Assessment Blueprint

AMBA Primary Skills Certification

Test Code: 8274 Version: 01

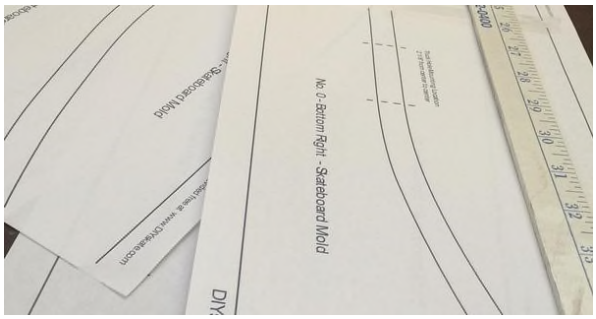
Specific Competencies and Skills Tested in this Assessment:

Mold Technology

- Describe mold building profession
- Define common vocabulary used in the mold building profession
- Describe the type of and flow of work in the industry
- Demonstrate knowledge of plastics

Engineering Documents

- Identify common symbols and features on blueprint
- Interpret geometric dimensioning and tolerancing (GD&T) features and functions
- Interpret views on a print
- Access and manipulate electronic blueprint files
- Interpret and view 3D models



Measurement and Inspections

- Operate precision measuring equipment
- Use reference measuring devices
- Demonstrate knowledge of Coordinate Measure Machine
- Identify function and operation of visual inspection equipment

Mechanical

- Demonstrate knowledge of operation and function of electrical components on a mold
- Demonstrate knowledge of operation and function of hydraulic component on molds
- Demonstrate knowledge of operation and function of mechanical components on molds
- Demonstrate knowledge of operation and function of pneumatic components on molds

Specific Competencies and Skills continued:

Principles of Work Holding

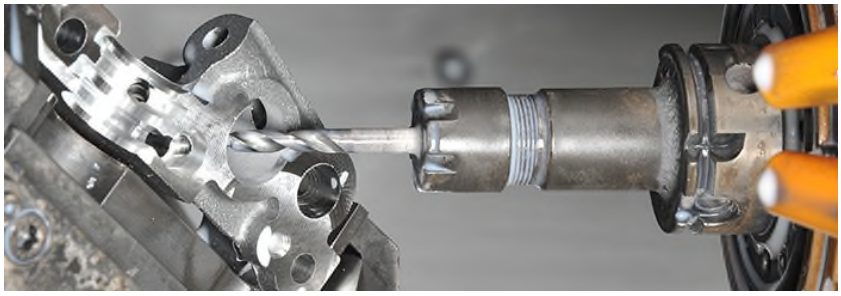
- Describe principles of work holding
- Use and maintain chucks
- Machine between centers
- Use and maintain vises
- Use and maintain fixtures
- Use and maintain magnetic holding devices

Coolants and Oils

- Describe basics of coolants and oils
- Describe soluble-based cutting fluids
- Describe machine lubricants and oils
- Describe safety and maintenance when using cutting fluids

Principles of Tooling

- Describe tooling basics
- Describe tooling materials
- Define tool selection and tool life



Milling Machine

- Define major components, types and common operations of machining centers
- Perform manual milling machine setup
- Perform milling operations
- Perform tapping operations
- Perform reaming operations
- Set up basic drilling equipment
- Perform basic drilling equipment operation

Specific Competencies and Skills continued:

Surface Grinder

- Perform surface grinder setup
- Perform surface grinding operations

Grinders

- Operate pedestal grinders

Lathe

- Identify major components, types and operations of a lathe
- Perform lathe set up
- Perform basic lathe operations

Advance or Specialty Technology Operations

- Demonstrate knowledge of CNC milling and turning equipment
- Demonstrate knowledge of Electrical Discharge Machining (EDM)
- Demonstrate knowledge of Internal Diameter (ID) and Outside Diameter (OD) grinders
- Demonstrate knowledge of gun drills
- Demonstrate knowledge of multi-axis milling machine
- Demonstrate knowledge of polishes and mold finishes

Metallurgy

- Demonstrate knowledge of metallurgy
- Demonstrate knowledge of heat treating of metals

Equipment Maintenance

- Perform preventative maintenance on machinery

Specific Competencies and Skills continued:

Business Philosophy and Communication

- Participate in teams
- Use problem solving strategies
- Demonstrate knowledge of lean manufacturing principles
- Demonstrate knowledge of business excellent concepts and philosophy

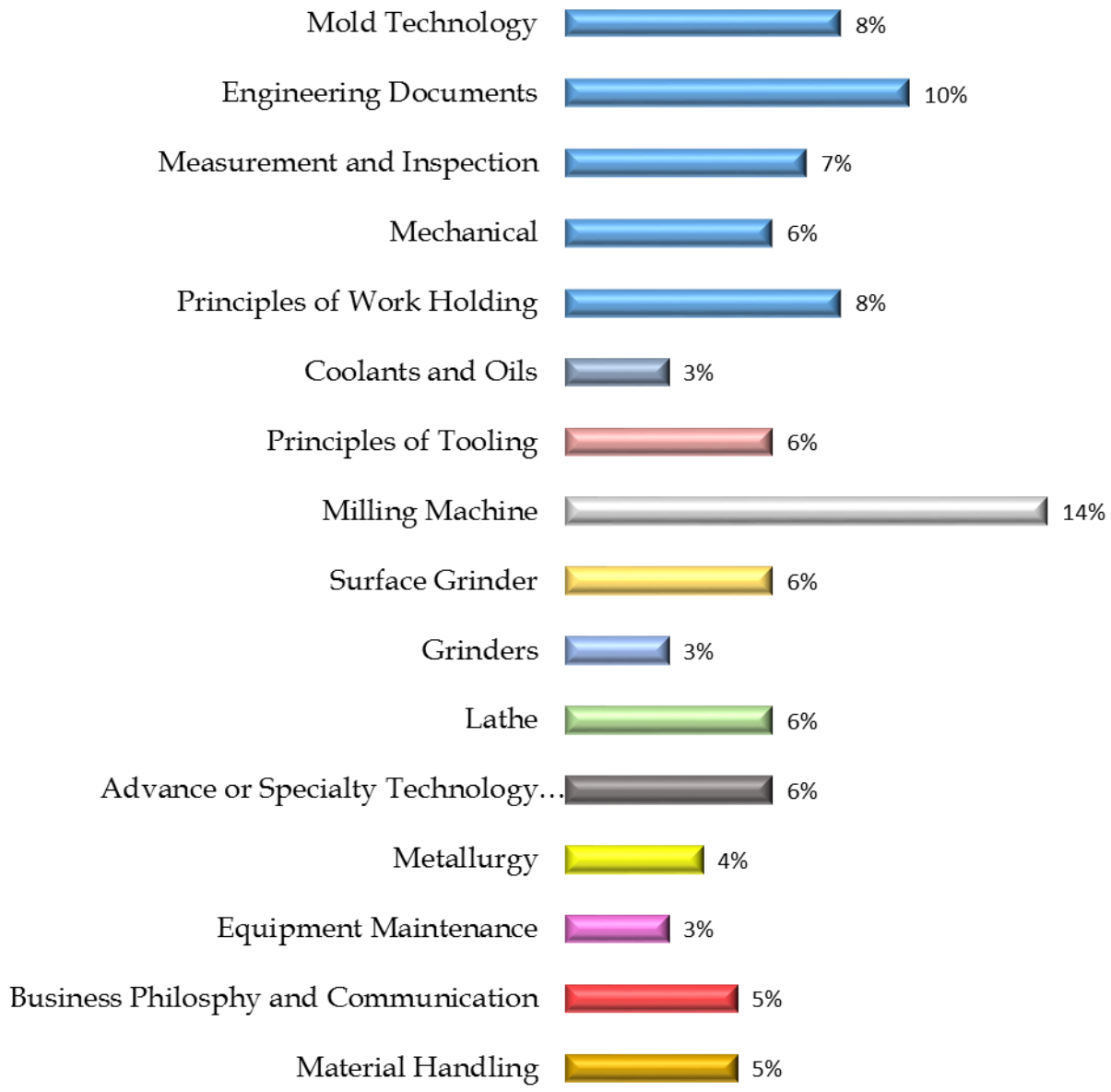
Material Handling

- Operate hoist and cranes
- Perform rigging
- Operate Forklift

Written Assessment:

Administration Time: 4 hours
Number of Questions: 189

Areas Covered:



Sample Questions:

The side of the mold when loaded in press facing the controller is referred to as

A. operator side
B. helper side
C. top of mold
D. platen

When using a dial indicator what is the proper angle of the contact tip to the working surface?

A. 12 degrees
B. 15 degrees
C. 24 degrees
D. 30 degrees

What is the primary function of soluble cutting fluid?

A. cooling
B. lubrication
C. reduce chip loading
D. reduce cost

What is the proper drill size for a .250 reamer in steel?

A. 15/64 drill
B. 9/32 drill
C. 13/64 drill
D. 17/64 drill

Which of the following components would **NOT** be used to cut a taper on a lathe?

A. compound slide
B. between centers
C. taper attachment
D. knurling head