



## Modern Mason – Work Process Schedule

**Job Description:** Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances, to construct or repair walls, partitions, arches, sewers, and other structures.

**RAPIDS Code:** 0051HY

**O\*NET Code:** 47-2021.00

**Estimated Program Length:** 4500 - 6000

**Apprenticeship Type:**       Competency-Based       Time-Based       Hybrid

### A. Perform work in compliance with safety procedures to include obtaining required safety certifications

1. Formal training in safety procedures in accordance with OSHA regulations, including hazardous materials and work environment.
2. Identify and properly use of safety equipment including Personal Protective Equipment (PPE).
3. Attain OSHA-10 Construction certification.
4. Complete NCCER Core Curriculum and all associated performance profile assessments.

### B. Basic tool use and materials handling

1. Properly start, use, and clean mortar mixer.
2. Start and safely operate masonry saw for basic cuts.
3. Identify various masonry materials by consistently calling them by the correct names.
4. Demonstrate an understanding of masonry terminology by following oral instructions.
5. Keep mortar in good workable condition.

**C. Job site staging and set up**

1. Set up workstation.
2. Identify basic scaffold components as demonstrated by using correct terminology.
3. Set up scaffolding.
4. Perform jobsite cleanup.
5. Perform tool maintenance and cleanup.
6. Keep worksite stocked with appropriate materials.

**D. Mark reference points on construction materials.**

1. Measure distance from reference points and mark guidelines to lay out work, using plumb bobs and levels.
2. Use masonry spacing ruler to lay out coursing.
3. Mark cuts on masonry units.

**E. Measure materials or objects for installation or assembly.**

1. Measure distance from reference points and mark guidelines to lay out work, using plumb bobs and levels.
2. Make complicated saw cuts.

**F. Install masonry materials.**

1. Install masonry corners and leads. (Construct corners by fastening in plumb position a corner pole or building a corner pyramid of bricks, and filling in between the corners using a line from corner to corner to guide each course, or layer, of brick.)
2. Fasten or fuse brick or other building material to structure with wire clamps, anchor holes, torch, or cement.
3. Install masonry units to a line, level, plumb and on bond. (Lay and align bricks, blocks, or tiles to build or repair structures)
4. Layout and bond brick paving.
5. Use brick hammer to cut masonry units.
6. Set corner pole.
7. Set a twig

**G. Masonry installation quality control**

1. Install masonry units in a neat and clean fashion.
2. Properly mix masonry cleaning materials and wash down finished masonry work.
3. Demonstrate in-the-moment troubleshooting ability.
4. Coordinate masonry installation with other trades.

**H. Apply mortar.**

1. Remove excess mortar with trowels and hand tools, and finish mortar joints with jointing tools, for a sealed, uniform appearance.
2. Apply and smooth mortar or other mixture over work surface.
3. Properly tuck point mortar.
4. Strike and finish mortar joints.
5. Butter head joints on block and brick.

**I. Plan layout of construction, installation, or repairs**

1. Calculate angles and courses and determine vertical and horizontal alignment of courses.
2. Layout masonry walls with information from blueprints.
3. Independently complete masonry projects.

**J. Cut tile, stone, or other masonry materials.**

1. Break or cut bricks, tiles, or blocks to size, using trowel edge, hammer, or power saw.
2. Use more task specific power tools – toothing with hammer drill, cutting in wall openings.

**K. Estimate materials requirements for projects.**

1. Interpret blueprints and drawings to determine specifications and to calculate the materials required.
2. Look ahead and predict materials needed for task.

**L. Review blueprints or specifications to determine work requirements.**

1. Interpret blueprints and drawings to determine specifications and to calculate the materials required.

**M. Remove excess materials from finished construction projects.**

1. Remove excess mortar with trowels and hand tools, and finish mortar joints with jointing tools, for a sealed, uniform appearance.
2. properly mix masonry cleaning materials and wash down finished masonry work.

**N. Inspect work sites to determine condition or necessary repairs.**

1. Mix specified amounts of sand, clay, dirt, or mortar powder with water to form refractory mixtures.

**O. Align masonry materials.**

1. Lay and align bricks, blocks, or tiles to build or repair structures or high temperature equipment, such as cupola, kilns, ovens, or furnaces.
2. Match material for repairs to existing masonry.
3. Correctly install other masonry components:
  - a. Angle irons
  - b. Concrete lentils
  - c. Flashing
  - d. Mortar net
  - e. Weep vents

**P. Remove worn, damaged or outdated materials from work areas.**

1. Remove burned or damaged brick or mortar, using sledgehammer, crowbar, chipping gun, or chisel.

**Q. Apply sealants or other protective coatings.**

1. Spray or spread refractory material over brickwork to protect against deterioration.