

# MASONRY 1, 2, 3, AND 4

## MATERIALS AND EQUIPMENT LIST

### **Introduction to Masonry:**

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment:

Various types of eye and respiratory protection Safety harness and hardware

ASTM standards on concrete block and masonry mortar Various types of brick

Various types of concrete blocks

Various trowels

Mortar mix

Mortar mixing pan

Mortar hoe

Wheelbarrow

Standard bricks

Standard concrete blocks

Module Examinations

Performance Profile Sheets

### **Masonry Tools and Equipment:**

Overhead projector and screen

Transparencies Whiteboard / chalkboard

Markers/chalk Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Different types of masonry hand tools, including:

Trowels

Hammers Jointers

Chisels

Levels

Brick spacing rules

Plumb bob

Different types of power tools, including:

Masonry saws

Masonry splitters

Grinders Mortar mixer

Scaffolding  
Module Examinations  
Performance Profile Sheets

### **Measurements, Drawings, and Specifications:**

Overhead projector and screen  
Transparencies Whiteboard / chalkboard  
Markers/chalk Blank acetate sheets  
Transparency pens  
Pencils and scratch paper  
Appropriate personal protective equipment  
Engineer's rule Brick  
Course rule  
Brick spacing rule Calculator  
Drawing set / blueprints  
Module Examinations  
Performance Profile Sheets

### **Mortar:**

Overhead projector and screen  
Transparencies Whiteboard / chalkboard  
Markers/chalk Blank acetate sheets  
Transparency pens Pencils and scratch paper  
Appropriate personal protective equipment  
Mortar ingredients, including:  
Sand  
Water  
Portland cement  
Lime  
Water  
Materials to build a cubic foot box  
Mixing tools  
Cubic foot box Mechanical mortar mixer  
Mortar pan  
ASTM Standards for Mortar  
Samples of hardened mortar  
Module Examinations  
Performance Profile Sheets

### **Masonry Units and Installation Techniques:**

Overhead projector and screen  
Transparencies Whiteboard / chalkboard  
Markers/chalk Blank acetate sheets Transparency pens Pencils and scratch paper

Appropriate personal protective equipment  
ASTM standards for CMUs  
ASTM standards for concrete bricks  
Bricks  
Chalkline  
Crayons or wax markers  
Medicine dropper Spacing jigs  
Concrete blocks Brick set chisels Block set chisels Hammers  
Mason's hammers  
Mason's lines Line blocks Line pins  
Line trigs  
Masonry saw Masonry power saw  
Mashes  
Mortar mix Mortar pans Trowels  
Mason's levels Plumb bobs Rakers  
Jointers  
Sledrunners Splitters  
Masonry brushes  
Tuckpointers  
MSDS for masonry cleaning solution  
Module Examinations  
Performance Profile Sheets

### **Residential Plans and Drawing Interpretation:**

Overhead projector and screen  
Whiteboard / chalkboard  
Plan sets from Masonry Level 1, Mathematics, Drawings, and Specifications  
Architect's scales Engineer's scales Mason's rules  
4-function calculators (Optional)  
Trainee Task Module  
Transparencies Module Examinations  
Performance Profile Sheets  
Paper and pencils Markers/chalk

### **Residential Masonry:**

Overhead projector and screen  
Whiteboard / chalkboard  
Appropriate Personal Protective Equipment  
Framing square  
Measuring tape  
Modular rule  
Brooms Jointers Level  
Hand tamper  
Rubber mallots

Mortar mixer  
Shovels  
Water hose/barrel(s) and buckets  
Mortar pans and boards  
Trowels Plumb bob  
Striking tool  
Trainee Task Module  
Markers/chalk  
Transparencies  
Paper and pencils  
Brick  
Block  
Firebrick Sand  
Cement Brick pavers  
Dimensional limber  
Plywood sheets  
Photographs of local brick steps and walks  
String  
Brochure from damper manufacturer  
Module Examination  
Performance Profile Sheets

**Grout and Other Reinforcement:**

Overhead projector and screen  
Whiteboard / chalkboard  
Two-speed grout (cement) mixer  
Measure(s)  
Bucket(s)  
Mechanical vibrator(s)  
Trowel Level  
Appropriate Personal Protective Equipment  
Trainee Task Module  
Transparencies  
Markers/chalk  
Paper and pencils  
Module Examinations  
Performance Profile Sheets  
Grout mix  
Water  
Blocks and low block wall (less than 5 feet)  
Mortar Sand  
Rod(s) Steel rebar  
Rebar spacers and tie wire  
Bond beam blocks  
Dimensional lumber for wall foundations

Concrete masonry units

### **Metal Work in Masonry:**

Overhead projector and screen  
Whiteboard / chalkboard Mortar mixers and pans Bracing lumber or jigs  
Appropriate Personal Protective Equipment  
Trainee Task Module Transparencies  
Markers/chalk  
Brick  
Block  
Mortar or Kaolin mix Water  
Materials (Continued) Steel reinforcement bar Bar spacers  
Rigid continuous joint reinforcement  
Adjustable continuous reinforcement  
Rigid unit ties (hardware cloth)  
Adjustable unit ties Rigid anchors and bolts Flexible anchors  
Knockdown door frames Set-up door frames Wooden jamb blocks Lug or slip sills  
Module Examination Performance Profile Sheets

### **Advanced Laying Techniques:**

Overhead projector and screen  
Whiteboard / chalkboard  
Appropriate Personal Protective Equipment Water hose/barrel(s) and buckets  
Mortar mixer  
Mortar boards and pans  
Mixing shovels  
Course or modular spacing rule  
Framing square  
4-foot mason's level  
Chalk line  
Mason's line and trigs  
Corner blocks or stretchers  
Trowels  
Mason's hammer  
Brick set  
Block set  
Concave jointer  
Dusting brush Five-gallon pail Hammer  
Steel tape  
Trainee Task Module  
Transparencies Markers/chalk Paper and pencils  
*ASTM C139*  
OSHA Regulations on confined spaces  
Marking crayons

Local building code reference  
Manufacturer's literature on prefabricated panels and interlocking block  
Interlocking block  
Building paper  
Copper strips  
Neoprene strips  
Cement  
Lime or kaolin  
Sand Water  
Batter block  
Metal ties  
Wooden stakes  
Z-ties Brick Block  
Dimensional lumber (2 x 4)  
Plywood sheets  
Nails  
Module Examination  
Performance Profile Sheets

### **Construction Techniques and Moisture Control:**

Overhead projector and screen  
Whiteboard / chalkboard Trowel  
Level  
Parging Trowel  
Mixing container(s) and tool(s)  
Appropriate Personal Protective Equipment  
Trainee Task Module Transparencies  
Markers / chalk  
Pencils and paper Module Examination Performance Profile Sheets  
Brick / Block  
Mortar  
Flashing materials Loose fill insulation Blanket or batt insulation Anchors  
Portland cement  
Sand  
Water  
Wicking materials  
Wire mesh or metal lath Dimensional lumber

### **Elevated Work Equipment:**

Overhead projector and screen  
Whiteboard / chalkboard Safety harness(es)  
Tubular steel scaffolding components  
Appropriate Personal Protective Equipment  
Hand tools

Trainee Task Module Transparencies  
Markers/chalk  
Paper and pencils Brick  
Planks  
Dimensional lumber Module Examination Performance Profile Sheets

### **Construction Inspection and Quality Control:**

Overhead projector and screen  
Whiteboard / chalkboard  
Measures  
Mixing containers Rods  
Jars or beakers Slump test kits Eyedroppers  
Appropriate Personal Protective Equipment  
Mason's tools Trainee Task Module  
Transparencies Markers/chalk Paper and pencils Module Examination  
Block  
Brick  
Mortar or Kaolin mix  
Sand  
Water  
Paper towels Masking tape  
Scrap lumber for bases  
Sodium hydroxide solution  
Copies of ASTM Standards Book

### **Masonry In High-Rise Construction:**

Overhead projector and screen Whiteboard / chalkboard  
Appropriate Personal Protective Equipment  
Mortar mixer  
Basic masonry tools  
Mortar container(s)  
Safety harnesses  
Lanyards and associated hardware  
Lifelines and associated hardware  
Trainee Task Module Transparencies  
Markers/chalk  
Paper/pencils  
Module Examination Performance Profile Sheets Bricks  
Blocks  
Mortar or Kaolin mix Flashing materials  
Flexible sealant material Sand  
Water  
Mortar nets  
Metal coping

Reglets  
Dimensional lumber (2 × 2 and 2 × 4)  
OSHA Materials Handling Guidelines

**Specialized Materials and Techniques:**

Overhead projector and screen  
Whiteboard / chalkboard  
Appropriate Personal Protective Equipment  
Cutting benches with sand tray tops or sandbags  
Basic masonry tools Containers  
Mortar mixer  
Story poles  
Hammers  
Saws  
Screwdrivers  
Brushes  
Half barrels or other curved containers  
Stone cutting chisels Spirit levels  
Carpenter's squares Trainee Task Module Transparencies  
Markers/chalk  
Paper/pencils  
Module Examination Performance Profile Sheets  
Rubble stone  
Cultured stone  
Ashlar  
Glass block  
Refractory brick  
Acid brick  
Concrete block  
Glazed masonry tile, including cove and bullnose units  
Mortar or kaolin mix Marking crayons  
Water  
Ties  
Anchors  
Concrete  
Dimensional lumber Plywood  
Nails/screws  
Form oil or form release agent  
String line  
Wax  
Rags  
Oakum  
Copies of Local Building Codes  
Manufacturer's brochures on surface coatings, glass block, and refractory brick  
Different types of stone

### **Repair and Restoration:**

Overhead projector and screen  
Whiteboard / chalkboard  
Appropriate Personal Protective Equipment  
Basic masonry tools Mortar containers Tuckpointing trowels Tuckpointing grinders  
Buckets  
Brushes, soft and hard Plugging chisel  
Electric drill  
Masonry drill bits Grout bags  
Trainee Task Module Transparencies  
Markers/chalk  
Paper/pencils  
Module Examination Performance Profile Sheets  
Mortar mix  
Sand  
Water  
Rags  
Inspection checklists Brick  
Wall(s) with damaged joints  
Wall(s) with stains (applied by Instructor)  
Detergents and soap Muriatic acid

### **Commercial Drawings:**

Overhead projector and screen  
Whiteboard / chalkboard Architect's scales  
Appropriate Personal Protective Equipment  
Trainee Task Module Transparencies  
Markers/chalk  
Paper/pencils  
Module Examination Performance Profile Sheets  
Commercial drawings

### **Estimating:**

Overhead projector and screen  
Whiteboard / chalkboard Four-function calculators Architect's scales  
Trainee Task Module Transparencies  
Markers/chalk  
Module Examination Performance Profile Sheets  
Paper/pencils  
Commercial drawings Residential drawings Estimating worksheets

### **Project Planning and Supervision:**

Overhead projector and screen  
Whiteboard / chalkboard  
Optical levels Laser level  
Leveling rods Rotating laser level  
Appropriate Personal Protective Equipment  
Straightedges Materials  
Trainee Task Module  
Transparencies Markers/chalk Paper/pencils Module Examination  
Performance Profile Sheets  
Examples of CPM diagrams  
Construction stakes  
Purchase orders Local building codes  
Sample contract documents  
Example bar chart schedule  
Straightedges