



Job Ready Assessment Blueprint

Construction Masonry - Brick



Test Code: 4125 / Version: 01

"Measuring What Matters"

Specific Competencies and Skills Tested in this Assessment:

Safety

- Identify and use PPEs (personal protective equipment)
- Demonstrate knowledge of workplace/jobsite safety procedures, including lock-out/tag-out
- Exhibit understanding of OSHA safety standards and MSDS
- Erect and use scaffolds safely
- Display understanding of ladder safety



Craft Knowledge

- Explain the history of the craft
- Identify job opportunities in the masonry industry
- Identify craft terminology



Hand and Power Tools

- Identify, use, and properly care for hand tools
- Identify, use, and properly care for power tools



Materials

- Identify and select materials, including synthetic stone and brick products
- Identify various mortars (M, S, N, O) and cements (Type I, II, III) and their uses
- Identify material sizes

Blueprints and Specifications

- Read and interpret written specifications
- Identify and interpret lines and symbols
- Read and interpret drawings and plans

Specific Competencies and Skills continued:

Project Layout

- Square a building, use of 3-4-5/Pythagorean theory
- Install a corner/story pole and determine heights
- Identify masonry bond types
- Install a metal door/window frame
- Layout and construct control joints
- Identify and install anchor bolts and masonry fasteners

Brick

- Set up job site
- Lay brick to the line
- Tool off/joint units
- Build brick leads and corners
- Identify and construct steps and components
- Install masonry pavers
- Identify and install wall ties and accessories
- Identify and position various types of lintels
- Identify types of arches
- Exhibit understanding of arch applications



Fireplaces and Chimneys

- Identify parts of fireplace/chimney
- Install fireplace/chimney components
- Display familiarity with building codes

Flashing, Weeps, and Insulation

- Install flashing correctly
- Install weep holes correctly
- Install insulation correctly

Specific Competencies and Skills continued:

Math and Measurements

- Exhibit comprehension of construction masonry-related mathematics
- Exhibit understanding of measurements and conversions
- Estimate/calculate materials needed

Masonry Structure Maintenance

- Restore and repoint masonry units
- Select and use masonry cleaning agents

Professionalism

- Exhibit understanding of communication/leadership skills
- Display understanding of professional ethics and behavior

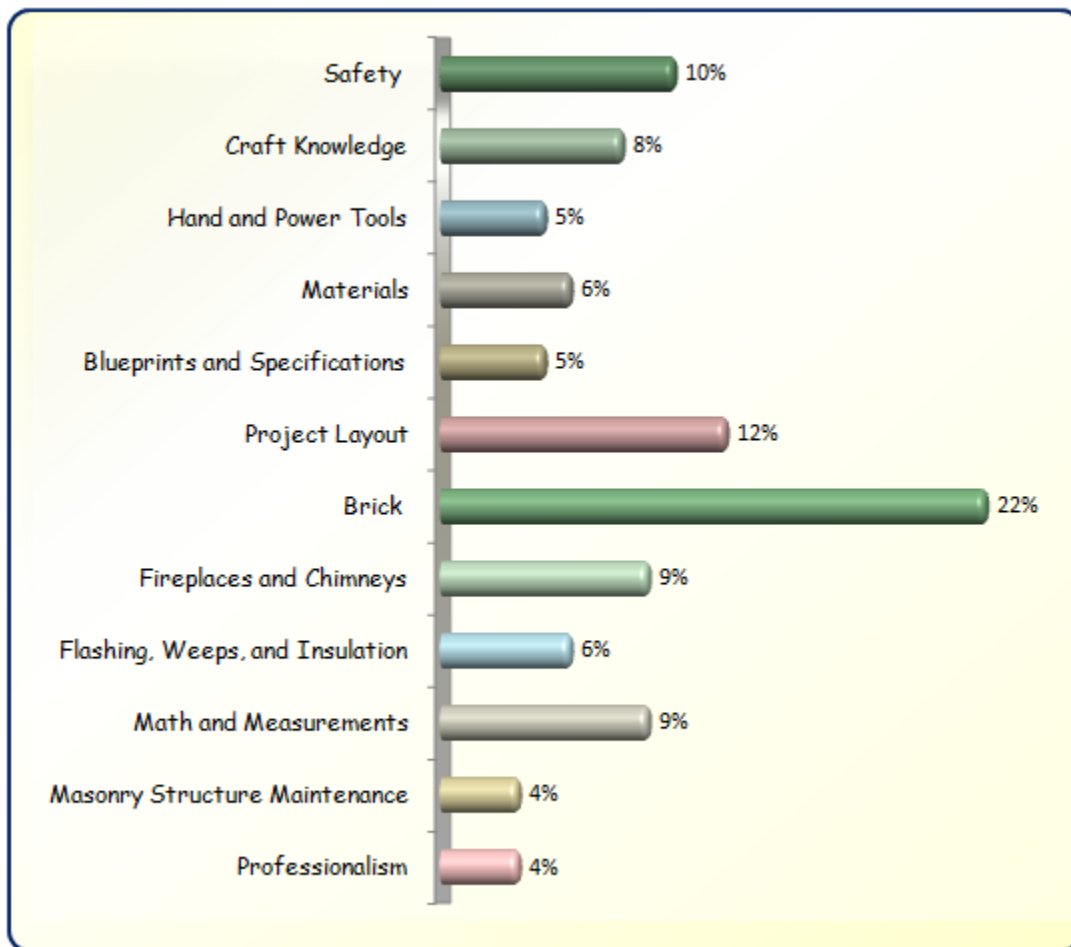


Written Assessment:

Administration Time: 3 hours

Number of Questions: 172

Areas Covered:



Sample Questions:

To avoid accidents, ladders must be kept away from

- A. walkways and traffic lanes
- B. a level floor
- C. the boiler room
- D. carpeting

A piece of metal used for securing line at both ends of course height is a

- A. brick tie
- B. line block
- C. line pin
- D. brick set

Expansion and control joints are used to

- A. provide strength
- B. improve appearance
- C. allow for movement
- D. eliminate movement

Place a strip of wood in the cavity during construction to

- A. prevent mortar from falling in the cavity
- B. use as a guide to keep the units from moving
- C. prevent wall ties from moving
- D. prevent water from entering the cavity in case of rain

Flashing around a brick chimney requires a

- A. base and counter
- B. base and silicone
- C. membrane and tar
- D. coat of epoxy



Performance Assessment:

Administration Time: 3 hours and 10 minutes

Number of Jobs: 3

Areas Covered:

18% Job Layout

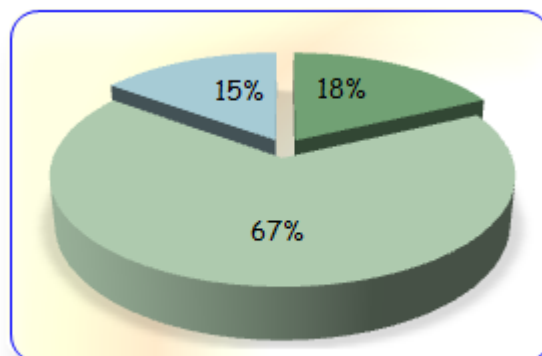
Selection and safe use of tools, project length measured according to drawing specifications, squared the project, and time to complete Job 1.

67% Construct a Brick Wall/Pier in Stretcher/Running Bond

Level top course; plumb points A, B, C, D, E, F, G, and H; pier and wall are square and in range; stayed on coursing dimensions; fullness of joints; maintained proper half-bond; and time to complete Job 2.

15% Project Jointing

Jointing, overall project appearance, and time to complete Job 3.



Sample Job: Job Layout

Maximum Time: 15 minutes

Participant Activity: The participant, using appropriate tools, will measure project size according to drawing specifications. Snap a chalk line, dry bond the first course using 3/8 inch mortar joints. Mark off dimensions for the project, and square the project.



The Association for Career and Technical Education (ACTE), the leading professional organization for career and technical educators, commends all students who participate in career and technical education programs and choose to validate their educational attainment through rigorous technical assessments. In taking this assessment you demonstrate to your school, your parents and guardians, your future employers and yourself that you understand the concepts and knowledge needed to succeed in the workplace. Good Luck!

Association for Career and Technical Education
ACTE
www.acteonline.org



The Pennsylvania Builder's Association utilizes this assessment to assist in determining competencies for granting skill certificates to students graduating from Pennsylvania secondary trade programs that have been endorsed by the Pennsylvania Builders Association (PBA).

PBA's services include support to workforce training and education by linking industry employers with educators to grow the workforce of tomorrow. PBA serves Pennsylvania communities and consumers through its steadfast efforts to protect homeownership rights and advocate for affordable housing options. PBA is affiliated with the National Association of Home Builders.

