

American Concrete Institute

Certification Policies for Concrete Laboratory Testing Technician Grade I and Grade II

*Approved by the ACI Board of Direction
November 11, 1993*

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The statements contained herein are a consolidation of approved policies and procedures.

The certification program policies are broken down into eight sections as follows:

- Section 1. Certification Criteria
- Section 2. Examination Criteria
- Section 3. Reexamination Criteria
- Section 4. Appeals Criteria
- Section 5. Sponsoring Group Criteria
- Section 6. Examiner/Supplemental Examiner Criteria
- Section 7. ACI Responsibilities
- Section 8. Recertification Criteria

SECTION 1.0 CERTIFICATION CRITERIA

1.01 The American Concrete Institute (ACI) certification programs for Concrete Laboratory Testing Technician--Grade I and Grade II shall require successful completion of both a written examination and a performance examination.

1.02 No specific education or work experience is required as a prerequisite for Concrete Laboratory Testing Technician--Grade I certification.

Prerequisites for certification as a Concrete Laboratory Testing Technician - Grade II include current ACI Concrete Laboratory Testing Technician - Grade I certification and at least one year (2000 hours) of approved work experience, of which up to one-half may be substituted with a minimum of 60 credit hours of verified advanced education.

1.03 ACI certification for Concrete Laboratory Testing Technician--Grade I and/or Grade II shall be valid for a period of six [6] years from the date of completion of all certification requirements.

1.04 A technician shall be permitted to renew certification by satisfying the recertification requirements.

SECTION 2.0 EXAMINATION CRITERIA

GENERAL REQUIREMENTS

2.01 The content of the written examination for certification as a Concrete Laboratory Testing Technician--Grade I shall be derived directly from the twelve (12) following ASTM Standards or their equivalents: C 617, C 1231, C 39, D 75, C 702, C 117, C 136, C 29, C 127, C 128, C 566 and C 40.

The content of the performance examination for certification as a Concrete Laboratory Testing Technician--Grade I shall be derived from the above cited ASTM Standards with the exception of D 75.

The content of the written examination for certification as a Concrete Laboratory Testing Technician--Grade II shall be derived directly from the two (2) following ACI Standards: ACI 214, ACI 211.1; and the ten (10) following ASTM Standards or their equivalents: C 88, C 123, C 131, C 535, C 142, C 78, C 192, C 470, C 496, and C 42.

The content of the performance examination for certification as a Concrete Laboratory Testing Technician--Grade II shall be derived from the following ASTM Standards or their equivalents: C 123, C 78, and C 192.

Information contained in the footnotes and appendices of the above referenced documents shall not be subject for examination.

Both the written and performance examinations for either Grade I or Grade II technician must be successfully completed within a one (1) year period.

- 2.02 There shall be no questions regarding general concrete technology on either of the examinations.
- 2.03 The examinations shall be conducted by the examiner, proctors, and/or supplemental examiners as applicable. [See Section 6]
- 2.04 The examiners, proctors, supplemental examiners, and/or sponsoring groups do not have any jurisdiction over the content of any examination, or over the grading of the written examination.
- 2.05 The Grade I written and performance examinations are closed book. Notes or other technical material shall not be permitted in the examination area. The Grade II written examination is open book; reference materials other than the *Annual Book of ASTM Standards, Volume 04.02*, shall not be permitted in the examination area. The Grade II performance examination is closed book; notes or other technical material shall not be permitted in the examination area. Pocket calculators shall be permitted for all examinations.

WRITTEN EXAMINATION

- 2.06 The written examinations for certification as either a Concrete Laboratory Testing Technician--Grade I or Grade II shall consist of approximately one hundred [100] multiple choice questions, with six to twelve [6-12] questions on each ASTM or ACI Standard.
- 2.07 A maximum of two [2] hours shall be permitted for completion of each written examination.
- 2.08 Oral administration of the written examinations is permitted, contingent upon approval by the ACI Certification Department.
- 2.09 Successful completion of the written examination shall be considered as meeting both the following requirements:
 - A) Score sixty percent [60%] or higher on each individual ASTM/ACI Standard (i.e. six [6] correct out of ten [10] questions); AND
 - B) Score a minimum of seventy percent [70%] for the overall examination (i.e., seventy [70] correct out of a possible one hundred [100])

PERFORMANCE EXAMINATION

- 2.10 The performance examination for certification as a Concrete Laboratory Testing Technician--Grade I shall require the examinee to perform, in their entirety, each of the following ASTM Standards: C 617, C 1231, C 39, C 702, C 117, C 136, C 29, C 127, C 128, C 566, C 40.

The performance examination for certification as a Concrete Laboratory Testing Technician--Grade II shall require the examinee to perform, in their entirety, each of the following ASTM Standards: C 123, C 78, and C 192.

Note: Examiners/Supplemental Examiners may use their discretion by verbally evaluating an Examinee's knowledge regarding waiting periods for certain test methods where long waiting times are specified in the Standards.

An applicant who is currently certified as an ACI Concrete Field Testing Technician - Grade I may be waived from performing the procedures for C 143, C 173, C 231, C 138, and C 1064 under the ASTM C 192 performance examination if the Concrete Laboratory Testing Technician - Grade II performance examination is taken within two (2) years of attaining certification as an ACI Concrete Field Testing Technician - Grade I

An examinee who is currently certified as a Concrete Strength Testing Technician may be waived from performing the procedures for ASTM C 39, C 617, and C 1231 if the Concrete Laboratory Testing Technician-Grade I performance examination is taken within two (2) years of attaining certification as a Concrete Strength Testing Technician.

An examinee who is currently certified as a Concrete Strength Testing Technician may be waived from performing the procedures for ASTM C 78 if the Concrete Laboratory Testing Technician - Grade II performance examination is taken within two (2) years of attaining certification as a Concrete Strength Testing Technician.

An examinee who is currently certified as an Aggregate Field Testing Technician may be waived from performing the procedures for ASTM C 702, C 117, C 136, and C 566 if the Concrete Laboratory Testing Technician - Grade I performance examination is taken within two (2) years of attaining certification as an Aggregate Field Testing Technician.

An examinee who is currently certified as an Aggregate Laboratory Testing Technician may be waived from performing the procedures for ASTM C 29, C 127, and C 128 if the Concrete Laboratory Testing Technician - Grade I performance examination is taken within two (2) years of attaining certification as an Aggregate Laboratory Testing Technician.

An examinee who is currently certified as an Aggregate Laboratory Testing Technician may be waived from performing the procedures for ASTM C 123 if the Concrete Laboratory Testing Technician - Grade II performance examination is taken within two (2) years of attaining certification as an Aggregate Laboratory Testing Technician.

Proof of certification within the specified time limit must be verified by the Examiner/Supplemental Examiner at the time of testing for the waiver to be granted.

2.11

The examinee shall conduct the performance examination in the direct presence of the examiner or supplemental examiner(s).

- 2.12 The examinee's performance shall be evaluated based on the criteria of the performance examination checklist.
- 2.13 Grading for the individual performance examinations shall be on a pass/fail basis only, with the examiner/supplemental examiner recording the symbols 'P' for passing and 'F' for failing on each step of the checklist.
- 2.14 Incorrect performance, or omission of one or more of the steps of the performance checklist shall constitute failure of that trial.
- 2.15 An examinee shall be allowed a second trial, on the same day of the examination, if the first trial was not successfully completed for each of the applicable ASTM Standards.
- 2.16 The second trial of a particular test shall not be conducted immediately following the first trial.
- 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 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 has occurred 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 examining area between trials to consult notes or books.
- 2.23 The examinee shall have the option of using either a Type A or Type B meter when performing ASTM C 231.
- 2.24 It shall be the Sponsoring Group's responsibility to provide equipment which conforms to the applicable ASTM Standards 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 2.24 are met.*

2.25 Failure on any of the prescribed ASTM Standards after two [2] trials will constitute failure of that part of the performance examination.

SECTION 3.0 REEXAMINATION CRITERIA

3.01 Failure of the written examination by either of the criteria cited under Section 2.09 shall require reexamination on the entire written examination.

3.02 For Concrete Laboratory Testing Technician--Grade I, invalidation of the performance examination (for example non-conformance with Section 6.06) or failure on four [4] or more of the ten [10] required ASTM Standards shall require reexamination on the entire performance examination.

3.03 For Concrete Laboratory Testing Technician--Grade I, failure or invalidation of the performance examination on three [3] or less of the ten [10] required ASTM Standards shall require examination on only those ASTM Standards failed or invalidated.

3.04 Failure or invalidation of any section of the performance examination for Concrete Laboratory Testing Technician - Grade II shall require reexamination on the entire performance examination.

3.05 Reexamination on the written or performance examination must be taken within one [1] year of the initial examination. Otherwise, both the written and the performance examinations must be retaken in their entireties.

SECTION 4.0 APPEALS CRITERIA

4.01 All appeals shall be directed initially to the examiner.

4.02 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. Local 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 C620]
4. Committee C620, Laboratory Testing Technician Certification
5. Certification Programs Committee

4.03 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.

NOTE: The Sponsoring Group Policy was approved by the ACI Board of Direction on March 21, 1991.

SECTION 6.0 EXAMINER / SUPPLEMENTAL EXAMINER CRITERIA

- 6.01 The examiner shall be authorized by ACI to conduct the ACI certification certification examinations for Concrete Laboratory Testing Technician-Grade I and Grade II.
- 6.02 The examiner shall be approved by ACI. Qualifications shall be submitted on Form D1/D3 and shall be evaluated in accordance with the criteria on Form D-13.
- 6.03 The examiner shall meet the following requirements:
- A) Be a registered professional engineer;
 - B) Have had at least two [2] years of recent experience in concrete construction, inspection, or testing; and
 - C) Be thoroughly familiar with the current applicable ASTM and ACI Standards.
- 6.04 The examiner shall be authorized by ACI to sign the certificates of successful examinees.
- 6.05 Examiners, supplemental examiners, and proctors shall be unrelated professionally and personally to the examinees.
- 6.06 Examiners/supplemental examiners shall not examine anyone on the performance examination who is employed in the same organization. Governmental or other organizations may petition ACI, in writing, and request a waiver of this requirement. Waivers shall be granted, on a case by case basis, only if it can be shown that the intent of the policy will be maintained.
- 6.07 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 of ACI Committee C620.
- 6.08 Supplemental examiners shall satisfy the following requirements:
- A) Have had recent experience in concrete testing;
 - B) Be selected and adjudged qualified by the examiner or ACI Committee C620;
 - C) Be considered trustworthy and conscientious.

- 6.09 Proctors shall be permitted to assist the examiner in conducting the written examination.
- 6.10 Proctors shall satisfy the following requirements:
- A) Be considered trustworthy and conscientious by the Examiner.
- 6.11 The examiner shall be directly responsible for the following activities:
- A) Select the supplemental examiners and proctors, except in cases where the supplemental examiners are approved by ACI Committee C620;
- B) Verify the qualifications of the supplemental examiners and proctors according to the criteria outlined in Section 6.05 through 6.10 of this policy;
- C) Order examinations;
- D) Verify the identity of each examinee, and assure that the examinees are aware of the certification criteria;
- E) Verify that the examinees have signed the release statement on the written and performance examinations prior to testing;
- F) Verify that the performance evaluations were conducted by approved supplemental examiners, and co-sign the performance checklists where appropriate;
- G) Enter the appropriate grade for the completed performance examination on the checklist report;
- H) Assure that all examinees have an opportunity to take a second trial on any failed procedure of the performance examination; and
- I) Shall not define terms or interpret examination questions during the course of the written examination.
- 6.12 Examiners or supplemental examiners shall not observe more than one examinee conducting tests at any one time during the performance examination.
- 6.13 Examiners or supplemental examiners monitoring the performance examination for ASTM C 231 shall be qualified for whichever type meter he/she is monitoring.
- 6.14 The examination sessions must be supervised constantly by the examiner, supplemental examiner(s) and/or proctor(s).

SECTION 7.0 ACI: DUTIES AND RESPONSIBILITIES

- 7.01 ACI shall approve the local sponsoring group.

- 7.02 ACI shall authorize the local sponsoring group to conduct examining sessions for Concrete Laboratory Testing Technician--Grade I and Grade II certification.
- 7.03 ACI shall approve the examiner.
- 7.04 ACI shall grade the written examinations and review the performance examination, and notify the examinee and the examiner of the final results in writing.
- 7.05 ACI shall certify the examinees who have satisfied the certification requirements.
- 7.06 ACI shall issue a certificate and wallet card to successful examinees.

SECTION 8.0 RECERTIFICATION CRITERIA

Recertification as a Concrete Laboratory Testing Technician--Grade I or Grade II requires successful completion of the certification requirements outlined in Sections 1.0, 2.0 and 3.0 of this policy.