





# **ASNT 9712 Certification Program Qualification and Certification of NDT Personnel to ISO 9712**

**REV 0  
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Approved by:

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|--|------------------------------|
| <br><i>Certification Management Committee</i> | <i>Date</i> December 7, 2022 |
| <br><i>ASNT Certification Services</i>        | <i>Date</i> December 7, 2022 |

## **Forward**

American Society for Nondestructive Testing (ASNT) is an ISO 17024 Personnel Certification Body and through its formed entity, ASNT Certification Services, LLC (ASNT CS) delivers globally accepted non-destructive testing examinations and certifications.

ASNT CS. Is the Certifying Body for this certification program. The Certification Management Committee (CMC) under the authority of ASNT CS is responsible for the development, review, and revision of this document. The CMC utilizes representatives, of relevant interests including but not limited to producers, consumers, and other general interest users; and may include interest from public, private, or government sectors, along with ASNT CS or ACCP Level III's and Subject Matter Experts (SME's) in nondestructive testing.

## **Introduction**

This program document follows the American Standards Institute (ANSI) National Accreditation Board (ANAB) accreditation process along with meeting the requirements of the International Standard ISO 9712-2021, Nondestructive testing – Qualification and Certification of NDT personnel, published by the International Organization for Standardization (ISO).

The ASNT 9712 Program provides the NDT industry with personnel having achieved the highest standard of NDT qualifications by examination and provides those personnel with independent transferable NDT certifications, i.e., Third-party Certification including performance demonstration. Additionally, specific industry supported performance demonstration examinations are provided as needed under “Industry Sectors”.

The program promotes national and international acceptance of NDT certification and can also be used to support qualification requirements as required by ASNT SNT-TC-1A and ANSI/ASNT CP-189, employer-based programs when detailed within an employer's written practice.

The program documentation identifies the roles and responsibilities of ASNT CS in administering the ASNT 9712 and associated certification scheme detailed within the ISO 9712 framework and complies with its requirements for the implementation of our ASNT 9712 Program.

# Contents

|  |    |
|--|----|
| <b>Forward</b> .....   | 2  |
| <b>Introduction</b> .....                                    | 2  |
| <b>1.0 Scope</b> .....                                       | 6  |
| <b>2.0 Normative References</b> .....                        | 6  |
| <b>3.0 Terms and Definitions</b> .....                       | 7  |
| <b>4.0 Abbreviated Terms</b> .....                           | 11 |
| <b>5.0 Responsibilities</b> .....                            | 11 |
| 5.1. General .....   | 11 |
| 5.2. Certification Body .....                                | 11 |
| 5.3. Authorized Qualification Body .....                     | 13 |
| 5.4. Authorized Examination Center .....                     | 13 |
| 5.5. Employer .....  | 13 |
| 5.6. Candidate .....   | 14 |
| 5.7. Certificate Holder .....                                | 15 |
| 5.8. Examiners .....   | 15 |
| 5.9. Attestor (Referee) .....                                | 15 |
| <b>6.0 Levels of Certification</b> .....                     | 15 |
| 6.1. Level I .....   | 15 |
| 6.2. Level II .....  | 16 |
| 6.3. Level III .....   | 16 |
| <b>7.0 Eligibility</b> .....                                 | 17 |
| 7.1. General .....   | 17 |
| 7.2. Training .....  | 17 |
| 7.3. Industrial NDT Experience .....                         | 18 |
| 7.3.1. General .....   | 18 |
| 7.3.2. Level III .....                                       | 18 |
| 7.3.3. Possible Reduction of NDT Industrial Experience ..... | 19 |
| 7.4. Vision Requirements-all levels .....                    | 19 |
| 7.4.1. General .....   | 19 |
| 7.4.2. Near Vision Acuity .....                              | 19 |
| 7.4.3. Color Vision .....                                    | 19 |
| 7.4.4. Visual Tests .....                                    | 20 |

|  |    |
|--|----|
| <b>8.0 Examination</b> .....                                       | 20 |
| 8.1. Examination Overview .....                                    | 20 |
| 8.1.1. General.....  | 20 |
| 8.1.2. Examination Elements .....                                  | 21 |
| 8.1.3. Examination Time.....                                       | 21 |
| 8.1.4. Examination Aids.....                                       | 22 |
| 8.2. Examination Content and Grading for Level II .....            | 22 |
| 8.2.1. General Examination Element .....                           | 22 |
| 8.2.2. Specific Examination Element.....                           | 22 |
| 8.2.3. Practical Examination Element.....                          | 22 |
| 8.2.4. NDT Instruction Writing Examination Element.....            | 23 |
| 8.2.5. Grading of the Level II Examination .....                   | 23 |
| 8.3. Examination Content for Grading Level III.....                | 24 |
| 8.3.1. General.....  | 24 |
| 8.3.2. Basic Examination Element.....                              | 24 |
| 8.3.3. Main Method Examination .....                               | 25 |
| 8.3.4. Grading of Level III Examination.....                       | 26 |
| 8.4. Conducting Examinations .....                                 | 27 |
| 8.5. Re-examination .....  | 27 |
| 8.6. Supplemental Examination.....                                 | 28 |
| <b>9.0 Certification</b> .....                                     | 28 |
| 9.1. Administration .....  | 28 |
| 9.2. Certificates .....  | 28 |
| 9.3. Conditions of Certification .....                             | 29 |
| 9.3.1. General.....  | 29 |
| 9.3.2. Granting .....  | 29 |
| 9.3.3. Scope Extension.....  | 29 |
| 9.3.4. Suspension of Certification.....                            | 29 |
| 9.3.5. Withdrawal of Certification .....                           | 30 |
| 9.3.6. Certification after Withdrawal .....                        | 30 |
| 9.3.7. Waiting Period Prior to Certification After Withdrawal..... | 30 |
| 9.4. Certificates Issued by Other Certification Bodies .....       | 30 |
| <b>10.0 Renewal</b> .....  | 31 |
| <b>11.0 Recertification</b> .....                                  | 32 |
| 11.1. General.....   | 32 |
| 11.2. Level II.....  | 32 |
| 11.3. Level III .....  | 33 |
| <b>12.0 Files</b> .....  | 34 |
| <b>13.0 Transition Period</b> .....                                | 35 |
| <b>14.0 Accommodations for Disabilities</b> .....                  | 35 |

**15.0 Applicant Rights**.....36

**16.0 Program Change Notification** .....36

**Appendix A (Normative) Sectors**.....37

**Appendix B (Normative) Minimum number and type of specimens for the Level II Practical Examination Element** .....38

**Appendix C (Normative) Structured Credit System for Renewal Level II and Level III and for Level III Recertification** .....40

**Appendix D (Normative) Grading Practical Examination** .....44

**Appendix E (Informative) Engineering of NDT** .....46

**Appendix F (Informative) Training Requirements for Techniques** .....47

**Appendix G (Informative) Psychometric Principles** .....50

**Bibliography** .....51

## 1.0 Scope

- 1.1. This document specifies requirements for the qualification and certification of personnel who perform product and industrial nondestructive testing (NDT) in the following methods:
  - 1.1.1. Magnetic Particle Testing (MT)
  - 1.1.2. Liquid Penetrant Testing (PT)
  - 1.1.3. Radiographic Testing (RT)
  - 1.1.4. Ultrasonic Testing (UT)
  - 1.1.5. Visual Testing (VT)  
(Direct unaided visual tests and visual tests carried out during the application of another NDT method are excluded.)
- 1.2. This document is also applicable to other NDT methods or to NDT techniques within an established NDT method where a comprehensive scheme of certification exists and is covered by international, regional, or national standards, or the NDT method or the NDT technique has been demonstrated to be effective to the satisfaction of ASNT CS.

*NOTE 1: The term "industrial" implies the exclusion of applications in the field of medicine.*

*NOTE 2: This program document specifies requirements for what are, in effect, third party conformity assessment schemes. These requirements do not directly apply to conformity assessment by second or first parties, but relevant parts of this program document can be referred to in such arrangements.*

*NOTE 3: Wherever gender specific words such as "his", "her", "he" or "she" appear in this program document, the other gender is also applicable.*

*NOTE 4: The term "direct unaided visual testing" used within this document implies there is an uninterrupted optical path from the observer's eye to the test area and the observer uses no tools or devices (e.g. mirror, endoscope, fiber optic).*

## 2.0 Normative References

- 2.1. The following referenced documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.
  - 2.1.1. ISO Documents
    - 2.1.1.1. **ISO 9712:2021**: *Non-destructive testing - Qualification and Certification of NDT Personnel*

- 2.1.1.2. **ISO/IEC 17024: 2012:** *Conformity Assessment — General Requirements for Bodies Operating Certification of Persons*
- 2.1.1.3. **ISO 18490:2015:** *Non-destructive Testing – Evaluation of Vision Acuity of NDT Personnel*
- 2.1.1.4. **ISO 25107:2019:** *Non-destructive Testing – NDT Training Syllabuses*
- 2.1.2. ANSI/ASNT Documents
  - 2.1.2.1. **ANSI/ASNT CP-105:** *Topical Outlines for Qualification of Non-destructive Testing Personnel*

### 3.0 Terms and Definitions

3.1. For the purposes of this document, the following terms and definitions apply.

- 3.1.1. **Applicant**-person who has submitted an application to be admitted into the certification process.
- 3.1.2. **Authorized Examination Center (AEC)**- center approved by ASNT CS where examinations are carried out.
- 3.1.3. **Authorized Examination Proctor**- Person authorized by ASNT CS who supervises an examination but does not evaluate the competence of the candidate.
- 3.1.4. **Basic Examination Element**-written examination, at Level III, which demonstrates the candidate's knowledge of the materials science and process technology and types of discontinuities, the specific qualification and certification system, and the basic principles of NDT methods as required for Level II.

**NOTE 1:** *For an explanation of the levels of qualification, see Section 6.0.*

**NOTE 2:** *The requirements for qualification and certification are specified in this document.*

- 3.1.5. **Candidate**- applicant who has fulfilled specified prerequisites and has been admitted to the certification process.
- 3.1.6. **Certificate**-document in the form of a letter, card or other medium (i.e., digital certificate), issued by ASNT CS under the provisions of this document, indicating that the named person has fulfilled the certification requirements.
- 3.1.7. **Certification Body (CB)**- body that administers procedures for certification according to specified requirements.

**NOTE 1:** *ASNT CS is the certifying body for its NDT Certification Programs.*

- 3.1.8. **Certification Cycle**- maximum period of time permitted from the date of certification to the date of recertification inclusive of the renewal period.

- 3.1.9. **Certification Management Committee (CMC)**- A formal committee established by ASNT CS, responsible for technical development, maintenance, and issuance requirements of ASNT CS certification programs.
- 3.1.10. **Certification Process**-activities by which ASNT CS determines that a person fulfils certification requirements, including application, assessment, decision on certification, renewal, recertification and use of certificates and logos/marks.
- 3.1.11. **Certification Requirements**- set of specified requirements, including requirements of the scheme to be fulfilled in order to establish or maintain certification.
- 3.1.12. **Competence**- ability to apply knowledge and skills to achieve intended results.
- 3.1.13. **Employer**- legal entity by whom the candidate is employed.
- NOTE 1:** *A candidate may be self-employed.*
- 3.1.14. **Examination**- mechanism that is part of the assessment which measures a candidate's competence by one or more means.
- 3.1.15. **Examination Element**- component of an examination.
- 3.1.16. **Examiner**- a Level II or Level III that has been authorized and approved by ASNT CS, to administer NDT practical examinations; examiner shall be certified in applicable method and technique.
- 3.1.17. **General Examination Element**- written examination at Level II, concerned with the principles of an NDT method.
- 3.1.18. **Higher Education**- formal learning that occurs after completion of secondary education in the field of engineering or science.
- 3.1.19. **Industrial Experience**- work activities performed under supervision, in the NDT method in the sector concerned, needed to acquire the skill and knowledge to fulfil the provisions of qualification.
- 3.1.20. **Job Specific Training**-training, provided by the employer (or his agent) to the certificate holder in those aspects of nondestructive testing specific to the employer's products, NDT equipment, NDT procedures, and applicable codes, standards, specifications, and procedures, leading to the award of operating authorizations.
- 3.1.21. **Main Method Examination Element**-written examination, at Level III, which demonstrates the candidate's general and specific knowledge, and the ability to write NDT procedures for the NDT method as applied in the industrial or product sector(s) for which certification is sought.
- 3.1.22. **Multiple-Choice Examination Question**-wording of a question giving rise to four (4) potential replies, only one (1) of which is correct, the remaining three (3) being incorrect or incomplete.



- 3.1.23. **NDT Instruction**- written description of the precise steps to be followed in testing to an established standard, code, specification, or NDT procedure.
- 3.1.24. **NDT Media**- testing products used to create visible indications caused by imperfections or flaws.
- EXAMPLE:** Magnetic powder, contrast aid paints, color contrast penetrant, developer.
- 3.1.25. **NDT Method**- discipline applying a physical principle in non-destructive testing.
- EXAMPLE:** Ultrasonic testing
- 3.1.26. **NDT Personnel**- personnel who perform nondestructive testing.
- 3.1.27. **NDT Procedure**- written description of all essential parameters and precautions to be applied when nondestructively testing products in accordance with standard(s), code(s), or specification(s).
- 3.1.28. **NDT Technique**- specific way of utilizing an NDT method.
- 3.1.29. **NDT Training**- process of instruction in theory and practice in the NDT method in which certification is sought, which takes the form of training courses to a syllabus.
- 3.1.30. **Non-scorable Test Question**-See Provisional Examination Question.
- 3.1.31. **Operating Authorization**- written statement issued by the employer, based upon the scope of certification, authorizing the individual to carry out defined tasks.
- NOTE 1:** *Such authorization can be dependent on the provision of job-specific training.*
- 3.1.32. **Practical Examination Element**- assessment of practical skills, in which the candidate demonstrates familiarity with, and the ability to perform, the test.
- 3.1.33. **Provisional Examination Question**-Used in an examination to evaluate the effectiveness of a new or revised examination question. These questions are not scored as part of the examination. Once a provisional question has been statistically validated and approved, it may be added as a scorable question into the examination item bank.
- 3.1.34. **Psychometric Process**- statistical process to verify examinations are fair, reliable, and discriminate between a competent and non-competent individual.
- 3.1.35. **Qualification**- demonstrated education, training, and work experience.
- 3.1.36. **Recertification**- procedure for revalidation of a certificate by examination or by otherwise satisfying the ASNT CS criteria for recertification have been met.
- 3.1.37. **Referee**- individual that attests the validity of the candidate's industrial experience, i.e., attester.

- 3.1.38. **Renewal**- procedure for revalidation of a certificate without examination at any time up to five (5) years after success in an initial, supplementary or recertification examination.
- 3.1.39. **Scorable Examination Question**-an approved and validated test item in an examination item bank that is ‘scored’ and used with other scorable questions to determine if the individual passes the examination or not in accordance with the grading criteria.

**NOTE 1:** *Nonscorable test items. See Provisional Examination Question.*

- 3.1.40. **Sector**- section of industry or technology where specialized NDT practices are used, requiring specific product-related knowledge, skill, equipment, or training.

**NOTE 1:** *A sector is a product (welded products, castings) or an industry; See Appendix A.*

- 3.1.41. **Significant Interruption**-absence or change of activity which prevents the certified individual from practicing the duties corresponding to the level in the method and the sector(s) within the certified scope, for either a continuous period in excess of one (1) year or two (2) or more periods for a total time exceeding two (2) years.

**NOTE 1:** *Legal holidays or periods of sickness or courses of less than 30 days are not taken into account, when calculating the interruption.*

- 3.1.42. **Specific Examination Element**-written examination, at Level II, concerned with testing techniques applied in a particular sector(s), including knowledge of the product(s) tested and of codes, standards, specifications, procedures, and acceptance criteria.

- 3.1.43. **Specification**- document stating requirements.

- 3.1.44. **Specimen**- sample used in practical examinations, possibly including radiographs, replicas, photographs, and data sets, which is representative of products typically tested in the applicable sector.

**NOTE 1:** *A specimen can include more than one area or volume to be tested.*

- 3.1.45. **Specimen Master Report**-model answer, indicating the optimum result for a practical examination given a specific set of conditions (equipment type, settings, technique, specimen, etc.) against which the candidate’s test report is graded.

- 3.1.46. **Structured Credit System**- point system based on the NDT activities of the candidate used as an alternative to examination for renewal or recertification.

- 3.1.47. **Structured Experience Program (SEP)**- program approved by the ASNT CS to reduce industrial experience.

- 3.1.48. **Supervision**-act of directing the application of NDT performed by other NDT personnel, which includes the control of actions involved in the preparation of the test, performance of the test, and reporting of the results.

3.1.49. **Work Activity**-performance of NDT-related functions and tasks.

**NOTE 1:** *See Section 6.0.*

#### 4.0 Abbreviated Terms

4.1. The abbreviated terms listed in Table 1 identify NDT methods within this certification program. Refer to Appendix F for abbreviations used for techniques.

**Table 1 – Methods and Abbreviated Terms**

| NDT method                | Abbreviated terms |
|---------------------------|-------------------|
| Magnetic Particle Testing | MT                |
| Liquid Penetrant Testing  | PT                |
| Radiographic Testing      | RT                |
| Ultrasonic Testing        | UT                |
| Visual Testing            | VT                |

#### 5.0 Responsibilities

5.1. General

5.1.1. ASNT CS, controls and administers the ASNT certification system, which, includes all procedures necessary to demonstrate the qualification of an individual to carry out tasks in a specific NDT method, product and industrial sector, leading to certification of competence.

5.2. Certification Body (CB)

5.2.1. ASNT CS as the CB, shall fulfil the requirements of ISO/IEC 17024.

5.2.2. The CB shall:

- 5.2.2.1. initiate, promote, maintain, and administer the certification scheme according to this document.
- 5.2.2.2. be independent of any single interest.
- 5.2.2.3. be responsible for defining the sectors within its program (see Appendix A).
- 5.2.2.4. publish information regarding the scope of the certification scheme and a general description of the certification process.

5.2.2.5. provide information for training courses that include the syllabi which embody the content of recognized documents, ANSI/ASNT CP-105 or equivalent.

**NOTE 1:** *ISO/TR 25107 is considered equivalent.*

5.2.2.6. monitor, in accordance with a documented procedure, all its delegated functions.

5.2.2.7. approve properly staffed and equipped authorized examination centers which the CB shall monitor on a periodic basis.

5.2.2.8. only administer examinations through its approved examination centers.

5.2.2.9. bear full responsibilities for examinations conducted on temporary basis at external premises.

5.2.2.10. be responsible for ensuring the security of all examination materials (specimens, master reports, question banks, examination papers, etc.) and shall ensure that specimens are not in use for training purposes.

5.2.2.11. be responsible for granting, extension, suspension, withdrawal, or revalidation of certification.

5.2.2.12. establish an appropriate system for the maintenance of records, which shall be retained for at least one certification cycle.

5.2.2.13. require all candidates and certificate holders to give a signed or stamped undertaking to abide by a code of ethics which it shall develop for the purpose and publish.

5.2.2.14. establish a process to authorize examiners.

5.2.2.15. establish the conditions for the supervision of work activities, which candidates may claim experience under Section 7.3.

5.2.2.16. establish a process for the recognition of higher education.

5.2.2.17. establish a process for the approval of non-certified individuals as an attestor.

5.2.2.18. establish a process for the approval of a structured credit system, where used.

5.2.2.19. maintain and update the question bank and the examination specimens along with their specimen master report.

5.2.2.20. conduct the examination only in the presence of, and under the control of, an authorized examiner or proctor to ensure that impartiality is maintained.

5.2.2.21. establish a process for a structured experience program, where used.

- 5.2.2.22. ensure information through the certification process, or from sources other than the applicant, candidate, or certified person, is not disclosed to an unauthorized party without the written consent of the individual (applicant, candidate, or certified person), except where the law requires such information to be disclosed.
- 5.2.2.23. may approve training bodies; ISO/TS 25108 can be used as guidance.
- 5.2.2.24. when required by law shall release confidential information regarding an individual's certification records. The individual shall be notified (unless prohibited by law) of the information that is being provided by ASNT CS.

5.3. Authorized Qualification Bodies are not utilized by ASNT CS.

5.4. AEC

5.4.1. ASNT CS shall ensure the authorized examination center:

- 5.4.1.1. works under the control of the CB.
- 5.4.1.2. applies a documented quality procedure approved by the CB.
- 5.4.1.3. have the resources needed to administer examinations, including the calibration/verification and control of equipment.
- 5.4.1.4. have adequate qualified staff, premises, and equipment to ensure satisfactory qualification examinations for the levels, methods, and sectors concerned, the use of external premises is allowed.
- 5.4.1.5. prepare and conduct authorized examinations using only questionnaires and specimens under the responsibility of an approved ASNT CS examiner.
- 5.4.1.6. maintain appropriate qualification and examination records according to the requirements of the CB.
- 5.4.1.7. An examination center may operate within the CB or be an independent legal entity or part of a legal entity. The examination center can be situated at an employer's premises. In this case the CB shall require controls to preserve impartiality and protect confidentiality of the examinations. The examinations shall be conducted only in the presence of, and under the control of the CB's authorized examiner, proctor or authorized representative.

5.5. Employer

5.5.1. For the eligibility of the candidate, the employer shall document the candidate's personal information which shall include the declaration of education, training, industrial experience, and visual acuity needed to determine the candidate's eligibility. If the candidate is self-employed, the industrial experience shall be verified by an attester. All documentation obtained from the employer shall be verified by the CB.

5.5.2. For certified NDT personnel under their control, the employer shall be responsible for:

- 5.5.2.1. the authorization documented in writing to operate, i.e. providing job-specific training (if necessary).
- 5.5.2.2. the results of NDT activities.
- 5.5.2.3. ensuring that the annual visual acuity requirements of Section 7.4 are met.
- 5.5.2.4. maintaining documentary evidence confirming the continuous application of the NDT method in the relevant sector(s) without significant interruption; this action shall be done every 12 months.
- 5.5.2.5. ensuring that personnel hold valid certification relevant to their tasks within the organization.
- 5.5.2.6. maintaining appropriate records.
- 5.5.2.7. These employer responsibilities shall be described in a documented procedure.
- 5.5.3. A self-employed individual shall assume all responsibilities ascribed to the employer.
- 5.5.4. The CB provides an appropriately certified individual an attestation of the individual's general competence of nondestructive testing. The attestation does not represent an authorization to operate, since this remains the responsibility of the employer; and the certified NDT personnel may require additional specialized knowledge of parameters such as equipment, NDT procedures, materials, and products specific for the employer.
- 5.5.5. Where required by regulatory requirements and codes, the authorization to operate shall be given in writing by the employer in accordance with a quality procedure that defines any employer-required job-specific training and examinations designed to verify the certificate holder's knowledge of relevant industry code(s), standard(s), NDT procedures, equipment, and acceptance criteria for the tested products.

## 5.6. Candidate

- 5.6.1. Candidates in completing an application shall:
  - 5.6.1.1. provide documentary evidence of satisfactory completion of training in accordance with Section 7.2.
  - 5.6.1.2. provide documentary evidence that the required experience has been gained under qualified supervision.
  - 5.6.1.3. provide documentary evidence of vision satisfying the requirements of Section 7.4.
  - 5.6.1.4. agree to abide by the applicable CB's Code of Ethics.
  - 5.6.1.5. provide other requisites requested by the CB.

## 5.7. Certificate Holder

### 5.7.1. Certificate holder shall:

- 5.7.1.1. abide by the CB's published Code of Ethics.
- 5.7.1.2. maintain records demonstrating evidence that vision requirements have been fulfilled in accordance with Section 7.4.
- 5.7.1.3. notify the CB, and the employer in the event that the conditions for validity of certification are not fulfilled.

## 5.8. Examiners

### 5.8.1. Examiners shall:

- 5.8.1.1. be authorized by the CB to conduct, supervise, and grade certain sections of practical examinations.
- 5.8.1.2. be certified to Level III in the NDT method in the product and/or industrial sector for which they are authorized.

### 5.8.2. An examiner shall not be permitted to examine any candidate:

- 5.8.2.1. that they have trained for the examination for a period of two (2) years from the date of the conclusion of the training.
- 5.8.2.2. who is working (permanently or temporarily) in the same facility as the examiner unless the CB has established a documented confidentiality and impartiality agreement for such situation.

## 5.9. Referee (Attestor)

### 5.9.1. The referee (attestor) shall be:

- 5.9.1.1. Authorized by the CB
- 5.9.1.2. certified to Level II or III in any NDT method, or
- 5.9.1.3. non-certified personnel who, as detailed in the CB's application, possess the knowledge, skill, training, and experience required to attest to the candidate's industrial experience.

## 6.0 Levels of Certification

### 6.1. Level I

- 6.1.1. Certification for Level I is not addressed in this program document.

## 6.2. Level II

- 6.2.1. An individual certified to Level II has demonstrated competence to perform NDT according to NDT procedures or NDT instructions. Within the scope of the competence defined on the certificate, Level II personnel may be authorized by the employer to:
- 6.2.1.1. select the NDT technique for the testing method to be used.
  - 6.2.1.2. define the limitations of application of the testing method.
  - 6.2.1.3. translate NDT codes, standards, specifications, and procedures into NDT instructions adapted to the actual working conditions.
  - 6.2.1.4. set up and verify equipment settings.
  - 6.2.1.5. perform and supervise tests.
  - 6.2.1.6. interpret and evaluate results according to applicable standards, codes, specifications, or procedures.
  - 6.2.1.7. carry out and supervise all tasks at or below Level II.
  - 6.2.1.8. provide guidance for personnel at or below Level II.
  - 6.2.1.9. report the results of NDT.

## 6.3. Level III

- 6.3.1. An individual certified to Level III has demonstrated competence to perform and direct NDT operations for which certified. Level III personnel have demonstrated:
- 6.3.1.1. the competence to evaluate and interpret results in terms of existing standards, codes, and specifications.
  - 6.3.1.2. sufficient practical knowledge of applicable materials, fabrication, process, and product technology to select NDT methods, establish NDT techniques, and assist in establishing acceptance criteria where none are otherwise available.
  - 6.3.1.3. a general familiarity with other NDT methods.
- 6.3.2. Within the scope of the competence defined on the certificate, Level III personnel may be authorized by the employer to:
- 6.3.2.1. establish, review for editorial and technical correctness, and validate NDT instructions and procedures.
  - 6.3.2.2. interpret standards, codes, specifications, and procedures.



- 6.3.2.3. designate the particular test methods, procedures, and NDT instructions to be used.
- 6.3.2.4. carry out and supervise all tasks at all levels.
- 6.3.2.5. provide guidance and mentoring for NDT personnel at all levels.

## **7.0 Eligibility**

### **7.1. General**

- 7.1.1. The candidate shall fulfil the minimum requirements of vision (Section 7.4) and NDT training (Section 7.2) and industrial experience (Section 7.3) prior to taking any examinations.

### **7.2. Training**

- 7.2.1. The candidate shall provide documentary evidence, acceptable to the CB, that they have satisfactorily completed NDT training as shown in Table 2 in the method and level for which the certification is sought.
- 7.2.2. For all levels, theoretical training may be delivered in a face-to-face instructor-led format, distance learning format, a self-paced format, or a combination of these formats. Practical training shall be delivered by a face-to-face instructor-led format only.
- 7.2.3. The theoretical training for initial certification shall remain valid for a maximum period of ten (10) years from the date of completion.
- 7.2.4. For Level III, in addition to the minimum training given in Table 2, the preparation for qualification can be completed in different ways dependent on the scientific and technical background of the candidate, including attendance at other training courses, conferences or seminars, studying books, periodicals, and other specialized printed or electronic materials.
- 7.2.5. The minimum duration of training undertaken by the candidate for certification shall impart the skills and knowledge and shall not be less than specified in Table 2 for the applicable NDT method.
- 7.2.6. This duration is based upon candidates possessing mathematical skills and prior knowledge of materials and processes that can be confirmed by appropriately screening of completed prior education. If it is not the case, additional training on this matter may be required by the CB.
- 7.2.7. Training days include both practical and theoretical courses.
- 7.2.8. When creating industrial sectors as defined in Appendix A, The CB shall consider the minimum training requirements in Table 2.
- 7.2.9. Direct access to Level II requires the total days shown in Table 2, which reflect the combined requirements for Level I and Level II.

7.2.10. Direct access to Level III requires the total days shown in Table 2 for Levels II and III. When considering the responsibilities of a certified Level III (See 6.3) and the content of Item C of the basic examination element for Level III (See Table 5), additional training detailing the other NDT methods may be necessary.

**Table 2 – Minimum Training Requirements**

| NDT method  | Level II<br>Days <sup>a</sup> | Level III<br>Days <sup>a</sup> |
|---|-------------------------------|--------------------------------|
| MT  | 5                             | 4                              |
| PT  | 5                             | 3                              |
| RT <sup>b</sup>   | 15                            | 5                              |
| UT  | 18                            | 5                              |
| VT  | 5                             | 3                              |
| <sup>a</sup> one day duration is at least seven (7) hours, which can be achieved on a single day or by accumulating hours<br><sup>b</sup> For RT, training hours are in addition to radiation safety training.<br>Note 1: in case of specific techniques see Annex F. |                               |                                |

7.2.11. The CB will not allow reductions in training duration.

7.3. Industrial NDT Experience

7.3.1. General

- 7.3.1.1. The minimum duration of experience to be gained in the sector where the candidate is seeking certification is identified in Table 3. When the candidate is seeking certification in more than one (1) method, the total time of experience shall be the sum of the experience in each method.
- 7.3.1.2. For Level II, the total days shown in Table 3, reflect the combined requirements for Level I and Level II as identified in ISO 9712:2021 Table 3.
- 7.3.1.3. Documentary evidence of experience shall be confirmed by the employer or the attestor and submitted to the CB.

7.3.2. Level III

- 7.3.2.1. Level III responsibilities require knowledge beyond the technical scope of any specific NDT method. This broad knowledge may be acquired through a variety of combinations of education, training, and experience. Table 3 details minimum experience for candidates who have successfully completed higher education, as well as candidates without higher education.

**Table 3 – Minimum Industrial Experience (Days)**

| NDT Method | Experience in Days <sup>a</sup> |                                |               |                                     |
|------------|---------------------------------|--------------------------------|---------------|-------------------------------------|
|            | Level II                        | Level III                      |               |                                     |
|            | direct access                   | higher education with Level II | with Level II | direct access with higher education |
| UT, RT     | 180                             | 270                            | 450           | 540                                 |
| MT, PT, VT | 60                              | 180                            | 240           | 360                                 |

<sup>a</sup> one (1) day duration is at least seven (7) hours, which can be achieved on a single day or by accumulating hours. The maximum allowable hours in any one day is 12 hours. Experience in days is achieved by dividing the total accumulated hours by seven (7).

7.3.3. Possible Reduction of NDT Industrial Experience

7.3.3.1. ASNT CS will not allow for reductions in industrial experience.

7.4. Vision Requirements—all levels

7.4.1. General

7.4.1.1. The candidate and certificate holders shall maintain and provide documentary evidence of acceptable vision in accordance Sections 7.4.2 to 7.4.4.

7.4.2. Near Vision Acuity

7.4.2.1. As part of initial certification, and annually thereafter, near vision acuity shall be verified to be in accordance with the requirements of ISO 18490 or shall require reading a minimum of Jaeger Number 1 or Times Roman N4.5 or equivalent letters at not less than 12 inches (30 cm) with one (1) or both eyes, either corrected or uncorrected.

7.4.3. Color Vision

7.4.3.1. As part of initial certification, recertification, or renewal, the candidate or certificate holder shall demonstrate that a color vision test has been administered within the previous 5 calendar years.

7.4.3.2. It is required that color vision and/or gray scale perception be sufficient for the individual to be able to distinguish and differentiate between the colors or shades of gray used in the NDT methods/techniques concerned as specified by the employer.

7.4.3.3. The color vision test shall either confirm that the individual has acceptable color vision without restriction or shall state any limitations(s) of color perception.

- 7.4.3.4. Where any limitation in color perception exists, the employer shall confirm whether or not this condition results in any limitation(s) to method or application specific techniques.

**NOTE 1:** *The Ishihara 24 plate test is an example of a suitable color vision test.*

#### 7.4.4. Visual Tests

- 7.4.4.1. Near vision acuity testing, color vision and/or gray scale perception verification(s) shall be administered by a licensed physician, nurse, ophthalmologist, or optometrist; or by another trained professional who is approved and documented by a Level III personnel acting on behalf of the employer. The identified person's name and signature shall be on the documentation submitted by the candidate or certificate holder.

## 8.0 Examination

### 8.1. Examination Overview

#### 8.1.1. General

- 8.1.1.1. The examination shall cover an NDT method, technique, industrial sector and/or product sector as appropriate.
- 8.1.1.2. The process used for the development and selection of the examination questions is performed by CB using the psychometric process (Appendix G). Through peer group review, input from subject matter experts, and statistical comparisons, we assure that questions are appropriate for the relevant syllabus for the method/technique/sector, and for the level of certification. Examinations require a passing grade of 70 % for all written examinations and 80% for all practical examinations.
- 8.1.1.3. The processes for preparation and conduct of examinations (see 8.4) are designed to ensure the confidentiality and security of examination questions and examination documents.
- 8.1.1.4. The practical specimens shall be maintained and monitored to ensure consistency and fairness of examinations using processes adopted by the CB.
- 8.1.1.5. The results of individual examinations shall remain valid for up to five (5) years while the candidate completes any remaining certification requirements.
- 8.1.1.6. To maintain the security and integrity of the examinations, the CB utilizes Computer-Based Testing for the General, Specific and Basic examinations.

**Note 1:** *The CB's Practical Examinations are administered at Authorized Examination Center (AEC)'s.*

## 8.1.2. Examination Elements

8.1.2.1. For Level II the examination shall consist of the following examination elements:

8.1.2.1.1. general examination element.

8.1.2.1.2. specific examination element.

8.1.2.1.3. practical examination element.

8.1.2.1.4. NDT instruction writing element.

8.1.2.2. For Level III the examination shall consist of the following examination elements:

8.1.2.3. Basic examination element consists of the following items, as identified in Table 5:

8.1.2.3.1. Item A technical knowledge

8.1.2.3.2. Item B certification body document knowledge

8.1.2.3.3. Item C Level 2 knowledge of methods

8.1.2.4. Main method examination element which consists of the following items, as identified in Table 6:

8.1.2.4.1. Item D general examination

8.1.2.4.2. Item E specific examination

8.1.2.4.3. Item F NDT procedure preparation

## 8.1.3. Examination Time

8.1.3.1. ASNT CS shall specify and publish the maximum amount of time allowed for the candidate to complete each examination element, which shall be based upon the following:

8.1.3.1.1. For Level II, the total time for the examination elements shall be based on two (2) minutes per multiple-choice examination question for general examination element and three (3) minutes per multiple-choice examination question for specific examination element.

8.1.3.1.2. For Level III, the total time for the examination elements shall be based on three (3) minutes per multiple-choice examination question in Items B and E and two (2) minutes for Items A, C, and D.

8.1.3.1.3. For questions requiring narrative answers, Level III Item F, NDT procedure writing element, and for the practical examination element, the time allowed shall be determined by the CB.

8.1.3.1.4. Both scorable and non-scorable questions will be used to determine the time allowed for the candidate to complete multiple-choice examination elements.

#### 8.1.4. Examination Aids

8.1.4.1. The use of aids such as codes, standards, specifications, procedures, and electronic devices is only permitted if supplied as part of the examination or when authorized by the CB.

### 8.2. Examination Content and Grading for Level II

#### 8.2.1. General Examination Element

8.2.1.1. The general examination shall be a minimum of 40 scorable multiple-choice examination questions and shall be selected according to psychometric principles applied by the CB's collection of general examination questions valid at the date of examination.

#### 8.2.2 Specific Examination Element

8.2.2.1 The specific examination shall have a minimum of 20 scorable multiple-choice examination questions selected according to psychometric principles applied by the CB's collection of specific examination questions valid at the date of examination.

8.2.2.2 If the specific examination covers two (2) or more sectors, the minimum number of scoreable questions shall be at least 30, taking into account the industrial or product sectors concerned (see Appendix A)

#### 8.2.3 Practical Examination Element

8.2.3.1 The practical examination involves applying the test to prescribed specimens, recording (and, for Level II candidates, interpreting) the resulting information to the degree required, and reporting the results in the required format. Specimens used for training purposes are not to be used for examination.

8.2.3.2 The CB's specimens are uniquely identified and have a master report which includes all of the equipment settings (if applicable) used to detect specified discontinuities. Markings do not interfere with the practical testing or inspection of the specimen and, wherever practicable, are concealed from the candidate while the specimen is being used for examination to prevent potential information correlation by candidates. The specimen master report is compiled based upon at least two (2) independent tests and verified by a Level III certificate holder in that method for use in grading examinations.

The independent test reports from which the master report is compiled are retained as records.

8.2.3.3 Specimens are sector specific (one (1) or more), representing field geometries and contain discontinuities representative of those likely to occur during manufacturing or in service. They may be natural or artificial. Data sets, digital radiographic images, and/or films can be used instead of physical specimens, but at least one (1) physical specimen shall be examined.

8.2.3.4 Specimens used for adjustment or for determination of thickness, coatings, or material properties do not need to contain discontinuities. For RT, the specimens to be tested do not need to contain discontinuities if these are exhibited in the data sets or radiographic images for Level II interpretation.

**NOTE 1:** *Guidelines on discontinuity types in examination specimens can be found in ISO/TS 22809*

8.2.3.5 The CB shall ensure that the number of areas or volumes to be tested is adequate to the level, NDT method and sector concerned, and that the specimens contain reportable discontinuities. The number of specimens to be tested in the Level II practical examinations shall be in accordance with Appendix B.

8.2.3.6 The Level II candidate shall select the applicable NDT technique and determine the operating conditions related to a given code, standard or specification.

8.2.3.7 The time allowed for the examination shall be defined by the CB.

#### 8.2.4 NDT Instruction Writing Examination Element

8.2.4.1 The NDT instruction writing examination element shall involve the creation of a written NDT instruction by the Level II candidate.

8.2.4.2 See Table D.2 for the weighting of the written examination instruction element.

#### 8.2.5 Grading of the Level II Examination

8.2.5.1 The general, specific, practical and NDT instruction writing examinations elements are graded separately. The CB utilizes E-assessment system that automatically score candidate responses against stored data and grade the completed written examination according to prepared algorithms. Each correct reply, scores 1 point and the mark attributed to the tests is the sum of the points obtained. For the final calculation, the mark of each test is expressed as a percentage. When conventional pre-prepared paper-based examinations are used, The CB staff are responsible for the grading of the examinations by comparison with model answers.

- 8.2.5.2 The grading of the practical examination is based on Items 1 to 3 in Table 4, with the recommended weighting factors in relation to the level and method as applicable.

**Table 4 – Subjects and Weighting Factors for Grading—Practical Examinations Element**

| Item <sup>a</sup>   | Subject   | Weighting factor<br>Level II<br>% |
|---|---|-----------------------------------|
| 1   | Knowledge of the NDT apparatus and NDT media                  | 10                                |
| 2   | Application of NDT method                                     | 26                                |
| 3   | The detection of indications or discontinuities and reporting | 64                                |
| Total:  |   | 100                               |
| <sup>a</sup> Table D.1 gives guidance on additional details on each item to be taken into account, as applicable by the examiner. |   |                                   |

- 8.2.5.3 For the Level II candidates to be eligible for certification, they shall obtain a minimum grade of 70 % in each written examination element (general, specific, and NDT instruction writing). For the practical examination element, a minimum grade of 80 % shall be obtained for each specimen tested. The CB may classify some discontinuities as mandatory to be detected and evaluated as unacceptable. The NDT instruction writing element shall be graded in accordance with Appendix D.

### 8.3 Examination Content for Grading Level III

#### 8.3.1 General

- 8.3.1.1 All candidates for Level III certification in any NDT method shall have successfully completed (with a minimum grade of 80 %) the practical examination for Level II in the relevant sector and method, except for the drafting of NDT instructions. A candidate who is Level II in the same NDT method and product sector or who has successfully passed a Level II practical examination for the NDT method in an industrial sector, as defined in Appendix A is exempt from passing again the Level II practical examination. This exemption is only valid for the product sectors covered by the industrial sector concerned and, in any other circumstances, the relevant sector is the sector in which the candidate seeks Level III certification.

#### 8.3.2 Basic Examination Element

- 8.3.2.1 This written examination shall assess the candidate's knowledge of the basic subjects using at least the number of multiple-choice questions shown in Table 5.



The questions shall be selected according to psychometric principles applied by the CB's collection of general examination questions valid at the date of examination. The examination may also have non-scorable questions.

**Table 5 – Minimum Required Number of Basic Examination Questions**

| Part | Subject  | Number of questions                         |
|------|--|---|
| A    | Technical knowledge in materials science and process technology.   | 25  |
| B    | Knowledge of the certification body's qualification and certification system based on this program document. This may be an open book examination.   | 10  |
| C    | General knowledge of at least four (4) methods as required for Level II and chosen by the candidate from the methods given in Table 1. These four (4) methods shall include at least one (1) volumetric method (UT or RT). | 15<br>for each test<br>method<br>(Total 60) |

8.3.2.2 It is recommended that the basic examination be passed first and remain valid, provided that the first main method examination is passed within five (5) years after passing the basic examination. A candidate holding a valid Level III certificate is exempt from the need to retake the basic examination.

### 8.3.3 Main Method Examination

8.3.3.1 This written examination shall assess the candidate's knowledge of the main method subjects using the minimum required number of multiple-choice questions shown in Table 6. The questions are selected according to psychometric principles from the collection of questions approved by the CB at the time of examination. The examination may also have non-scorable questions.

**Table 6 – Minimum Required Number of Main Method Examination Questions**

| Part   | Subject  | Number of questions |
|--|--|---------------------|
| D  | Level III knowledge relating to the test method applied.   | 30                  |
| E  | Application of the NDT method in the sector concerned, including the applicable codes, standards, specifications, and procedures. This may be an open book examination in relation to codes, standards, specifications, and procedures.  | 20                  |
| F  | <p>Drafting of one or more NDT procedures in the relevant sector. The applicable codes, standards, specifications, and other procedures shall be available to the candidate.</p> <p>For a candidate who has already drafted a NDT procedure in a successfully passed Level III examination, the certification body may replace the drafting of a procedure with the critical analysis of an existing NDT procedure covering the relevant method and sector and containing errors and/or omissions.</p> | —                   |
| Applicable aids (8.1.4) shall be specified and communicated to candidates. These aids may be provided by the CB. |  |                     |

8.3.4 Grading of Level III Examination

8.3.4.1 General

8.3.4.1.1 The grading of the basic and main method examinations shall be done separately. To be eligible for certification, a candidate shall pass both the basic and main method examinations.

8.3.4.1.2 For the three (3) Parts A, B, and C of the basic examination element and Parts D and E of the main method element, the following requirements apply.

8.3.4.1.3 The CB uses a computer-based (e-assessment) testing system that automatically scores candidate responses against stored data and grades the completed written examination according to prepared algorithms.

8.3.4.1.4 When conventional pre-prepared paper-based examinations are used, the CB shall be responsible for the grading of the examinations by comparing the replies given by the candidate against answer keys approved by the CB.

8.3.4.2 Basic Examination

8.3.4.2.1 In order to pass the basic examination, the candidate shall obtain a minimum grade of 70% in each of Parts A, B, and C.

### 8.3.4.3 Main Method Examination

8.3.4.3.1 In order to pass the main method examination, the candidate shall obtain a minimum grade of 70% in each of Parts D, E, and F.

8.3.4.3.2 See Table D.3 for the recommended weighting of the written examination procedure.

## 8.4 Conducting Examinations

8.4.1 All examinations shall be conducted in authorized examination centers established, approved, and monitored by the CB.

8.4.2 At the examination, the candidate shall have in their possession valid proof of identification and an official notification of the examination, which shall be shown to the examiner or authorized examination proctor upon demand.

8.4.3 Any candidate who, during the course of the examination, does not abide by the examination rules or who perpetrates, or is an accessory to, fraudulent conduct shall be excluded from all further qualification examinations for a period of at least one (1) year.

8.4.4 Examination questions are validated by the CB using approved psychometric procedures. When e-assessment systems that select questions, present the written examination to a candidate on a computer and grades the examinations are used, the CB shall validate and approve the computer-based system. When conventional pre-prepared paper-based examinations are used, the examination papers shall be validated and approved by the CB and grading shall be done in accordance with approved procedures (see 8.2.4 and Table 6, F).

8.4.5 Written (whether e-assessment or conventional) and practical qualification examinations shall be proctored by an examiner or by one (1) or more proctors approved by and under the responsibility of the CB.

8.4.6 With the approval of the CB, a candidate for a practical examination may use their own equipment.

8.4.7 Candidates are not permitted to bring personal items into the examination area, unless specifically authorized to do so by the examiner.

## 8.5 Re-examination

8.5.1 A candidate failing for reasons of unethical behavior shall wait at least one (1) year before reapplying (see 8.4.4).

8.5.2 A candidate who fails one (1) or more elements of an examination (i.e. general, specific, practical etc.) may retake the failed examination no more than once:

8.5.2.1 candidate shall wait a minimum of 30 days, prior to re-examination of failed element.

8.5.2.2 candidate shall complete all required elements of certification within two (2) years after the initial examination, or reapplication for the initial examination is required.

8.5.3 A candidate failing re-examinations on one (1) or more elements shall complete further training, acceptable to the CB and is required to retake all examination elements.

## 8.6 Supplemental Examination

8.6.1 A certified Level II individual changing sectors or adding another sector for the same NDT method is required to take sector specific and practical examinations elements for that sector. Level II is also required to write the NDT instructions for the new sector.

8.6.2 A certified Level III individual changing sectors or adding another sector for the same NDT method is required to take the sector specific Items E and F of the main method examination (see Table 6).

## 9.0 Certification

### 9.1 Administration

9.1.1 A candidate fulfilling all certification requirements shall be certified; and evidence of this certification shall be made available by the CB. This can be achieved with the issue of hard copy certificate(s), digital certificates, and/or by electronically uploading and displaying the relevant information on a database on the CB's website. The CB may also issue a wallet card that shall include a measure(s) to prevent falsifications.

### 9.2 Certificates

9.2.1 Certificates shall include the following information as a minimum:

9.2.1.1 the name of the certified individual

9.2.1.2 a photo or a unique identification number that references to a photo identification.

9.2.1.3 the name of the CB

9.2.1.4 the scope of the certification, including reference to this document, the NDT method(s) and level of certification, and/or applicable techniques and sector(s), including issue date

9.2.1.5 any limitations to the certification, if applicable

9.2.1.6 the effective date of certification and expiration date

9.2.1.7 the signature and/or authorization of a designated representative of the CB

9.2.1.8 contact information or website address to the CB's database for verification purposes

9.2.2 Where the data listed above can be printed directly from the CB's website, the printed output shall include a date of print and a statement that the current certification status can be verified at [www.asntcertification.org/verify](http://www.asntcertification.org/verify) .

### 9.3 Conditions of Certification

#### 9.3.1 General

9.3.1.1 Certification is granted, extended, suspended, withdrawn, or revalidated by the CB. The maximum period of validity of the certificate is five (5) years. To be valid, certificates shall be supported by a current annual verification of acceptable vision as per 7.4; and is the responsibility of the employer.

#### 9.3.2 Granting

9.3.2.1 Certification shall be granted by the CB when all certification requirements are fulfilled. The period of validity shall commence upon the decision of certification by the CB.

#### 9.3.3 Scope Extension

9.3.3.1 The CB shall specify requirements for scope extension for situations where an individual seeks extension of their scope of certification for an existing certification (i.e. additional product sector).

9.3.3.2 At the discretion of the CB:

9.3.3.2.1 the additional scope may be added to the existing certification and the original period of validity maintained; or

9.3.3.2.2 a new certificate with a new period of validity may be issued for the extension to scope only.

#### 9.3.4 Suspension of Certification

9.3.4.1 Certification may be suspended by the CB:

9.3.4.1.1 if the individual becomes temporarily physically incapable of performing their duties.

9.3.4.1.2 if the individual fails to provide evidence of meeting the visual acuity requirements of this document annually.

9.3.4.1.3 if a significant interruption takes place in the method for which the individual is certified.

9.3.4.1.4 at the discretion of the CB for any other situations.

9.3.4.2 The CB shall specify the conditions for revalidation where an individual's certification has been suspended.

### 9.3.5 Withdrawal of Certification

9.3.5.1 Certification shall be withdrawn by the CB:

9.3.5.1.1 at the discretion of the CB, i.e., after reviewing evidence of behavior incompatible with the certification scheme or failure to abide by a code of ethics.

9.3.5.1.2 if the individual fails to meet the requirements of renewal, until such time as the individual meets the requirements for renewal.

9.3.5.1.3 if the individual fails recertification, until such time as the individual meets the requirements for recertification or certification.

9.3.5.1.4 at the discretion of the CB, when verifiable evidence is received from the employer stating that the individual has become physically incapable of performing their duties.

### 9.3.6 Certification after Withdrawal

9.3.6.1 The CB shall specify the conditions for certification where an individual's certification has been withdrawn in the case of 9.3.5.1.1 and 9.3.5.1.4.

### 9.3.7 Waiting Period Prior to Certification After Withdrawal

9.3.7.1 In case of 9.3.5.1.1, the certification can only be granted after a minimum 12 month waiting period. The CB shall specify the length and conditions of the waiting period and reserves the right not to grant certification.

## 9.4 Certificates Issued by Other Certification Bodies

9.4.1 The CB may consider certification issued by another certification body. If so, the CB shall do so in accordance with a documented process. Where the CB takes into account work performed by another body, it shall have appropriate reports, data, and records to demonstrate the results are equivalent and conform to the requirements established by the certification scheme.

9.4.2 This process shall consider the granting of credit for valid certification including a review of education, training, experience, vision, and examination requirements of the originating certification body. The review may allow the CB to recognize the general theory part of a method examination. The review may also allow the CB to recognize the specific and/or practical examination elements but only when the method/technique, industry/product sector are appropriate.

- 9.4.3 Where the prior certification is accepted without any additional examination, the expiration of the new certification shall not extend beyond that of the prior certification, nor shall it extend the scope of certification.

## 10.0 Renewal

- 10.1 Prior to the completion of the first period of validity (5 years) and every 10 years thereafter, certification may be renewed by the CB for a new period of five (5) years on production of:
- 10.1.1 documentary evidence of a satisfactory visual acuity examination taken within the preceding 12 months; and
  - 10.1.2 documentary evidence of a satisfactory color vision and/or gray scale perception examination taken within the preceding 60 months; and
  - 10.1.3 verifiable documentary evidence of continued satisfactory work activity without significant interruption in the method and sector for which certificate renewal is sought; and either
  - 10.1.4 successful completion of a practical examination element in accordance with 11.2.2 except that it shall consist of a minimum of 50% of the examination specimens required by 11.2.2; or
  - 10.1.5 successfully meeting the requirements of the structured credit system as given in 10.2 and Appendix C.
  - 10.1.6 If the criterion 10.1.3 for renewal is not met, the individual shall complete the practical examination elements required by 11.2.2.
- 10.2 Where a candidate elects to use the structured credit system, they shall provide evidence to the CB demonstrating achievement of a minimum of 100 points in the five (5) year renewal period based on the requirements of Table C.1.
- 10.3 The CB does not certify Level I.
- 10.4 For candidates seeking renewal of Level II or III certificates, a minimum of 50 of the 100 points is required for any combination of activities listed in Part A of Table C.1.
- 10.5 Where a candidate is seeking renewal for more than one (1) certificate, points granted for a specific activity can be applied to the total points required for each certificate for those activities not specific to a particular method (e.g. “Current individual membership in NDT or NDT related society”). However, candidates shall meet the total number of points required (i.e. 100 points) for each certificate for which renewal is being sought.
- 10.6 The certificate holder is responsible for initiating the process required for renewal.
- 10.7 The renewal application shall be made to the CB before the date of the expiration and no sooner than 6 months prior to expiration.

- 10.8 If the renewal application is received prior to or on the date of expiration of the certificate, the renewal date of the new certificate shall be the same as the date of expiration of the certificate (i.e. no interruption in certification). The date of expiration of the new certificate shall be no more than five (5) years from the date of expiration of the original certificate.
- 10.9 The maximum period of validity of the certification at renewal is five (5) years.
- 10.10 Certificate holders at Level II not meeting the requirements for renewal shall fulfil the requirements for recertification as specified in 11.2.2. Certificate holders at Level III not meeting the requirements for renewal shall fulfil the requirements for recertification, as specified in 11.3.1.

## **11.0 Recertification**

### **11.1 General**

11.1.1 Prior to the completion of each second period of validity, the certified individual shall be recertified by examination by the CB for a new period of five (5) years, provided the individual meets the criterion for renewal specified in 10.1.1 and 10.1.2 and meets the applicable conditions described below:

11.1.1.1 It is the responsibility of certificate holders to initiate the procedures required to obtain recertification. If the recertification is applied for after expiry of the period of validity, a complete examination (general, specific, and practical) for Level II and a main method examination element (Table 6, Items D, E, and F) for Level III shall again be passed successfully

### **11.2 Level II**

11.2.1 Level II certificate holders seeking recertification shall provide a confirmation issued by the employer of continued satisfactory work activity without significant interruption in the method and sector for which recertification is sought and satisfy 11.2.2.

11.2.2 The individual shall successfully complete a practical examination which demonstrates continued competence to carry out work within the scope specified on the certificate. This shall include testing specimens (see Appendix B) appropriate to the scope of recertification and the production of a written instruction suitable for the use of Level I personnel (see 8.2.3.1). If the individual fails to achieve a grade of at least 80% for each specimen tested (weighted according to the guidance in Table 4), one (1) re-examination shall be allowed within 30 days and shall be within your current certification validity period.

11.2.3 In the event of failure in the allowable retests, the certification shall be withdrawn.

11.2.4 In order to reinstate certification, a candidate shall:

11.2.4.1 complete further training, acceptable to the CB; and

11.2.4.2 retake all examination elements required for initial certification.



- 11.2.5 The date of expiration of the reinstated certificate shall be no more than five (5) years from the date of expiration of the original certificate.
- 11.2.6 If the criterion in 11.2.1 for recertification is not met, the individual shall complete the general, specific, and practical examinations required by re-examination.

### 11.3 Level III

11.3.1 Level III certificate holders seeking recertification shall provide evidence of continued qualification confirmed by:

11.3.1.1 satisfying the Level III requirements of 11.3.6 for a written examination; or

11.3.1.2 meeting the requirements for a structured credit system, as given in 11.3.4 and Table C.1.

11.3.2 The individual may decide between the examination or credit system for recertification. If the credit system is chosen and requires submission of employer's documents or access to an employer's premises, the individual shall provide to the CB a written statement of approval from the employer.

11.3.3 In both cases (written examination or credit system), the individual shall either provide appropriate documented evidence, acceptable to the CB, of continued practical competence in the method or pass a Level II practical examination, as specified in 11.2.2, except for the drafting of NDT instructions.

11.3.4 Where a certificate holder elects to use the structured credit system, they shall provide evidence to the CB to demonstrate achievement of a minimum of 100 points in the 5-year recertification period based on the requirements of Table C.1.

11.3.5 For certificate holders seeking recertification of Level III certification:

11.3.5.1 a minimum of 50 and a maximum of 70 of the 100 points is required for any combination of activities listed in Item A of Table C.1; and

11.3.5.2 a minimum of 30 and a maximum of 50 of the 100 points is required for any combination of activities listed in Item B of Table C.1.

11.3.6 Where a certificate holder elects to take the written examination or does not meet the structured credit system requirements, they shall successfully complete an examination that includes:

11.3.6.1 a minimum of 20 multiple-choice questions on the application of the test method in the sector(s) concerned which demonstrates an understanding of current NDT techniques, standards, codes, or specifications, and applied technology; and

11.3.6.2 a minimum of 10 multiple-choice questions on the requirements of the CB's certification scheme.

- 11.3.7 If the individual fails to achieve a grade of at least 70% in the recertification examination, a maximum of one (1) retest of the recertification examination shall be allowed after 30 days. The time period within which all tests are to be taken shall be 12 months, unless otherwise extended by the CB.
- 11.3.8 In the event of failure in the one (1) allowable re-examination, the certification shall be withdrawn.
- 11.3.9 In order to reinstate certification, a candidate shall:
  - 11.3.9.1 complete further training, acceptable to the CB; and
  - 11.3.9.2 retake all main method examination elements as required for initial certification.
- 11.3.10 The date of expiration of the reinstated certificate shall be no more than five (5) years from the date of expiration of the original certificate.
- 11.3.11 A candidate who applies for and does not meet the requirements of the credit system shall be recertified in accordance with 11.3.3. In the event of failure at the first attempt at recertification by examination, one (1) retest of the recertification examination shall be allowed after 30 days. The time period within which all tests are to be completed shall be six (6) months, unless otherwise extended by the CB.

## **12.0 Files**

- 12.1 The CB shall maintain:
  - 12.1.1 an actual list or database of all certified individuals classified according to level, NDT method and sector.
  - 12.1.2 an individual file for each candidate who has not been certified, for at least five (5) years from the date of application.
  - 12.1.3 an individual file(s) for each certified individual and for each individual whose certification has lapsed containing:
    - 12.1.3.1 a photo
    - 12.1.3.2 application forms
    - 12.1.3.3 examination records, such as questionnaires, answers, description of specimens, records, results of test, NDT procedures, and grade sheets
    - 12.1.3.4 renewal and recertification documents, including evidence of visual acuity and continuous activity
    - 12.1.3.5 reason(s) for any withdrawal of certification.

- 12.2 Individual files shall be kept under suitable conditions of safety and confidentiality for as long as the certificate remains valid and for at least one (1) full certification cycle after the certification has lapsed.

**NOTE 1:** *The archiving of the CB's specimen, data sets or radiographs is not required.*

### **13.0 Transition Period**

- 13.1 When the CB applies certification to an NDT method, which is not yet covered within its scheme or when a new sector is created, it will allow for a transition period. During this transition period ASNT CS may temporarily appoint, for a period not exceeding five (5) years from the date of implementation of the new method or sector, duly qualified personnel as examiners for the purpose of conducting, supervising, and grading the qualification examinations. The five-year implementation period is not to be used by the CB as a means to certify candidates who do not meet all the qualification and certification requirements of this program document. When new or additional training requirements of the new method or sector are adopted, currently certified personnel shall provide documented evidence of full compliance at the next recertification cycle.

- 13.2 The CB's duly qualified personnel:

13.2.1 Are knowledgeable of the principles of NDT and the specific knowledge in relation to the sector.

13.2.2 Have industrial experience of the application of the NDT method.

13.2.3 Have ability to conduct examinations.

13.2.4 Are able to interpret the questionnaire and results of qualification examinations.

- 13.3 Within two (2) years of the date of appointment, these transitional examiners shall have gained certification by satisfying the requirements for recertification as described in 11.3.1.

- 13.4 Transition between previous ACCP Program and ASNT 9712 Program.

13.4.1 ACCP Certifications awarded before publication of this program document remain valid until the next mandatory step in the certification process, i.e., renewal or recertification, which shall be carried out according to this program document.

13.4.2 The CB may perform gap analysis between the certification program referenced on the candidate's certification and this program document. Based on the identified gap, additional examination(s) may be used at the time of renewal or recertification. Additional training and experience requirements will apply to all levels.

### **14.0 Accommodation for Disabilities**

- 14.1 The CB will make appropriate accommodations for persons with documented disabilities. Candidates should contact the ASNT CS prior to examination dates to arrange special accommodations.

## **15.0 Applicant Rights**

- 15.1 The CB has a process for the resolution of appeals, complaints, and disputes received from candidates, certified persons, their employers, and other parties regarding the certification process, qualification criteria, or the performance of certified persons.
- 15.2 The CB ensures confidentiality. Information gained in the course of the certification process of persons shall not be disclosed to any third party except as required by law.

## **16.0 Program Change Notification**

- 16.1 Changes to the ASNT 9712 certification program will be posted on the ASNT CS website [www.asntcertification.org](http://www.asntcertification.org). Notification of changes will also be shared in various ASNT marketing communications and publications.

**APPENDIX A (Normative)**  
**SECTORS**

**A.1.0 General**

- A.1.1 When creating a sector, the CB may standardize according to the reference lists of sectors in A.2.0 and A.3.0. This does not preclude the development of additional sectors to satisfy national needs.
- A.1.2 Sector certification may be available at both Level II and Level III of competence in all NDT methods or may be limited to particular methods or levels. The scope of certification shall be defined on the certificate.

**A.2.0 Product Sectors**

- A.2.1 These include:

- A.2.1.1 Metallic Materials

- A.2.1.1.1 castings (c) (ferrous and nonferrous materials)

- A.2.1.1.2 forgings (f) (all types of forgings: ferrous and non-ferrous materials)

- A.2.1.1.3 welds (w) (all types of welds, including soldering, for ferrous and non-ferrous materials)

- A.2.1.1.4 tubes and pipes (t) (seamless, welded, ferrous and non-ferrous materials, including flat products for the manufacturing of welded pipes)

- A.2.1.1.5 wrought products (wp) except forgings (e.g. plates, bar, rods)

**A.3.0 Industrial Sectors**

- A.3.1 Sectors combining a number of product sectors including all or some products or defined materials (e.g. ferrous and non-ferrous metals or non-metals like ceramics, plastics, and composites):

- A.3.1.1 pre-and in-service testing which includes manufacturing (s).

- A.3.2 When creating an industrial sector, the CB shall precisely define in its published documentation the scope of the new sector in terms of product, object, or item.

- A.3.3 An individual certified in an industrial sector shall be regarded also as holding certification in the individual sectors from which the industrial sector is composed.

**APPENDIX B (Normative)**  
**MINIMUM NUMBER AND TYPE OF SPECIMENS FOR LEVEL II PRACTICAL EXAMINATION**  
**ELEMENT**

**B.1.0 General**

- B.1.1 For all ASNT CS practical examination elements, candidates shall be required to test one (1) or more sector specific specimen.
- B.1.2 If the candidate is required to test more than one (1) specimen, each specimen shall be different in character, i.e. in product form, material specification, shape, size, or discontinuity type.
- B.1.3 The evaluation and interpretation of a data set shall be considered as equivalent to testing one (1) specimen.
- B.1.4 For all product sector related practical examination elements:
  - B.1.4.1 Candidates shall be required to test a minimum of two (2) specimens and for multiple product sectors, a minimum of one (1) from each product sector.
- B.1.5 For all industrial sector related practical examination elements:
  - B.1.5.1 Candidates shall be required to test at least two (2) specimens, representative of products typically tested in the industrial sector.
- B.1.5 For RT candidates:
  - B.1.5.1 Candidates shall radiograph at least two specimens.
  - B.1.5.2 In addition to taking radiographs, candidates shall interpret a set of at least 10 film images or 10 digital radiographic images. This set shall be considered as one (1) specimen.
  - B.1.5.3 When the certification sought is limited in application, for example, thickness measurement, radiographic interpretation or automated testing, the minimum number of specimens may be reduced by up to 50% to one (1) per sector (see Appendix F).
- B.1.6 VT examination may only include welds.
- B.1.7 Technique designations are applicable to each method and will be identified on certification records.

**Table B.1 – The Techniques Used for Practical Examination**

| <b>Test Method</b> | <b>Technique and Designator</b> |                     |                        |  |
|--------------------|---------------------------------|---------------------|------------------------|--|
| MT                 | Yoke (YK)                       | Bench (BN)          | -                      | -  |
| PT                 | Solvent Removable (SR)          | Water-Washable (WW) | Post Emulsifiable (PE) | -  |
| RT                 | Radioactive Isotope (RAM)       | X-ray (XR)          | Both (Combo)           | Film (FI) or Digital Image (DI) Interpretation<br>Both (FDI) |
| UT                 | Straight (LW)                   | Angle (SW)          | Phased Array (PAUT)    | Time of Flight Diffraction (TOFD)                            |
| VT                 | Direct (D)                      | Remote (R)          |                        | -  |

**APPENDIX C\* (Normative)**

**STRUCTURED CREDIT SYSTEM FOR LEVEL II AND LEVEL III RENEWAL AND FOR LEVEL III RECERTIFICATION**

**C.1.0 General**

**Table C.1 Structured Credit System for Level II and III Renewal and for Level III Recertification\***

| Item     | Activity   | Level II                    |   |  | Level III                   |   |  |
|----------|--|-----------------------------|---|--|-----------------------------|---|--|
|          |  | Points granted per activity | Maximum number of points per year of activity | Maximum number of points over 5 years activity | Points granted per activity | Maximum number of points per year of activity | Maximum number of points over 5 years activity |
|          | <b>Part A</b>  |                             |   |  |                             |   |  |
| <b>1</b> | Performance of NDT Activities <sup>a</sup>   | 2 / day                     | 25  | 95   | 2 / day                     | 25  | 95   |
| <b>2</b> | Completion of theoretical training in the method   | 1 / day                     | 5   | 15   | 1 / day                     | 5   | 15   |
| <b>3</b> | Completion of practical training in the method   | 2 / day                     | 10  | 25   | 2 / day                     | 10  | 25   |
| <b>4</b> | Delivery of practical or theoretical training in NDT in the method considered                | 1 / day                     | 15  | 75   | 1 / day                     | 15  | 75   |
| <b>5</b> | Participation in research activities in NDT field or for engineering of NDT (see Appendix E) | 1 / week                    | 15  | 60   | 1 / week                    | 15  | 60   |
|          | <b>Part B</b>  |                             |   |  |                             |   |  |
| <b>6</b> | Participation to a technical seminar/paper in the field of the method or technique           | 1 / day                     | 2   | 10   | 1 / day                     | 2   | 10   |
| <b>7</b> | Presenting a technical seminar/paper in the field of the method or technique                 | 1 / presentation            | 3   | 15   | 1 / presentation            | 3   | 15   |
| <b>8</b> | Current individual membership in NDT or NDT related society                                  | 1 / membership              | 2   | 5  | 1 / membership              | 2   | 5  |
| <b>9</b> | Technical oversight and mentoring of NDT personnel/ trainee in the relevant method           | 2 / mentee                  | 10  | 30   | 2 / mentee                  | 10  | 40   |



|   |   |               |    |    |               |    |    |
|---|---|---------------|----|----|---------------|----|----|
| <b>10</b>   | Participation or convenorship in standardization and technical committees | 1 / committee | 3  | 15 | 1 / committee | 4  | 20 |
| <b>11</b>   | Performing a technical NDT role within the CB                             | 2 / activity  | 10 | 30 | 2 / activity  | 10 | 40 |
| <p>NOTE Where the term “year(s)” is noted in this table, this is specified as a certification year and not as a calendar year.<br/> <sup>a</sup> See C.2 for specific details of this activity.</p> |   |               |    |    |               |    |    |

\* Table C.1 is taken from ISO 9712:2021 Appendix C

## C.2.0 Performance on NDT Activities

- C.2.1 When assessing this activity type, the CB should consider the responsibilities of employers as specified in 5.5 and the duties specified in 6.0. The following work activities may be considered as acceptable.
- C.2.1.1 knowledge and understanding of the customer's specifications and the inspection standards.
  - C.2.1.2 verification of operating conditions or setting up of the test equipment, successful performance of NDT, satisfactory reporting.
  - C.2.1.3 performance as a Level III examiner.
- C.2.2 When assessing the activities specified in C.2.1, the CB may request from the individual seeking renewal or Level III recertification documentation and/or evidence to demonstrate compliance including, but not limited to:
- C.2.2.1 confirmation of the candidate's work activities by a certified individual or attestor.
  - C.2.2.2 confirmation of the level of activity of the individual in the given method.
  - C.2.2.3 confirmation of formal documented competency or proficiency test(s) in the given method.
  - C.2.2.4 dates and protocol numbers of reports.
  - C.2.2.5 details of any job specific training received.
  - C.2.2.6 confirmation of employer's authorization to operate.
  - C.2.2.7 summary of activities and outputs.
  - C.2.2.8 job/position description.
  - C.2.2.9 annual/regular employer assessments of performance/competence reviews.
  - C.2.2.10 sample NDT reports.
  - C.2.2.11 sample procedure(s) developed (Level III only).
  - C.2.2.12 customer feedback.
  - C.2.2.13 confirmation of adherence to code of ethics from employer.
  - C.2.2.14 confirmation of compliance with additional national requirements (i.e. radiation safety).

C.2.3 Other evidence may be deemed acceptable or be requested by the CB. The CB may require that some or all of the submitted evidence be confirmed by the employer.

**APPENDIX D (Normative)**  
**GRADING PRACTICAL EXAMINATION**

**Grading of Level II Practical Examination Element – Percentile Weighting**

**Table D.1 – Percentile Weighting for Practical Examination of Level II**

| Subject  | Level II (%) |
|--|--------------|
| <b>Item 1- Knowledge of the NDT equipment and/or NDT media</b>   |              |
| a) System and/or media knowledge and control.  | 5            |
| b) Validity of verifications and/or media  | 5            |
| <b>Total:</b>  | <b>10</b>    |
| <b>Item 2 – Application of the NDT Method</b>  |              |
| Preparation of the specimen (i.e., surface condition), including visual examination  | 2            |
| For Level II, the selection of NDT technique and determination of operating conditions   | 10           |
| Setting up the NDT apparatus and performance of the test   | 12           |
| Posttest procedure (i.e., demagnetization, cleaning, preservation)   | 2            |
| <b>Total:</b>  | <b>24</b>    |
| <b>Item 3 – Detection of discontinuities and reporting</b>   |              |
| Detection of mandatory reportable discontinuities  | 18           |
| Characterization of indications (if applicable with respect to the test method: position, orientation, apparatus dimensions, etc.) | 18           |
| Level II evaluation against code, standard, specification or procedure criteria  | 18           |
| <b>Production of test report</b>   | <b>10</b>    |
| <b>Total:</b>  | <b>64</b>    |
| <b>Total Items 1, 2 &amp; 3:</b>   | <b>100</b>   |

**Grading of Level II Writing Examination Elements**

**Table D.2 – Percentile Weighting for NDT Instruction Writing Examination Element for Level II**

| NDT instruction writing  | %          |
|--|------------|
| Foreword (scope, reference documents)  | 5          |
| Personnel  | 5          |
| Equipment/media to be used   | 5          |
| Product (description or drawing, including area of interest and purpose of the test) | 10         |
| Test conditions, including preparation for testing                                   | 10         |
| Detailed instruction for application of the test, including settings                 | 40         |
| Recording and classifying of the test results  | 20         |
| Reporting the results  | 5          |
| <b>Total:</b>  | <b>100</b> |

## Weighting of Level III Main Method Examination Element Item F

**Table D.3 – Percentile Weighting for the Level III NDT Procedure Examination**

| Subject   | Level<br>II<br>(%) |
|---|--------------------|
| <b>Item 1– General</b>  |                    |
| Scope (field of application, product)   | 2                  |
| Document control  | 2                  |
| Normative references and complementary information  | 4                  |
| <b>Sub-total:</b>   | <b>8</b>           |
| <b>Item 2 – NDT Personnel</b>   | <b>2</b>           |
| <b>Item 3 – Materials and equipment</b>   |                    |
| Main NDT equipment (including defining verification status and pre-test serviceability checks)                    | <b>10</b>          |
| Ancillary equipment (reference and calibration blocks, consumables, measuring equipment, viewing aids, etc.)      | <b>10</b>          |
| <b>Sub-Total:</b>   | <b>20</b>          |
| <b>Item 4 – Test piece</b>  |                    |
| Physical condition and surface preparation (temperature, access, removal of protective coatings, roughness, etc.) | <b>1</b>           |
| Description of area or volume to be tested, including reference datum   | <b>1</b>           |
| Discontinuities sought  | <b>3</b>           |
| <b>Sub-Total:</b>   | <b>5</b>           |
| <b>Item 5 – Performance of the test</b>   |                    |
| NDT method(s) and technique(s) to be used   | <b>10</b>          |
| Setting up the apparatus  | <b>10</b>          |
| Conducting the test (including reference to NDT instructions)   | <b>10</b>          |
| Characterization of discontinuities   | <b>10</b>          |
| <b>Sub-Total:</b>   | <b>40</b>          |
| <b>Item 6 – Acceptance criteria</b>   | <b>7</b>           |
| <b>Item 7 – Post-test procedure</b>   |                    |
| <b>Disposition of non-conforming product (labelling, segregation)</b>   | <b>2</b>           |
| <b>Restoration of protective coatings (where required)</b>  | <b>1</b>           |
| <b>Sub-Total:</b>   | <b>3</b>           |
| <b>Item 8 – Production of the test report</b>   | <b>5</b>           |
| <b>Item 9 – Overall presentation</b>  | <b>10</b>          |
| <b>Total:</b>   | <b>100</b>         |

**APPENDIX E (Informative)**  
**ENGINEERING IN NDT**

Engineering in NDT is not addressed in this procedure at this time.

**APPENDIX F (Informative)**  
**TRAINING REQUIREMENTS FOR TECHNIQUES**

**F.1.0 General**

- F.1.1 This appendix considers the increasing use of NDT techniques developed in the framework of an NDT method.
- F.1.2 The selection of NDT techniques included in this appendix are not meant to be comprehensive nor exclusive, therefore, leaves room for future technique when use becomes significant for inclusion in the appendix.
- F.1.3 Direct access to Level II requires the total training days as reference in ISO 9712-2021. Direct access to Level III requires the total training days shown in the tables where applicable for Level II and III.

**F.2.0 Recommended Additional Training Days for Techniques**

**F.2.1 General**

- F.2.1.1 The training requirements for techniques shown in Tables F1 to F3 are in addition to those for the method shown in Table 2.

**NOTE 1:** *The training requirements for the base methods from Table 2 are reproduced in the first line of Tables F.2 to F.3 for convenience; Table F.1 for Leak Testing has been omitted.*

**F.2.2 Validity**

- F.2.2.1 Certification in a technique is valid as long as the certificate in the main method is valid.

**Table F.2 – Magnetic Testing (MT) Techniques Additional Training Requirements**

| Technique           | Abbreviated Term | Training Requirements (days) |           |
|---------------------|------------------|------------------------------|-----------|
|                     |                  | Level II                     | Level III |
| MT (as per Table 2) |                  | 5                            | 4         |
| Flux Leakage        | ML               | 3                            | N/A       |

**Table F.3 – Ultrasonics (UT) Techniques Additional Training Requirements**

| Technique  | Abbreviated Term | Training Requirements (days) |           |
|--|------------------|------------------------------|-----------|
|  |                  | Level II                     | Level III |
| UT (as per Table 2)  |                  | 18                           | 5         |
| Time of Flight   | TOFD             | 10                           | N/A*      |
| Phased Array   | PAUT             | 10                           | N/A*      |
| * Level III performing these techniques required to meet the requirements for Level II |                  |                              |           |

**Table F.4 –Ultrasonic (UT) Techniques Additional Training Requirements**

| Technique   | Level II | Level III |
|---|----------|-----------|
| TOFD  | UT-2     | N/A       |
| PAUT  | UT-2     | N/A       |
| Note The level stated in the table is the minimum acceptable level of certification. A Level III certificate holder satisfies this requirement. |          |           |

**F.3.0 Recommended Total Training Days for Radiographic Testing (RT) Techniques**

F.3.1 General

F.3.1.1 The training requirements for the techniques shown in Table F.5 and F.6 are the total training days required for certification in the RT technique noted.

F.3.2 Validity

F.3.2.1 Certification in a technique is valid as long as the certificate in the main method is valid,

**Table F.5 – Radiographic Testing (RT) Techniques Training Requirements**

| Technique      | Technique with limited scope           | Abbreviated term | Training requirements (days) |           |
|----------------|--|------------------|------------------------------|-----------|
|                |  |                  | Level II                     | Level III |
| Film & Digital |  | RT-FD            | 18                           | 8         |
| Film           |  | RT-F             | 15                           | 5         |
| Digital        |  | RT-D             | 15                           | 5         |
|                | RT Film Interpretation                 | RT-FI            | 8                            | N/A       |
|                | RT digital image interpretation        | RT-DI            | 8                            |           |
|                | RT Film & Digital Image interpretation | RT-FDI           | 9                            |           |

F.3.2.2 When the training syllabi agree with the recommendations in ISO/TS 25107, several situations are to be considered, RT including both then film (RT-F) and digital radiography (RT-FD).

F.3.3 Additional training requirements for film to digital transition

F.3.3.1 Candidates holding an RT-F certificate and seeking certification in RT-D will require additional training as shown in Table F.6



**Table F.6 – Additional Training Requirements for RT-F to RT-D**

| <b>Method</b> | <b>Technique</b>    | <b>Abbreviated term</b> | <b>Level II</b> | <b>Level III</b> |
|---------------|---------------------|-------------------------|-----------------|------------------|
| RT            | Digital radiography | RT-D                    | 8 days          | 3 days           |

**APPENDIX G (Informative)**  
**PSYCHOMETRIC PRINCIPLES**

**G.1.0 General**

- G.1.1 The CB has chosen to use psychometric principles for the written examinations, as follows:
- G.1.1.1 Any reference to questions requirement in this document relates to scorable questions, however, all questions (scorable and non-scorable) shall be considered when calculating examination times.
  - G.1.1.2 Scorable questions are approved, and validated test items submitted to the CB for entry into the item bank. Non-scorable questions (not used to determine pass/fail) are items developed and approved for use on future examinations but are not statistically validated. Validation requires a minimum number of exposures and item analysis as specified by the CB before use as a scorable question.
  - G.1.1.3 The minimum passing grade shall be 70%.
  - G.1.1.4 The grading of examinations shall be done in accordance with the psychometric process specified by the CB.
- G.1.2 The use of psychometrics for developing and evaluating examinations assures that they are fair, valid, and reliable as well as discriminate between personnel who are competent to perform NDT at the desired level to those who are not.

## **BIBLIOGRAPHY**

**ISO/TS 22809**, *Non-destructive testing—Discontinuities in specimens for use in qualification examinations*

**ISO/TR 25107**, *Non-destructive testing — Guidelines for NDT training syllabuses*

**ISO/TR 25108**, *Non-destructive testing — Guidelines for NDT personnel training organizations*

**ANSI/ASNT CP-105**: *Topical Outlines for Qualification of Nondestructive Testing Personnel.*

**ANSI/ASNT CP-189**: *For Qualification and Certification of Nondestructive Testing Personnel*

**ASNT SNT-TC-1A**: *Personnel Qualification and Certification in Nondestructive Testing*