PCN CERTIFICATION AND EXAMINATION ELIGIBILITY REQUIREMENTS FOR PERSONNEL ENGAGED IN NON - DESTRUCTIVE TESTING USING THE RADIOGRAPHIC TESTING (RT) METHOD AT LEVEL 1, 2 and 3.

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TABLE 1 – DOCUMENT CONTENTS -

1. SCOPE:

The Radiographic Testing method and associated NDT techniques when applied correctly provide the NDT technician with detailed data for interpretation and classification whilst also providing the added benefit that inspection data can be stored physically on radiographic film, or alternatively within a suitable digital file format for future interpretation remote from site by the NDT technician other suitably qualified persons.

Radiographic testing is regularly used across a host of industrial and product sectors to confirm the inherent physical conditions of a material or product, some typical examples of discontinuities that RT applications can highlight have been included below to provide the reader with knowledge on the versatility of the method:

a) Volumetric imperfections or irregularities in materials, components, and structures within metallic (metals) and non-metallic materials (such as composites).

b) To detect the presence of corrosion / erosion / material loss within metallic structures, examples of which include corrosion under insulation within the oil and gas sector.

c) To locate corrosion and cracking within second - and third-layer structures / skins which might not otherwise be suitable to be tested using ultrasonics or eddy current testing techniques within the Aerospace sector.

d) For the testing of both light and dense metal welds and the weld associated heat affected zones.

e) For the testing of both light and dense metal castings – primarily for internal (Volumetric) defects.

f) To highlight areas of fluid ingress within composite honeycomb structures, to name but just a few applications.

This document prescribes the specific requirements by which candidates may be examined within the Radiographic Testing (RT) method. This document covers all techniques within the RT method as defined by BS EN ISO 9712:2022 Annex F3, including techniques classed as limited scope/certification

Requirements contained within this document are in addition to those contained in the current edition of PCN24/GEN: General requirements for PCN qualification and certification of NDT personnel which meets the requirements of BS EN ISO 9712:2022.

BINDT's full PCN examination format is described in PCN24/GEN. This appendix document provides the reader with the PCN examination requirements for PCN RT certification to meet the employer's requirement at PCN certification levels 1,2, and 3. Except where exemptions apply, all candidates will be required to attempt an examination comprised of the appropriate examination elements listed herein, appropriate to the certification sought.

Candidates will be required to demonstrate success for each individual examination element relevant to certification sought (initial/renewal/retest) and in addition demonstrate that they meet the requirements for acuity of vision, colour perception, and practical industrial experience prior to the award of certification by BINDT's PCN department. Candidates should also familiarise themselves with BINDT's code of ethics published as PCN24/CP27. Candidates are mandatorily required to sign up to the BINDT code of ethics thereby giving their undertaking to abide by the content detailed therein.

2. ASSOCIATED DOCUMENTS:

2.1. PCN24/GEN: General Requirements for the Certification of Personnel Engaged in NDT.

2.2. BS EN ISO 9712:2021 Non-destructive testing — Qualification and certification of NDT personnel.

2.3. PCN/GEN/Syllabus Document.

2.4. PCN/GEN/Specimen Question Compendium

3. EMPLOYERS RESPONSIBILITY:

3.1 **IMPORTANT:** PCN24/GEN details specific requirements which are ascribed to the employer.

3.2 Both candidates and employers shall ensure that they are conversant with responsibilities ascribed to both the candidate and the employer, and that it is the employer's responsibility to issue PCN certified employees with 'written authority to operate' before the PCN Certificate holder carries out NDT tasks on behalf of the employer or the employer's customers.

3.3 See PCN24/GEN – Section 5.5.

4. PCN CERTIFICATION AVAILABLE:

4.1 **TABLE** 1 provides details of PCN certification available for RT. Candidates should discuss with the AQB the specific RT Technology, product sector, and scope of certification required. This will allow the AQB to tailor the PCN examination to the candidate's specific requirements where the candidate can demonstrate successful completion of an BINDT approved training course for radiography and the specific technology.

4.2 PCN Radiographic testing (RT) certification is available at the following certification levels:

4.2.1 PCN Level 1

4.2.2 PCN Level 2

4.2.3 PCN Level 3

4.3 Comprehensive details of examination content in respect of the certification currently available are given in sections 8 & 9 below.

Table 1:	PCN Radiographic Testing (RT) Certification Option Codes.					
Technique within the RT Method	Technique within the RT Method with Limited Scope	PCN Certification Abbreviation:	Sector/materials available	PCN Certification Level		
				1	2	3
Film Radiography	-	RT-F	1. Dense metal welds 2. Light metal welds 3. Dense & Light metal welds 4. Dense metal castings 5. Light metal castings 6. Dense & Light metal castings 7. Composites*4 8. Wrought (wall thickness and tangential)	✓	✓	✓*2
Computed Radiography (using Imaging plates)	-	RT-CR		✓	✓	✓*2
Digital Radiography (using Direct detectors)	-	RT-DR*1		✓	✓	✓*2
Computed Tomography	-	RT-CT*1		✓	✓	✓*2
-	Film Interpretation	RT-FI	1. Dense metal welds 2. Light metal welds 3. Dense & Light metal welds 4. Dense metal castings 5. Light metal castings 6. Dense & Light metal castings 7. Composites*4	-	✓	-
-	Digital Image Interpretation	RT-DI		-	✓	-
-	Film & Digital image interpretation (Combined)	RT-FDI		-	✓	-

Notes:

*1: The PCN schemes for Digital Radiography using direct detectors (RT-DR) and Computed Tomography (RT-CT) are currently under development.

*2: Level 3 certification is available in weld or casting RT which encompass all material sectors.

*3: All RT certification is available using X-Ray or Gamma Ray sources or a combination of both, as applicable.

*4: The RT of composites is currently under development.

Product sector Key (As shown on resultant certificates)	Where offered *	(D) = dense	(L) = Light	Castings (c)
		Wrought products (wp)	Welds (w)	Composites (m) *4

5. INDUSTRIAL and PRODUCT SECTORS FOR PCN CERTIFICATION:

5.1 Industry and product sectors for PCN certification have been taken from reference lists at Annex A (specifically A.2 and A.3) within BS EN ISO 9712, however this does not preclude the development of additional sectors to satisfy national needs where required, and which have been accepted for future use by BINDT.

5.2 The scope of the certification examination shall be specified on the candidate's results notice by the AQB, the AQB will issue the results notice to PCN confirming the details and results of the specific PCN examination attempted by the candidate from the list of available certification options listed within Table 1, within the appropriate industrial and product sector(s).

5.2.1 **Industrial Sectors:**

a) Manufacturing.

b) Pre-and in-service testing which includes manufacturing.

5.2.2 **Product sectors:** (metallic materials).

a) Castings (c) (ferrous and nonferrous materials).

b) Wrought products (wp) which includes the following:

- (Parent material checking, wall thickness checking and corrosion monitoring).
- Wall thickness testing using tangential radiography

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

Note: PCN schemes for non-metallic sectors are currently under development

6. PCN EXAMINATION ELIGIBILITY:

6.1 For those candidates who are classified as new entrants within the PCN Certification scheme and therefore have never held PCN certification, it shall be a requirement that they satisfactorily complete the PCN training and Knowledge module for Product Technology before they are accepted onto any NDT method specific Approved Training Course. It should be noted that this is a one-off requirement as the training addresses all relevant materials, processes and methods of manufacture. Once completed evidence of completion should be presented to exempt the applicant from this requirement when applying for further PCN NDT Method certification.

6.2 Candidates shall provide documentary evidence of acceptable near vision acuity and colour vision perception in accordance with PCN24/GEN requirements.

6.3 Candidates shall provide documentary evidence of having achieved the required amount of practical industrial experience in accordance with PCN24/GEN requirements, directly to the AQB pre-examination, or alternatively, where practical industrial experience is outstanding, directly to BINDT's PCN department post examination using the PCN24/PSL30 process.

6.4 Candidates shall provide documentary evidence of having successfully completed an approved course of NDT training at one of BINDT's Approved Training Organisations (ATOs) within the method for RT, for the specific RT technology, and for the product sector for which certification is sought *(See Table 1 herein)* to meet the requirements contained within PCN24/GEN.

6.5 Candidates for RT training and examinations shall provide confirmation of compliance with additional national requirements for radiation safety compliance by holding:

a) PCN Certification for Basic Radiation Safety (BRS).

b) PCN Certification for Advanced Radiation Safety (ARS).

c) Other radiation safety certification / authorisation acceptable to BINDT and PCN.

6.6 Where certification for Radiographic Interpretation (RT-RI) only is required, PCN candidates will be exempt from the need to prove compliance for radiation safety

6.7 PCN RT candidates may attempt PCNs Basic Radiation Safety examination at the same time as the PCN radiography certification examination after successful completion of the approved Basic Radiation Safety training course.

6.8 Failure to hold a valid radiation safety qualification will result in the radiography certificate being withheld or withdrawn.

7. EXAMINATION CONTENT OVERVIEW:

7.1 The full PCN examination format linked to the candidate's personal certification requirements shall be as described in PCN24/GEN. This PCN examination requirements Appendix document serves to highlight to candidates the potential examination elements which might be attempted during a PCN examination, dependent upon whether the examination attempted is for initial, recertification, retest or for supplementary certification.

7.2 Examination time shall be confirmed to the candidate in writing prior to commencement of the PCN examination.

7.3 Permissible extension to examination times are detailed in PCN24/GEN section 8.2.

8 EXAMINATION CONTENT (LEVLS 1 & 2)

8.1 All initial candidates will be required to attempt an examination comprised of the following examination elements:

a) General Theory written examination element.

b) Specific Theory written examination element.

c) Specific practical examination element.

d) NDT Instruction writing element (Level 2 candidates only).

8.2 For direct certification under the limited scope options detailed in table 1 (Film and/or Digital image interpretation), candidates shall complete the General and Specific written examination elements PLUS the practical interpretation part of the practical element attempted by a full level 2 RT candidate. They shall complete a Written Instruction element related to the image interpretation process.

8.3 Renewal, Recertification and re-test examinations may include some, or all of the examination elements listed, dependent upon the candidate's specific examination requirements and as confirmed by individual circumstance. See PCN24/GEN & Section 12 below.

8.4 **General Theory Written Examination Element**

8.4.1 The general theory written examination element shall assess the candidate's knowledge and understanding of the general theory and principles of the (RT) method at the appropriate level for certification sought.

8.4.2 PCN questions shall be written against BINDT's PCN syllabus requirements document PCN24/GEN/SYL for RT.

8.4.3 For PCN Level 1 and Level 2 certification the general theory examination element shall be a closed-book examination consisting of 40 multi-choice answer type questions, covering the general theory of the NDT method at the appropriate level for certification.

8.4.4 One multichoice question answer being correct, the other remaining answers being incorrect or incomplete.

8.4.5 Allowable examination time shall be confirmed to the candidate on the front of the PCN examination paper in writing.

8.4.6 Permissible extension to examination times are detailed in PCN24/GEN section 8.2.

8.4.7 The pass mark shall be ≥70%.

8.5. **Sector Specific Theory Examination Element**

8.5.1. The specific written examination element shall be multiple choice examination questions selected from the certification body's established PCN examination papers valid at the date of examination.

8.5.2. The examination will include questions relating to the specific product technology, and for use of codes, standards, specifications, procedures, and acceptance criteria within the defined industry and product sector(s) for certification.

8.5.3. The examination shall be an open book examination where candidates have access to authorised and controlled reference material provided to them by the AQB's examiner.

8.5.4. For single sector certification the specific theory examination shall consist of the following:

- For Level 1: A minimum of 25 questions.
- For Level 2: A minimum of 30 questions.

8.5.5. For multi sector RT certification the specific theory examination shall consist of the following:

- For Level 1: A minimum of 35 questions.
- For Level 2: A minimum of 40 questions.

8.5.6. The questions shall be multi-choice answer type based upon the application of the NDT method and technique(s) at the appropriate level for certification. Questions relating specific method/technique-based product technology will also be included.

8.5.7. Allowable examination time shall be confirmed to the candidate on the front of the PCN examination paper in writing.

8.5.8. Permissible extension to examination times are detailed in PCN24/GEN section 8.2.

8.5.9. The specific theory examination element pass mark shall be ≥70%.

8.6. **Sector Specific Practical Examination Element**

8.6.1. ***PCN Examination – Practical Testing Control Checks***

8.6.1.1. Candidates shall demonstrate knowledge and correct use of NDT (RT) equipment to include system control and validity of verification checks. See Annex D Table D.1 Item 1 within BS EN ISO 9712.

8.6.1.2. Time allowed 30 minutes.

8.6.1.3. The examination pre-use and control checks need not form an individual examination element in its own right but shall be recorded by the Examination centre as having been completed satisfactorily in accordance with a written procedure or industrial standard provided to the candidate for use by the Examination centre.

8.6.2. ***PCN Practical Testing of Specimens - RT Level 1 initial examination (Welds)***

8.6.2.1. Candidates shall apply appropriate RT techniques to those specimens provided for testing by the Examination centre. For the RT level 1 practical element, the initial candidate shall complete the following:

a) Testing five specimens selected by the examiner from plate butt welds and pipe butt welds using single wall single image, double wall single image and double wall double image techniques in accordance with the NDT instructions provided and in accordance with the examination instructions given by the examination centre.

b) Examine and evaluate the suitability for interpretation of the radiographs produced during (a) above.

c) Reporting significant areas for further investigation detected in (b) above in a prescribed manner in accordance with the NDT instructions provided.

8.6.2.2. The total time allowed for this practical part is 8 hours.

8.6.2.3. The minimum pass mark for the practical part is 70% for each specimen tested. The candidate must achieve 70% or greater for each specimen. Failure in any specimen shall result in the failure of the whole of this practical testing element.

8.6.2.4. The specimens tested shall reflect the material types required (Light or dense metals or a combination of both) and utilise the radiation source types required (X-ray or gamma ray or both).

8.6.3. ***PCN Practical Testing of Specimens (& Image interpretation) - RT Level 2 initial examination (Welds)***

8.6.3.1. Candidates shall apply appropriate RT techniques to those specimens provided for testing by the Examination centre. Candidates shall record, *(and for level 2, interpret)* the resulting information to the degree required, reporting results in the required Examination centre format.

8.6.3.2. Failure to detect and report a reportable (mandatory) discontinuity in any one specimen tested (or individual radiograph or image) shall result in failure of the examination specimen and consequently subsequent failure of the PCN certification examination element.

8.6.3.3. For the RT level 2 practical element, the initial candidate shall complete the following:

a) Testing five specimens from plate butt welds and pipe butt welds in metals selected by the examiner appropriate to the certification sought using single wall single image, double wall single image and double wall double image techniques. Level 2 candidates shall select the applicable NDT technique and determine the required testing conditions from basic written instructions, a given code, standard or specification provided by the Examination centre and in accordance with the examination instructions given by the examination centre.

b) Processing the resulting radiographs and reporting significant areas for further investigation detected in (a) above in a prescribed manner in accordance with the NDT instructions provided. Time allowed: 2 hours per sample. However, BINDT allows the AQB to extend this time period, if required, based upon the individual component complexity.

c) Radiographic or Image Interpretation (as applicable). The candidate will be required to read, mark up (film) and report on a **minimum** of 10 radiographs or digital images representative of the categories of certification sought (the candidate will read and report on a **minimum** of 10 radiographs or digital images regardless of the categories attempted) - see table 2 below for further guidance. Time allowed: 3 hours.

8.6.3.4. The minimum pass mark for the practical part is 70% for each specimen tested. The candidate must achieve 70% or greater for each specimen. Failure in any specimen shall result in the failure of the whole of this practical testing element. 10 Radiographs or digital images (minimum) in Item (c) above equate to one specimen. Therefore, the candidate must achieve 70% or greater for each radiograph or image attempted to pass this part of the practical examination. Failure on the interpretation of any one image shall mean failure in the interpretation part of the practical element.

8.6.3.5. The specimens tested shall reflect the material types required (Light or dense metals or a combination of both) and utilise the radiation source types required (X-ray or gamma ray or both).

8.6.3.6. Candidates who fail the full RT level 2 practical examination element, at level 2, for reasons other than the interpretation part of the practical examination may be awarded the limited interpretation certification relevant to the sector and materials attempted. They must have successfully passed the General and Specific written examination elements and the written instruction element to qualify for the limited certification.

8.6.4. ***PCN Practical Testing of Specimens - RT Level 1 initial examination (Castings)***

8.6.4.1. Candidates shall apply appropriate RT techniques to those specimens provided for testing by the AQBs examiner. For the RT level 1 practical element, the initial candidate shall complete the following:

a) Testing two castings using either X-Ray or gamma ray radiation sources or both. The specimens shall be selected by the examiner from light and/or dense metals appropriate to the category of certification sought. Testing shall be in accordance with techniques/NDT instructions provided by the Examination centre.

b) Examine and evaluate the suitability for interpretation of the radiographs or images produced during (a) above.

c) Reporting significant areas for further investigation detected in (b) above in a prescribed manner in accordance with the NDT instructions provided.

8.6.4.2. The total time allowed for this practical part is 6 hours.

8.6.4.3. The minimum pass mark for the practical part is 70% for each specimen tested. The candidate must achieve 70% or greater for each specimen. Failure in any specimen shall result in the failure of the whole of this practical testing element.

8.6.4.4. The specimens tested shall reflect the material types required for the certification sought (Light or dense metals or a combination of both) and utilise the radiation source types required (X-ray or gamma ray or both).

8.6.5. ***PCN Practical Testing of Specimens (& Image interpretation) - RT Level 2 initial examination (Castings)***

8.6.5.1. Candidates shall apply appropriate RT techniques to those specimens provided for testing by the AQB. Candidates shall record, *(and for level 2, interpret)* the resulting information to the degree required, reporting results in the format required by the examination centre.

8.6.5.2. Where the certification examination covers two or more product sectors, practical examination specimens tested shall include a minimum of one specimen from each product sector for certification. This may require the candidate to demonstrate their practical ability to deploy different RT techniques for certification sought.

8.6.5.3. Failure to detect and report a reportable (mandatory) discontinuity and for Level 2 interpret and classify results in any one specimen tested shall result in failure of the examination specimen and consequently subsequent failure of the PCN certification examination element.

8.6.5.4. For the RT level 2 practical element, the initial candidate shall complete the following:

a) Testing two castings using either X-Ray or gamma ray radiation sources or both. The specimens shall be selected by the examiner from light and/or dense metals appropriate to the category of certification sought. Testing shall be in accordance with techniques/NDT instructions - one provided by the examination centre and one to be generated by the candidate. The examination shall be conducted in accordance with the examination instructions given by the examination centre.

b) Processing the resulting radiographs or images and reporting significant areas for further investigation detected in (a) above in a prescribed manner in accordance with the NDT instructions provided. Time allowed: 2 hours per sample. However, BINDT allows the examination centre to extend this time period, if required, based upon the individual component complexity.

c) Radiographic or Image Interpretation (as applicable). The candidate will be required to read, mark up (film) and report on a **minimum** of 10 radiographs or digital images representative of the categories of certification sought (the candidate will read and report on a **minimum** of 10 radiographs or digital images regardless of the categories attempted) - see table 2 below for further guidance. Time allowed: 3 hours.

8.6.5.5. The minimum pass mark for the practical part is 70% for each specimen tested. The candidate must achieve 70% or greater for each specimen. Failure in any specimen shall result in the failure of the whole of this practical testing element. 10 Radiographs or digital images (minimum) in Item (c) above equate to one specimen. Therefore, the candidate mut achieve 70% or greater for each radiograph or image attempted to pass this part of the practical examination. Failure on the interpretation of any one image shall mean failure in the interpretation part of the practical element.

8.6.5.6. The specimens tested shall reflect the material types required (Light or dense metals or a combination of both) and utilise the radiation source types required (X-ray or gamma ray or both).

8.6.5.7. Candidates who fail the full RT level 2 practical examination, at level 2, for reasons other than the interpretation part of the practical examination, may be awarded the limited interpretation certification relevant to the sector and materials attempted. They must have successfully passed the General and Specific written examination elements and the written instruction element to qualify for the limited certification.

Table 2: Guidance on number of images required for image interpretation			
Category	***Minium number of images***		
	Light metal images	***Dense metal images***	***Light & Dense metal images (Combined)***
Film interpretation	10	10	10 (5 Light & 5 Dense)
Digital Image Interpretation	10	10	10 (5 Light & 5 Dense)
Film & Digital image (Combined)	10 film images (radiographs) PLUS 10 digital images	10 film images (Radiographs) PLUS 10 digital images	10 film images (5 Light & 5 Dense) PLUS 10 digital images (5 Light & 5 Dense)

8.6.6. ***PCN Practical - RT Level 2 LIMITED - image interpretation only - initial examination (Welds OR Castings)***

8.6.6.1. PCN offers direct certification to Image interpretation at level 2 under the permitted RT Limited certification defined in BS EN ISO 9712:2022 table F5.

8.6.6.2. Certification options available are as follows:

- RT Film interpretation (RT-FI) – Level 2 Limited
  - Welds (Light or dense metals or both combined)
  - Castings (Light or dense metals or both combined)
- RT Digital image interpretation (RT-DI) – Level 2 Limited
  - Welds (Light or dense metals or both combined)
  - Castings ((Light or dense metals or both combined)
- RT Film and Digital image interpretation (RT-FDI) – Level 2 Limited
  - Welds (Light or dense metals or both combined)
  - Castings ((Light or dense metals or both combined

8.6.6.3. Candidates for direct access to RT image interpretation shall complete the full theoretical training course for RT and CRT as applicable to the certification sought.

8.6.6.4. The examination elements required to be attempted by candidates for direct access to RT image interpretation (RT-RI Limited) level 2 shall be as follows:

a) The General RT theory examination element. A score of 70% or greater is required to pass this element.

b) The Specific Conventional RT or Computed RT theory examination element, as applicable to the technique certification sought. A score of 70% or greater is required, in each paper attempted, to pass this element.

c) The image interpretation part of the practical element as applicable to the technique certification sought (as detailed in table 1 previous). A score of 70% or greater is required, for each image interpreted, to pass this element.

d) Written instruction element as applicable to image interpretation process. A score of 70% or greater is required to pass this element.

8.6.6.5. In order to pass the examination, the candidate must successfully pass each examination element.

8.7. **NDT Instruction Writing Element – Level 2 Candidates**

8.7.1. Candidates for Level 2 certification shall be required to draft a detailed written NDT Instruction for one of the specimens tested during the practical examination. The specimen shall be selected by the examination centre. Candidates attempting direct certification under the limited scope options detailed in table 1 (Film and/or Digital image interpretation) shall produce a written instruction based upon the relevant image interpretation process.

8.7.2. This shall be an open book examination where candidates are provided with the relevant standard, code, or specification, together with a copy of PCN24/CP25 which provides guidance on the content required to be included within the written instruction, this includes the examination element marking scheme for correct allocation of marks.

8.7.3. For the Written Instruction element, the allowed time shall not be less than 60 minutes and not exceed 120 minutes. The actual time permitted shall be advised by the examination centre based upon the complexity of the written instruction required.

8.7.4. Permissible extension to examination times are detailed in PCN24/GEN section 8.2.

8.7.5. Mark required to pass: ≥70%.

9. PCN EXAMINATION REQUIREMENTS FOR LEVEL 3 CERTIFICATION

9.1. ***General***

9.1.1. Candidates for Level 3 certification shall successfully complete with a grade of ≥ 70 % the practical examination element for Level 2 certification (unless 9.1.2 applies) in the relevant sector and method excluding the requirement to draft a detailed written NDT instruction.

9.1.2. Candidates who hold current valid Level 2 certification acceptable to PCN in the same NDT method and product sector are exempt from the need to pass a 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.

9.2. ***Basic Examination Element (Level 3)***

9.2.1. Written examination to assess the candidate's knowledge of the basic subjects using at least the number of multiple-choice examination questions shown in Table 3 herein.

9.2.2. The basic exam shall be passed first, the result will remain valid provided the first main method examination is passed within five years after passing the basic examination.

9.2.3. Candidates already holding a valid Level 3 main method certificate are exempt from the need to retake the basic examination for further level 3 examinations.

9.2.4. The total time allowed for this examination element is 3.5 hours.

9.2.5. Mark required to pass: ≥70 % for each examination Items/Parts A, B, and C (this includes ≥70 % average for any methods attempted in part C).

Table 3: minimum required number of basic examination element questions for Level 3

Item/Part	Subject	Number of questions
A	Technical knowledge in materials science and process technology. Time allowed: 2 minutes per question – Total examination Time 60 minutes.	30
B	Knowledge of the certification body's qualification and certification system based on PCN24/GEN. This may be an open-book examination. Time allowed: 3 minutes per question – Total examination Time 30 minutes.	10
C	General knowledge of at least four methods as required for Level 2 and chosen by the candidate from the methods given in BE EN ISO:9712 Table 1. These four methods for each test method shall include at least one volumetric method (UT or RT). Time allowed: 2 minutes per question – Examination Time 120 minutes.	15 for each test method (Total 60)
For item C: The BINDT and PCN may adjust the number of questions per method for methods impacted by evolving technology, increasing methods and techniques being added.		

9.3. ***Main Method Examination (Level 3)***

9.3.1. Written examination to assess the candidate's knowledge of the main method subject using a number of multiple-choice questions *(see Table 4)*.

Table 4: Minimum required number of main method examination element questions

Item/Part	Subject	Questions
D	Level 3 knowledge relating to the test method applied. Closed book written examination covering the general theory of the method for certification sought. Time allowed: 2 minutes per question – Examination time 60 minutes.	30
E	Application of the NDT method in the sector concerned, including the applicable codes, standards, specifications, and procedures. This shall be an open-book examination in relation to codes, standards, specifications provided by the AQB's examiner. Time allowed: 3 minutes per question – Examination time 60 minutes.	20
F	Drafting of one or more NDT procedures in the relevant sector. The applicable codes, standards, specifications, and other procedures shall be available to the candidate. For a candidate who has already drafted an 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. Time allowed: 6 hours maximum per procedure; pass mark: 70%	N/A

9.3.2. Candidates shall obtain a minimum grade of 70 % in each of the parts D, E, and F.

9.3.3. Examiners shall provide a copy of PCN24/CP25 to candidates for use when producing a written procedure.

9.3.4. Level 3 candidates who do not hold appropriate Level 2 certification shall pass a relevant Level 2 practical examination except that they need not draft a written NDT instruction.

9.3.5. Successful PCN Level 3 candidates may also 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 Level 3 certification. Resultant Level 2 certification issued as a result will be valid only for those categories in which success in the practical examination was achieved and will expire on the same date as the related Level 3 certification. Candidates seeking the issue of a PCN Level 2 certificate under the procedure defined in this clause shall submit their request and appropriate payment using form PCN24/PSL/70 (Request for L2 issue to L3 holder).

10. SUPPLEMENTARY EXAMINATIONS

10.1. A certified Level 1 or Level 2 individual changing industry or product sector and / or adding another sector for the same NDT method shall be required to take sector specific and practical examination elements for the new product sector.

10.2. Candidates for Level 2 certification shall be required to draft a written NDT instruction for the new sector.

10.3. Already certified Level 3 individuals changing or adding another industry or product sector for the same NDT method, shall be required to attempt sector specific items E and F of the main method examination element only (see Table 3).

10.4. It is mandatory for additional practical industrial experience to be demonstrated in accordance with BS EN ISO:9712 requirements listed below at a) and b).

a) BS EN ISO 9712 at 7.3.3.2 confirms that a certified Level 1, 2 or 3 adding an additional method may be permitted a reduction of required experience of 25 % for that additional method.

b) BS EN ISO 9712 at 7.3.3.3: Requires a certified Level 1, 2 or 3 individual changing product sectors or adding another product sector or technique for the same NDT method to gain additional experience of at least 25 % of the experience required in Table 3; and this shall never be less than 15 days in duration.

11. RE-EXAMINATION

11.1. A candidate who fails one or more elements of an examination (i.e., general, specific, practical, written instruction, procedure writing etc.) may retake the failed examination element no more than twice.

11.2. The re-examination shall only take place after a minimum time period of one month from the date of the original failed examination. This minimum period may be reduced if further training acceptable to the certification body has been satisfactorily completed. (See PCN24/GEN).

11.3. Any re-examination attempt must take place no later than two years after the initial examination.

11.4. A candidate failing the two allowable re-examinations on one or more elements shall complete further training, acceptable to BINDT, and shall then be required to retake all certification examination elements as per the process for initial certification.

11.5. It should be noted that for the RT level 2 practical examination element, the practical testing of specimens and the image interpretation form separate parts of the overall practical examination element. Candidates are permitted to re-sit the failed part only, should they pass one or the other initially.

12. RENEWAL AND RECERTIFICATION

12.1. BINDT/PCN issues certificates at issue 01 or issue 02. Issue 01 certificates are issued after initial examination or after a 5-year or 10-year recertification by examination. Issue 02 certificates are issued following the recertification of an issue 01 certificate by claimed points in accordance with BINDT document PCN24/CP16. See Annex C of PCN24/GEN for guidance on claiming renewal by points.

12.2. Revalidation of issue 01 certificates is deemed to be a "Renewal". Revalidation of issue 02 PCN certificates is deemed to be "Recertification".

12.3. For Level 1 & level 2 applicants the renewal/recertification examination shall consist of the practical element detailed below and additionally, for level 2, the completion of the written instruction element.

12.4. ***Levels 1 and 2 (*5-Year renewal of Issue 01 certificates by claimed points)**

12.4.1. Prior to the completion of the period of validity following certification and recertification, renewal of certification, for a further period, shall be by application to BINDT/PCN using form PCN24/CP16. The applicant is required to provide the following:

- Completed PCN24/CP16 form.
- Documentary evidence of a satisfactory near vision acuity examination taken within the preceding 12 months.
- Documentary evidence of a satisfactory colour vision and grey scale perception examination taken within the preceding 60 months.
- Verifiable documentary evidence of continued satisfactory work activity without significant interruption in the method and sector for which certificate renewal is sought. See Annex C of PCN24/GEN for guidance on claiming renewal by points.

12.5. **Levels 1 & 2 - renewal of issue 01 or issue 02 certificates by re-examination).**

12.5.1. The PCN certificate holder shall apply by submission of a completed PCN24/PSL57A form directly to the AQB (Examination centre).

12.5.2. For renewal or recertification examinations the candidate shall achieve a pass grade of 70% for each specimen attempted (and for Level 2, the written instruction). Candidates who fail to achieve a pass grade of 70% for each specimen attempted and/or the written instruction (at level 2) are allowed 2 re-tests of the failed element which shall consist of the practical testing element and/or written instruction element of the examination (at level 2) depending upon the individual elements failed.

12.5.3. For **Renewal** examinations (issue 01 certificates) the practical element shall be as follows (minimum):

- For renewal certification in the welds sector, the candidate will test only three specimens from the product sector concerned, and for level 2, read, interpret and report on three radiographs/images from each metal group in which they require renewal certification.
- For renewal certification in the castings sector, the candidate will test two specimens from the product sector concerned, and read, interpret and, for level 2, report on three radiographs from each metal group in which they hold certification.

12.5.4. For **Recertification** examinations (issue 02 certificates) the practical element shall be **the same as for initial examination.**

12.5.5. Any retest of the practical testing element shall require the candidate to re-attempt the full practical element equivalent to that attempted during the failed renewal or recertification examination. The retests shall take place after 7 days and within 6 months of the initial date of the failed renewal or recertification examination.

Note 1: Level 3 certificate holders renewing their level 2 practical certification in support of their level 3 certificate need not complete a written instruction as part of the recertification process.

12.5.6. In the event of final failure in a renewal or 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 2 permitted retests within 6 months.

12.5.7. 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.

12.6. **Level 3 (5-Year renewal)**

12.6.1. The procedure for renewal and recertification of PCN level 3 certificates is detailed in PCN document PCN24/CP16.

12.6.2. The PCN certificate holder shall apply by submission of a completed PCN24/PSL57A form directly to the AQB – exam centre (for renewal by examination) and directly to BINDT (for renewal by points).

12.6.3. For all level 3 renewals/recertifications, 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.

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

12.6.5. A candidate who does not meet the requirements of the level 3 recertification by the structured credit system (PCN24/CP16) 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 the PCN24/PSL57A form.

12.6.6. For candidates who proceed directly to the recertification exam process. 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 3 the candidate shall be required to achieve success in the appropriate main method examination.

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