



## Certification Policies for Cement Physical Tester

*Last approved by the Certification Programs Committee  
February 9, 2017*

The statements contained herein are a consolidation of proposed policies and procedures. This policy statement supersedes all previous action of the ACI Board of Direction with respect to Cement Physical Tester certification and is effective *February 9, 2017*.

The certification program policies are organized into eight sections as follows:

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|-------------|---|
| Section 1.0 | Certification Criteria                  |
| Section 2.0 | Examination Criteria                    |
| Section 3.0 | Reexamination Criteria                  |
| Section 4.0 | Appeals Criteria                        |
| Section 5.0 | Sponsoring Group Criteria               |
| Section 6.0 | Examiner/Supplemental Examiner Criteria |
| Section 7.0 | ACI: Duties and Responsibilities        |
| Section 8.0 | Recertification                         |

## SECTION 1.0 CERTIFICATION CRITERIA

- 1.1 The American Concrete Institute (ACI) certification program for Cement Physical Tester shall require successful completion of both a written examination and a performance examination.
- 1.2 No specific education or work experience is required for Cement Physical Tester certification.
- 1.3 ACI certification for Cement Physical Tester shall be valid for a period of five years from the date of completion of all certification requirements.
- 1.4 Certification as a Cement Physical Tester requires successful completion of the certification requirements outlined in Sections 1.0, 2.0 and 3.0 of this policy.

## SECTION 2.0 EXAMINATION CRITERIA

### GENERAL REQUIREMENTS

- 2.1 Content of the program for certification as a Cement Physical Tester shall be derived directly from the following ten ASTM Standards:

ASTM C109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
ASTM C151	Standard Test Method for Autoclave Expansion of Hydraulic Cement
ASTM C185	Standard Test Method for Air Content of Hydraulic Cement Mortar
ASTM C187	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
ASTM C191	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
ASTM C204	Standard Test Method for Fineness of Hydraulic Cement by Air-Permeability Apparatus
ASTM C 305	Standard Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency
ASTM C430	Standard Test Method for Fineness of Hydraulic Cement by the 45- $\mu$ m (no 325) Sieve
ASTM C 490	Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar and Concrete
ASTM C1437	Standard Test Method for Flow of Hydraulic Cement Mortar

- 2.2 These ten ASTM test methods include reference to the following standards of which the examinee should also be familiar with: ASTM C230, ASTM C511, ASTM C778.
- 2.3 Information contained within notes and appendices of the above referenced documents shall not be subject to examination.
- 2.4 Both the written and performance examinations for Cement Physical Tester must be successfully completed within a one-year period in order to be considered for certification.
- 2.5 Examinations shall be conducted by the Examiner, Proctor(s), and/or Supplemental Examiner(s), as applicable. (See Section 6.0)
- 2.6 Examiners, Proctors, Supplemental Examiners, and/or Sponsoring Groups have no jurisdiction over the content of any examination or over the grading of the written examination.

#### WRITTEN EXAMINATION

- 2.7 The written examination for certification as a Cement Physical Tester shall consist of approximately 100 multiple-choice questions (approximately 8–12 questions on each section). A maximum of 120 minutes shall be permitted for completion of the written examination.

The written examination is open-book. Simple function (non-programmable) calculators shall be permitted.

- 2.8 Verbal administration of the written examination is permitted upon approval by the ACI Certification Department on a case-by-case basis.
- 2.9 Successful completion of the written examination shall be considered as meeting both of the following requirements:
  - A) Score a minimum of 60% correct on each individual section of the examination (e.g., six correct out of ten questions);

**AND**

  - B) Score a minimum of 70% for the overall examination (e.g., 70 correct out of 100 total questions).

#### PERFORMANCE EXAMINATION

- 2.10 The performance examination for certification as a Cement Physical Tester shall require the Examinee to perform, pursuant to the contents of the ACI Certification performance examination checklist, procedures described in Test Methods C109, C151, C185, C187, C191, C204, C305, C430, C490 and C1437.
- 2.11 The Examinee's performance shall be evaluated based on the criteria of the performance examination checklist.

*NOTE: Some procedures and test methods may be described verbally as indicated on the performance examination checklists. Specific instructions keyed to these areas and describing administration procedures will be included with the exam materials for each session.*

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- 2.12 The performance examinations are closed-book; notes or other technical material shall not be permitted in the examination area. Simple function (non-programmable) calculators shall be permitted.
- 2.13 The Examinee shall conduct the performance examination in the direct presence of the Examiner or Supplemental Examiner(s).
- 2.14 Grading for the individual performance examinations shall be on a pass/fail basis only, with the Examiner or Supplemental Examiner indicating pass or fail for each step of the checklist.
- 2.15 Incorrect performance, or omission of one or more of the steps of the performance checklist, shall constitute a failure of that trial.
- 2.16 An Examinee shall be allowed a second trial, on the same day of the examination, if the first trial was not successfully completed.
- 2.17 An Examinee shall be permitted to suspend one trial and begin the procedure over again. A voluntary suspension of a trial shall not be counted as a failure of that trial.
- 2.18 The Examiner/Supplemental Examiner shall not stop a trial at any point which an error is made.
- 2.19 A second trial, or voluntary repeat of a trial, shall require performance of the entire practice or test method from the beginning, not from the point the error was made.
- 2.20 Immediately following completion of each trial, the Examiner/Supplemental Examiner shall inform the Examinee of the results, either pass or fail.
- 2.21 When a failure of a trial occurs, the Examiner/Supplemental Examiner shall inform the Examinee of the particular step(s) performed incorrectly.
- 2.22 The Examinee shall be permitted to leave the examination area between trials to consult notes or books.
- 2.23 It shall be the Sponsoring Group's responsibility to provide equipment that conforms to the applicable ASTM specifications, practices, and test methods and that it is in good working order. The Examinee shall not be penalized as a result of faulty or incorrect equipment.
- NOTE: In cases where the Supplemental Examiners have been approved to conduct the performance examination without the direct supervision of an approved Examiner, the Supplemental Examiner shall be responsible for determining that the equipment requirements listed in Section 2.23 are met.*
- 2.24 Failure of any section of the performance examination after two trials will constitute failure of the entire performance examination.

**SECTION 3.0 RE-EXAMINATION CRITERIA**

- 3.1 Failure of the written examination by either of the criteria cited under Section 2.9 shall require re-examination on the entire written examination.
- 3.2 Failure or invalidation of any of the required Standards covered by the performance examination in any one session shall require re-examination on the entire performance examination.
- 3.3 Re-examination on the written or performance examination must be taken and passed within one year of the initial examination. Otherwise, both the written and the performance examinations must be retaken in their entireties.

**SECTION 4.0 APPEALS CRITERIA**

- 4.1 All appeals shall be directed initially to the Examiner.
- 4.2 In the event that the Examinee is not satisfied with the decision of the Examiner regarding an appeal, the Examinee may pursue an appeal with ACI according to the following order:
  1. Sponsoring Group
  2. ACI Director of Certification
  3. The Certification Appeals Committee  
[consisting of the Director of Certification, the Chairman of the Certification Programs Committee, and the Chairman of Committee C 621]
  4. Committee C 621, Cement Physical Tester Certification
  5. Certification Programs Committee
- 4.3 Appeals submitted to ACI for consideration must be received, in writing, within sixty [60] days of the receipt of the examination at ACI Headquarters.

**SECTION 5.0 SPONSORING GROUP CRITERIA**

Groups desiring to conduct ACI Certification program(s) shall adhere to the current Policy on Sponsoring Groups for Certification.

**SECTION 6.0 EXAMINER / SUPPLEMENTAL EXAMINER CRITERIA**

- 6.1 The Examiner shall be approved and authorized by ACI to conduct the ACI Certification examinations for the Cement Physical Tester Certification program.
- 6.2 Examiner qualifications shall be submitted by the sponsoring group on the Examiner Application Form and shall be evaluated in accordance with the criteria outlined in Section 6.3.

- 6.3 The Examiner shall meet the following requirements:
- A) Be a registered professional engineer; **AND**
  - B) Have had at least two years of recent experience in cement, concrete and/or masonry testing; **AND**
  - C) Be thoroughly familiar with the current applicable standards.
- OR**
- D) Be currently certified as an ACI Cement Physical Tester; **AND**
  - E) Pass the written exam for this program with a score of 90% or more, **AND**
  - F) Assist in the administration of at least one (1) ACI sanctioned examination session, performing to the satisfaction of the examiner of record, **OR**
  - G) Participate in an ACI Cement Physical Tester Certification Administration Orientation Program, performing to the satisfaction of the program facilitator.
- 6.4 Examiners, Supplemental Examiners, and Proctors shall not conduct any portion of the examination for anyone with whom he/she is personally related.
- 6.5 Examiners and Supplemental Examiners shall not examine anyone on the performance examination who is employed in the same organization. Governmental organizations may petition ACI, in writing, and request a waiver of this requirement. Waivers shall be granted only if it can be shown that the intent of the policy will be maintained.
- 6.6 Supplemental Examiners shall be permitted to assist in conducting the performance examination, and may be authorized to conduct the performance examination without direct supervision of an Examiner with prior approval from the ACI Certification Department.
- 6.7 Supplemental Examiners shall satisfy the following requirements:
- A) Have recent experience in cement testing, concrete and masonry testing;
  - B) Be selected and adjudged qualified by the Examiner or the ACI Certification Department;
  - C) Be considered trustworthy and conscientious.
- 6.8 Proctors shall be permitted to assist the Examiner in conducting the written examination.
- 6.9 Proctors shall satisfy the following requirements:
- A) Be considered trustworthy and conscientious by the Examiner.
- 6.10 The Examiner shall be directly responsible for:
- A) Selection of the Supplemental Examiners and Proctors, except in cases where the Supplemental Examiners are approved by the ACI Certification Department;
  - B) Verification that the qualifications of the Supplemental Examiners and Proctors conform to the criteria outlined in Sections 6.4 through 6.9 of this policy;
  - C) Ensuring the secure handling of examination materials;
  - D) Verification of the identity of each Examinee, and ensuring that the Examinees are aware of the certification criteria;
  - E) Verification that the Examinees have signed the release statement on the written and performance examinations prior to testing;

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- F) Verification that the performance evaluations are conducted by approved Supplemental Examiners, and co-signing the performance checklists where appropriate;
  - G) Entering the appropriate grade for the completed performance examination on the checklist report;
  - H) Ensuring that all Examinees have an opportunity to take a second trial on any failed procedure of the performance examination; and
  - I) Ensuring that terms are not defined and examination questions are not interpreted during the course of the written examination.
- 6.11 Examiners or Supplemental Examiners shall not observe more than one Examinee conducting tests at any one time during the performance examination.
- 6.12 The examination sessions must be supervised constantly by the Examiner, Supplemental Examiner(s) and/or Proctor(s).

**SECTION 7.0 ACI DUTIES AND RESPONSIBILITIES**

- 7.1 ACI shall approve the Sponsoring Group.
- 7.2 ACI shall authorize the Sponsoring Group to conduct examination sessions for Cement Physical Tester certification.
- 7.3 ACI shall approve the Examiner.
- 7.4 ACI shall grade the written examinations, review the performance examinations, and notify Examinees and the Examiner of the final results.
- 7.5 ACI shall certify the Examinees who have satisfied the certification requirements.
- 7.6 ACI shall issue certification credentials to examinees who fulfill the certification requirements.

**SECTION 8.0 RECERTIFICATION**

- 8.1 Recertification as a Cement Physical Tester requires successful completion of the certification requirements outlined in Sections 1.0, 2.0 and 3.0 of this policy.

**END**