ASSE 5110 Candidate Handbook

Backflow Prevention Assembly Tester Certification

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TABLE OF CONTENTS

Introduction **1**
- About ASSE International
- Program Oversight
- Program Purpose and Scope
- Understanding Professional Certification
- Commitment to Fairness and Impartiality

Eligibility and Application Process **3**
- Eligibility Requirements
- Application Requirements
- Statement of Understanding
- Verification of Applications
- Scheduling an Examination

Exam Preparation **5**
- Examination Development
- Examination Overview

Examination Administration **8**
- Examination Day
- Examination Rules
- Written Examination
- Practical Examination

Results and Certification Decisions **11**
- Examination Results
- Re-examination Policy

Professional Ethics and Conduct **12**
- ASSE Code of Conduct
- Complaints Process
- Appeals Process

Recertification and Continued Compliance **16**
- Recertification Requirements
- Expiration Policy
- Audit and Verification

Certification Program Policies **18**
- ADA Accommodations
- Confidentiality
- Certification Verification
- Nondiscrimination

Introduction

This handbook provides candidates with the information needed to understand the ASSE 5110 certification program, including eligibility, application, examination, certification, and policies. The ASSE 5110 certification validates competency in testing backflow prevention assemblies to protect public health.

About ASSE International

ASSE International develops and maintains standards and certification programs to protect public health and safety within the plumbing and mechanical industries.

Program Oversight

The ASSE 5110 certification program is administered by ASSE International with technical oversight from industry subject matter experts. These experts help ensure that certification requirements, examination content, and program policies remain current, technically accurate, and aligned with industry practices. The program is managed in accordance with established policies designed to maintain fairness, consistency, and the integrity of the certification process.

Program Purpose and Scope

The ASSE 5110 Backflow Prevention Assembly Tester Certification Program is designed to assess and validate the competence of individuals who perform field testing, inspection, evaluation, documentation, and reporting of backflow prevention assemblies installed within water systems. The certification provides assurance to regulatory authorities, employers, water purveyors, and the public that a certificant possesses the knowledge, skills, and abilities necessary to test backflow prevention assemblies in accordance with recognized industry standards and applicable jurisdiction requirements.

Understanding Professional Certification

Professional certification is a process through which an independent third-party organization evaluates and verifies an individual's qualifications against established industry standards. Certification demonstrates that an individual has met defined requirements for experience, training, knowledge, and practical competency within a specific professional discipline.

Commitment to Fairness and Impartiality

ASSE International understands the importance of impartiality in conducting certification activities, manages conflict of interest, and ensures the objectivity of its certification activities. Therefore, ASSE International has established an impartiality committee to oversee this.

As a non-profit third-party test administrator of certification exams, our commitment to impartiality is paramount to ensuring the integrity and credibility of our certification process. We recognize the importance of maintaining fairness, objectivity, and transparency in all aspects of our operations. Our impartiality statement reflects our dedication to upholding fairness, objectivity, transparency, independence, confidentiality, and continuous improvement.

Eligibility and Application Process

Eligibility Requirements

Eligibility requirements have been established to verify that candidates demonstrate the experience, training, and competency necessary to achieve certification. Applicants must satisfy all the following requirements:

1. A minimum of five (5) years of documented practical experience.
2. Successful completion of a minimum 40-hour training course from an ASSE-approved school.
3. Passing a 100-question exam with a minimum of 70 out of a 0-100 scale or higher.
4. Passing a practical exam using required assemblies.
5. Attesting to abide by ASSE's Code of Professional Conduct

Application Requirements

Candidates must apply for ASSE certification during their 40-hour training course with ASSE-approved school. During this training course, the approved school will assist the candidate in collecting supporting documentation and submitting the required information to ASSE. ASSE will review and confirm eligibility before authorizing a candidate to sit for the certification examination. Current ASSE examination fees are published on the ASSE International website. These examination fees are collected by the school and may be combined with any additional training, administrative, or examination-related fees charged by the school. ASSE does not set prices for ASSE-approved schools to charge their students. Retest fees and retest requirements are described in the Re-examination Requirements section of this handbook.

Statement of Understanding

As part of the application process, candidates must certify that all information submitted is accurate and complete. Applicants also agree to comply with all ASSE certification policies, procedures, examination security requirements, and applicable codes of professional conduct.

Verification of Applications

ASSE reserves the right to verify any information submitted as part of the certification application process. Applicants may be required to provide additional documentation to

support eligibility requirements. Applications containing incomplete, inaccurate, or misleading information may be delayed, denied, or subject to further review.

Scheduling an Examination

ASSE examinations are scheduled and administered through its ASSE-approved schools. Examinations are scheduled after candidate eligibility has been confirmed by ASSE. Candidates should contact ASSE-approved schools to determine available training dates and locations.

Conversion Pathway

Individuals who hold a current outside backflow prevention assembly tester certification may apply for consideration under the ASSE 5110 conversion pathway. Applicants must submit a copy of their current certificate to assecertification@asse-plumbing.org. ASSE PQ Staff reviews the certification and supporting training, experience, and examination documentation to determine eligibility. Submission does not guarantee approval or certification.

To qualify, the applicant's certification must be current, verifiable, and cover backflow prevention assembly testing. Applicants also must meet the ASSE 5110 5-year experience requirements. An expired, suspended, revoked, or unverifiable credential; a credential outside the scope of backflow prevention assembly testing; or a course-completion certificate alone does not qualify for conversion. Incomplete applications require additional documentation before eligibility can be determined. Applicants who do not qualify for conversion must follow the initial certification pathway.

Applicants approved for conversion must complete an ASSE-approved 8-hour refresher course and successfully pass the ASSE 5110 50-question written examination (changing to 100 questions beginning January 1, 2026) and practical examination. Conversion approval does not waive these assessments or itself confer certification. Potential applicants should contact ASSE PQ, directly or through an ASSE-approved school, to obtain the conversion application and request an eligibility review before pursuing this pathway.

The current backflow tester certificates that are accepted for conversion are below:

- American Water Works Association (AWWA) Backflow Prevention Assembly Tester Certification
- Northern California Backflow Prevention Association (NCBPA) Backflow Assembly Prevention Tester Certification

Exam Preparation

Examination Development

ASSE certification examinations are developed and maintained by qualified subject matter experts using industry standards and accepted certification practices. Examination content is based on the knowledge, skills, and abilities required to competently perform the duties of a Backflow Prevention Assembly Tester.

Examination Overview

Candidates should rely on their training, work experience, and knowledge of applicable codes and standards when preparing for the examination. ASSE does not endorse specific study guides, training materials, or examination preparation courses. Exams are reviewed on a regular basis to ensure that the exam is up to date.

The ASSE Written Examination consist of 100 multiple-choice questions from the following areas of knowledge:

1 Terminology	**15%**
1.01 Define the terms associated with degree of hazard	3%
1.02 Define the terms associated with Cross Connection	3%
1.03 Explain the direction of flow for upstream and downstream	2%
1.04 Provide an example of direct and indirect connection	2%
1.05 Define air gap	2%
1.06 Define backflow	3%
2 Basic Hydraulics	**15%**
2.01 Use of Backflow specific math	2%
2.02 Define atmospheric pressure at sea level	2%
2.03 Define differential pressure and its use in testing backflow assemblies	4%
2.04 Describe how actions affect the system	3%
2.05 Describe how actions during testing affect the system	4%
3 Assemblies, Devices and Methods	**25%**
3.01 Recognize devices, assemblies and their components	4%
3.02 Determine which assemblies/devices protect for which hazards or backflow	4%

3.03 Describe functions of assemblies, devices and methods	4%
3.04 Ensure the backflow protection is properly installed and approved	4%
3.05 Identify when a backflow assembly is a containment or isolation installation	3%
3.06 Recognize the different types of backflow assemblies, devices and methods (1013, 1015, 1020, 1047, 1048 and 1056)	3%
3.07 Identify types of piping systems	3%
4 Test Equipment and Testing	**15%**
4.01 Identify the parts of a test gauge	4%
4.02 Use backflow testing equipment	6%
4.03 Verify testing equipment has necessary components for successful test application	5%
5 Procedures	15%
5.01 Provide proper documentation	3%
5.02 Follow local, state backflow code regulations	4%
5.03 Locate information about assembly to be tested	3%
5.04 Describe pre and post test steps	2%
5.05 Identify safety hazards	3%
6 Troubleshooting	**15%**
6.01 Identify tests and failures	8%
6.02 Troubleshooting assembly issues	7%
Total Questions	**100**

1 Terminology
1.03 Explain the direction of flow for upstream and downstream
1.05 Define air gap
1.06 Define backflow
2 Basic Hydraulics
2.03 Define differential pressure and its use in testing backflow assemblies

2.04 Describe how actions affect the system
2.05 Describe how actions during testing affect the system
3 Assemblies, Devices and Methods
3.01 Recognize devices, assemblies and their components
3.06 Recognize the different types of backflow assemblies, devices and methods (1013, 1015, 1020, 1047, 1048 and 1056)
4 Test Equipment and Testing
4.01 Identify the parts of a test gauge
4.02 Use backflow testing equipment
4.03 Verify testing equipment has necessary components for successful test application
5 Procedures
5.01 Provide proper documentation
6 Troubleshooting
6.01 Identify tests and failures

Examination Administration

Examination Day

Candidates must present valid government-issued photo identification that includes a photo and signature of the candidate and follow all instructions provided by examination proctors or exam facilitators. Failure to comply with examination requirements may result in dismissal from the examination process.

Examination Rules

All ASSE certification examinations are closed book. Books, training materials, reference documents, and personal notes are not permitted during testing. Non-programmable calculators may be used during the written examination. Scratch paper will be provided by the examination facilitator and must be returned at the conclusion of the examination. A candidate for certification is prohibited from:

- Leaving the room during the exam.
- Using personal communication and/or electronic devices during the examination, including cellular telephones, personal data assistants (PDAs), pagers, and computers.
- Communicating, orally or in writing, with other candidates for certification during the exam.

Written Examination

The written examination consists of 100 multiple-choice questions and must be completed within two (2) hours. A minimum of 70 out of a 0-100 scale or higher is required to pass.

Practical Examination

The practical examination requires candidates to successfully demonstrate the approved testing procedures for the required backflow prevention assemblies (ASSE 1013 (reduced-pressure principle), 1015 (double check valve), 1020 (pressure vacuum breaker), and 1056 (spill-resistant vacuum breaker). The examination is administered on a pass/fail basis and must be completed within the 1.5-hour testing period.

ASSE tests to these procedures:

- USC 10th Edition Field Test Procedure
- ASSE Test Procedure
- EPA Test Procedure

- Illinois Test Procedure
- Missouri Test Procedure
- One-Hose Test Procedure
- TREEO Test Procedure

Some jurisdictions require the applicable test procedure to be identified on the certificant's wallet card. The wallet card is not the certification document. The approved practical examination procedures used for certification testing are identified above. The wallet card does not replace, nor is it equivalent to, a certificant's wall certificate. Individuals who wish to verify a certification should go to ASSE's website (https://asse.iapmo.org/public/certified)

The test procedure used during a practical examination is determined by the applicable Authority Having Jurisdiction (AHJ) requirements. ASSE considers all test procedures equivalent, and the use of one test procedure versus another does not affect the practical exam process. For example, the USC 10th Edition test procedure is commonly used in California. Other jurisdictions may require a different approved test procedure based on local AHJ requirements.

Candidates are advised of the applicable test procedure prior to the examination. ASSE considers all test procedures equivalent. Regardless of the specific test procedure used, candidates are evaluated against the requirements of the ASSE certification scheme and must successfully complete the practical examination to achieve certification.

Examination Monitoring and Recording

To help ensure the security, fairness, validity, and consistent administration of ASSE certification examinations, ASSE Professional Qualifications may monitor selected written and practical examination sessions. Monitoring may include video recording of examination activities, examination personnel, and the testing environment.
Recordings are used solely for certification program administration, examination security, quality assurance, investigations of examination irregularities, accreditation activities, and related program improvement efforts.

Recordings are treated as confidential certification records and are accessible only to authorized individuals with a legitimate business need. Recordings are not used for training, marketing, or any purpose unrelated to examination monitoring and security.

Recordings are retained and protected in accordance with ASSE policies and applicable legal requirements.

By participating in an ASSE certification examination, candidates acknowledge that selected examination sessions may be subject to monitoring and recording as described in this handbook.

Results and Certification Decisions

Examination Results

Examination results are provided either immediately, following completion of an online written examination or within several weeks for a paper-based examination. Certification is awarded only after all examination requirements have been successfully met.

Re-examination Requirements

Candidates who do not successfully pass either examination may retest through an ASSE-approved school. A minimum waiting period of twenty-four (24) hours is required before retesting. Candidates should contact their chosen ASSE-approved school for any additional training, administrative, or fees charged by the school for retests. The following requirements apply to candidates seeking to retake a written or practical examination.

Written examination	Practical examination
A candidate must wait at least 24 hours before retesting. A retest class application must be submitted by the ASSE-approved school to ASSE at least two weeks before the retest date. The ASSE fee for all written examination retests shall be the same as the fee charged for the first written examination attempt.	A candidate must wait at least 24 hours before retesting and must successfully test all four assembly types during the retest. ASSE does not charge an additional fee for the practical retest.
The retest must be completed within six months of the original failure date, subject to applicable certification-expiration requirements.	The retest must be completed within six months of the original failure date, subject to applicable certification-expiration requirements.
After three unsuccessful written examination attempts or three unsuccessful practical attempts, the candidate must repeat the minimum 40-hour course and the ASSE-approved school must submit a new application and ASSE fee. Once the course has been repeated, the candidate must pass both the written and practical exam to become certified.	

Code of Conduct for Applicants, Candidates and Certified Individuals

ASSE International is committed to conducting all certification, accreditation, and standards-development activities in a fair, impartial, ethical, professional, and respectful manner. The purpose of this Code of Conduct is to establish expectations for the behavior and responsibilities of all individuals and organizations participating in ASSE certification and committee activities.
All individuals covered by this Code are expected to conduct themselves with integrity, honesty, professionalism, and respect for others while supporting the credibility and impartiality of ASSE programs.
Individuals and organizations subject to this Code shall:

- Place public health, safety, and welfare above personal, employer, or commercial interests while performing activities related to my profession.
- Treat all participants with professionalism, dignity, courtesy, and respect.
- Act honestly and ethically in all ASSE-related activities.
- Support a safe, professional, and inclusive environment.
- Comply with applicable laws, regulations, ASSE policies, procedures, and program requirements.
- Conduct themselves in a manner that promotes confidence in the integrity and impartiality of ASSE certification programs.
- Cooperate with investigations, audits, reviews, and inquiries conducted by ASSE.
- Avoid actions that could damage the reputation, credibility, or integrity of ASSE programs.

Prohibited Conduct

Professional Misconduct

- Harassment, intimidation, bullying, or threatening behavior.
- Discrimination based on any protected characteristic such as; race, color, religion, sex, nationality, age, disability, etc.
- Offensive, abusive, or disruptive conduct.
- Retaliation against any individual who raises a concern or participates in an investigation.
- Deliberate misrepresentation of facts.

Ethics Violations

- Fraudulent, deceptive, or dishonest conduct.
- Falsification of applications, records, logs, forms, reports, or other documentation.
- Misrepresentation of qualifications, experience, training, certification status, or examination results.
- Misuse of ASSE's protected marks or logos
- Providing false information to ASSE or its representatives.

Examination Misconduct

- Cheating or attempting to cheat on any examination.

- Possessing, sharing, reproducing, distributing, or disclosing confidential examination content.
- Providing or receiving unauthorized assistance during an examination.
- Allowing another person to take an examination on one's behalf.
- Facilitating examination fraud or misconduct.
- Compromising the security of examination materials or processes.

Confidentiality Violations

- Unauthorized disclosure of confidential ASSE information.
- Improper sharing of examination materials.
- Unauthorized disclosure of candidate records, committee discussions, examination development information, or proprietary materials.

Impartiality and Conflict of Interest

All individuals participating in ASSE certification activities shall:

- Act objectively and without bias.
- Disclose actual, potential, or perceived conflicts of interest.
- Avoid situations that compromise impartiality or create the appearance of favoritism.
- Refrain from participation in decisions where a conflict of interest exists.
- Protect the integrity of certification and committee activities from undue influence.

Failure to disclose a conflict of interest may constitute a violation of this Code.

Requirements for Applicants, Candidates, and Certified Individuals

Applicants, candidates, and certified individuals shall:

- Provide complete, accurate, and truthful information.
- Meet all eligibility requirements honestly and without misrepresentation.
- Comply with examination security requirements.
- Protect the confidentiality of examination content.
- Refrain from any form of examination misconduct.
- Promptly report known or suspected violations of ASSE policies or examination security.
- Maintain professional and ethical conduct consistent with the responsibilities of certification.
- Properly represent certification credentials and status.
- Use ASSE certification marks, logos, and designations only as permitted by ASSE policies.
- Comply with recertification requirements and continuing education requirements where applicable.

Certified individuals shall not:

- Misrepresent the scope or status of certification.
- Use a suspended, expired, revoked, or inactive certification designation.
- Make false or misleading claims regarding certification.

Reporting Violations

Any individual who becomes aware of actual or suspected misconduct, unethical behavior, examination irregularities, security concerns, conflicts of interest, or other violations of this Code should report such concerns to ASSE.

Reports may be submitted by candidates, certified individuals, schools, committee members, staff, volunteers, or other stakeholders, including the public.

ASSE will review reported concerns and determine appropriate next steps, including investigation when warranted.

Investigation Process

ASSE may investigate alleged violations of this Code. Individuals involved in an investigation are expected to:

- Cooperate fully and honestly.
- Provide complete and accurate information.
- Preserve relevant documentation and records.
- Maintain confidentiality during the investigation process when appropriate.

Failure to cooperate with an investigation may constitute a violation of this Code.

Corrective and Disciplinary Actions

When a violation is substantiated, ASSE may take one or more actions, including:

- Verbal or written warning.
- Required corrective actions.
- Additional monitoring or oversight.
- Removal from committee service.
- Suspension of examination personnel privileges.
- Removal of school approval.
- Invalidation of examination results.
- Suspension of certification.
- Revocation of certification.
- Restriction of participation in ASSE programs.
- Any other action deemed appropriate to protect the integrity of ASSE programs.

The severity of the action will depend on the nature and seriousness of the violation.

ASSE reserves the right to conduct a site visit or other verification activity without prior notice.

Applicant and Certificant Agreement

By submitting an application, registering for an examination, renewing certification, or maintaining certification, I acknowledge that I have read, understand, and agree to comply with this Code of Conduct and all applicable ASSE certification policies and procedures. The code of conduct will be reviewed if a complaint is submitted regarding an individual or ASSE-approved school and its representatives. Violations may result in suspension or revocation of certification.

Complaints Process

ASSE International provides a process for receiving, investigating, and resolving complaints related to certification activities, certificants, and program administration. Complaints may be submitted in writing and must include sufficient information to support the allegation. Complaints are reviewed to determine whether they are administrative in nature or involve potential ethics, standards, or certification violations. Valid complaints are investigated by personnel independent of the subject of the complaint, and all findings are documented. The individual who is the subject of the complaint will be notified and given an opportunity to respond.

Following review, the Review Board may dismiss the complaint, require corrective action, suspend certification, or revoke certification, depending on the circumstances. Individuals whose certifications are suspended or revoked will be notified of the decision and their appeal rights. Complaint records are maintained in accordance with ASSE record retention requirements, and unresolved matters may be escalated to ASSE Board of Directors when necessary.

Appeals Process

An applicant or certificant may request reconsideration if they believe there was an error in the grading process, a procedural irregularity during the examination, or other circumstances that may have affected an examination or certification decision.

Appeals must be submitted in writing within thirty (30) days of the decision being appealed and include any supporting documentation. Appeals are reviewed by individuals who were not involved in the original decision. The appellant may request that the appeal be considered based on written submissions or through a virtual hearing before the ASSE Board of Directors.

After reviewing all relevant information, the Board may uphold, modify, overturn, or return the matter for further review. The appellant will be notified of the decision in writing, and all decisions of the Board are final.

Recertification and Continued Compliance

Recertification Requirements

Certification is valid for three (3) years and must be renewed before its expiration date through an ASSE-approved school. To maintain certification, individuals must have a current ASSE 5110 backflow tester certification, successfully complete an 8-hour recertification course offered by an ASSE-approved school, and pass both a 50-question written examination with a 70 out of a 0-100 scale or higher (the recertification written exam will be 100 questions beginning January 1, 2027) and a hands-on practical examination that includes testing ASSE 1013, 1015, 1020 and 1056 assemblies. Certification to this standard shall be through a nationally recognized third-party certification body.

Certified individuals may recertify within the six (6) months preceding their current certification expiration date. Recertification during this six-month window does not result in any loss of certification time. The new certification expiration date will be established three (3) years from the original certification month.

Individuals who recertify within six (6) months following their certification expiration date may renew their credential; however, the new certification expiration date will continue to be based on the individual's original certification month. Recertifying after expiration does not result in any additional certification time. Please note that certifications are considered invalid from the expiration date until all recertification requirements have been completed and the certification has been renewed.

Note: ASSE-approved instructors and practical examination proctors from ASSE-approved schools may recertify through a pathway based on their experience. Please refer to the *Guidelines for ASSE-Approved Cross-Connection Control Schools* for detailed information.

Expiration Policy

Failure to recertify by six (6) months after the expiration date will result in the individual having to retake the initial course and exam. Certified individuals who fail to renew their certifications before the expiration date will have their names removed from the certification list on the ASSE website.

Audit and Verification

To maintain the integrity and credibility of the certification program, ASSE may periodically conduct audits to verify that certified individuals continue to meet certification and

recertification requirements. Audits may be conducted on a random basis and may require certificants to provide documentation demonstrating compliance with program eligibility requirements, including, but not limited to, evidence of the required five (5) years of plumbing experience.

Individuals selected for audit will be notified and provided thirty (30) days to submit the requested documentation. ASSE may also verify information with training providers or other relevant sources as part of the review process. If the submitted documentation confirms compliance, the audit will be closed, and the certificant will be notified of the outcome.

Failure to respond to an audit request, refusal to provide requested documentation, or inability to demonstrate compliance with certification or recertification requirements may result in suspension of certification and further review under the ASSE Complaints Policy. In cases where sufficient evidence is not provided, additional documentation may be requested before a final determination is made. Certificants will be notified of any actions affecting their certification status and any applicable appeal rights.

Certification Program Policies

ADA Accommodations

ASSE International is committed to providing equal access to its certification programs in accordance with the Americans with Disabilities Act (ADA). Applicants requesting testing accommodations must submit a request and supporting documentation at the time of application. Accommodation requests are reviewed and will be approved when they are reasonable, necessary, and do not compromise the validity, security, or integrity of the examination. Information related to accommodation requests will be kept confidential.

Confidentiality

ASSE International respects the confidentiality of the applicant, candidate, and certificant information and maintains appropriate safeguards to protect sensitive data. Personal information submitted as part of the certification process is used only for program administration and other legitimate business purposes. Confidentiality is essential to maintaining the integrity of the certification program and the trust of stakeholders.

Certification Verification

The certification status of ASSE-certified individuals may be verified through the Certified Professionals Search tool available on the ASSE International website: https://asse.iapmo.org/public/certified. This is intended to provide employers, regulators, and the public with confirmation of an individual's current certification status. Only information designated as public by ASSE will be disclosed through the verification process.

Certified individuals may receive a wallet card containing information on how to access the ASSE certification verification website. The wallet card is not a certificate and should not be used as proof of certification. Current certification status must be verified through the ASSE certification verification website.

Non-Discrimination

ASSE International is committed to administering its certification programs fairly and impartially. The organization does not discriminate against any applicant, candidate, or certificant on the basis of any legally protected characteristic. All certification decisions are based solely on published eligibility requirements, examination performance, and compliance with program policies.