

ANSI/ASNT CP-106
(ISO 9712:2005, Modified)

Nondestructive Testing— Qualification and Certification of Personnel

2008 Edition



**The American Society for
Nondestructive Testing, Inc.**



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ASNT Mission Statement

ASNT exists to create a safer world by promoting the profession and technologies of nondestructive testing.

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Foreword

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 9712 was prepared by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 7, *Personnel Qualification*.

This third edition cancels and replaces the second edition (ISO 9712:1999) which has been technically revised.

National Foreword

The *ANSI/ASNT CP-106, Nondestructive Testing – Qualification and Certification of Personnel*, document is a modified adoption of ISO 9712:2005, *Non-destructive testing – Qualification and certification of personnel* with modifications made in accordance with ISO/IEC Guide 21:1999, *Adoption of International Standards as regional or national standards*. The document is formatted in the style of ISO 9712:2005 and the rationale for each national modification is located in an outlined text box titled “national explanatory note” directly after the clause, figure or table that was modified.

Prepared by the American Society for Nondestructive Testing, Inc. (ASNT), this document was approved by the ASNT Standards Development Committee, a consensus body organized in accordance with the requirements of the American National Standards Institute (ANSI) for Standards Developing Organizations. The purpose of developing this document was to provide the United States with an American National Standard that would incorporate the provisions of ISO 9712:2005 while recognizing the current national preferences for certification on nondestructive testing personnel.

General Note: The term “International Standard,” used in ISO 9712, has been replaced in this document by the term “American National Standard” unless specific reference is being made to the international document.

Appendices A and B are informational only.

Introduction

Since the effectiveness of any application of nondestructive testing depends upon the capabilities of the persons who perform or who are responsible for the test, a procedure was developed to provide a means for evaluating and documenting the competence of personnel whose duties require the appropriate theoretical and practical knowledge of the nondestructive tests that they perform, specify, supervise, monitor or evaluate. An added incentive stems from the world-wide comparability of a wide range of industrial applications requiring common nondestructive testing approaches.

Any certification body adopting this American National Standard shall comply with Level III requirements for qualification and certification, but is permitted a transition period of up to five (5) years to implement Level II.

The aim is to permit the starting of the system in a country that has no third party certification. It is also applicable when an independent certification body applies the certification scheme to a new NDT method or when a new industrial sector is created.

NOTE: Wherever gender specific words such as “his,” “her,” “he” or “she” appear in this American National Standard the other gender is also applicable.

National Explanatory Note:

In keeping with national practice, the ANSI/ASNT CP-106 document uses roman numerals to denote the three numbered levels of NDT qualification, Level I, Level II and Level III. Personnel that are not yet qualified to Level I are considered Trainees.

Contents

Foreword	iii
National Foreword	iii
Introduction	iv
Contents	v
1.0 Scope	1
2.0 References	1
3.0 Terms and Definitions	1
4.0 Abbreviations	3
5.0 Responsibilities	3
6.0 Levels of Qualification	5
6.2 NDT Level I	5
6.3 NDT Level II	5
6.4 NDT Level III	6
6.5 NDT Instructor	6
7.0 Eligibility	6
8.0 Qualification Examinations	9
9.0 Certification	15
10.0 Certification Validity and Renewal	16
11.0 Certification Files	17
Appendices	18
Appendix A: Suggested Industrial Sectors	19
Appendix B: References	20

Nondestructive Testing — Qualification and Certification of Personnel

1.0 Scope

- 1.1 This American National Standard establishes a system for the qualification and certification, by a certification body, of personnel to perform industrial nondestructive testing (NDT) using any of the following methods:
 - 1.1.1 eddy current testing (ET);
 - 1.1.2 liquid penetrant testing (PT);
 - 1.1.3 magnetic particle testing (MT);
 - 1.1.4 radiographic testing (RT);
 - 1.1.5 ultrasonic testing (UT);
 - 1.1.6 visual testing (VT).
- 1.2 The system described in this American National Standard may also apply to leak testing (LT), neutron radiography (NR), acoustic emission (AE) and other NDT methods where independent certification programs exist.

National Explanatory Note:

Visual Testing (VT) has been added as a test method to 1.1 above in accordance with paragraph 1.2.

- 1.3 Where latitude is provided in the criteria within this American National Standard, the certification body shall have the final decision in determining specific requirements.

2.0 References

- 2.1 The following mandatory documents contain provisions which, through reference in this text, constitute provisions of this American National Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the mandatory documents indicated below. For undated references, the latest edition of the mandatory document referred to applies.
 - 2.1.1 ISO/IEC 17024:2003, *General criteria for certification bodies operating certification of personnel*.
 - 2.1.2 ANSI/ASNT CP-105, *Topical Outlines for Qualification of Nondestructive Testing Personnel*.

National Explanatory Note:

In keeping with national practice, the term “normative” has been replaced with the term “mandatory” and “informative” has been replaced with “non-mandatory” throughout this Standard.

The document governing criteria for certification bodies has been changed from EN 45013 to ISO 17024 to reflect the development of the international document covering criteria for certification bodies. National documents have been incorporated for the NDT Body of Knowledge and additional requirements for certification programs have been incorporated.

3.0 Terms and Definitions

- 3.1 For the purposes of this American National Standard, the following terms and definitions apply:
 - 3.1.1 **Authorized qualifying body:** competent organization, independent of the employer or responsible agency, approved by the certification body to prepare and administer examinations to qualify NDT personnel.
 - 3.1.2 **Candidate:** individual seeking certification in accordance with this American National Standard.

- 3.1.3 **Certificate:** document issued by the certification body under the provisions of this standard indicating that the named person has demonstrated the competence(ies) defined on the certificate.
- 3.1.4 **Certification body:** agency that administers procedures for certification of NDT personnel in accordance with the requirements of this American National Standard.
- 3.1.5 **Certification:** procedures leading to a written testimony of the qualification of an individual's level of competence in a given NDT method and industrial sector.
NOTE: The issuing of a certificate does not authorize the holder to operate; this authority can only be given by the employer.
- 3.1.6 **Employer or responsible agency:** organization for which the candidate works on a regular basis.
- 3.1.7 **Examination, basic:** one of the Level III qualification examinations which assess the knowledge of:
3.1.7.1 the materials science and processes technology;
3.1.7.2 this qualification and certification system, and;
3.1.7.3 the basic principles of NDT methods as required for Level II.
- 3.1.8 **Authorized examination center:** center approved by the certification body, either directly or through an authorized qualifying body, where qualification examinations will be carried out.
- 3.1.9 **Examination, general:** written Level I or Level II examination concerned with the principles of an NDT method.
- 3.1.10 **Examination, main method:** one of the Level III qualification examinations, which assess the general and specific knowledge of the Level III candidate in the method for which certification is sought, and the ability to write NDT procedures.
- 3.1.11 **Examination, practical:** examination to assess the candidate's ability to perform the NDT method.
- 3.1.12 **Examination, qualification:** examination administered by a certification body or by an authorized qualifying body, which assesses the knowledge and capabilities of the candidate.
- 3.1.13 **Examination, specific:** written examination concerned with the application of an NDT method in a particular industrial sector or sectors, which includes knowledge of the product and related codes, standards, specifications and acceptance criteria.
- 3.1.14 **Examiner:** person certified to Level III in the method in which he is to administer examinations, and authorized by the certification body to conduct and/or grade NDT qualification examinations.
NOTE: No Level III person shall be the only examiner for any candidate he has personally trained for that examination.
- 3.1.15 **Experience:** period during which the candidate performed the specific NDT method under qualified supervision, including personal application of the NDT method to materials, parts or structures.
- 3.1.16 **Industrial sector:** particular area in industry or technology where specialized NDT practices are utilized requiring specific skill, knowledge, equipment or training to achieve satisfactory performance.
- 3.1.17 **NDT instruction:** written description of the precise steps to be followed in testing to an established NDT procedure, standard, code or specification.
- 3.1.18 **NDT Instructor:** a person able to demonstrate the skills and knowledge to plan, organize, and present classroom, laboratory, demonstration, and/or on-the-job NDT instruction, training, and/or education programs (see paragraph 5.5).
- 3.1.19 **NDT method:** application of a physical principle in nondestructive testing (e.g., ultrasonic testing).
- 3.1.20 **NDT procedure:** orderly sequence of steps describing where, how and in which sequence an NDT method should be applied to a product.
- 3.1.21 **NDT technique:** specific way of utilizing an NDT method (e.g., immersion ultrasonic testing).
- 3.1.22 **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 an approved syllabus, but shall not include the use of specimens used in practical examinations.
- 3.1.23 **On-the-job training:** practical application of an NDT test method in production or field conditions under the direct supervision of a Level II or Level III person in the applicable test method.
- 3.1.24 **Operating authorization:** permission to work, issued by the employer or responsible agency and based on the individual's suitability for a specific job.