

# Concrete Technician Certification Program

FIELD TECHNICIANS

Initial Certification Requirements, Recertification  
Requirements and Application Procedures

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Bureau of Project Delivery Construction and Materials Division  
Construction Quality Assurance Section

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## I. BACKGROUND

This publication provides information concerning the minimum requirements needed to become a Certified Concrete Technician doing work for the Pennsylvania Department of Transportation, and the requirements to maintain the certification. These requirements are part of the Department's technician certification program developed to satisfy the requirements circulated in the Code of Federal Regulations, 23 CFR, Part 637, Quality Assurance (QA) Procedures for Construction, issued June 29, 1995. These Federal Regulations contained the following statement:

“After June 29, 2000, all sampling and testing data to be used in the acceptance decision or the independent assurance program will be executed by qualified sampling and testing personnel.”

In response to the Federal regulation, the Department began development of a concrete technician certification program. The program included two components:

- 1) American Concrete Institute (ACI) Concrete Field Testing Technician – Grade 1
- 2) PENNDOT Certified Concrete Field Testing Technician

This publication includes the minimum requirements for Technician-in-Training Certification, Initial Certification and Recertification and the application procedures for applicants requesting to become certified concrete technicians as follows:

PENNDOT Certified Concrete Field Technician-in-Training  
PENNDOT Certified Concrete Field Technician

For the Technician-in-Training category, the certification period will be for one (1) year from the date of approval by a DME/DMM or their representative.

The initial certification for a PENNDOT Certified Concrete Field Technician will be for approximately five (5) years and any subsequent recertification will continue the technician's certification for approximately an additional five (5) years.

The Northeast Center of Excellence for Pavement Technology (NECEPT), located at the Pennsylvania State University (PSU), is PennDOT's Administrator for the Concrete Technician Certification Program.

## II. PENNDOT CONCRETE FIELD TECHNICIAN-IN-TRAINING CERTIFICATION

### A. Technician-in-Training Certification Requirements

1. Applicant must have a minimum of 24 hours (3 full working days) of documented work experience on a PENNDOT project under the direct instruction and supervision of someone who is a PENNDOT Certified Concrete Field Technician. Experience must have been obtained within the last three months.
2. Applicant must have a signature from and the certification number (issued by PENNDOT) of the technician who directly instructed and supervised them for the minimum work experience required above.
3. Applicant must submit a completed PENNDOT Concrete Field Technician-in-Training Evaluation Form to the the District Materials Engineer/District Materials Manager (DME/DMM) for the for the District where the project is located.
4. The DME/DMM or their representative will evaluate the applicant. Upon satisfactorily completing the evaluation, the DME/DMM or their representative will sign the evaluation form and provide the applicant with the signed original.
5. The DME/DMM is to maintain a copy of the evaluations and forward a copy to:  
  
PENNDOT Certified Concrete Tech.-in-Training Administrator  
Bureau of Project Delivery  
Construction and Materials Division  
Construction Quality Assurance Section  
81 Lab Lane  
Harrisburg PA 17110-2543
6. The PENNDOT Certified Technician-in-Training Certification is valid for one (1) year from the date of issuance by the DME/DMM and will be acceptable in ALL Districts for that period.
7. Applicant must complete the Certification procedures in Section III as soon as courses are available and within a maximum maximum of one (1) year. Applicants who do not complete Certification procedures within one year will not be granted another Technician-in-Training, but will be subject to the initial certification requirements in Section III.

### B. Re-Certification Procedures

1. An individual may only receive Technician-in-Training status for the initial (1) year they were certified. The technician MUST then become a PENNDOT Certified Concrete Field Technician by following the Initial Certification procedures in Section III.

### III. PENNDOT CERTIFIED CONCRETE FIELD TECHNICIAN – INITIAL CERTIFICATION

#### A. Initial Certification Requirements

1. Applicant must have obtained status as a PENNDOT Certified Concrete Field Technician-in-Training, OR completed two (2) construction seasons working in concrete field or plant operations.
2. Applicant must successfully complete ACI's Concrete Field Testing Technician – Grade 1 Course
3. Applicant must successfully complete PENNDOT's Certified Concrete Field Testing Technician Course.

***Note: A Concrete Field Technician in Training may temporarily be assigned a Concrete Field Technician status until the next available PENNDOT Concrete Field Technician Course, if agreed to in writing by a DME/DMM.***

#### B. Initial Certification Application Procedures

1. Attend and successfully complete the ACI Concrete Field Testing Technician – Grade 1 Course.

ACI issues a wallet-sized card to the individual upon successful completion of the course. Acceptable proof of having completed the course is a photocopy of the applicant's current ACI Concrete Field Testing Technician – Grade 1 wallet-sized card.

**This requirement need only be completed once in the applicant's career provided their status as a Certified PENNDOT Concrete Field Technician continues uninterrupted.**

2. Upon successful completion of the ACI Concrete Field Testing Technician – Grade 1 Course requirement above, the applicant should apply to take the next available PENNDOT Certified Concrete Field Technician Course. The applicant must submit the required registration form along with a photocopy of their ACI wallet-sized card to register for the course.
3. Attend and successfully complete the PENNDOT Certified Concrete Field Testing Technician Course. The applicant may attend a maximum of two (2) PENNDOT Certified Concrete Technician courses per NECEPT training season.
4. The Department or its administrative representative will issue a wallet-sized card upon successful completion of the above requirements. This card will be valid for a period of approximately five (5) years, expiring April 30. For courses or retest exams held December through April, the card will remain valid for 5 years plus the remaining days to reach April 30. For courses or exams after April 30 through the end of the retest period, the card is valid for a period slightly less than 5 years to the April 30 date.

***Note: Should an individual allow their status as a PENNDOT Certified Concrete Field Technician to lapse, the Department will require them to retake and successfully complete a current ACI Concrete Field Testing Technician – Grade 1 course.***

## **IV. PENNDOT CERTIFIED CONCRETE FIELD TECHNICIAN - RE-CERTIFICATION**

### **A. Re-Certification Requirements**

1. Applicant must be a current PENNDOT Certified Concrete Field Technician.

### **B. Re-Certification Application Procedures**

1. Complete the Registration Form for Re-certification as a PENNDOT Certified Concrete Field Technician.
2. Attend and successfully complete the PENNDOT Certified Concrete Field Testing Technician Course. The applicant may attend a maximum of two (2) PENNDOT Certified Concrete Technician courses per NECEPT training season. See Sections V and VI for details on attending more than one (1) course per training season.
3. The Department or its administrative representative will issue a new wallet-sized card upon successful completion of the above requirements. This card will be valid for a period of approximately five (5) years, expiring April 30. For courses or retest exams held December through April, the card will remain valid for five (5) years plus the remaining days to reach April 30. For courses or exams after April 30 through the end of the retest period, the card is valid for a period slightly less than five (5) years to the April 30 date.
4. The wallet-sized card is valid up until the Expiration Date. If the applicant's certification is expired, the applicant must provide a current ACI Certification when registering for Re-certification.

## **V. EXAMINATION REVIEW**

An examination review process has been implemented for applicants who do not pass the examination for PENNDOT Certified Concrete Field Technician. Upon notification of exam results, applicants not passing may request the opportunity to review their performance on the test by contacting NECEPT's Director of Operations by mail or telephone (814-865-1320) to make an appointment. It is generally necessary for the applicant to travel to the NECEPT office at the Pennsylvania Transportation Institute located in the Research Office Building on the Penn State University campus in State College for the review. There is a fee per reviewer for each review appointment, with the fee amount and method of payment indicated on the current registration form.

Appointments may be scheduled to take place within regular business hours (8:00 a.m. to 5:00 p.m. Monday through Friday) when a NECEPT representative is expected to be available to answer questions that may arise, although applicants will conduct the reviews mostly on their own. A room is reserved at PTI for the applicant's use, typically for 3 to 4 hours, although longer appointments may sometimes be arranged if needed. Applicants are provided with their answer sheets and a copy of each of the corresponding examination form(s) showing the correct answers, then left alone to go through the exam and determine what are the strong and weak areas of understanding. It is recommended that the applicant bring the books, manuals and handouts received during the review course to aid in reviewing the applicant's examination. Supervisors or other experienced co-workers may accompany applicants as desired at no additional charge to enhance learning. Applicants may take notes, but may not keep or copy the examination form(s) or answer sheet(s).

## **VI. RETEST**

Applicants may retest once without success for PENNDOT Certified Concrete Field Technician before they are required to repeat the review and certification course. There are two ways to retest. Applicants may register to take a retest along with the regularly scheduled certification examination during any scheduled PENNDOT Certified Concrete Field Technician class, as long as there is sufficient space available in the classroom to accommodate them. The alternative is to wait until the end of the current PENNDOT Certified Concrete Technician course program. After all of the participants have had time to receive their test results, an applicant may register for a retest. A fee will be charged for any retest with the fee amount and method of payment indicated on the current registration form. Applicants registering for a retest cannot take the retest sooner than 30 days from the original test date and must complete the retest within 120 days of the original test date. The applicant may attend a maximum of two (2) PENNDOT Certified Concrete Technician courses and take a maximum of one (1) retest per NECEPT training season.

After the completed registration form and payment are received, NECEPT will send confirmation to the applicant with the Instructor's contact information. It is the applicant's responsibility to contact the Instructor to schedule the retest. There will be no refunds for applicants failing to contact the Instructor within 120 days of the original test date.

## VII. PERFORMANCE REVIEW PROCESS

### A. Purpose and Makeup

The performance review process evaluates the performance of PENNDOT Certified Concrete Field Technicians to determine if their substandard performance or intentional misrepresentation requires any action to be taken against their current certification status. The review of a certified Concrete technician's substandard performance or intentional misrepresentation will be conducted by the Concrete Technician Certification Board (CTCB). The CTCB is composed of the representation shown in Table 1.

<b>Organization</b>	<b>Number of Representatives</b>
PENNDOT-Bureau of Project Delivery	1
Pennsylvania Aggregates and Concrete Association (PACA)	1
Administrator of Certification Program for PENNDOT (currently NECEPT)	1

Representatives to the CTCB will be identified by their organization through a scheduled meeting of the Concrete Paving Quality Improvement Task Force (CPQITF) or other official means. Each representative will serve for a three-year term. Representatives may serve on the CTCB for an unlimited number of consecutive terms.

In general, the review process will rely on written documentation of a PENNDOT Certified Concrete Field Technician not following practices identified in the Certification Course or intentionally misrepresenting quality of the work. The written documentation should only be provided to the CTCB after the PENNDOT Certified Concrete Field Technician has been verbally notified that they are not following practices identified in the Certification Course or that they have intentionally misrepresented quality of the work. The CTCB will review the written documentation and allow for an interview prior to making a determination on the certification status of the PENNDOT Certified Concrete Field Technician.

### B. Procedure

#### 1. PENNDOT Certified Concrete Field Technician Not Following Practices, Procedures and Specifications

The official procedure when a PENNDOT Certified Concrete Field Technician is not following, or has not followed, practices identified as acceptable PENNDOT practices, procedures and specifications, is as follows:



- a. A PENNDOT, Consultant, Industry or other Certified PENNDOT Concrete Field Technician, hereafter referred to as the Observer, observes another PENNDOT Certified Concrete Field Technician, hereafter referred to as the technician, not following a practice or practices identified in the Certification Course. Immediately, the Observer is to verbally notify the technician that they are not following a practice or practices identified in the Certification Course. The Observer must record the verbal notification, including the time, date, location, technician's name and company or organization, and the specific practice or practices not being followed.
- b. If a second occurrence is observed where the same technician is not following a practice or practices identified in the Certification Course, immediately, the Observer is to again verbally notify the technician that they are not following a practice or practices identified in the Certification Course. In addition, the Observer must notify the technician's supervisor, by verbal or written communication, that the technician is not following a practice or practices identified in the Certification Course and that the technician has been verbally notified for two occurrences. The Observer is to record the second occurrence and the notifications given to the technician and the technician's supervisor as detailed in VII.B.1.a. above. In addition, the Observer is to record the name of the technician's supervisor, the date, and the time (if verbal notification was given) that the supervisor was contacted.
- c. If a third occurrence is observed where the same technician is not following a practice or practices identified in the Certification Course, immediately, the Observer is to again verbally notify the technician that they are not following a practice or practices identified in the Certification Course. In addition, the Observer is to officially document the entire situation. The official documentation should provide as much detail as possible, providing as a minimum, the full name and certification number of the Observer, the S.R., Section, Contract Number, Plant Name and Location, the full name and certification number of the technician, and the full name of the technician's supervisor. The Observer is to provide copies of all previously recorded verbal or written notifications and a detailed account of the entire situation. Only one document will be accepted by the CTCB per situation and, for this reason, it is important to include all pertinent information in this documentation. Pending action by the CTCB, the technician will be temporarily suspended.
- d. Upon the third occurrence of the same technician not following a practice or practices identified in the Certification Course, the technician will be removed from the project or plant, may be restricted in the work they can do, or may be temporarily suspended until the situation is reviewed by the CTCB. If temporarily suspended, the technician must immediately forfeit their valid wallet-sized certification card to the DME/DMM or appropriate Department personnel. The DME/DMM or appropriate Department personnel will hold the confiscated wallet-sized certification card. The temporary suspension will restrict the technician from doing any technician work, including materials testing or materials certification, on Department construction or maintenance projects or any projects using liquid fuels tax monies.

- e. The Observer is to provide one photocopy of the documentation to the technician and retain one photocopy in their project or plant office files. The Observer is to submit the original copy of the documentation to the Chairperson of the Concrete Technician Certification Board at the address below:

Chairperson, Concrete Technician Certification Board  
PA Department of Transportation  
Bureau of Project Delivery  
Construction and Materials Division  
81 Lab Lane  
Harrisburg PA 17110-2543

Submit documentation within 14 calendar days of the date of the third occurrence. Documentation not received by the Bureau of Project Delivery within 21 calendar days of the third occurrence will be void.

- f. The technician will be afforded the opportunity to submit a written appeal to the Chairperson of the CTCB at the address indicated in VII.B.1.e. and the opportunity to appear before the CTCB. The technician is to provide one photocopy of the appeal to the Observer and to retain one photocopy for their project files. Only one written appeal will be accepted by the CTCB per situation and, for this reason, it is important to include all pertinent information in the written appeal. Submit written appeals to the Chairperson of the CTCB within 35 calendar days of the documented third occurrence. Appeals received more than 40 calendar days after the third occurrence will be void.
- g. The documentation and written appeal (if provided) will be logged by the Bureau of Project Delivery and then forwarded to the chairperson of the CTCB for action.
- h. The chairperson of the CTCB will review the documentation and the appeal (if provided) with the other members of the CTCB. The CTCB will provide a written response to the Bureau of Project Delivery within 21 calendar days from the date the documentation was sent to the CTCB. The written response will provide the action that is to be taken concerning the situation. The written response of the CTCB will be final and will be logged and filed by the Bureau of Project Delivery. Possible actions of the CTCB will include but are not limited to: CTCB written warning; CTCB written reprimand; CTCB certification suspension (1, 2, or 3 months); CTCB rescindment of certification. CTCB suspension or rescindment of certification will require the technician to forfeit their wallet-sized certification card to the CTCB.
- i. The Bureau of Project Delivery will immediately forward the CTCB's written response concerning certification status to the technician.

**2. PENNDOT Certified Concrete Field Technician Involved in Deceptive, Questionable or Unethical Activities.**

- a. A PennDOT, Consultant, Industry or other PENNDOT Certified Concrete Field Technician, hereafter referred to as the Observer, observes or becomes aware of an action of another PENNDOT Certified Concrete Field Technician, hereafter referred to as the technician, which may be an attempt to mislead or deceive others about the quality of the materials, about materials testing, or about test results or, an action which may be questionable or unethical. Immediately, the Observer is to report the incident to the appropriate DME/DMM, or other appropriate Department personnel. The Observer and the DME/DMM, or other appropriate Department personnel, are to immediately contact any member of the CTCB. Initial contacts and information concerning these actions will be kept strictly confidential.
- b. The DME/DMM, or other appropriate Department personnel, will coordinate with the CTCB to institute an investigation of the action. The investigation will determine whether or not the deceptive, questionable, or unethical action was willful. The investigation will be documented to support the final determination.
- c. With support from the CTCB member initially contacted, and before the investigation is completed, the technician and the technician's supervisor or employer will be verbally notified immediately by the DME/DMM, or other appropriate Department personnel, that the technician will be restricted in the work they can do and will be temporarily suspended, until the investigation is completed and reviewed by the CTCB. If temporarily suspended, the technician must immediately forfeit their valid wallet-sized certification card to the DME/DMM or appropriate Department personnel. The DME/DMM, or appropriate Department personnel, will hold the confiscated wallet-sized certification card pending the investigation by the CTCB. Temporary suspension will restrict the technician from doing any technician work, including materials testing or materials certification, on Department construction or maintenance projects or any projects using liquid fuels tax monies.
- d. The DME/DMM, or other appropriate Department personnel, with coordination from the CTCB, will complete the investigation and officially document the entire incident and subsequent investigation. The documentation should provide as much detail as possible and be similar to the documentation required in VII.B.1.c. above. The DME/DMM or appropriate Department personnel will provide copies and submit the documentation as instructed in VII.B.1.e. above and within 21 calendar days of the verbal notification described in VII.B.2.c.
- e. The technician will be afforded the opportunity to submit a written appeal and request an interview with the CTCB. Provide copies and submit written appeals as instructed in VII.B.1.f. and within 35 calendar days from the date of the verbal notification described in VII.B.2.c. Appeals received more than 40 calendar days after the verbal notification described in VII.B.2.c. will be void.
- f. The documentation and appeal (if provided) will be considered by the CTCB as described in VII.B.1.g. to VII.B.1.i. above.

## VIII. PENNDOT CERTIFIED CONCRETE TECHNICIAN CODE OF ETHICS.

The Concrete Technician Certification Board (CTCB) has found that the following rules are necessary to establish and maintain the high standard of integrity and dignity in the Concrete Technician profession and are to protect the public against unprofessional conduct on the part of the Concrete Technician. PENNDOT Certified Concrete Field Technicians are put on notice that an ethical violation by themselves or by an individual rendering or offering to render Concrete Technician services under their supervision, as provided by this Publication, may result in disciplinary procedures against them in accordance with Section VII.B.2.

**A. Principle 1. Beneficence/autonomy.** A PENNDOT Certified Concrete Field Technician will demonstrate a concern for the welfare and dignity of the recipients of the services, including Department personnel.

1. A PENNDOT Certified Concrete Field Technician will provide services without discriminating on the basis of race, creed, national origin, sex, age, handicap, disease, social status, financial status, or religious affiliation.
2. A PENNDOT Certified Concrete Field Technician will act for the client or employer in professional matters as a faithful agent or trustee, and will not accept a direct fee for services rendered as a certified Concrete technician from other than the technician's employer.
3. A PENNDOT Certified Concrete Field Technician will not attempt to injure falsely or maliciously, directly or indirectly, the professional reputation, prospects, or business of anyone.
4. A PENNDOT Certified Concrete Field Technician will not attempt to supplant another Concrete technician after definite steps have been taken toward that technician's employment.
5. A PENNDOT Certified Concrete Field Technician will not compete with another Concrete technician for employment by the use of unethical practices.
6. A PENNDOT Certified Concrete Field Technician will not review the work of another Concrete technician for the same client, except with the knowledge of such Concrete technician, or unless the connection of such Concrete technician with the work has terminated.
7. A PENNDOT Certified Concrete Field Technician will not attempt to obtain or render technical services or assistance without fair and just compensation commensurate with the services rendered: Provided, however, the donation of such services to a civic, charitable, religious, or eleemosynary organization will not be deemed a violation.
8. A PENNDOT Certified Concrete Field Technician will not advertise in selfpraising language, or in any other manner, derogatory to the dignity of the profession.
9. A PENNDOT Certified Concrete Field Technician will not create or participate in a threatening, intimidating, or hostile environment toward any recipients of services, including Department Representatives.

**B. Principle 2. Competence.** A PENNDOT Certified Concrete Field Technician will maintain high standards of professional competence.

1. A PENNDOT Certified Concrete Field Technician will not attempt to practice in work in which the Concrete Technician is not proficient or practice in work outside the standards of the profession.
2. A PENNDOT Certified Concrete Field Technician will consult with other service providers when additional knowledge and expertise is required.
3. A PENNDOT Certified Concrete Field Technician will accurately record and report information related to Concrete Technician services provided to the Department.
4. A PENNDOT Certified Concrete Field Technician will require those whom the Technician supervises in the provision of Concrete Technician services to adhere to this Code of Ethics.

**C. Principle 3. Public Information.** A PENNDOT Certified Concrete Field Technician will provide accurate information about Concrete Technician services.

1. A PENNDOT Certified Concrete Field Technician will accurately represent their competence and training.
2. A PENNDOT Certified Concrete Field Technician will not use or participate in the use of a form of communication that contains a false, misleading, or deceptive statement or claim.
3. A PENNDOT Certified Concrete Field Technician will not use or permit the use of their signature on work over which the technician was not in responsible charge.

**D. Principle 4. Professional Relationships.** A PENNDOT Certified Concrete Field Technician will function with discretion and integrity in relations with colleagues and other professionals.

1. A PENNDOT Certified Concrete Field Technician will report illegal, incompetent or unethical practice by colleagues or other professionals to the appropriate authority.
2. A PENNDOT Certified Concrete Field Technician who employs or supervises colleagues will provide appropriate supervision as necessary to provide Concrete Technician services in conformance with this Code of Ethics.

# CONCRETE FIELD TECHNICIAN-IN-TRAINING EVALUATION

**A APPLICANT INFORMATION**

First Name:	Middle Initial/Name:	Last Name:
Mailing Address:		Daytime Phone:
City:	State:	Zip Code:
Employer Name:		Job Title:

A certified PENNDOT Technician must provide the above named applicant with (3) days of training prior to evaluation by DME/DMM or their representative

Certified PENNDOT Technician Signature: \_\_\_\_\_

Certified PENNDOT Technician No.: \_\_\_\_\_ Date: \_\_\_\_\_

**B APPLICANT EXPERIENCE / INSTRUCTION TO BE A CONCRETE FIELD TECHNICIAN IN TRAINING**

To become a Technician-in-Training, the individual must be able to demonstrate the ability to perform the following:

- 1. Sampling Fresh Concrete - PTM 601 & AASHTO R 60  Y  N
- 2. Test for Material Temperature - ASTM C1064 - AASHTO T309  Y  N
- 3. Test for Slump of Fresh Concrete - AASHTO T119  Y  N
- 4. Test for Air Content of Fresh Concrete (Pressure Method) - AASHTO T152  Y  N
- 5. Molding of cylinder specimens - PTM 611  Y  N
- 6. Calibrating an air meter using manufacturer's methods & AASHTO T152  Y  N
- 7. Calculate a water/cement ratio for a specific truck load  Y  N
- 8. Demonstrate a knowledge of Pub. 408, Section 704 slump specification requirements  Y  N

In addition, to the above (8) areas, if the technician is expected to work on a project using lightweight concrete or concrete with slag aggregates, they should also be able to perform the following:

- 9. Test for Air Content of Fresh Concrete (Volumetric Method, Roll-a-meter) - AASHTO T196  Y  N
- 10. Unit Weight, Yield & Gravimetric Air Content - AASHTO T121  Y  N

Remarks:

**C D.M.E./D.M.M./or their Rep. Signature: \_\_\_\_\_**

Name (Print):	District:	Date:
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