauges,
  • Micrometers etc.

Dimensional Inspection
We go the extra mile to ensure quality standards are interpreted properly for you. Our conventional open
setup measuring equipment feature 3 large surface plates, height gages, calipers, micrometers, over 250
thread gages, and over 1000 plug gages. We also have an experienced staff of technicians and engineers
with a minimum of 10 years experience. Our technicians are trained in geometric dimensioning and
tolerancing.

CMM Inspection
We have 2 programmable Coordinate Measuring Machines (Leitz and Mitutoyo) to meet your first article or
production inspection requirements. Each is capable of confirming all Geometric Dimensional Tolerances
per ASME Y14.5.

Noncontact Dimensional Inspection
We have a programmable Optical Comparator with auto-edge detection and capabilities of 10X, 20X, and
50X magnifications. Capabilities include 2D measurement analysis and GD & T evaluations. The comparator
can be run manually or under direct computer control using surface or profile illumination.

NDI Nondestructive Inspections
• Liquid Penetrant – DTB has the capability of performing liquid penetrant inspections to procedures
  with NDT Level 2 and 3 technicians based on ASTM E 1417.
• Magnetic Particle – We have the capacity to inspect parts comprised of magnetic materials up to
  9.5 feet long. Additionally, DTB has portable magnetic particle inspection equipment.
• Surface Roughness Analysis – Our surface roughness measuring station (Mahr-Federal) utilizes a
  motorized non-skidded stylus measuring probe to determine surface roughness parameters per
  ASME Y46.1.

First Article Inspection
DTB routinely performs First Article Testing for military and commercial suppliers. Prior to dimensional
setup, a complete review of the drawing datum structure is performed to create an inspection plan. After the
inspection is complete, the measured values are reviewed by our engineering staff.

Part to CAD Inspection
We scan your product’s critical profiles using the latest measurement technology. We can confirm
compliance with your tolerances and display the results with color coded printouts including: nominal part
shape, tolerance bands, actual shape, and deviations.

Gear/Spline Inspection
DTB has the experience, training and approved CMM software to measure your Helical, Spur and
Bevel Gears. Inspections typically included Pitch, Cumulative Pitch, Runout, Involute Profile, Lead and
Measurement over/between Wires. Measurements are in accordance with AGMA 2000 (390.03), ANSI
B92.1, as well as DIN, ISO and JIS standards.