

# Job-Task Analysis (JTA) for ACI Masonry Field Testing Technician Certification

## HOW TO USE THIS JTA:

For each of the following assessment methods, the Candidate must:

### On the written examination:

- **Understand** the following general concepts, which may not have specified values, procedures, or measurements; *and*
- **Know** the following specific procedures or values; performance of these items may also be assessed on the performance examination.

### On the performance examination:

- **Perform**—or describe verbally, where allowed—the following tasks or steps, which are part of the specified procedure; knowledge of these items may also be assessed on the written examination.

## RESOURCES:

ASTM C67—Standard Test Methods for Sampling and Testing Brick and Structural Clay Tiles

ASTM C140/C140M—Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units

ASTM C780—Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry

ASTM C780 Annex A1—Consistency by Cone Penetration Test Method

ASTM C780 Annex A2—Consistency Retention of Mortars for Unit Masonry

ASTM C780 Annex A4—Mortar Aggregate Ratio Test Method

ASTM C780 Annex A5—Mortar Air Content Test Method

ASTM C780 Annex A6—Compressive Strength of Molded Masonry Mortar Cylinders and Cubes

ASTM C1019—Standard Test Method for Sampling and Testing Grout

ASTM C1314—Standard Test Method for Compressive Strength of Masonry Prisms

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### **ASTM C67—Standard Test Methods for Sampling and Testing Brick and Structural Clay Tiles**

- Understand scope of the method
- Know requirements relative to selection and preparation of test specimens
- Know number of test specimens required by this test method
- Understand the importance of and requirements for proper identification

### **ASTM C140/C140M—Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units**

- Understand scope of the method
- Understand significance and use of the method
- Know requirements for selection of test specimens
- Know number of specimens needed to perform all tests
- Know and perform importance of removal of loose materials
- Understand importance of proper identification
- Know and perform how to obtain the received weight of specimens

### **ASTM C780—Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry**

- Understand scope of the method
- Understand definition of disturbed and undisturbed samples
- Understand definition of batch mixer and mortar board samples
- Understand purpose of pre-construction trial batches
- Understand purpose of evaluating testing during construction

## **Job-Task Analysis (JTA) for ACI Masonry Field Testing Technician Certification (Continued)**

- Know test methods used for evaluation of field mortars
- Understand significance and use of the method and annexes
- Know test method limitations
- Understand hazards
- Know requirements of sampling mortars
- Know requirements of sampling materials
- Know requirements for sampling records
- Understand requirements for specimens for pre-construction and construction evaluations
- Understand batch to batch variations
- Know procedures for mortar preparation
- Know procedures for mortar mixing
- Know reporting requirements as a field technician

### **ASTM C780 Annex A1—Consistency by Cone Penetration Test Method**

- Understand scope of the method
- Know the apparatus required to perform the procedure
- Know and perform procedure for test method
- Understand reporting requirements as a field technician

### **ASTM C780 Annex A2—Consistency Retention of Mortars for Unit Masonry**

- Understand scope of the method
- Know the apparatus required to perform the procedure
- Know procedure for test method
- Understand reporting requirements as a field technician

### **ASTM C780 Annex A4—Mortar Aggregate Ratio Test Method**

- Understand scope of the method
- Know the apparatus required to perform the procedure
- Know and perform procedure for field test method

### **ASTM C780 Annex A5—Mortar Air Content Test Method**

- Understand scope of the method
- Know the apparatus required to perform the procedure
- Know procedure for test method
- Understand reporting requirements as a field technician

### **ASTM C780 Annex A6—Compressive Strength of Molded Masonry Mortar Cylinders and Cubes**

- Understand scope of the method
- Know equipment requirements for preparation of specimens
- Know and perform procedure for test method (fabrication of cylinders and cubes)
- Procedure (fabrication of cubes in accordance with ASTM C109)
- Know procedures for storing of specimens (up to delivery to laboratory)
- Understand reporting requirements as a field technician

### **ASTM C1019—Standard Test Method for Sampling and Testing Grout**

- Understand scope of the method
- Understand significance and use of the method
- Know the equipment or apparatus needed to execute the procedure
- Know number of specimens and dimensional requirements specified

## **Job-Task Analysis (JTA) for ACI Masonry Field Testing Technician Certification (Continued)**

- Know how to make specimens using masonry units and alternative methods
- Know sampling procedure
- (The next two line items may be exempt if currently Concrete Field Testing Technician certified.)*
- Know and perform procedures for measuring temperature as per ASTM C1064
- Know and perform procedures for measuring slump as per ASTM C143
- Understand that separate procedures are utilized for SCG Flow, C1611 and VSI
- Know and perform procedures for fabrication and storage of compressive strength specimens in the field
- Understand procedures relative to de-molding
- Understand procedures relative to transporting specimens back to the laboratory
- Understand reporting requirements as a field technician

### **ASTM C1314—Standard Test Method for Compressive Strength of Masonry Prisms**

- Understand scope of the method
- Understand significance and use of the method
- Understand different masonry prism construction
- Know requirements and procedures for prism construction
- Know requirements for obtaining and transporting prisms
- Know reporting requirements as a field technician