Calibration of Measuring Tools

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Learning Made Simple, Visual, and Interactive

The THORS *Calibration of Measuring Tools* course explains how gauges and instruments are calibrated to keep readings accurate, consistent, and traceable to recognized standards. It introduces key calibration concepts and presents a clear, step-by-step breakdown of the process, along with primary and secondary reference standards, influencing factors, and the different calibration methods. The course also covers how to set appropriate intervals that keep measuring tools reliable over time. Interactive quizzes are incorporated to enhance the learning journey, enabling learners to assess their comprehension and retention of visually stimulating content.

Credit Hours **2.0**

Learning Objectives

- Develop an understanding of measuring tools and their classification.
- Define the key terminology related to calibration.
- Understand the reference standards used in the calibration process.
- Classify the factors that affect the calibration process.
- Describe the calibration methods used, outline the steps in the calibration process, and interpret calibration reports.
- Explain how calibration intervals are decided and the tool management practices associated with calibration.

Table of Contents

I. Calibration Concepts

- **Tools Classification**
- **Terminology**
  - Bias
  - Repeatability
  - Reproducibility
  - Resolution
  - Accuracy
  - Traceability
  - Measurement Uncertainty

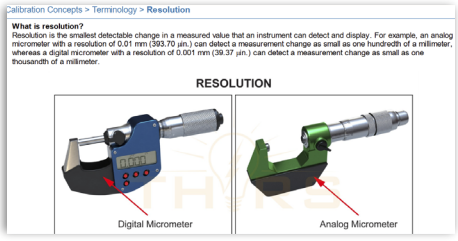
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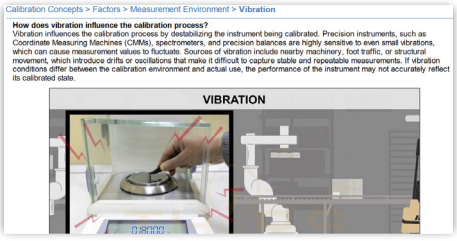
I. Calibration Concepts (Cont.)

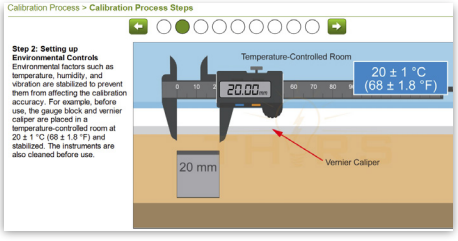
- **Reference Standards**
  - Primary Standards
  - Secondary Standards
- **Factors**
  - Reference Standard Integrity
  - Instrument Characteristics
  - Technician Competence
  - Measurement Environment

II. Calibration Process

- **Calibration Methods**
  - Based on Reference Standards
  - Based on Location
- **Calibration Process Steps**
- **Calibration Reports**
- **Calibration Intervals**
- **Tool Management Practices**







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