



## PCN/GEN ISSUE 14 DATED 1<sup>st</sup> JANUARY 2017

### IMPLEMENTATION DATE: 1<sup>st</sup> JANUARY 2017

Note: Implementation date has not been extended due to the application of date changes effective from 1<sup>st</sup> January 2017. It is noted that ample warning was provided for requirement changes.

# GENERAL REQUIREMENTS FOR QUALIFICATION AND PCN CERTIFICATION OF NDT PERSONNEL

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## Introduction

The PCN Scheme is an international programme for the certification of competence of non-destructive testing personnel which satisfies the requirements of a number of European and international standards.

The Council of the British Institute of NDT constitutes a Certification Management Committee and delegates to the CMC the responsibility for maintaining a management overview of the operations of its Certification Services Division. Membership of boards and committees is open to the participation of individuals and organisations. Further information on the work of committees and committee membership is available from The Certification Services Division of the British Institute of NDT.

The CMC fulfils the requirement for a Scheme Committee in terms of ISO/IEC 17024 (Personnel Certification) and an Impartiality Committee in terms of ISO/IEC 17021 (Management Systems Certification).

There is a wide range of qualification examinations available within the Scheme, covering various NDT methods and techniques. Authorised Qualifying Bodies are independent organisations (see definition: "Authorised Qualifying Bodies") which have been audited against rigorous criteria prior to authorization, and which are subject to regular surveillance. Organisations anywhere in the world wishing to explore the possibility of being authorised to conduct PCN examinations are encouraged to discuss the potential for their involvement with BINDT Certification Services.

This document, which is implemented with effect from 1st April 2013, sets out the general requirements and procedures common to all central parts of the scheme. Supplementary appendices are published covering specific examinations applicable to various industry and product sectors.

Appendices to this document cover:

Appendix <a href="#">B</a>	Castings
Appendix <a href="#">C</a>	Welds
Appendix <a href="#">D</a>	Wrought Products and Forgings
Appendix <a href="#">E</a>	Pre and in-service Inspection (multi-sector)
Appendix <a href="#">F</a>	Railway

This series of documents is designed to provide comprehensive information for users of the PCN Scheme. The complete list of published PCN documents is detailed in publication reference PSL/8A. PCN documents are also available for download from the Institute's web site at [www.bindt.org](http://www.bindt.org)

The United Kingdom Secretary of State has appointed the British Institute of Non-Destructive Testing as a Recognised Third-Party Organisation (RTPO) under regulation 20 of the European Pressure Equipment Regulations 1999 which implement the provisions of Directive 2014/68/EU of the European Parliament concerning 2014/68/EU pressure equipment. The scope of the appointment is for the approval of personnel to carry out non-destructive tests on permanent joints for pressure equipment in categories III and IV in accordance with section 3.1.3 of Schedule 2 to the Regulations.

Success in qualification examinations described in Appendices C and E results in the award of PCN certification covering the testing of permanent joints (welds), which meets or exceeds the EN ISO 9712:2012 criteria and fully satisfies Directive 2014/68/EU and applicable harmonized standards. No additional procedure is necessary to apply for separate approval in order to satisfy the PED.

Copies of PCN documents are available free of charge from [www.bindt.org](http://www.bindt.org). Organisations requiring at all times to be in possession of the most up to date PCN documents may register with the "PCN Update Scheme" which, for a small annual fee, guarantees that they automatically receive all new or revised PCN documents in electronic form.

It is intended, through publication of these documents, to provide PCN candidates and certificate holders with all relevant information. However, if further information or advice is required on any certification matter, please contact the Certification Services Division of BINDT on telephone number +44 (0)1604 438300, or email questions to [pcn@bindt.org](mailto:pcn@bindt.org).

## Foreword

### Distinction level

PCN has agreed that from 1 January 2016 the pass grade of a PCN exam will be reduced to a straight 70% pass on each examination part, with no overall average.

This will bring PCN in line with all other certification bodies operating an ISO 9712 scheme.

It has been agreed by the Certification Management Committee that a distinction level will be awarded for all candidates receiving the 80% average grade. Therefore, there will be a L2 and a L2D on certificates.

The new database was implemented in August 2015. All certificates keyed after this date that have an average grade will automatically be awarded the 'D' for distinction. PCN are currently working towards the addition of 'L1D, L2D and L3D' to all certificates keyed prior to January 2016, but in the meantime candidates may receive a certificate showing two levels. Employees are advised that all certificates issued before January 2016 should be assumed to be L1D, L2D and L3D (excluding BRS/RPS/WI/CDS and ISO 20807 certificates).

## 1. Scope

- 1.1. This document describes a system for the qualification and certification of personnel who perform industrial non-destructive testing.
- 1.2. Specific details of the certification available at each level in the various NDT methods and industry sectors are contained in the appropriate supplementary appendix to this document. A list of the current supplementary appendices is published within document PSL/8A, which is updated every three months and is freely available from the British Institute of NDT or any of its Authorised Qualifying Bodies.
- 1.3. This document incorporates provisions from other PCN publications, all of which are available from the British Institute of NDT at [www.bindt.org](http://www.bindt.org), and which are listed below under "References".

## 2. References

### 2.1. Regulations

2014/68/EU – Pressure Equipment Directive

### 2.2. Standards

ISO/IEC17024 General requirements for bodies operating certification systems of persons

CEN/TS 15053: *Non-destructive testing – Recommendations for discontinuities-types in test specimens for examination*

CEN ISO/TR 25107: Non-destructive testing – Guidelines for NDT training syllabuses (ISO/TR 25107:2006)

CEN ISO/TR 25108: Non-destructive testing – Guidelines for NDT personnel training organisations (ISO/TR 25108:)

CEN/TR 15589: Non-destructive testing – Code of practice for the approval of NDT personnel by recognised third party organizations under the provisions of the Pressure Equipment Directive

EN ISO 9712: Non-destructive testing - Qualification and certification of personnel

Wherever there is a conflict between the requirements of standard concerning NDT personnel qualification and certification, the PCN Scheme will meet or exceed the EN ISO 9712 criterion unless otherwise indicated by text placed within a frame similar to that in which this text is displayed.
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### 2.3. PCN documents (referenced herein):

PSL/4 Examination availability

PSL/8A PCN Documents - Issue status

PSL/30 Log of pre-certification experience

PSL/31 Use of PCN & UKAS Logo

PSL/44 Vision Requirements

PSL/49 Examination exemptions for holders of certification other than PCN

PSL/57C Application for certification, experience gained post examination (including PSL/30).

PSL/70 Request for L2 certificate issue to a L3 certificate holder.

CP9 Requirements for BINDT Authorised Qualifying Bodies

CP16 Renewal and recertification of PCN Levels 1 & 2 certificates

CP17 Renewal and recertification of PCN Level 3 certificates

CP19 Informal access to Authorised Qualifying Bodies by third parties.

CP21 Complaints and appeals

CP22 Marking and grading PCN practical examinations

CP25 Guidelines for the preparation of NDT procedures and instructions in PCN examinations

CP27 Code of Ethics for PCN certificate Holders

### 3. Terms and Definitions.

For the purposes of this document, the following definitions apply:

- 3.1. Approved Training Organisation (ATO) – A legal entity assessed against the criteria in CEN ISO/TR 25108 and approved by BINDT to provide specified training courses for personnel intending to attempt a PCN or other specified examination.
- 3.2. Authorised Examination Centre (AEC) – a location, approved by BINDT, where PCN examinations are conducted.
- 3.3. Authorised Qualifying Body (AQB) - A body, independent of any single predominant interest, satisfying the criteria detailed in PCN document reference CP9 and authorised by the British Institute of NDT to prepare and administer PCN examinations to qualify NDT personnel.
- 3.4. Appropriately Qualified Personnel - Individuals carrying out supervision of candidates for PCN certification holding relevant certification issued by a BINDT recognised certification body meeting the requirements of ISO/IEC 17024.

*Note: The certification concerned must include supervisory competence and have a similar technical scope as that certification which is the subject of surveillance. Where there are insufficient appropriately qualified persons in a country outside of the United Kingdom to satisfy the requirement, supervision of PCN candidates may be carried out by persons holding relevant qualification acceptable to BINDT.*

- 3.5. Basic Examination - written examination, at Level 3, 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 2.
- 3.6. Candidate - individual seeking qualification and certification and who gains experience under the supervision of suitably qualified personnel.
- 3.7. Certificate – document, issued by the certification body under the provisions of the applicable standard, indicating that the named person has demonstrated the competence(s) defined on the certificate
- 3.8. Certification - procedure used by BINDT to confirm that the qualification requirements for a method, level and sector have been fulfilled, leading to the issue of a certificate
- 3.9. Certification Body - The body that administers procedures for certification of NDT personnel in accordance with this specification, and fulfils the requirements of ISO/IEC 17024.

*Note: In the present case, the Certification Body is the British Institute of Non-Destructive Testing, which manages and administers the PCN Scheme.*

- 3.10. Employer or The organisation for which a candidate or holder of certification works on a regular basis. An employer may also be a candidate.
- 3.11. Examiner - person certified to Level 3 in the method and product or industrial sector for which he is authorised by the British Institute of NDT to conduct, supervise and grade the qualification examination.

- 3.12. General Examination – a written examination, at Level 1 or 2, concerned with the principles of an NDT method.
- 3.13. Industrial NDT Experience – the experience needed to acquire the skill and knowledge to fulfil the provisions of qualification in the appropriate sector, and which is gained under the supervision of Appropriately Qualified Personnel, in the application of the NDT method in the sector concerned.
- Note: Experience may be acquired either prior to (for level 1 and 2 entry only) or following success in the qualification examination. However, the chances of success in a PCN examination may be significantly reduced if candidates have little or no current experience in the application of the NDT method in the sector concerned.*
- In the event that the PCN examination has been passed by a candidate lacking the experience required for certification, BINDT will issue a letter of attestation to the successful candidate indicating that he or she has passed the qualification examination and needs only to meet the experience requirement in order to be certificated. Records of experience obtained post examination shall be presented on PCN form PSL/30.*
- 3.14. Invigilator - An individual trained by an AQB in the process of examination invigilation to BINDT requirements, particularly with respect to the points to be observed during a practical examination, and who is impartial with respect to the candidate(s) under examination. Invigilators shall be authorised in writing by BINDT on the AQB schedule of authorization.
- 3.15. Job-specific training - instruction, provided by the employer (or his agent) to the candidate or certificate holder in those aspects of non-destructive testing specific to the employer's products, NDT equipment, NDT procedures, and applicable codes, standards and specifications, leading to the award of operating authorisation.
- Note: A job specific examination, which is often solely of a practical nature, may be conducted by the employer as a part of the NDT personnel authorisation procedure (the British Institute of NDT publishes guidance for employers in conducting and recording such examinations), or by a BINDT Authorised Qualifying Body.*
- 3.16. Main NDT Method Examination - written examination, at Level 3, which demonstrates the candidate's general and specific knowledge of the applicable NDT method, 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.
- 3.17. Multiple choice examination question - A question worded in a manner giving rise to four potential replies, only one of which is correct, the remaining three being incorrect or incomplete
- 3.18. NDT Instruction - A written description of the precise steps to be followed in testing to an established standard, code, specification or *NDT procedure*.
- 3.19. NDT Technique - A specific way of utilizing an NDT method (for example, ultrasonic immersion technique).
- 3.20. NDT Procedure - written description of all essential parameters and precautions to be applied when non-destructively testing products in accordance with standard(s), code(s) or specification(s). An NDT Procedure can involve the application of more than one NDT Method or Technique.
- 3.21. NDT Method - Discipline applying a physical principle in Non-Destructive Testing (for example, Ultrasonic Testing).
- 3.22. NDT Training - a 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 approved by BINDT.
- 3.23. Operating Authorisation - written statement issued by the employer, based upon the scope of certification, authorizing the individual to carry out defined tasks. Authorisation may be dependent on the provision of job-specific training.
- 3.24. Practical Examination - assessment of practical skills in which the candidate demonstrates familiarity with and the ability to operate the necessary test equipment, to perform the test using prescribed specimens, and to record and to analyse the resulting information to the degree required.

- 3.25. Qualification - Demonstration of physical attributes, knowledge, skill, training and experience required to properly perform NDT tasks
- 3.26. Qualification Examination - An examination administered directly by the British Institute of NDT or by an Authorised Qualifying Body, which assesses the general, specific and practical knowledge and skill of the candidate.
- 3.27. Qualified supervision - supervision of candidates gaining experience by NDT personnel certificated under the PCN Scheme or by non-certificated personnel who, in the opinion of BINDT, possess the knowledge, skill, training and experience required to properly perform such supervision
- 3.28. Recertification - procedure for revalidation of a certificate by examination or by otherwise satisfying the certification body that the published criteria for recertification are satisfied.
- 3.29. Record of Certification - Document listing all PCN certification issued under the rules specified in PCN documentation, indicating that the named individual has demonstrated proficiency in performing NDT within the scope of the certification.
- 3.30. Renewal - Procedure for revalidation of a certificate without examination at any time up to five years after success in an initial, supplementary or recertification examination.
- 3.31. Sector - A particular section of industry or technology where specialized NDT practices are used, requiring specific product related knowledge, skill, equipment or training. A sector may be interpreted to mean a product (castings, welds or wrought products) or an industry (railway or in-service testing).
- 3.32. Significant Interruption - absence from (or a change of) work activity which prevents the holder of PCN certification from practising the duties corresponding to his or her level in the method and sector(s) for which certification was issued, for (a) a continuous period in excess of one year or (b) two or more periods for a total time exceeding two years.  
  
*Note: Legal holidays, or periods of sickness or courses of less than thirty days are not taken into account when calculating the interruption.*
- 3.33. Specific Examination - written examination, at Level 1 or Level 2, 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.
- 3.34. Specification - document stating requirements
- 3.35. Specimen - a sample used in practical examinations, which may include radiographs and data sets, and which are representative of products typically tested in the applicable sector, and which may include more than one area or volume to be tested.
- 3.36. Specimen master report - model answer, indicating the optimum result for a practical examination given a defined set of conditions (equipment type, settings, technique, specimen, etc.), against which the candidate's test report will be graded.
- 3.37. 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.
- 3.38. Validation - act of demonstrating that a verified procedure will work in practice and fulfil its intended function, normally achieved by actual witnessing, demonstration, field or laboratory tests or selected trials.
- 3.39. Written Practice – documented procedure detailing the employer's requirements for qualification, certification and authorization of NDT employees.

#### 4. Abbreviations

The abbreviations used within this document or its appendices are as follows:

AEC	Authorised Examination centres
ACFM	Alternating Current Field Measurement
AT	Acoustic Emission Testing
ATO	Approved Training Organisations
AQB	Authorised Qualifying Bodies
AUT	Automated Ultrasonic Testing
BRS	Basic Radiation Safety
BINDT	The British Institute of NDT (the certification body)
CB	Certification Body
ET	Eddy Current Testing
MT	Magnetic Testing
NDT	Non-Destructive Testing
OTJ	on-the-job (Training)
PA	Phased array (of eddy current or ultrasonic transducers)
PED	Pressure equipment Directive (2014/68/EU)
PT	Penetrant Testing
QA	Quality Assurance
QC	Quality Control
RI	Radiographic Interpreter
RPS	Radiation Protection Supervisor
RT	Radiographic Testing
TOFD	Time of Flight Diffraction
TT	Infrared Thermographic Testing
UT	Ultrasonic Testing
VT	Visual Testing

#### 5. Duties and responsibilities

##### 5.1. The Certification Body (BINDT)

- 5.1.1. BINDT will fulfil the requirements of ISO/IEC 17024 and, inter alia, will ensure that the PCN Scheme(s) for qualification and certification of personnel, and the assessment and certification of systems, are controlled and operated so as to ensure, amongst other things, that they are impartial, and that decisions taken and implemented at all levels, including management and committees, are free from commercial or other pressures that may prevent the objective provision of certification services.
- 5.1.2. BINDT will approve Authorised Qualifying Bodies (AQB) to carry out examinations (assessments) on its behalf, and will carry out regular and frequent assessments of AQB against a published specification (document CP9).
- 5.1.3. BINDT will approve Examination Centres (AECs) where PCN examinations are conducted.
- 5.1.4. BINDT shall ensure that information obtained during 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.
- 5.1.5. When BINDT is required by law to release confidential information, the person concerned shall, unless prohibited by law, be notified as to what information will be provided.

##### 5.2. The employer.

- 5.2.1. The employer shall introduce the candidate to the certification body or the authorised qualification body and document the validity of the personal information provided. This information shall include the declaration of education, training and experience and visual acuity needed to determine the eligibility of the candidate. If the candidate is unemployed or self-employed,

- the declaration of education, training and experience shall be attested to by at least one independent party acceptable to the certification body.
- 5.2.2. Neither the employer nor his staff shall be directly involved in the qualification examination
  - 5.2.3. Where required by regulatory requirements and codes, the authorisation to operate must be given in writing by the employer in accordance with a Written Practice or 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 products tested.
  - 5.2.4. The employer shall ensure that candidates gaining experience for certification are supervised by Appropriately Qualified Personnel.
  - 5.2.5. With regard to certificated persons, the employer shall be responsible for:
    - all that concerns the authorization to operate, i.e. providing job-specific training (if necessary);
    - issuing the written authorization to operate;
    - the results of NDT operations;
    - verification of visual acuity in accordance with PSL/44, and
    - verifying continuity in the application of the NDT method without significant interruption;
    - ensuring that personnel hold valid certification relevant to their tasks within the organisation;
    - maintaining appropriate records.
- 5.3. Candidates, whether employed, self-employed or unemployed shall
    - 5.3.1. provide documentary evidence of satisfactory completion of a course of training at an ATO approved by BINDT;
    - 5.3.2. provide verifiable documentary evidence in a form acceptable to BINDT (a correctly completed form PSL/30 satisfies this requirement) that the required experience has been gained under qualified supervision;
    - 5.3.3. undertake to abide by the Code of Ethics, published as CP27, for candidates and certificates holders
    - 5.3.4. provide documentary evidence of vision satisfying the requirements of PSL 44.
    - 5.3.5. sign a non-disclosure agreement indicating their commitment not to release confidential examination materials or participate in fraudulent test-taking practices.
    - 5.3.6. Inform PCN of any significant interruption that will affect the scope of his/her certification.
    - 5.3.7. Inform PCN of any issue that may affect the scope of his/her certification i.e significant interruption, or failure to meet the continuity requirements.
    - 5.3.8. assume all of the responsibilities described for the employer if self employed.
  - 5.4. Certificate holders shall;
    - 5.4.1. undertake to abide by the Code of Ethics published as CP27.
    - 5.4.2. undergo an annual test of visual acuity in accordance with PSL 44 and submit the results of tests to the employer
    - 5.4.3. notify BINDT Certification Services and the employer in the event that the conditions for validity of PCN certification (see clause 17) are not fulfilled



## 6. Levels of PCN certification

### 6.1. Level 1

6.1.1 An individual certified to Level 1 has demonstrated competence to carry out NDT according to written instructions and under the supervision of Level 2 or Level 3 personnel. Within the scope of the competence defined on the certificate, Level 1 personnel may be authorised by the employer to perform the following in accordance with NDT instructions:

- set up NDT equipment;
- perform the tests;
- record and classify the results of the tests according to written criteria;
- report the results.

6.1.2 Level 1 certified personnel shall neither be responsible for the choice of test method or technique to be used, nor for the interpretation of test results.

6.2. An individual certified to Level 2 has demonstrated competence to perform NDT according to NDT procedures. Within the scope of the competence defined on the certificate, Level 2 personnel may be authorised by the employer to:

- select the NDT technique for the test method to be used;
- define the limitations of application of the testing method;
- translate NDT codes, standards, specifications and procedures into NDT instructions adapted to the actual working conditions;
- set up and verify equipment settings;
- perform and supervise tests;
- interpret and evaluate results according to applicable standards, codes, specifications or procedures;
- prepare written NDT instructions
- carry out and supervise all tasks at or below level 2;
- provide guidance for personnel at or below level 2, and
- report the results of non-destructive tests.

### 6.3. Level 3

6.3.1 An individual certified to Level 3 has demonstrated competence to perform and direct NDT operations for which he is certified. Level 3 personnel have demonstrated:

- the competence to evaluate and interpret results in terms of existing standards, codes, and specifications;
- 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;
- a general familiarity with other NDT methods.

6.3.2 Within the scope of the competence defined on the certificate, Level 3 personnel may be authorised to:

- assume full responsibility for a test facility or examination centre and staff;
- establish, review for editorial and technical correctness and validate NDT instructions and procedures;
- interpret codes, standards, specifications and procedures;
- designate the particular test methods, techniques and procedures to be used;
- within the scope and limitations of any certification held (see clause 6.3.4), carry out all tasks at all levels, and
- provide guidance for NDT personnel at all levels.

- 6.3.3 Level 3 certificated personnel may be authorised to carry out, manage and supervise PCN qualification examinations on behalf of the British Institute of NDT.
- 6.3.4 Where Level 3 duties require the individual to apply routine NDT by a method or methods within a particular product or industry sector, the British Institute of NDT strongly recommends that industry demand that this person should hold and maintain Level 2 certification in the applicable method(s) and sector(s).
- 6.3.5 The range and scope of PCN certification available at each level is defined in the relevant appendix to these general requirements.

## 7 Eligibility

- 7.1. The candidate shall fulfil the minimum requirements of vision and training prior to the qualification examination and shall fulfil the minimum requirements for industrial experience prior to certification

### 7.2. Training

- 7.2.1 To be eligible for examination the candidate shall provide documentary evidence successful completion of a British Institute of NDT validated course of training at a BINDT ATO which covers the relevant part of the published syllabus (CEN ISO/TR 25107), that he has satisfactorily completed training in the method and level for which the certification is sought.

- 7.2.2 For all levels, the candidate shall satisfactorily complete a course of theoretical and practical training recognized by BINDT

Where PCN examinations are to be conducted for candidates in an overseas location and BINDT validated training is not available through a BINDT ATO, a training course that is equivalent to the PCN approved syllabus may be granted interim recognition for up to two years subject to BINDT approval as meeting PCN requirements for pre-certification training. For mature candidates, with at least 5 years documented experience without significant interruption (see definitions) in the NDT method and sector for which certification is sought, who can provide evidence of completion of a course of training (covering the relevant syllabus) which was of at least the duration specified in Table 1, the need to have attended a British Institute of NDT approved course of training may be waived. Such candidates should apply to the BINDT Authorised Qualifying Body as 'mature candidates', attaching evidence of that status. If a significant interruption in continuity in the application of the NDT method exists, the candidate shall undertake further training determined by BINDT.

For Level 3, in addition to the minimum training given in Table 1, 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.

- 7.2.3 The minimum duration of training undertaken by the candidate for certification shall be as defined in 7.2.4 and Table 1 (below) for the applicable NDT method, with the possible reductions defined in clause 7.2.5:

This duration is based upon candidates possessing adequate mathematical skills and prior knowledge of materials and processes. If it is not the case, additional training may be required by BINDT.

Training hours include both practical and theoretical courses.

- 7.2.4 Direct access to Level 2 requires the total hours shown in Table 1 for Levels 1 and 2. Direct access to Level 3 requires the total hours shown in Table 1 for Levels 1, 2, and 3. When considering the responsibilities of a certified Level 3 (see 6.3) and the content of Part C of the basic examination for Level 3 (see Table 4), additional training about the other NDT methods may be necessary.

**Table 1 – minimum required durations of training**

NDT Method	Level 1 hours	Level 2 hours	Level 3 hours
ET	40	40	48
ACFM	40	40	48
PT	16	24	24
MT	16	24	32
RT	40	80	40
RI	N/A	56	N/A
UT	40	80	40
VT	16	24	24
BRS	16	N/A	N/A
RPS	N/A	24	N/A
Basic knowledge	(direct access to Level 3 examination parts A, B and C)		80

*NOTE 1. The 80 hours training required for Level 3 Basic qualification may be accrued through a combination of classroom training at a BINDT approved training organisation (minimum 50%), self-study and distance learning. However accrued, candidates should record the training undertaken for presentation to PCN if requested. This note relates to the Level 3 Basic Examination (see 3.5), and reductions in training duration up to 72 hours maximum, may be granted based on holding:*

*NOTE 2. The rationale for the reduction in training hours for ET L2 from 48h to 40h (direct - 88h to 80h) is that the PCN scheme has product sectors of welds and wrought products rather than a single ET certification. To achieve full ET certification direct to Level 2 having both welds and wrought products would require more than 80 hours training in total for the PCN scheme.*

a) Product Technology  
*The candidate holds a certificate covering:*

a multi-sector	- 12 hours
castings	- 4 hours
welds	- 4 hours
wrought products	- 4 hours

b) Level 2 general theory in four NDT methods, one of which is a volumetric method  
*The Level 3 candidate holds Level 2 certification in*

Four NDT methods	- 60 hours
Three NDT methods	- 45 hours
Two NDT methods	- 30 hours
One NDT methods	-15 hours

7.2.5 The possible reductions in training duration are as described hereafter, provided that, when several reductions are applicable, the total reduction does not exceed 50% of the training duration. Any reduction requires written confirmation of acceptance from BINDT.

- a) For all levels:
- for candidates seeking certification in more than one method (e.g. MT, PT), or for those already certified and seeking certification in another method, when the training syllabus concerned duplicates certain aspects (e.g. product technology), the total number of training hours for these methods (e.g. PT, MT, VT) may be reduced in line with the training syllabus;
  - for candidates who have graduated in a relevant subject from technical college or university, or have completed at least two years of relevant engineering or science study at college or university, the total required number of training hours may be reduced by up to 50%.

*NOTE It is appropriate for the subject to be relevant to the NDT method (chemistry, mathematics or physics) and/or to the product or industry sector (chemistry, metallurgy, engineering, etc.)*

- b) For levels 1 and 2, when the certification sought is limited:
- in application (e.g. automated ET, UT of bar, tube, and rod or normal beam ultrasonic thickness and lamination testing of rolled steel plate);
  - in technique (e.g. RT using only radiography);
- the training duration may be reduced by up to 50%.

- c) For direct access to Level 2 RT when certification is restricted to the film interpretation and to only one product sector, a minimum training requirement of 56 h applies.

## 8. Industrial NDT Experience

### 8.1 General

- 8.1.1 The minimum duration of experience to be gained in the sector where the candidate is seeking certification shall be as given in Table 2, with the possible reductions given in clause 8.4. When the candidate is seeking certification in more than one method, the total time of experience shall be the sum of the experience in each method.
- 8.1.2 For Level 2 certification, the intent is that work experience consists of time as a Level 1. If the individual is being qualified directly to Level 2, with no time at Level 1, the experience shall consist of the sum of the times required for Level 1 and Level 2. No reduction in the period of experience shall be allowed
- 8.1.3 Industrial NDT experience in the appropriate sector may be acquired either prior to or following success in the qualification examination
- 8.1.4 In the event that the experience is sought following successful examination, the results of the examination shall remain valid for up to two years.
- 8.1.5 Documentary evidence (in a form acceptable to the British Institute of NDT, i.e., on PCN form PSL/57c) of experience satisfying the following requirements shall be confirmed by the employer and submitted to the BINDT AQB prior to examination, or directly to BINDT prior to the award of PCN certification in the event that experience is gained after examination.
- 8.1.6 Level 3 candidates must have the required amount of NDT experience prior to taking any examination.

### 8.2 The minimum duration of experience for certification shall be as defined in Table 2.

**Table 2: Minimum Duration of Experience for certification**

NDT Method	Experience (months) <sup>a</sup>		
	Level 1	Level 2	Level 3
ET, ACFM, RT, UT, TT	3	9	36
MT, PT, VT	1	3	24
RI	N/A	6	N/A

<sup>a</sup> Work experience in months is based on a nominal 40 hours/week or the legal week of work. When an individual is working in excess of 40 hours per week, he may be credited with experience based on the total hours, but he shall be required to produce evidence of this experience.

### 8.3 Level 3

- Level 3 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 2 details minimum experience required for level 3 candidates.
- For level 3 candidates who have successfully completed a degree or diploma at a technical school or completed at least two years of engineering or science study at an accredited college or university, proof of qualifications will be required, may be eligible for a reduction in the amount of experience required by 50%.
- For Level 3 certification, the intent is that work experience consists of time as a Level 2. If the individual is being qualified directly from Level 1 to Level 3, with no time at Level 2, the experience shall consist of the sum of the times required for Level 2 and Level 3. No reduction in the period of experience shall be allowed.

### 8.4 Possible reductions

- 8.4.1 The possible reductions in duration of experience are as described hereafter, provided that, when several reductions are applicable, the total reduction does not exceed 50% of the experience duration. Any reduction does require acceptance by BINDT.

When considering possible reduction in the duration of experience, the certification body should take into consideration the following elements.

- The quality of experience can be variable, and skills may be assimilated more quickly in an environment where the experience is concentrated and has a high degree of relevance to the certification sought.
- When gaining experience simultaneously in two or more surface NDT methods, i.e. MT, PT and VT, the experience gained in the application of one NDT method may be complementary to the experience gained in one or more other surface methods.
- Experience in one sector of an NDT method for which certification is already held may be complementary to the experience in a different sector of the same NDT method.
- The level and quality of education possessed by the candidate should also be considered. This is particularly the case for the Level 3 candidate but it can also be applicable for other levels.

8.4.2 Credit for work experience may be gained simultaneously in two or more of the NDT methods covered by this International Standard, with the reduction of total required experience as follows:

- two testing methods: reduction of total required time by 25%;
- three testing methods: reduction of total required time by 33%;
- four or more testing methods: reduction of total required time by 50%.

In all cases, the candidate shall be required to show that for each of the testing methods for which they seek certification, they have a minimum of 50% of the time required in Table 2

8.4.3 In all cases, the candidate shall be required to show that for each of the NDT method and sector combinations for which he seeks certification, he has at least half of the experience required, and this shall never be less than one month in duration.

8.4.4 When the certification sought is limited in application (e.g. thickness measurement or automated testing), experience duration may be reduced by up to 50% but shall not be less than one month.

8.4.5 Up to 50% of the practical experience time may be achieved by an appropriate practical course, the duration of which may be weighted by a maximum factor of 5. This procedure shall not be used in conjunction with that specified in 8.4.4. The course shall concentrate on practical solutions of frequently occurring testing problems and should involve a significant element of testing known defective specimens. The procedure will be approved by BINDT.

## 9. Vision Requirements

9.1. The PCN requirements for colour perception and acuity of vision, together with the qualifications of those administering the vision tests, are fully defined in PCN document PSL/44, which includes a form for recording the results of vision tests. The requirements are reproduced below for ease of information:

9.2. Candidates for PCN examinations will be required, on the day of the examination, to provide proof of a satisfactory vision test conducted within the 12 months preceding the examination.

9.2.1. Near vision acuity shall permit reading a minimum of Jaeger number 1 or Times Roman N 4.5 or equivalent letters (having a height of 1,6 mm) at not less than 30 cm with one or both eyes, either corrected or uncorrected;

9.2.2. Colour vision shall be sufficient that the candidate can distinguish and differentiate contrast between the colours or shades of grey used in the NDT method concerned as specified by the employer.

*NOTE: Subsequent to certification, the documented tests of visual acuity shall be carried out at least every twelve months and verified by the employer.*

## 10. Qualification Examination

10.1. General

An examiner shall not be permitted to examine any candidate that he has trained for the examination, or who is employed in the same facility as the candidate.

*Note: only BINDT authorises examiners and examination invigilators within the PCN Scheme, and all examination personnel are required to declare any interest in a candidate that presents for examination. In case of doubt regarding maintenance of impartiality, AQB shall consult with BINDT Certification Services before conducting examinations.*

## 10.2. Examination Application

10.2.1. Applications shall only be completed by the candidate using the latest version of the application form available direct from [www.bindt.org](http://www.bindt.org).

10.2.2. Initial enquiries to the BINDT Authorised Qualifying Body may be by telephone. Formal applications must be made on a BINDT application form (PSL57A) available direct from [www.bindt.org](http://www.bindt.org) or from the AQB. No examination appointment can be considered confirmed until a correctly completed application form has been received.

10.2.3. Application forms ask for specific details on experience and training to the published syllabus and must be signed to the effect that these details are correct. In the event of a false statement being discovered, any certification awarded as a result of the examination will be null and void.

10.2.4. Candidates shall supply, to the AQB, verifiable evidence of satisfying all eligibility criteria i.e. valid visual acuity and experience prior to booking an examination, in the event that BINDT discovers that the required evidence of eligibility is not submitted, any examination results or certification awarded as a result will be null and void.

10.2.5. Applications dependent upon the individual holding appropriate certification must be supported by acceptable evidence of such certification; photocopies are acceptable at this stage, but original certificates, together with proof of identity, shall be presented to the examination invigilator on the date of examination. Failure to comply with this clause will result in a refusal to examine.

10.2.6. The location of all Authorised Qualifying Bodies, the scope of examinations for which they are approved, and contact information is given in document PSL/4, copies of which are available from the British Institute of NDT.

10.2.7. Provision is made wherever possible for candidates with a disability which may affect their ability to complete PCN examinations. For example, up to 25% additional time may be allowed in examinations for candidates suffering from dyslexia. The candidate is responsible for bringing his or her disability to the attention of the examining body.

## 10.3. Examination Equipment and Documentation

10.3.1. BINDT Authorised Qualifying Bodies will provide all necessary NDT equipment although candidates may bring and use their own equipment by prior arrangement with the AQB. Any item of apparatus brought by a candidate that is unreliable or rendered unserviceable during the examination shall be replaced by the candidate. Guidance on suitable equipment is available directly from the BINDT Authorised Qualifying Body.

10.3.2. Digital instrumentation capable of storing calibration details, formulae or data relevant to NDT must be deprogrammed prior to attempting any PCN practical examination using that instrument. The candidate will be required to demonstrate compliance and, in the event that the BINDT Authorised Qualifying Body is not satisfied that deprogramming is effective, the candidate may be required to use equipment provided by the AQB or be refused examination.

10.3.3. All necessary reference standards will be provided by the BINDT Authorised Qualifying Body. Candidates must not be in possession of any reference standards, other than those provided by the AQB, during a PCN examination.

10.3.4. Provided security of examination materials can be guaranteed, candidates will be allowed the use of an AQB provided PC or lap-top computer in the NDT instruction and NDT procedure writing section of the PCN examination. On no account will the use of a candidate's own computer be permitted during a PCN examination and, for reasons of security, candidates are not permitted to bring any form of computer, including hand-held devices (PDAs, etc.) into the

examination facilities at a PCN AQB or Examination Centre. The provision of computers for candidate use is optional for any BINDT AQB.

10.3.5. The use of a pocket calculator is permissible in PCN examinations provided that it is of a type that does not permanently store programs, formulae or data relevant to NDT.

10.3.6. Mobile telephones, audio, video or other recording devices are not permitted in any PCN examination area.

10.4. Qualification Examination Content - Levels 1 and 2

10.4.1. Examination sections

10.4.1.1. The qualification examination consists of written general and specific parts, and a specific practical examination covering a given NDT method applied to specimens representative of products in one or more industrial sectors.

10.4.1.2. The general and specific written examinations are comprised mainly of multi-choice answer questions (exceptions being the radiation protection and the Level 3 recertification examinations).

10.4.1.3. The time allowed to the candidates for completion of each examination shall be based upon the number and difficulty of the questions. The average time allowed shall be no less than one minute nor longer than two minutes per multiple choice question. The time allowed for examinations comprised of narrative answer questions varies but is specified on the examination paper presented to the candidate.

10.4.1.4. The practical examination is of sufficient duration, complexity and scope adequately to verify the candidate's ability to apply the NDT method to real test situations. The time allowed for the practical examination is detailed in the appropriate appendix to these general requirements.

10.4.2. General Examination

10.4.2.1. The general examination includes only validated questions selected in an unpredictable way from the collection of general questions approved by the British Institute of NDT at the time of the examination. The number of questions in each NDT method general examination is as defined in *Table 3*.

NDT Method	Level 1	Level 2
ET	40	40
PT	30	40
MT	30	40
RT	40	40
RI	N/A	40
UT	40	40
VT	30	40
BRS	30	N/a
RPS	n/a	20 plus 4 narrative

10.4.3. Specific Examination

10.4.3.1. The specific examination includes only validated questions selected in an unpredictable way from the collection of specific questions approved by the British Institute of NDT at the time of the examination.

10.4.3.2. All Level 1 Specific Theory Papers have 25 questions. All Level 2 Specific Theory Papers have 30 questions.

- 10.4.3.3. During the specific examination, the candidate shall be required to answer multiple-choice questions, including questions involving calculations, written procedures and questions on product technology, codes, standards and specifications.
- 10.4.3.4. If the specific examination covers two or more product sectors, the questions will be evenly spread between the sectors concerned. Multi Sector Level 1 specific papers will contain 35 questions, 10 from each sector plus 5 product technology questions. Multi Sector Level 2 specific papers will contain 40 questions, 10 from each sector plus 10 product technology questions
- 10.4.4. Practical Examination (see CP22 for information on grading)
- 10.4.4.1. The practical examination is designed to ascertain the ability of the candidate to:
- make the required settings;
  - operate the test equipment properly;
  - perform testing of prescribed components relating to the industrial sector concerned;
  - record and to analyse the resultant information to the degree required according to written instructions for Level 1 or a code, standard, specification or a procedure for Level 2.
- 10.4.4.2. For Level 2 the candidate will demonstrate the ability to prepare written instructions for Level 1. This will be an open book examination where the candidate is provided with the relevant standard, code or specification, together with a copy of CP25.
- 10.4.4.3. The Level 1 candidate will follow the NDT instruction(s) provided by the examiner, while the Level 2 candidate will select the applicable NDT technique and determine the operating conditions related to a given code, standard, or specification.
- 10.4.4.4. The specimens used for the practical test will be selected from a collection of representative specimens approved by BINDT during the approval audits at the AQB. Each test specimen shall contain one or more of the discontinuities defined in CEN/TS 15053.
- 10.4.4.5. The number of areas or volumes to be tested and the time allowed during the practical examination will be adequate to the level and NDT method, and to the sector concerned, and is defined in the relevant appendix to this specification.
- 10.4.4.6. Specimens will be uniquely identified and have a master report which includes all of the equipment settings used to detect specified discontinuities contained within the specimen. The master sheet is compiled based upon at least two independent tests, and is validated by an authorised examiner for use in grading PCN examinations. The independent test reports from which the master report is compiled shall be retained as records.
- 10.4.4.7. Specimens contain discontinuities characteristic of those that occur during manufacturing or in service. They may be natural, artificial or implanted. For practical radiography, the specimen will not necessarily contain discontinuities since these will be exhibited in the radiographs for interpretation.
- 10.4.4.8. For those examinations where discontinuities are normally replaced by artificial sources or data, the level 1 candidate shall demonstrate the ability to set up the equipment, verify its sensitivity and record the test data; the level 2 candidate shall also demonstrate the ability to interpret and evaluate previously recorded test data.



## 10.5. Qualification Examination Content - Level 3

### 10.5.1. General

10.5.1.1. All candidates for level 3 certification in any NDT method shall have successfully completed (with a grade of  $\geq 70\%$ ) the practical examination for level 2 in the relevant sector and method, except for the drafting of NDT instructions for level 1 (see 10.5.3.3).

10.5.1.2. A candidate who is level 2 in the same product sector, or has successfully passed a level 2 practical examination for the method in an industrial sector (e.g. Aerospace) in which the product is commonly tested (e.g. castings and wrought products), is exempt from passing again the level 2 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 3 certification.

### 10.5.2. Basic Examination.

10.5.2.1. The basic examination shall be passed first and the result will remain valid, provided that the first main method examination is passed within five years after passing the basic examination. A candidate holding a valid level 3 certificate is exempt from the need to retake the basic examination.

10.5.2.2. Examination questions shall be selected from the current collection of questions approved by BINDT at the time of the examination. The number of questions set will be as defined in Table 4.

10.5.2.3. All the questions are of the multiple choice answer type. The total time allowed for this examination is 3 hours.

Part	Examination	Number of questions
A	Materials technology and science, including typical defects in a wide range of products including castings welds and wrought products.	30
B	Qualification and certification procedure in accordance with this document	10
C	15 general questions at Level 2 standard for each of four NDT methods chosen by the candidate, including at least one volumetric NDT method (UT or RT).	60

### 10.5.3. Main Method Examination

10.5.3.1. This written examination shall assess the candidate's knowledge of the main method subjects using the minimum required number of multiple choice questions approved by the British Institute of NDT at the time of the examination. The number of questions shall be as defined in Table 5.

10.5.3.2. The duration of the examination is 1 hour for part D, 40 minutes for part E, and 4 hours for part F.

10.5.3.3. Level 3 candidates not holding appropriate level 2 certification shall pass a relevant level 2 practical examination (except that they need not draft an NDT instruction).

10.5.3.4. The successful candidate for PCN Level 3 certification may be issued Level 2 certification in the same NDT method and sector without further examination provided the relevant PCN Level 2 practical examination was passed in order to gain the Level 3 certification concerned. The resultant Level 2 certification will be valid for only those categories in which success in the practical examination was achieved and will expire on the same date as the related Level 3 certification and the procedure for revalidation will be the same as for any level 2 certificate. Candidates seeking the issue of a PCN Level 2 certificate under the procedure defined in this clause will submit their request using form PSL-70 (Request for L2 issue to L3 holder).

Part	Subject	Number of questions
D	Level 3 knowledge relating to the test method applied	30
E	Application of the NDT method in the sector concerned, including the applicable codes, standards, and specifications. This may be an open book examination in relation to codes, standards, and specifications.	20
F	Drafting of one or more NDT procedures in the relevant sector. The applicable codes, standards, and specifications shall be available to the candidate.  For a candidate who has already drafted a NDT procedure in a successfully passed Level 3 examination, BINDT 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.	

## 11. Examination Exemptions

- 11.1. Candidates in initial PCN examinations are not required to attempt an examination part in which they have already achieved success during the process of gaining PCN certification, so long as the subject examination part has (or had) the same (or a greater) scope as that part for which an exemption is claimed, and the resultant certification remains valid.
- 11.2. Existing PCN level 3 certificate holders who are attempting additional level 3 examinations may be exempt parts A and C of the basic examination and, if they hold valid certification at level 3 covering the same method in a different sector, the part D (a general examination covering the Level 3 knowledge relating to the test method).
- 11.3. Existing PCN level 3 certificate holders wishing to gain level 2 certification in the same sector and NDT method, will be exempt all examination parts other than the level 2 practical examination.
- 11.4. Level 3 candidates who hold PCN (or equivalent acceptable to BINDT) level 2 certificates are exempt part or the whole of the level 3 Basic examination part C. However, the candidate must demonstrate a general knowledge at level 2 of at least four NDT methods, including at least one relating to a volumetric NDT method (UT or RT).
- 11.5. If any candidate elects to claim an exemption to which he or she is entitled, the mark obtained in the examination, which lead to the issue of certification, under which such exemption is claimed, where the actual examination mark cannot be ascertained, a mark of 70% will be used.
- 11.6. Level 3 candidates who hold valid level 2 in the same sector or have successfully passed a level 2 practical examination for the method in an industrial sector are exempt from passing again the level 2 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 3 certification.

- 11.7. For the purpose of claiming exemptions, certification issued by other independent NDT personnel certification bodies may be considered by the British Institute of NDT for equivalence (refer to PCN document PSL/49 for further information). If any candidate elects to include in his or her examination any part or parts from which he or she could be exempt, then failure in any such part will cause the candidate to fail and no certification will be issued. The validity of any existing PCN certificates held by the candidate will be unaffected by such failure.
- 11.8. A candidate for radiography who claims an exemption in respect of Basic Radiation Safety should note that PCN radiography certification is valid only so long as the holder holds any other level of PCN radiation protection certification, or valid radiation safety certification recognised by the British Institute of NDT.

## **12. Conduct of Examinations**

### **12.1. General**

- 12.1.1. At the time of examination, the candidate shall have in his or her possession valid proof of identification and an official notification of the examination, which shall be shown to the examiner or invigilator upon demand.
- 12.1.2. Candidates must not be in possession of any equipment or documentation, other than that provided by the examination centre with the authority of an authorised examiner, during a qualification examination.
- 12.1.3. 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 1 year.
- 12.1.4. Candidates proved to have cheated in a PCN examination will not be accepted as a candidate for any PCN examination for a period of 1 year from the date of the examination in which cheating was established to have taken place. No examination results will be issued for those examination parts already completed and a letter will be sent to the candidate concerned and to the employer or sponsor explaining why the examination was terminated.

### **12.2. Preparation and conduct of examinations**

- 12.2.1. All examinations shall be conducted in examinations centres established, approved, and monitored by BINDT either directly or through an AQB.
- 12.2.2. Written (whether e-assessment or conventional) and practical qualification examinations shall be invigilated by an examiner or by one or more trained invigilators placed under an examiner's responsibility.
- 12.2.3. Examination questions shall be validated by the certification body. When conventional pre-prepared paper-based examinations are used, the examination papers shall be validated and approved by an examiner, and the grading shall be done in accordance with procedures approved by BINDT. When e-assessment systems that select questions present the "written" examination to a candidate on a computer and grade the examinations, are used, the certification body shall validate and approve the e-assessment system.
- 12.2.4. An examiner shall not be permitted to examine any candidate:
- that he has trained for the examination for a period of two years from the date of the conclusion of the training activities;
  - who is working (permanently or temporarily) in the same facility as the examiner.

## **13. Grading of Examinations**

- 13.1 The general, specific and practical examinations shall be graded separately. When conventional pre-prepared paper-based examinations are used, an examiner shall be responsible for the grading of the examinations by comparison with model answers. At the option of BINDT, e-assessment systems that automatically score candidate responses against stored data and grade the completed written examination according to prepared algorithms may be used.

- 13.2 Grading of PCN practical; examinations is detailed in document CP22. The pass mark for each examination part, and for levels 1 and 2, for each examination specimen tested, is 70%.
- 13.3 To be eligible for certification, the candidate shall obtain a minimum grade of 70% in each part of the examination (general, specific, and practical). In addition, for the practical examination, a minimum grade of 70% shall be obtained for each specimen tested, and for the NDT instruction, as applicable.
- 13.4 Candidates who achieve an overall score of 80% or more for level 1 and 2 examinations shall be awarded with a distinction level L1D, and L2D which is the average of the scores for the general, specific and practical examination parts. All examination scores shall be of equal weight in determining the average score.
- 13.5 Candidates recertifying by examination who achieve a 70% pass mark or above shall be awarded certification, pass marks achieving below 80% shall result in the 'D' distinction grade being removed from the certificate, where appropriate.
- 13.6 Candidates have 2 re-tests available to them in order to achieve the 80% 'D' distinction grade.
- 13.7 The Level 3 Main Method examination shall not be graded until such time as the candidate has been successful in the Level 3 Basic examination. The pass mark for each examination part is 70%.
- 13.8 Candidates who achieve an overall score of 80% or more for level 3 examinations shall be awarded with a distinction level 'L3D' which is the average of the scores for the general, specific and practical examination parts. All examination scores shall be of equal weight in determining the average score
- 13.9 When conventional pre-prepared paper-based examinations are used, an examiner shall be responsible for the grading of the examinations by comparing the replies given by the candidate against answer keys approved by the certification body. 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.

#### 14. Re-examination (retest)

- 14.1. A candidate who fails in an examination part (general, specific or practical), may be re-examined a maximum of 2 times in order to achieve a pass grade of 70%, provided the re-examination takes place not sooner than 30 days of the original examination, unless further training acceptable to BINDT (see 7.2) is satisfactorily completed, nor later than 1 year after the original examination.
- 14.2. A candidate who achieves the minimum grade of 70% but wishes to retake the examination in order to achieve the distinction level, may be re-examined a maximum of 2 times in order to achieve the required minimum overall score of 80% provided the re-examination takes place not sooner than 30 days, nor later than 1 year after the original examination.
- 14.3. Most recent examination results will be valid. Previous results will not be used.
- 14.4. When a candidate has achieved the 70% pass mark but wishes to retake the examination in order to achieve the distinction level (ref 14.2) and fails in both re-examination attempts in part(s) at less than 70%, BINDT will immediately cancel the original certificate concerned (if already awarded/issued).
- 14.5. A candidate who fails all permitted re-examinations shall apply for and the initial examination according to the procedure established for new candidates.
- 14.6. A candidate whose examination results have not been accepted for reason of fraud or unethical behaviour shall wait at least 12 months before re-applying for examination.

#### 15. Publication of Examination Results

- 15.1. All candidates will be issued with a standard PCN examination results notice by the BINDT Authorised Qualifying Body, normally within 28 days of completion of examination, subject to all examination fees being paid.

- 15.2. A copy of the results notice will be sent to the organisation paying the examination and certification fees, and to the PCN Certification Records Office, which will issue certification to candidates fulfilling all pre-requisites [for certification, \(ref section 17\)](#), i.e. training, experience, satisfactory vision, success in the relevant examination, and [payment](#).
- 15.3. Candidates who have met all requirements for certification with the exception of having the required minimum experience will be advised by the PCN Certification Records Office on how to record experience gained under Appropriately Qualified Supervision. Applications for certification post experience are made directly to the PCN Certification Records Office on form PSL57C.
- 15.3.1 PSL57C requirements** – All correct post-experience applications received into PCN before the [2 year deadline](#) will be validated. If an application for post-experience is received by PCN with missing information and goes past the two year deadline, the PCN holder will revert back to an initial candidate. To ensure compliance with ISO 9712, certification should not be validated where post-experience applications are not complete by the 2 year deadline.
- [By completing the PSL57C form the candidate confirms that he or she understands the consequences of failing to meet its requirements, and is aware that no complaint or appeal in this event will be accepted by PCN.](#)
- 15.4. Candidates who fail any part of the examination will be provided with brief reasons for failure on this notice [by the AQB](#).

## 16. Certification

- 16.1. Successful candidates will be issued a PCN certificate of competence, which indicates that all conditions for certification, as detailed in the present specification document, are met. Issue of certification normally takes place within 28 days of BINDT receiving the formal notification of success in the examination from the AQB. However, where a candidate for certification has achieved a pass in all relevant examination parts, but has not yet satisfied the pre-requisite experience and vision requirements, the issue of certification may be deferred for up to [2](#) years from the date of success in the PCN examination.
- 16.2. Once the PCN Certification Records Office is in possession of evidence that all pre-requisites (training, experience, satisfactory vision and success in the relevant PCN examination) have been satisfied, a PCN certificate stating the level and category awarded will be published.
- 16.3. The PCN record of certification and/or corresponding wallet card bears:
- 16.3.1. the full name of the certificated individual;
  - 16.3.2. the date of certification;
  - 16.3.3. the date upon which certification expires;
  - 16.3.4. the level of certification;
  - 16.3.5. the NDT method(s);
  - 16.3.6. the applicable sector(s);
  - 16.3.7. the specific scope of the competence;
  - 16.3.8. a unique PCN identification number;
  - 16.3.9. the signature of the certificated individual;
  - 16.3.10. a photograph of the certificated individual (either on the certificate or a wallet card).

*By issuing the certificate and/or the corresponding wallet card, the British Institute of NDT attests to the qualification of the individual but does not give any authority to operate.*

## 17. Validity of Certification

- 17.1. The period of validity of the certification is normally of [5](#) years from the date of certification, and the wallet card is normally 10 years. The expiry date is indicated on the certificate and/or wallet card.
- 17.2. Initial certification will be issued from the date the results notice was received by PCN and not before.

- 17.3. Where success in the recertification procedure occurs **no later than 6 weeks prior to expiry** of the certificate, the new certificate will expire 5 years after the expiry date of the certificate being **recertified**.
- 17.4. It is the responsibility of the certificate holder to initiate the procedure required for certification.
- 17.5. **It is the responsibility of the candidate to complete his or her own application forms and documentation to ensure the information provided is correct and up to date. In the event of a false statement being discovered, any certification awarded as a result of an examination or renewal application will be null and void and the certificate must be returned to BINDT. The candidate/PCN Holder will accept responsibility for payment of examination fees in the event of non-payment by the sponsor.**
- 17.6. PCN certification shall be invalid:
- 17.6.1. in any industrial sector which is not covered by the certificate (unless the holder successfully completes a supplementary examination for the industrial sector);
  - 17.6.2. at the discretion of the British Institute of NDT after reviewing evidence of unethical behaviour (see CP27 – PCN Code of Ethics);
  - 17.6.3. if examination or certification fees are not paid when due;
  - 17.6.4. if the individual becomes physically incapable of performing his duties based upon failure of the visual acuity examination taken annually under the responsibility of his employer;
  - 17.6.5. if a *significant interruption* (see definitions) takes place in the method for which the individual is certificated;
  - 17.6.6. if the individual fails recertification, until such time as the individual meets the requirements for recertification or initial certification..
  - 17.6.7. in the case of certification for industrial radiography, if the period since the certificate holder has achieved success in a PCN (or recognised equivalent) radiation safety examination exceeds five years;
- NOTE: *PCN radiography certification is considered by BINDT to be valid in any country outside of the United Kingdom where the certificate holder has passed an examination on local radiation safety regulations, and provides to BINDT evidence of valid radiation safety certification issued by a recognised independent authority in that country.*
- 17.7. Verification of current PCN certification is available at [www.bindt.org/PCN](http://www.bindt.org/PCN) provided the correct PCN number of the individual is entered.

## 18. Revalidation

**It is the responsibility of the certificate holder to initiate the procedure required for renewal.**

For revalidation of the certification after a significant interruption, the individual shall pass a recertification examination. The certification is revalidated for a new period of validity of five years **less a day** from the date of the revalidation.

### 18.1. Renewal and Recertification

#### 18.1.1. Levels 1 & 2

**18.1.1.1** The procedure for renewal and recertification of PCN level 1 and 2 certificates is detailed in PCN document CP16.

#### 18.1.2. Level 3

**18.1.2.1.** The procedure for renewal and recertification of PCN level 3 certificates is detailed in PCN document CP17

**18.1.2.2.** 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 certification body a written statement of approval from the employer.

**18.1.2.3.** In both cases (written examination or credit system), the individual shall either provide appropriate documented evidence, acceptable to the certification body, of his continued practical competence in the method or pass a Level 2 practical examination, as specified, except for the drafting of NDT instructions.

## 18.2 General

NOTE 1: Any reference to recertification in this section relates to the credit system for level 3 PCN holders unless otherwise stated.

- 18.2.1 Applications for renewal and recertification shall only be completed by the PCN holder.
- 18.2.2 To ensure continuity, applications for renewal and recertification shall be submitted no later than 6 weeks prior to the expiry date.
- 18.2.3 If the renewal/recertification application has been submitted in accordance with clause 18.2.2 but the application is not complete by the expiry date of the certificate, then the candidate must apply for a late application\* and shall incur the financial penalty.
- 18.2.4 If a candidate opts to recertify by examination, the examination must be sat no later than 6 weeks prior to the expiry date of the certificate concerned unless a deferred/late application\* has been submitted and approved by BINDT.
- 18.2.5 Renewal and recertification applications not received before the 6 week period prior to expiry shall be automatically **rejected** and the PCN holder must recertify by examination at an AQB using form PSL57B.
- 18.2.6 Applications for recertification by examination submitted after the certificate has expired may be considered by BINDT, up to a maximum of 12 months after the expiry date of the certificate concerned. In this instance the candidate shall apply for late application\* and shall incur the financial penalty.
- \*reference form PSL/28
- 18.2.6.1 Certificates on issue 01 (5 year revalidation) – Applications for renewal/recertification by CP16/CP17 exceeding the 12 month period described within clause 18.2.6 will not be admitted and the candidate shall be permitted to attempt a recertification examination.
- 18.2.6.2 Certificates on issue 02 (10 year revalidation) – Applications for recertification by examination exceeding the 12 month period described within clause 18.2.6 will not be admitted and the candidate shall successfully pass an initial examination (general, specific, and practical) for level 1 and level 2 and a main method examination for level 3.
- 18.2.7 Candidates shall not attempt to book a recertification examination nor shall the AQB confirm an examination booking until the status of the deferred/late application is confirmed i.e. approved or declined by BINDT. Requirements of PSL28 must be followed.
- 18.2.8 In the event of failure to renew by paper application, BINDT shall send an explanatory letter to the certificate holder requesting the return of the superseded record of certification which is a mandatory requirement.
- 18.2.9 Renewed certificates will be issued from the previous expiry and expire 5 years minus a day from the original expiry date.
- 18.2.10 PCN holders who recertify by examination and achieve the 70% pass grade shall be awarded the pass grade and shall still be eligible for 2 retests in order to achieve the 80% distinction grade. 1 permitted retest shall take place within the 6 month period allowed. The time period within which all retests are to be taken shall be 12 months.
- 18.2.11 In the event of failure in a recertification examination, BINDT will immediately cancel the certificate concerned, issuing a new record of certification that no longer shows the competence concerned, and sending this with an explanatory letter to the certificate holder requesting the return of the superseded record of certification which is a mandatory requirement. The cancellation of the certificate will not affect the eligibility of the candidate to attempt the 1 permitted retest shall take place within the 6 month period allowed. The time period within which all retests are to be taken shall be 12 months.

18.2.12 A candidate who does not meet the requirements of the **level 3** recertification by the structured credit system (CP17) shall recertify by examination. In the event of failure at the first attempt at recertification by examination, only 1 retest of the recertification examination shall be allowed within 12 months of the date of application for recertification via CP17

18.2.13 In the event of failure in the 2 allowable retests, the certificate shall not be revalidated and, to regain certification for that level, sector and method, the candidate shall apply for certification as an initial candidate. For level 1 and 2 no examination exemptions shall be awarded by virtue of any other valid/recognised certification held. For level 3 the candidate shall be required to achieve success in the appropriate main method examination.

*Requirements and processes of renewals/recertification are referenced in forms CP16 and CP17.*

## **19. Complaints and Appeals**

- 19.1. PCN certificate holders must recognise that personal integrity and professional competence are the fundamental principles on which their testing activities are founded (see also use and misuse of certificates – paragraph 23). Accordingly, it is a condition of PCN certification that certificate holders shall undertake to comply with a code of ethics, which is published as PCN document reference CP27.
- 19.2. An aggrieved party in a dispute, which considers itself to have reasonable grounds for questioning the competency or ethical behaviour of a PCN certificated individual or his employer, may petition the British Institute of NDT for withdrawal or cancellation of certification by submitting to PCN a completed form for initiating a formal complaint/appeal, using PCN document [CP21](#). Such a petition must be accompanied by all relevant facts and, if it is the view of the British Institute of NDT that an adequate case has been presented, a full investigation of the circumstances under dispute will be initiated.
- 19.3. If the petition is substantiated to the satisfaction of the PCN Management Committee (or a committee to which has been assigned responsibility for such matters), the certification may be cancelled, or renewal or recertification may be refused, for such period as the Management Committee may decide, unless the holder of certification is successful in a further examination, the content of which will be decided by the Management Committee or its authorised sub-committee at an ordinary meeting.
- 19.4. Appeals against certificate cancellation, failure to certify or failure to renew may be made by the candidate or the employer upon application in writing to the Secretary to the Management Committee.
- 19.5. The Certification Management Committee may delegate the process of dealing with complaints and appeals to a properly constituted sub-committee.

## **20. Change of Employer**

- 20.1. Change of employer shall not be cause for recertification.
- 20.2. PCN certificates signed by the employer for authorisation purposes must be returned to the British Institute of NDT for re-issue upon change of employer.

## **21. Supplementary Examinations**

From time to time PCN receives requests from certificate holders who wish to be allowed to attempt a supplementary examination no later than 6 months prior to certificate expiry. It is important that PCN certificate holders understand the reasons for the 6 month rule, and its implications.

- 21.1. From 1<sup>st</sup> July 2017 all initial supplementary examinations must be sat no later than 6 months prior to the expiry date of the certificate being supplemented to ensure the results notice is received before the expiry date. **Results notices received after the expiry date will not be accepted.**
- 21.2. Holders of Level 1 or 2 certification who wish to add an additional category (where appropriate) at the same level will attempt a supplementary examination comprised of specific theory and/or specific practical parts.
- 21.3. **Under no circumstances can an initial supplementary examination be taken after the permitted 6 months prior to the expiry of the certificate concerned.**



- 21.4. One retest of a partly failed supplementary examination will be allowed within the 6 month period prior to the expiry of the certificate being supplemented but **results notices received after the expiry date will not be accepted**. Where the retest cannot be completed (for whatever reason) prior to expiry of certification, the candidate will not be allowed a retest of the attempted supplementary examination
- 21.5. The retest shall not take place sooner than 30 days from the initial supplementary exam unless further training acceptable to BINDT has been satisfactorily completed.
- 21.6. Candidates who fail the retest within the 6 month period prior to the expiry date will need to recertify their existing certificate prior to attempting a supplementary. The PCN database cannot supplement a non-existent certificate. In this instance the candidate shall apply for late recertification (PSL28 form) and incur the financial penalty.
- 21.7. By completing the PSL57B form the candidate confirms that he or she understands the consequences of failing the supplementary examination as detailed above, and is aware that no complaint or appeal in this event will be accepted by PCN.
- 21.8. Applicants for level 2 supplementary examinations will be required to submit log sheets showing continuity of employment and application of the method in the industry or product sector concerned, direct to the examining AQB.
- 21.9. The pass mark for all supplementary examination parts will be 70%. Refer to the appropriate appendix to this document for specific information.
- 21.10. One retest of a partly failed supplementary examination will be allowed between 30 days and 6 months after the initial attempt. Failure of such a retest will result in the candidate being required to pass the whole of the supplementary examination to gain the certification sought.
- 21.11. Any new certification issued as a result of successful supplementary examination will incorporate the previous certification and will be valid for a maximum of 5 years from the date of completion of the first successful attempt at the supplementary examination.

The 56 day waiver (PSL/67 form) has now been withdrawn.

## **22. Certification and Examination Records**

- 22.1. The British Institute of NDT will retain records of certification issued as a result of success in any PCN examination for a minimum period of 11 years. An updated database of certificated personnel, which includes (amongst other things) the name, PCN identification number and scope of certification held by each individual, is maintained by the PCN Certification Records Office. Verification of the certification status of individual PCN certificated personnel is freely available at [www.bindt.org](http://www.bindt.org).
- 22.2. BINDT Authorised Qualifying Bodies will retain examination records of successful and unsuccessful candidates for a period of 11 years from the date of the examination. Audit of specific individual examination records, which are under the jurisdiction of the British Institute of NDT or its nominees, may be made in accordance with PCN document CP19.

## **23. Use and Misuse of Certificates**

- 23.1. The issue of a PCN certificate indicates that the holder has demonstrated an acceptable level of competence measured by means of the relevant examination conducted at a BINDT Authorised Qualifying Body in accordance with the prevailing requirements on the date indicated using a particular set of equipment on a specific product. Certificate holders or employers are not permitted to imply any further degree of competence on the basis of the certificate.
- 23.2. PCN certificate holders or their employers must not use or refer to PCN certificates, nor the PCN logo, nor must they knowingly allow them to be used or referred to by a third party, in a manner that may be considered fraudulent or to bring the PCN Scheme into disrepute. The full conditions of use of the PCN logo, or reference to PCN certification, are detailed in a separate document (PSL/31) available from the British Institute of NDT.

- 23.3. All certificated personnel are required to keep a register of complaints made against them within the scope of the certificate of competence (see also PCN document CP27 – Code of Ethics for PCN certificate holders). Failure to keep such a register or failure to enter valid complaints in it will be construed as a misuse of the certificate and appropriate penalties will be applied, see below. The register of complaints must be made available to the British Institute of NDT on request.
- 23.4. The penalty for misuse of PCN certification in all cases is invalidation of the certificate. If the misuse was in the public domain, publication of the transgression may also be undertaken. Any misuse, which appears to be an infringement of the law, will result in the matter being reported to the police.
- 23.5. Certificates are valuable documents which should be kept in a safe place. Any suspicion of forgery or misrepresentation must be reported to the British Institute of NDT. Loss or theft of certificates must be reported to the police and to the British Institute of NDT.
- 23.6. It is required that all PCN certificate holders maintain a log demonstrating continuity in the application of the NDT activity for which they are certificated. Examples of suitable pages for recording details of employment, continuity and surveillance are contained within PCN document CP16.
- 23.7. New employers presented with PCN certification should satisfy themselves that the certificate holder has been employed without *significant interruption* (see definitions) on work for which the certificate was granted. It is strongly recommended that the employer request sight of the certificate holder's logbook.

**24. Transition between EN 473: 2008, ISO 9712:2005 and EN ISO 9712:2012**

Certification according to EN 473:2008 and/or ISO 9712:2005, awarded before publication of EN ISO 9712:2012, remains valid until the next mandatory step in the certification process, i.e. renewal or recertification, which shall be carried out according to this International Standard of Certification, it is considered as fulfilling the requirements of both EN 473:2008 and ISO 9712:2005; consequently, any requirement for certification to either of these standards is fulfilled by a certification according to this International Standard.

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