



ACI Certification

Concrete Flatwork Technician
& Flatwork Finisher

Craftsman Workbook
Publication CP-10(10)



American Concrete Institute®

PROGRAM INFORMATION

INTRODUCTION

Achieving certification from the American Concrete Institute as a Concrete Flatwork Finisher involves meeting the following requirements:

- One year (1500 hours) of work experience in finishing concrete flatwork
- A passing grade on the written examination
- Successful completion of a performance evaluation consisting of either:
 - a) A performance examination, or
 - b) An alternative evaluation based on signed forms verifying abilities and additional work experience

In addition, ACI offers technician certification for individuals who pass the written examination but have not satisfied the performance evaluation requirement nor possess the necessary work experience to be granted Finisher certification. An individual who meets this criteria will be granted certification as a Concrete Flatwork Technician.

Both the written examination and performance examination are derived from Slabs on Grade, ACI publication CCS-1. The examinations require a knowledge of concrete construction, including:

1. Basic concrete technology
2. Concrete materials and mix proportioning
3. Concrete control tests
4. Proper use of placing and finishing tools
5. Placing, finishing, and jointing
6. Curing and protection

The written examination is closed book and consists of approximately 50 true-false and/or multiple-choice questions; the passing grade is 70%.

The performance evaluation requires that you demonstrate a variety of basic finishing skills and knowledge of proper procedures. An Examiner will use the Performance Checklist to evaluate your performance.

If you have enough experience, you may qualify to have the performance evaluation requirement waived. This involves proving that you have an additional two years (3000 hours, for a total of 4500 hours) of applicable work experience and are able to correctly perform all procedures covered by the performance evaluation.

The optional Training Course provides basic information on concrete technology and construction practices for concrete flatwork. It is well suited as preparation for the examinations; however, the Local

Sponsoring Group is not required to conduct the training course in order to offer the ACI examinations. See Figure 1.

The Local Sponsoring Group is responsible for planning and promoting the program locally and for conducting the examination sessions and training course. It arranges for facilities, material, equipment, and personnel. Because the Local Sponsoring Group pays all bills, it also establishes and collects all fees.

ACI is responsible for approving the Local Sponsoring Group and the personnel involved in the program. ACI also provides the examinations and resource materials, grades the examinations, and grants certification to successful applicants.

WHAT ACI CERTIFICATION MEANS

As the building industry continues to upgrade its standards, it is clear that craftsmen with proven credentials will have an advantage. There will likely be more and better opportunities for advancement and increased earnings in the competitive working world.

Because ACI certification demonstrates that you have the ability to pass the ACI examinations, current and future employers may consider you to be more valuable than a non-certified craftsman. ACI-certified craftsmen are able to represent themselves as skilled professionals in the concrete field. Simply pursuing ACI certification is a sign that you are the kind of employee who cares about the quality of your work.

ACI certification also has value for the future. As certification requirements become more widespread, you will find it more and more important to be certified. In addition, certification programs for construction supervisors may be offered in the future. It will be easier to attain certification at that level if you are already certified by ACI as a Concrete Flatwork Finisher.

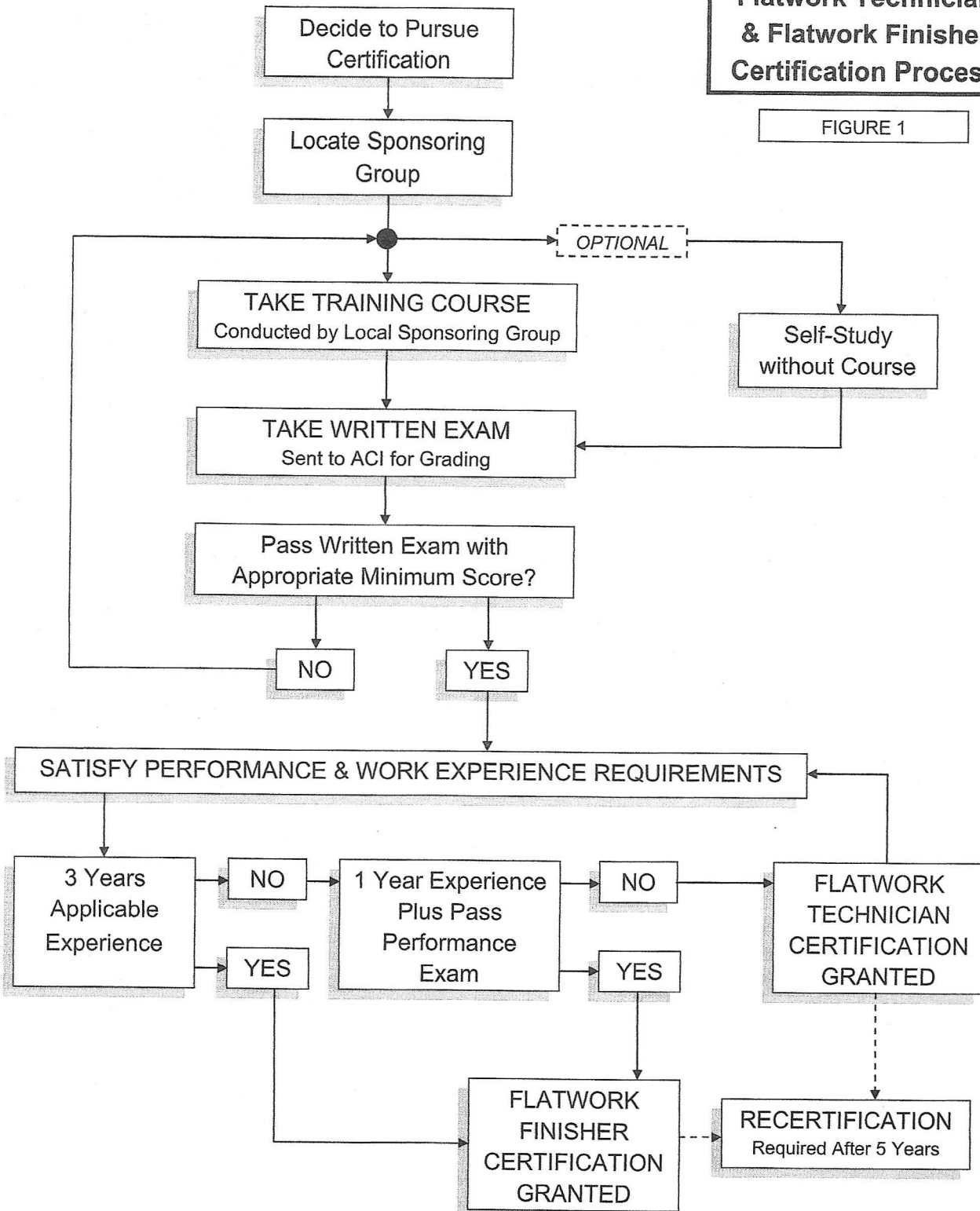
Being certified by ACI means being recognized by an independent organization of experts in the concrete field. ACI standards for design and construction are recognized and followed around the world, and ACI certification of the people working in the concrete field has the same wide recognition. This makes it one of the best ways of advancing your career in concrete construction.

DEFINITIONS

ACI — The American Concrete Institute (P.O. Box 9094, Farmington Hills, Michigan, 48333), which developed and published the instructional materials and examinations used in this program, and which certifies individuals who satisfy all requirements of the

**ACI Concrete
Flatwork Technician
& Flatwork Finisher
Certification Process**

FIGURE 1



ACI Certification Program.

ACI Certification Department — The department within ACI that manages the certification programs and related training courses.

PCA — The Portland Cement Association (5420 Old Orchard Road, Skokie, Illinois 60077), which co-produced the video training *Finishing Concrete Flatwork* used in this program.

ASTM — The American Society for Testing and Materials (100 Barr Harbor Dr., W. Conshocken, Pennsylvania 19428), which developed and published several of the technical standards referenced in this program.

Concrete Construction Publications, Inc. — (World of Concrete Center, Addison, Illinois 60101) Publishers of *Guide to Finishing and Related Problems* by J.C. "Skip" Yeager, one of the resource materials used in the Training Course.

Local Sponsoring Group — The local organization (such as an ACI chapter, trade association, public agency or private company in the construction industry) which takes responsibility for conducting the certification examinations in its locality and, as a recommended option, for conducting a training course.

ACI Certification — A formal recognition, valid for five years, which shows that a person has satisfactorily completed the prescribed written examination (Technician), performance evaluation, and applicable work experience requirements (Finisher).

Recertification — A process, undertaken every five years after original certification, by which an ACI Concrete Flatwork Finisher or Technician renews certification by satisfying then-current certification requirements.

ACI Concrete Flatwork Finisher — A person who has demonstrated proficiency in and an understanding of proper procedures and techniques for placing, finishing, jointing, curing, and protection of concrete flatwork by passing the ACI written examination and by meeting the performance evaluation and work experience requirements.

ACI Concrete Flatwork Technician — A person who has an understanding of proper procedures and techniques for placing, finishing, jointing, curing, and protection of concrete flatwork by passing the ACI written examination.

Instructor — A person who is technically expert in the field of concrete construction and conducts the training course locally.

Examiner — A person knowledgeable in concrete finishing who is approved by ACI and authorized to evaluate the qualifications of applicants and conduct the examinations locally.

Supplemental Examiner — A person knowledgeable in concrete finishing who is chosen by the Examiner to assist in conducting the performance evaluation.

Proctor — A person who is chosen by the Examiner to assist in conducting the written examination.

Trainee — A person who is enrolled in a training course in preparation for the ACI examination(s).

Applicant — A person who has submitted work experience information and intends to become an examinee.

Examinee — A person who is participating in the ACI certification examination(s).

Respondent — A person, usually a present or former employer of an applicant, who verifies information concerning work experience submitted by the applicant.

QUALIFICATIONS OF TRAINEES/ EXAMINEES

Flatwork Finisher

ACI will grant certification as a Concrete Flatwork Finisher only to those applicants who meet one of the following criteria:

CRITERIA A

1. One year (1500 hours) of verified work experience in finishing concrete flatwork including experience in placement, consolidation, finishing, jointing, curing, and protection of concrete flatwork
2. A passing grade on the ACI written examination
3. Successful completion of the ACI performance evaluation

CRITERIA B

1. Three years (4500 hours) of verified work experience in finishing concrete flatwork including experience in placement, consolidation, finishing, jointing, curing, and protection of concrete flatwork
2. A passing grade on the ACI written examination
3. Successful completion of the Work Experience Form for Flatwork or the Client Affidavit for Flatwork Finisher

The ACI Concrete Flatwork Finisher certification program has no specified education prerequisites but does have work experience prerequisites. Satisfying the work experience requirements for ACI certification involves getting present and/or past employers to verify your work experience described on the Work Experience Form for Flatwork Finisher.

If you fail the written examination, you will not be certified, even if you have passed the performance evaluation and have the proper work experience. Likewise, if you fail the performance examination,

pass the written examination and have the proper work experience, certification will not be granted. In either case, the failed examination (either written or performance) must be retaken at a later date and passed in order to receive certification. Furthermore, both the written and performance examinations must be passed within one year of each other in order for certification to be granted.

Flatwork Technician

ACI will grant certification as a Concrete Flatwork Technician to those applicants who pass the written examination but do not satisfy the performance evaluation requirement nor possess the necessary work experience to be granted Flatwork Finisher certification. If you have been certified as an ACI Flatwork Technician, you can automatically qualify for Flatwork Finisher certification by submitting evidence of sufficient work experience and successfully completing the ACI performance evaluation.

RESPONSIBILITIES OF TRAINEES/ EXAMINEES

For either certification you have the responsibility for following this procedure:

1. Locate a Local Sponsoring Group and sign up to take the exam.
2. Complete the appropriate forms and submit them to ACI for evaluation:
 - a) Work Experience Form for Flatwork Finisher
 - b) Client Affidavit for Flatwork Finisher
3. Obtain from the Local Sponsoring Group or ACI a copy of the Craftsman Workbook (CP-10).
4. Take the optional training course (if offered) or establish a course of self-study.
5. Appear for the written examination and performance evaluation (if required).
6. If applicable, bring personal finishing tools and equipment (see the Performance Checklist in Section 5) to the demonstration/practice session and performance evaluation.
7. Arrange with the local Examiner for re-examination, if desired, in the case of failure in the examinations.
8. Seek re-examination after five years if recertification is desired.

QUALIFICATIONS OF RESPONDENTS

In order to prove that you have met work experience requirements, one or more respondents are needed to verify the information that you give on the Work Experience Form for Flatwork Finisher. The person who is best suited to be a respondent is the owner or chief executive officer from a company where you have been employed in concrete finishing-related work. Also acceptable in verifying the minimum experience requirement are other co-employees, such as supervisors, providing they have a direct knowledge of your work history during the time period in question.

More strict requirements apply to respondents verifying performance abilities and additional experience for waiver of the performance evaluation requirement (see page 7). In order for a Work Experience Form for Flatwork Finisher and/or a Client Affidavit for Flatwork Finisher to be considered a satisfactory substitute for taking the performance evaluation, the respondent(s) must:

1. Be the equivalent of a Project Superintendent, Project Engineer, or higher (i.e. company owner or executive officer)
2. Have had recent experience in concrete construction (especially placing, finishing, and curing concrete flatwork)
3. Be adjudged qualified by the Examiner and/or ACI

EDUCATIONAL MATERIALS

This *Craftsman Workbook* contains all the materials you will need to prepare for the examinations. Section One of this workbook describes the program and its policies and procedures. Sections Two through Eight contain technical material taken from the required course text, *Slabs on Grade* (ACI Publication CCS-1). These sections also contain study questions for the written examination and the performance evaluation (Sections 5, 6, and 7 only).

In addition to the required course text, *Slabs on Grade*, this Workbook includes two other publications which are recommended but not required, and are used in the training course. They are:

- *Concrete Primer* (ACI Publication SP-1, found in Appendix A)
- *Guide to Finishing and Related Problems* (by J.C. "Skip" Yeager, Concrete Construction Publications, Inc., Addison, IL)

In addition to this Craftsman Workbook (CP-10), the ACI/PCA video training tape *Finishing Concrete Flatwork* (CP-8) is used in the training course.

WRITTEN EXAMINATION

The written examination consists of approximately fifty (50) multiple-choice and/or true-false questions. The passing grade is 70%. The examination is closed-book; you may not have access to any publication or notes during the examination. All examinees are expected to finish the examination within two (2) hours.

In the written examination, you are expected to demonstrate a basic knowledge of concrete flatwork construction, including:

1. Basic concrete technology
2. Concrete materials and mix proportioning
3. Concrete control tests
4. Proper use of placing and finishing tools
5. Placing, finishing, and jointing
6. Curing and protection

The primary resource for the written examination is *Slabs on Grade* (ACI Publication CCS-1). All material in *Slabs on Grade* is subject to testing on the examination. The supplemental resources for the written examination are the *Concrete Primer* (ACI Publication SP-1) and *Guide to Finishing and Related Problems* (Concrete Construction Publications, Inc.). These supplemental resources are not covered directly on the written examination, but it will be helpful to know this material.

A number of versions of the examination, all of equal difficulty, have been compiled from a large collection of questions and answers submitted by members of the Craftsman Certification Committee. In local areas where the examinations are offered periodically, ACI will provide a different version each time. This ensures that no examinee benefits unfairly by acquiring answers from a previous examination.

THE EXAMINATION MAY BE GIVEN TO YOU ORALLY IF NECESSARY. All requests for oral examinations must be made directly to the Examiner. The Examiner will then decide when and how to arrange the examination.

PERFORMANCE EVALUATION

The performance evaluation should take about 8 hours to complete. During the evaluation, you will be expected to place, finish, edge, joint, and begin curing a concrete slab. The evaluation is based on the material found in *Slabs on Grade* (ACI Publication CCS-1). The Examiner or Supplemental Examiner will observe and evaluate the techniques used. Using the Performance Checklist provided by ACI, the Examiner will record passing or failing grades in the various individual parts of the evaluation. A passing grade is defined as:

“no significant variation from proper procedure and no more than two (2) variations from proper technique in the execution of the listed finishing operations”

You should become familiar with the content of the Performance Evaluation Checklists as you study the resource material in this *Workbook*.

Each part of the performance evaluation must be successfully completed according to the above criteria. If you fail a part of the performance evaluation on the first trial, you must leave the area. However, you may redemonstrate those procedures after all other examinees have had their turn. If you fail a second trial, you may arrange with the Examiner to take the performance evaluation on another day.

The performance evaluation is physically demanding. If you feel you are risking personal injury in performing, or unable to perform the procedures in the performance evaluation due to diminished physical capacity or physical disability, inform the Local Sponsoring Group in advance of the evaluation date so alternative arrangements may be considered.

Work Experience Form for Flatwork (a possible alternative to taking the performance examination)

You may not have to take the performance examination if it can be shown that you have met additional work experience requirements and equivalent work performance requirements. These requirements are as follows:

1. Two additional years (3000 hours) of experience in concrete flatwork finishing [3 years (4500 hours) total] including experience in placement, consolidation, finishing, jointing, curing, and protection of concrete flatwork
2. Proven abilities that are equivalent to those listed in the Performance Evaluation Checklists

The Work Experience Form for Flatwork Finisher is used to prove the amount and level of your work experience as well as your work performance abilities.

APPEALS

All ACI certification policies, procedures, requirements and examination materials have been developed through the voluntary consensus process and then carefully reviewed for accuracy and fairness. However, an appeal process is available to you if you have a complaint. If a complaint is found to be valid, ACI will adjust the grade(s) accordingly.

If you think that a question is unclear or unfair, you

should describe the complaint on the Challenge Form included with the examinations packet and hand it in with the completed answer sheet. A written appeal will be considered if it is received within sixty (60) days of receipt of the examination at ACI Headquarters.

The first level of appeal rests with the Examiner. As the local representative of ACI, the Examiner may be able to satisfy your question.

If you still have a complaint after talking with the Examiner, appeals are handled in order by the following people or groups:

1. Local Sponsoring Group
2. Director of Certification
3. Certification Appeal Committee
4. Craftsman Certification Committee (C640)
5. Certification Programs Committee

Note: Members of the Certification Appeal Committee include the Director of Certification, the Chair of the Certification Programs Committee, and the Chair of Committee C640.

Neither the Examiner nor the Local Sponsoring Group have any control over the content or grading of the written examination. The Examiner may give general instructions, but is not allowed to explain the meaning of any examination question.

COMPLETING THE WORK EXPERIENCE FORM FOR FLATWORK

In order to be approved as an ACI Concrete Flatwork Finisher, you will need to complete the Work Experience Form for Flatwork. Approval of this form will exempt the applicant from the performance examination requirement.

To complete the form, start by obtaining a copy of the Work Experience Form for Flatwork from the Examiner or download the form from http://www.concrete.org/Certification/cert_workforms.htm.

Typical work histories are often a succession of different jobs, each covering different time periods and different employers. Because of this, it is possible that more than one past employer's reference will be necessary to verify overall work experience. If so, each time period corresponding to a particular job or work situation must be identified on a separate Work Experience Form.

In most cases, the Local Sponsoring Group needs to have the forms in hand as soon as possible for

registration and planning. Your application cannot be fully considered until all Forms are complete.

The documentation must be provided exactly as requested on the form.

The Examiner, appointed by the Local Sponsoring Group, is responsible for examining the information on the form and determining if the requirements are met. After the Examiner has reviewed the forms, you will be informed of your status. Those who meet the minimum experience requirements will be informed of when and where to take the performance evaluation. Those who meet the additional experience requirements will have the performance evaluation requirement waived. If you are seeking Flatwork Technician Certification, you may take the written examination without submitting Work Experience Form.

If you apply for a waiver of the performance evaluation requirement:

- The procedure for showing that the *additional* work experience requirement is met is the same as the procedure for showing that the *minimum* work experience requirement is met. You will simply need to show that you have at least three years of experience instead of one.
- The procedure for establishing that the work performance requirement is met involves having a qualified respondent (or respondents) complete Client Affidavit for Flatwork Finisher as if they were each an Examiner evaluating your skills.

If you have shown satisfactory abilities in all Parts of the evaluation while in one job, and one respondent can verify all of these abilities, then only one completed Client Affidavit Form will be required. In all other cases, more than one Client Affidavit Form must be completed.

NOTE: You have the responsibility for providing the respondent(s) with the necessary Forms. It is also recommended that you provide copies of the instructions along with the sample completed forms.

If you require additional help in completing the application and submitting the necessary documentation, contact your Local Sponsoring Group. You may also contact the ACI Certification Department at (248) 848-3790.