

American Concrete Institute

Certification Policies
for
Aggregate Field Testing Technician
Aggregate Laboratory Testing Technician

*Approved by the ACI Board of Direction
November 4, 1999*

Last revised by the Certification Programs Committee, April 19, 2005

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 Aggregate Field Testing Technician (AFTT) and Aggregate Laboratory Testing Technician (ALTT) 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 AFTT certification.
- 1.03 Prerequisites for certification as an ALTT include current ACI AFTT certification. ACI certification for AFTT and/or ALTT shall be valid for a period of five [5] 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 an AFTT shall be derived directly from the ten (10) following Standards:

AASHTO

- T 2 Standard Practice for Sampling Aggregates
- T 11 Standard Specification for Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
- T 27 Standard Specification for Sieve Analysis of Fine and Coarse Aggregates
- T 87 Standard Specification for Dry Preparation of Disturbed Soil and Soil Aggregate Samples for Test
- T 89 Standard Specification for Determining the Liquid Limit of Soils
- T 90 Standard Specification for Determining the Plastic Limit and Plasticity Index of Soils
- T 112 Standard Specification for Clay Lumps and Friable Particles in Aggregate
- T 248 Standard Method of Test for Reducing Samples of Aggregate to Testing Size
- T 255 Standard Method of Test for Total Moisture Content of Aggregate by Drying

ASTM

- D 4791 Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate

The content of the performance examination for certification as an AFTT shall be derived from the afore-referenced resource standards except AASHTO T 87.

The content of the written examination for certification as an ALTT shall be derived directly from the eleven (11) following Standards:

AASHTO

T 19	Standard Specification for Unit Weight and Voids in Aggregate
T 21	Standard Specification for Organic Impurities in Fine Aggregates for Concrete
T 84	Standard Specification for Specific Gravity and Absorption of Fine Aggregate
T 85	Standard Specification for Specific Gravity and Absorption of Coarse Aggregate
T 96	Standard Specification for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
T 104	Standard Specification for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
T 113	Standard Specification for Lightweight Pieces in Aggregate
T 176	Standard Specification for Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test
T 304	Standard Method of Test for Uncompacted Void Content of Fine Aggregate

ASTM

C 535	Standard Specification for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
D 5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

The content of the performance examination for certification as an ALTT shall be derived from the afore-referenced resource standards except AASHTO T 104, T 96, and ASTM C 535.

Information contained in the *notes* of the afore-referenced resource standards shall be subject for examination. Information contained in the *appendices* of the afore-referenced resource standards shall not be subject for examination except for Appendix X1 of AASHTO T2.

Both the written and performance examinations for either AFTT or ALTT certification must be successfully completed within a one (1) year period.

- 2.02 There shall be no questions regarding general aggregate or soils 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 have no jurisdiction over the content of any examination, or over the grading of the written examination.
- 2.05 The written examinations are open book; access will be limited to the program resource standards. Notes or other technical material shall not be permitted in the examination area. The performance examinations are closed book; resource standards, notes or other technical material shall not be permitted in the examination area. Simple-function (non-programmable) calculators shall be permitted for all examinations.

WRITTEN EXAMINATION

- 2.06 The written examinations shall consist of approximately one hundred [100] multiple choice questions, with six to twelve [6-12] questions on each 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 AASHTO/ASTM 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 an AFTT shall require the examinee to perform, in their entirety, each of the following Standards: AASHTO T 2, T 11, T 27, T 89, T 90, T 112, T 248, T 255, and ASTM D 4791.

The performance examination for certification as an ALTT shall require the examinee to perform, in their entirety, each of the following Standards: AASHTO T 19, T 21, T 84, T 85, T 113, T 176, T 304, and ASTM D 5821.

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

An examinee who is currently certified as a Concrete Laboratory Testing Technician - Grade I may be waived from performing the procedures for AASHTO T 248, T 11, T 27, and T 255 if the Aggregate Field Testing Technician performance examination is taken within two (2) years of attaining certification as a Concrete Laboratory Testing Technician - Grade I.

An examinee who is currently certified as an Laboratory Testing Technician - Grade I may be waived from performing the procedures for AASHTO T 19, T 84, and T 85 if the Aggregate Laboratory Testing Technician performance examination is taken within two (2) years of attaining certification as a Concrete Laboratory Testing Technician - Grade I.

An examinee who is currently certified as a Concrete Laboratory Testing Technician - Grade II may be waived from performing the procedures for AASHTO T 113 if the Aggregate Laboratory Testing Technician performance examination is taken within two (2) years of attaining certification as a Concrete Laboratory Testing Technician - Grade II.

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 All sections of the performance exam required for certification must be taken within a single examination session not exceeding eight calendar days.

Note: This provision was adopted to address the number of tests on the performance exam, their complexity, and the amount of time in setup and administration necessary to conduct one initial full exam (all sections) once through in its entirety. It is not intended that examinees be allowed more than two attempts to pass any one test method within any single eight-day exam session.

- 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 for each of the applicable standards.
- 2.17 The second trial of a particular test shall not be conducted immediately following the first trial.
- 2.18 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.
- 2.19 The examiner/supplemental examiner shall not stop a trial at any point which an error is made.
- 2.20 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.
- 2.21 Immediately following completion of each trial, the examiner/supplemental examiner shall inform the examinee of the results, either pass or fail.
- 2.22 When a failure of a trial has occurred the examiner/supplemental examiner shall inform the examinee of the particular step(s) performed incorrectly.
- 2.23 The examinee shall be permitted to leave the examining area between trials to consult notes or books.
- 2.24 It shall be the Sponsoring Group's responsibility to provide equipment which conforms to the applicable 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 (6.06), the Supplemental Examiner shall be responsible for determining that the equipment requirements listed in Section 2.23 are met.
- 2.25 Failure on any of the required Standards after two [2] trials will constitute failure of that section 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 Invalidation (for example non-conformance with Section 6.05) or failure of four (4) or more of the required Standards covered by the performance examination in any one session shall require reexamination on the entire performance examination.

- 3.03 Invalidation or failure of three (3) or less of the required Standards covered by the performance examination in any one session shall require reexamination on only the sections invalidated or failed.
- 3.04 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 examinations for AFTT and ALTT.
- 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 construction, including aggregate testing; and
 - C) Be thoroughly familiar with the current applicable AASHTO and ASTM Standards.
- 6.04 Examiners, supplemental examiners, and proctors shall be unrelated professionally and personally to the examinees.
- 6.05 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.
- 6.06 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.
- 6.07 Supplemental examiners shall satisfy the following requirements:
- A) Have had recent experience in aggregate testing;
 - B) Be selected and adjudged qualified by the examiner or ACI Committee C620;
 - C) Be considered trustworthy and conscientious.
- 6.08 Proctors shall be permitted to assist the examiner in conducting the written examination.
- 6.09 Proctors shall satisfy the following requirements:
- A) Be considered trustworthy and conscientious by the Examiner.
- 6.11 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 ACI Committee C620;
 - B) Verification that the qualifications of the supplemental examiners and proctors conform to the criteria outlined in Section 6.05 through 6.10 of this policy;
 - C) Assuring the secure handling of examination materials;
 - D) Verification of the identity of each examinee, and assuring 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;
- 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) Assuring that all examinees have an opportunity to take a second trial on any failed procedure of the performance examination; and
- I) Assuring that terms are not defined and examination questions are not interpreted 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 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 examination sessions for AFTT and ALTT certifications.
- 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 certificates and wallet cards to successful examinees.

SECTION 8.0 RECERTIFICATION CRITERIA

Recertification as an AFTT or ALTT requires successful completion of the certification requirements outlined in Sections 1.0, 2.0 and 3.0 of this policy.