## FORGINGS: CLOSED DIE TERMINOLOGY AND EQUIPMENT

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# Learning made Simple, Visual, and Interactive

Forging: Closed Die Terminology and Equipment introduces learners to the basic equipment, concepts, and general terminology that are often applied for closed die forging industries. Developed with the help of subject matter experts, this course will give you the practical knowledge to work more efficiently with closed die forgings and the associated equipment.

Credit Hours 3

## **Learning Objectives**

- Recall some of the properties of forged material.
- 10 Understand some common terms such as billet, blank, press, and die.
- Recognize the basic equipment and tools used in forging processes.
- Ø Identify the different types of impression dies that are commonly used.
- Recall some of the basic forging design considerations.

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- Properties of Forged Material
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  - o Increased Density
- Forgeability
  - o Strain Rate
- Other Common Forging Processes
  - o Open Die Forging
  - o Ring Rolling
  - o Powder Forging
  - o Rotary Forging
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- Forging Temperature Range
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- Stages of Impression Die Forging
- Net, Near Net, and Conventional Forgings

#### **II. Forging Equipment and Tooling**

- Forging Presses
  - o Types of Force
  - o Mechanisms
- Forging Hammers
  - o Gravity Drop Hammers
  - o Power Drop Hammers
  - o Counterblow Hammers





#### Impression Dies

o Forging Drawing Example o Forging Design Considerations o Impression Die Cavities o Impression Die Material o Impression Die Manufacturing