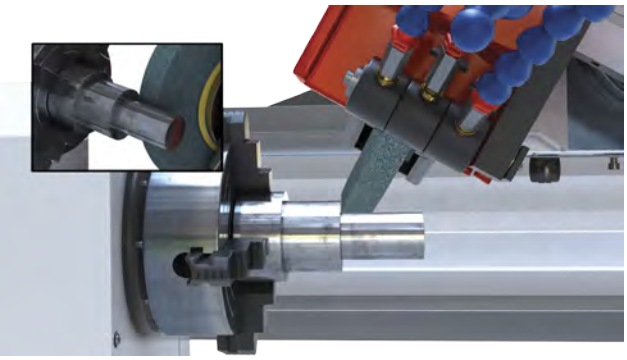
MACHINING: CYLINDRICAL GRINDING FUNDAMENTALS [2ND ED.]

eLearning courses designed to increase productivity and profits



Learning made Simple, Visual, and Interactive

This course provides information on the precision grinding of cylindrical parts relevant in today's machine shop environment. Developed with the help of subject matter experts, this course will give you the practical knowledge to recognize and understand abrasive wheels, the wheel dressing process, and the grinding operations typically associated with cylindrical grinding.

Credit Hours **3**

Learning Objectives

- Recognize key grinding wheel terminology related to abrasive grains, bonding material, and wheel specification.
- Demonstrate the ability to evaluate a wheel for cracks and, if approved for use, proceed with balancing the wheel to properly align the flange assembly.
- Recognize the different types of dressing tools used to re-sharpen or profile an abrasive wheel.
- Identify and know the function of common workholding devices.
- Explain the importance of coolant in precision cylindrical grinding.
- Compare and contrast various OD and ID grinding operations.

Table of Contents

I. Grinding Wheel Basics

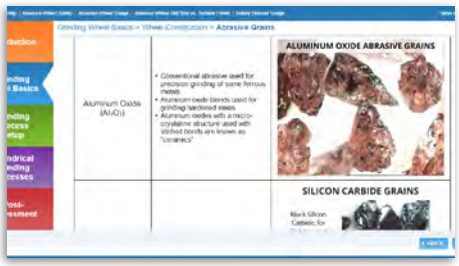
- **Wheel Construction**
  - o Abrasive Grains
  - o Bonding Material
  - o Wheel Flange Assembly
- **Wheel Markings**
- **Wheel Mounting**
  - o The Ring Test
  - o Wheel Balancing
- **Wheel Dressing**
  - o Dressing Tool Material
  - o Fixed Dressing Tools
  - o Rotary Dressing Tools

II. Grinding Process Setup

- **Workholding Methods**
  - o Between-Center Grinding
  - o Jawed Chucks
  - o Magnetic Chucks
  - o Centerless Grinding Setup
- **Grinding Fluid**
  - o Fluid Types
  - o Filtration and Delivery

III. Cylindrical Grinding Processes

- **OD Grinding**
  - o OD Traverse Grinding
  - o OD Peel Grinding
  - o OD Plunge Grinding
  - o Crankshaft Grinding
  - o Form Grinding
- **Centerless Grinding**
- **ID Grinding**
  - o ID Traverse Grinding
  - o ID Plunge Grinding



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