



Certification Policies for Concrete Quality Technical Manager (CQTM)

*Last approved by the Certification Programs Committee
December 29, 2014*

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 CQTM certification and is effective December 29, 2014.

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

- Section 1.0 Certification Criteria
- Section 2.0 Examination Criteria
- Section 3.0 Education/Work Experience
- Section 4.0 Reexamination Criteria
- Section 5.0 Appeals Criteria
- Section 6.0 Sponsoring Group Criteria
- Section 7.0 Examiner/Supplemental Examiner Criteria
- Section 8.0 ACI: Duties and Responsibilities
- Section 9.0 Recertification Criteria

SECTION 1.0 CERTIFICATION CRITERIA

1.1 The American Concrete Institute (ACI) certification program shall recognize two classifications for Concrete Quality Technical Manager (CQTM):

- Associate CQTM
- CQTM

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- 1.2 Certification as an Associate CQTM and CQTM requires that the individual has received a passing grade on the written examinations for each of the following ACI Certifications at some time in the candidate's professional career:
- ACI Concrete Field Testing – Grade 1
 - ACI Concrete Strength Testing Technician
 - ACI Concrete Flatwork Technician
- 1.3 Certification as an **Associate CQTM** requires compliance with Section 1.2 and passing grades on the CQTM written and practical exams.
- 1.4 Certification as a **CQTM** requires compliance with Section 1.2, compliance with requirements for education and work experience, and:
- a) Passing grades on the CQTM written and practical exams, or
 - b) Previously having passed the ACI Level III Nuclear Exam (retired program).
- 1.5 The education and work experience required for **CQTM** is as follows:
- a) Professional Engineer and 3 years applicable experience, or
 - b) Bachelor of Science in Engineering, Math, Physics, or Construction Management and 4 years applicable experience, or
 - c) Associates Degree in Engineering, Math, Physics, or Construction Management and 5 years applicable experience, or
 - d) 6 years applicable experience
- 1.6 The applicable experience for **CQTM** must include:
- a) Decision making authority and responsibility
 - b) Verification of compliance with plans, specifications, and codes
 - c) Knowledge in administration of a concrete QA/QC plan
 - d) Documentation and reporting of test results
 - e) Proficiency in preparation of concrete mix proportions
 - f) Proficiency in evaluation of concrete and concrete materials test reports and documents
- 1.7 Certification for Associate CQTM and CQTM is valid for a period of 5 years from the date of completion of both parts of the examination, but is not conferred until all additional required documentation has been verified.
- 1.8 An Associate CQTM shall be upgraded to full CQTM upon completion of appropriate certification requirements.

SECTION 2.0 EXAMINATION CRITERIA

GENERAL

- 2.1 The content of all CQTM examinations shall be derived directly from the material listed in Appendix 1.0.
- 2.2 The CQTM examination consists of two parts:
 - a) Written exam containing six (6) subsections covering mixture proportioning and basic and advance concrete technology, and
 - b) Practical exam involving application of ACI 318 and ACI 301 requirements, and ACI 211 guidelines to concrete mixture proportioning and design.

WRITTEN EXAMINATION

- 2.3.1 The CQTM written examination shall consist of approximately one-hundred (100) multiple choice questions.
- 2.3.2 The written examination is open book.
- 2.3.3 A maximum of four (4) hours shall be permitted for completion of the written examination.
- 2.3.4 Successful completion of the written examination shall be considered as meeting both the following requirements:
 - a) Score sixty percent [60%] or higher on each subsection, and
 - b) Score a minimum of seventy percent [70%] for the overall examination

PRACTICAL APPLICATION EXAMINATION

- 2.4.1 The CQTM practical application examination shall consist of approximately twenty-five (25) multiple choice questions.
- 2.4.2 The practical application examination is open book.
- 2.4.3 A maximum of two (2) hours shall be permitted for completion of the practical examination.
- 2.4.4 The examinee shall conduct the practical examination in the direct presence of the examiner or proctor(s).
- 2.4.5 Successful completion of the practical examination shall be considered as scoring a minimum of 70% on the exam.

SECTION 3.0 EDUCATION/WORK EXPERIENCE

- 3.1 Candidates seeking certification as a CQTM must submit a signed affidavit or affidavits (ACI Form D5) from current and/or previous employers or other qualified individual(s) attesting that the applicant possesses the required amount and range of education/work experience as described in 1.5 and 1.6, and that the candidate's performance of those responsibilities was satisfactory.
- 3.2 In cases where the examinee is self-employed and cannot furnish proof of employment, letters of reference from three Professional Engineers covering experience/performance may be accepted.
- 3.3 ACI will verify all submitted affidavits or letters of reference.

SECTION 4.0 REEXAMINATION CRITERIA

- 4.1 Failure of either the written exam or practical applications exam by the criteria cited under Section 2.3.4 and 2.4.5 shall require a reexamination on the exam that was failed. Reexamination must be taken within one [1] year of the initial examination.

SECTION 5.0 APPEALS CRITERIA

- 5.1 An appeal may be lodged by an examinee to address an administrative issue (procedural or environmental) that may have an adverse impact on the examinee's ability to participate in the testing process in a fair and equitable manner. An appeal shall be directed initially to the examiner at the time of testing to provide the examiner with an opportunity to document and resolve the issue.
- 5.2 In the event that the examinee is not satisfied with the action of the examiner regarding an appeal, the examinee may pursue an appeal following the examination 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 690]
 4. Committee C 690, Concrete Quality Technical Manager Certification
 5. Certification Programs Committee
- 5.3 Appeals submitted to ACI for consideration must be received in writing within sixty [60] days of the receipt of the examination at ACI Headquarters. Appeals that are not first brought to the attention of the examiner during the exam session will not be considered.

SECTION 6.0 SPONSORING GROUP CRITERIA

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

SECTION 7.0 EXAMINER AND PROCTOR CRITERIA

- 7.1 The Examiner shall be authorized by ACI to conduct the ACI certification examinations for:
1. Associate Concrete Quality Technical Manager
 2. Concrete Quality Technical Manager
- 7.2 The Examiner shall be present and in full supervision during the examination session.
- 7.3 The Examiner shall be approved by ACI. Qualifications shall be submitted using a current ACI Examiner Application.
- 7.4 The Examiner shall meet the following requirements:
1. Be a registered professional engineer,
 2. Have had a minimum of 5 years of recent experience in the evaluation, investigation and application of concrete materials and concrete mix designs, and
 3. Be judged qualified by ACI.
- 7.5 Proctors shall be permitted to assist the Examiner in conducting the written examination.
- 7.6 Proctors shall be selected by the examiner by virtue of their being trustworthy, conscientious and having some knowledge of concrete materials and mix design.
- 7.7 Examiners and proctors shall not be related professionally and/or personally to the examinees.
- 7.8 The Examiner shall be directly responsible for the following:
1. Final approval of the proctors;
 2. Verify conformance to Sections 7.6 and 7.7 of this Policy;
 3. Order and receive examinations;
 4. Verify the identity of each examinee (government issued identification), and assure that the examinees are aware of the certification criteria;
 5. Return all written examinations (used and unused), and all other required session documentation to ACI Headquarters.
- 7.9 Examiners or proctors are not allowed to define terms or interpret examination questions during the written examination.
- 7.10 The examination session(s) must be supervised constantly by the Examiner, and/or proctor(s).

- 7.11 Approved Examiners, proctors and sponsoring groups shall not have any jurisdiction over the content of the examination(s), or over the grading of the written examination.

SECTION 8.0 ACI DUTIES AND RESPONSIBILITIES

- 8.1 ACI shall approve the sponsoring group.
- 8.2 ACI shall approve the examiner.
- 8.3 ACI shall authorize the sponsoring group to conduct examination sessions for:
1. Concrete Quality Technical Manager
 2. Associate Concrete Quality Technical Manager
- 8.4 ACI shall grade the written and practical examinations and notify the examinee and the examiner of the final results in writing.
- 8.5 ACI shall evaluate education and work experience and determine conformance with requirements of applicants as a Concrete Quality Technical Manager.
- 8.6 ACI certifies and authorizes the issuance of certificates of certification to examinees that have satisfied the certification requirements.
- 8.7 ACI shall issue a certificate and wallet card to successful examinees.
- 8.8 ACI shall participate in the appeal process as outlined in Section 5.0.

SECTION 9.0 RECERTIFICATION CRITERIA

- 9.1 Individuals who have been certified by ACI as either a Concrete Quality Technical Manager or Associate Concrete Quality Technical Manager are eligible for recertification using the methods prescribed in 9.2 A or B, except that individuals who have allowed their certification to lapse by more than 1 year, shall use the method prescribed in 9.2 A.
- 9.2 Recertification shall extend the ACI certification as Concrete Quality Technical Manager or Associate Concrete Quality Technical Manager for a period of five (5) years, beginning the date recertification requirements are completed.

Recertification can be obtained by one of the following methods:

- A. Successful passing of the then-current CQTM written and practical application exams.

OR

- B. By fulfilling the continuing education requirements as per Section 9.3.

- 9.3 Continuing Education: To maintain certification each CQTM or Associate CQTM must complete 40 Professional Development Hours (PDH) of concrete-related continuing education every 5 years. The CQTM or Associate CQTM is responsible for maintaining documentation of PDH activities and submitting the PDH summary form with the renewal form available through the Certification area of the ACI website. PDH activity may be subject to audit with documentation maintained for a period of 6 years. PDH programs may include e-learning, seminars, convention sessions, concrete or engineering-related college or university-sponsored courses and certification programs. See Appendix 2.0 for more information
- 9.4 ACI is the sole auditor in confirming these requirements have been met.

Note: A suggested list of approved courses will be provided by ACI's Certification department on an annual basis. Courses/Seminars will be considered for their approval based on their content's relevance to the areas of work experience/responsibility described in Sections 1.5 and 1.6.

APPENDIX 1.0 BODY OF KNOWLEDGE

The content of all CQTM examinations shall be derived directly from the material listed below:

- A. Tolerances (ACI 117/ASTM C94)
- B. Quality Assurance Systems for Concrete (ACI 121R) / ISO 90001:2000
- C. Concrete Durability (ACI 201.2R)
- D. Proportioning Normal, Heavyweight and Mass Concrete (ACI 211.1)
- E. Proportioning No-Slump Concrete (ACI 211.3R)
- F. Proportioning High-Strength Concrete HSC (ACI 211.4R)
- G. Submittal of Concrete Proportions (ACI 211.5R)
- H. Chemical Admixtures for Concrete (ACI 212.3R)
- I. Guide for Structural Lightweight Concrete (LWC) (ACI 213R)
- J. Guide for Obtaining Cores and Interpreting Compressive Strength Results (ACI 214.4R)
- K. Guide to Evaluation of Strength Tests (ACI 214)
- L. Guide for Use of Normal Weight and Heavy Weight Aggregates in Concrete (ACI 221R)
- M. Guide to the Selection and Use of Hydraulic Cements (ACI 225R)
- N. Controlled Low Strength Materials (CLSM) (ACI 229R)
- O. Use of Fly Ash in Concrete (ACI 232.2R)
- P. Slag Cement in Concrete and Mortar (ACI 233R)
- Q. Guide for the Use of Silica Fume in Concrete (ACI 234R)
- R. Self-Consolidating Concrete (ACI 237R)
- S. Specifications for Structural Concrete (ACI 301)
- T. Building Code Requirements (ACI 318) [*Chapter 1 through 6 and Chapter 21*]
- U. Guide to Pervious Concrete (ACI 522R)

APPENDIX 2.0 CONTINUING EDUCATIONAL ACTIVITIES

Professional Development Hours (PDH) means a contact hour of not less than 50 minutes of instruction or presentation which meets the requirements of this section.

Continuing educational activities may include.

1. Attending professional or technical concrete related presentations at meetings, conventions or conferences;
2. Attending in-house technical concrete related programs sponsored by corporations or other organizations;
3. Successfully completing concrete related seminars, tutorials, short courses, correspondence courses, televised courses or video-taped courses
4. Authoring published papers, articles or books;
5. Successfully completing concrete or engineering related college or university sponsored courses
6. Successfully completing concrete or engineering related courses which are awarded continuing educational units.
7. Approved Sources for PDH Programs include (in no particular order);
 - American Concrete Institute (ACI)
 - National Ready Mix Concrete Association (NRMCA)
 - Portland Cement Association (PCA)
 - Slag Cement Association (SCA)
 - Post Tension Institute (PTI)
 - American Concrete Pavement Association (ACPA)
 - American Society of Concrete Contractors (ASCC)
 - Expanded Shale, Clay and Slate Institute (ESCSI)
 - International Concrete Repair Institute (ICRI)
 - Concrete Reinforcing Steel Institute (CRSI)
 - National Precast Concrete Association (NPCA)
 - Precast/Prestressed Concrete Institute (PCI)
 - American Coal Ash Association (ACAA)
 - World of Concrete(WOC) - Classes and Seminars
 - Engineering Colleges and Universities

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