

NOCTI

Job Ready Assessment Blueprint

Construction Masonry-Block



Test Code: 3025 / Version: 01

“Measuring What Matters”

Specific Competencies and Skills Tested in this Assessment:

Hand and Power Tools

- Identify and use hand tools
- Identify and use power tools
- Handle and care for tools safely

Scaffolds and Ladders

- Erect and use scaffolds safely
- Display understanding of ladder safety

Materials

- Identify and select materials
- Mix and apply materials
- Contrast mortar strengths (M, S, N, O)
- Calculate materials and measurements
- Identify and construct walls and wall materials



Blueprints and Specifications

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

Project Layout

- Layout material properly
- Square a building, use of 3-4-5/Pythagorean theory
- Install a corner pole and determine heights

Masonry Structure Maintenance

- Remove and replace mortar/masonry units (tuck-pointing)
- Select and use masonry cleaning agents
- Troubleshoot and fill-in masonry structure defects

Specific Competencies and Skills continued:

Flashing, Weeps, Insulation

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

Professionalism

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



Craft Knowledge

- Explain the history of the craft

Installation of Lintels

- Identify and position various types of lintels
- Identify types of arches
- Exhibit understanding of arch applications

Door and Window Frames

- Identify swing and size of door

Control Joints and Anchor Bolts

- Construct control joints
- Identify and install anchor bolts

Fireplaces and Chimneys

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

Math and Measurements

- Exhibit comprehension of construction masonry related mathematics
- Exhibit understanding of measurements and conversions

Specific Competencies and Skills continued:

Safety

- Identify and use PPEs (personal protection equipment)
- Demonstrate knowledge of workplace/jobsite safety procedures
- Exhibit understanding of OSHA safety standards

Block

- Job site set-up
- Lay block to the line
- Tool off masonry units
- Build block leads and corners
- Calculate cuts for 4", 6", 10", 12" block corners
- Reinforce walls; horizontally and vertically
- Identify various types of specialty block
- Identify and install masonry accessories
- Estimate/calculate materials needed

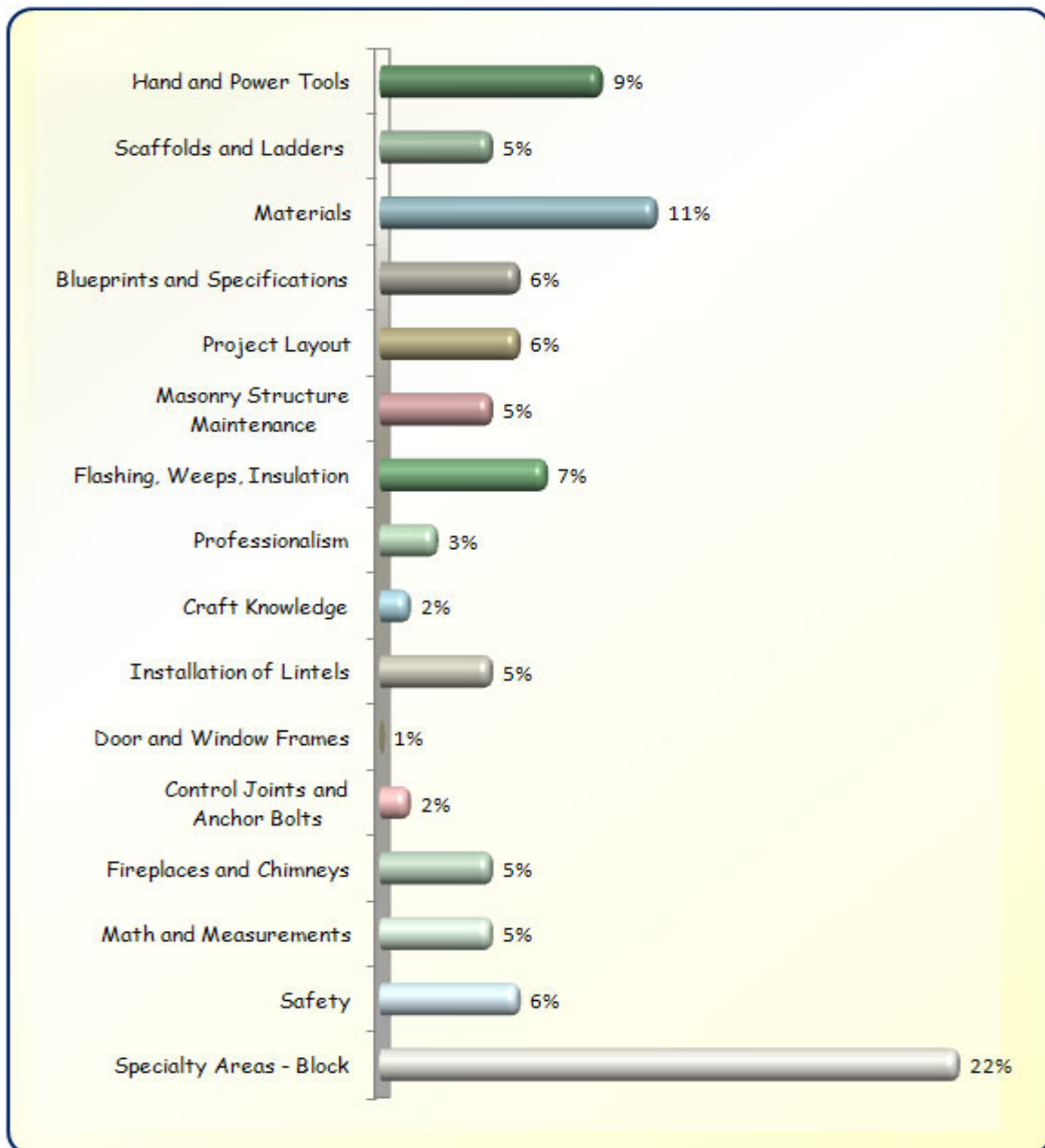


Written Assessment:

Administration Time: 3 hours

Number of Questions: 176

Areas Covered:



Sample Questions:

How should a level be checked for accuracy?

- A. Hold it up against a straightedge.
- B. Reverse the level on a straightedge.
- C. Sight it with your eye.
- D. Send it back to the factory.

A transit is used for

- A. checking door heights
- B. mixing mortar
- C. finding a level point
- D. building scaffolding

The distance between two jambs on an arch is called a

- A. spall
- B. spandrel
- C. span
- D. stretcher

What is the volume of a bag of the Portland cement?

- A. 1 cubic yard
- B. .75 cubic foot
- C. 1 cubic foot
- D. 97 pounds

Estimate the number of linear feet in a foundation 97 feet x 42 feet.

- A. 244 linear feet
- B. 270 linear feet
- C. 278 linear feet
- D. 284 linear feet



Performance Assessment:

Administration Time: 2 hours and 50 minutes, allow an extra 10 minutes for pre-test preparation

Number of Jobs: 3

Areas Covered:

26% Job Layout

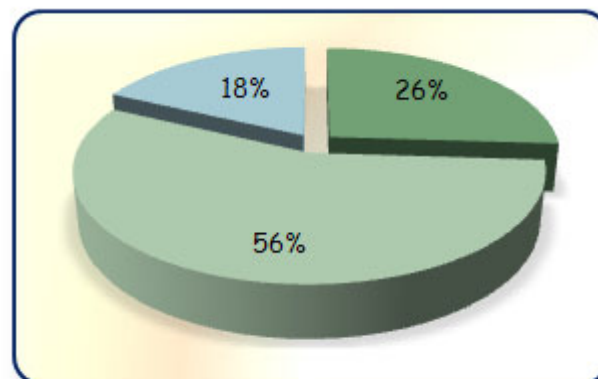
Selection and safe use of tools, project length measured according to drawing specifications, squared the project, and timeliness.

56% Build a Block Stretcher Bond Wall

Tempering mortar to proper consistency, block laying technique, corners are plumb, wall and return are square and in range, stayed on coursing dimensions, fullness of joints, maintained proper half-bond, and timeliness.

18% Project Jointing

Jointing, overall project appearance, and timeliness



Sample Job: Build a Block Stretcher Bond Wall

Maximum Time: 2 hours

Participant Activity: The participant will lay appropriate masonry units according to drawing specifications. Maintain a 3/8" head joints. Resquare the corner on the first course. Check the course height (8") with each course. Level, plumb, and range each course.



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.