



CERTIFICATION BOARD FOR INSPECTION PERSONNEL

Guidelines for the Qualification and Certification of Penetrant Testing Personnel

DOCUMENT No PRO-CER-15

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Guidelines for Certification - Penetrant Testing Personnel

FOREWORD

This Guideline for Certification - Penetrant Testing Personnel (GCPTP), in conjunction with the Guidelines for Certification– General Requirements (PRO-CER-18), defines the requirements for the issue of Discipline Recognition to NDT personnel performing Penetrant Testing inspection in New Zealand.

Certification and re-certification in accordance with PRO-CER-18 and this GCPTP confirm the qualifications, training, and examined competence of NDT penetrant testing personnel.

This GCPTP must be read in conjunction with the Guidelines for Certification – General Requirements (PRO-CER-18).

This GCPTP is prepared in accordance with ISO 9712, Qualification and Certification of NDT Personnel.

The qualifications described by this GCPTP have been prepared for registration at level 6, on the NZQA framework.

1 SCOPE AND GENERAL

1.1 Scope

This Guideline for Certification - Penetrant Testing Personnel (GCPTP) defines the principles, training, experience and examination for the issue of a Discipline Recognition to Penetrant Testing personnel..

1.2 Application

Discipline Recognition granted under this GCMT applies to Penetrant Testing;

- During manufacturing of industrial equipment, and during the pre and in-service periods of industrial equipment.
- For all product sectors as described in ISO 9712, Annex A, Clause A2.

1.3 Definitions

ISO 9712	Non-destructive testing - Qualification and certification of NDT personnel
AS 2062	Non-destructive testing - Penetrant testing of products and components
ASTM E1417	Standard Practice for Liquid Penetrant Testing
CBIP	Certification Board for Inspection Personnel
Certified	An individual is certified for the purpose of this GCPTP when they hold a Discipline Recognition for penetrant testing.

Except as modified below, all definitions used in ISO 9712 apply to this GCPTP.

1.4 Discipline Recognition

Discipline Recognitions, which may be granted under this GCPTP, and their scope, are:

1.4.1 PT1 Penetrant Testing Inspection Level 1

An individual certified to Level 1 shall have demonstrated competence to carry out the relevant NDT method / sector according to NDT instructions and under the supervision of Level 2 or Level 3 personnel. Within the scope defined on the certificate, Level 1 personnel may be authorized by the employer to perform the following in accordance with NDT Instructions;

- Set up of NDT equipment.
- Perform the test.
- Record and classify the results of the tests.
- Report the results.

1.4.2 PT2 Penetrant Testing Inspection Level 2

An individual certified to Level 2 shall have demonstrated competence to perform non-destructive testing according to established procedures. Within the scope of competence defined on the certificate (Testing method / Sector), Level 2 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 relevant NDT codes, standards, specifications and procedures into NDT instructions adapted to the actual working conditions.
- Set up and verify equipment settings.
- Perform and supervise relevant method / sector tests.
- Interpret and evaluate results according to the applicable codes, standards, specifications or procedures.
- Prepare detailed NDT instructions.
- Carry out and supervise all tasks at or below Level 2.
- Provide guidance for personnel at or below level 2.
- Report the results of the specific NDT test.

1.4.3 Penetrant Testing Level 3 (PT3)

A person certified to Level 3 shall have demonstrated competence to perform penetrant inspections at Level 2. Additionally they shall demonstrate competence to:

- Evaluate and interpret results in terms of existing standards, codes, and specifications;
- Have 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;

- Have a general familiarity with other NDT methods.

Level 3 personnel may be authorised by their employer 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 standards, codes, specifications, and procedures;
- Designate the particular test methods, procedures, and NDT instructions to be used;
- Carry out and supervise all tasks at all levels;
- Provide guidance for NDT personnel at all levels.

1.5 Sectors

Sectors are defined by ISO 9712 Annex A, and as modified by this Guideline for Certification, covering Penetrant Testing at various stages of types of engineering industry including:

- Manufacturing
- Pre-Service
- Post and In-Service
- Fabrication

The products covered include:

- Welding
- Castings
- Forgings
- Wrought products

NDT METHOD	LEVEL	Product Sector				Industry Sector	
		WELDS	CASTINGS	WROUGHT	MULTISECTOR	MANUFACTURING TESTING	PRE & IN-SERVICE TESTING
PENETRANT TESTING	1	X	X	X	X	X	
PENETRANT TESTING	2	X	X	X	X	X	
PENETRANT TESTING	3	X	X	X	X	X	

(In all cases above Level 1 and Level 2 are as defined by ISO 9712 Section 6.)

2 TRAINING

2.1 Training Evidence

The Guidelines for Certification – General Requirements (PRO-CER-18), specify the requirements for the necessary evidence of training.

2.2 Formal Training

2.2.1 Penetrant Inspection Level 1 (PT1)

Applicants for examination for Penetrant Inspection Level 1 (PT1) shall have attended a theory course in liquid penetrant inspection. The course shall total at least 16 hours.

- Training hours are based upon candidates possessing prior knowledge of materials and processes. If this is not the case, additional training may be required by CBIP.
- Training hours include both practical and theory courses.

2.2.2 Penetrant Inspection Level 2 (PT2)

Applicants for examination for Penetrant Inspection Level 2 (PT2) shall have attended a level two theory course or courses in Penetrant inspection. The course(s) shall total at least 40 hours, inclusive of any Level 1 training.

- Training hours are based upon candidates possessing prior knowledge of materials and processes. If this is not the case, additional training may be required by CBIP.
- Training hours include both practical and theory courses.

2.2.3 Penetrant Testing Level 3

CBIP does not allow direct access to Level 3, therefore applicants are required to satisfy the training requirements for Level 2 (Clause 2.2.2). In addition documented evidence of additional training of 32 hours is required, which shall include aspects of the following:

- Other NDT methods
- Procedure writing
- Code and standard interpretation
- Metallurgy
- Fabrication and welding
- Quality manual writing

2.2.4 Penetrant Inspection – All Levels

- A reduction of up to 50% (outlined above) in the total required number of hours may be accepted by CBIP for candidates who have graduated from technical college or university, or have completed at least two years of engineering or science study at college or university.
- For candidates seeking certification in either MT or VT at the same time as PT, or who already hold discipline recognition and a Competence Certificate in MT or VT,

the training hours may be reduced proportional to the number of hours that the syllabus duplicates the other.

- The maximum reduction in total training hours is fifty percent (50%).
- Any reduction in training hours requires acceptance by CBIP.

3 DISCIPLINE RECOGNITION

3.1 Experience

Experience in months will be based on a nominal forty-hour week, provided the candidate is working full time in the Penetrant Inspection method.

3.1.1 Experience Pre-requisite for Examination

A minimum of Five (5) percent of the experience hours required for certification shall be completed prior to examination.

CBIP may accept reductions in experience hours prior to examination.

3.1.2 Penetrant Inspection Level 1 (PT1)

Applicants for level 1 shall have at least one months (or 160 hours) experience in the Penetrant Inspection method, not including any organised theory or practical training courses. For the experience to be valid it should be gained under the direct supervision of a Level 2 or 3 certified person.

3.1.3 Penetrant Inspection Level 2 (PT2)

Applicants for level 2 shall have at least three months (or 480 hours) experience in the Penetrant Inspection method at Level 1. If qualifying directly to Level 2, the experience shall be 640 hours (four months in total), not including any organised theory or practical training courses. For the experience to be valid it should be gained under the control of a Level 2 or 3 certified person.

If the candidate is not working full time in Penetrant Inspection, then only hours doing Penetrant Inspection, preparation, reporting and associated work may be logged.

3.1.4 Magnetic Testing Level 3

Applicants for Level 3 shall have at least twelve months (or 1,920 hours) experience in the Magnetic Testing method at Level 2.

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, relevant to:

- PT procedure writing
- Code and standard interpretation
- Training Level 1 and 2 personnel
- Running an magnetic testing facility
- Writing PT quality systems

- Designing and operating PT calibration systems
- Appraisal of or designing new PT test equipment

3.1.5 Possible reductions in experience

Applicants may apply to CBIP for a reduction of up to 50% of the specified hours for experience in 3.1.1 and 3.1.2.

Reductions may be allowed for time spent on training courses (weighted by a factor of 5). Such courses shall consider practical solutions to testing problems and shall involve testing of known defects in specimens or actual fabrications.

Credit is allowed for work experience gained in other NDT methods, covered by ISO 9712, with the reduction for total experience for Penetrant Testing as follows:

- PT plus one other method: 25%
- PT plus two other methods: 33%
- PT plus three other method: 50%

The candidate shall show that he/she has at least fifty (50) percent of the experience time required for Discipline Recognition in each of the other methods.

CBIP must approve individual applications for reduction in experience time.

Note: The minimum experience hours shall be at least one month (160 hours)

3.2 Changing Sectors

CBIP will consider applications for sector changes;

A certified Level 1 or 2 individual changing sectors, or adding another sector in the same NDT method, shall be required to take only the new sector specific and practical examinations for that method.

A certified Level 3 person changing sectors or adding another sector for the same NDT method is exempt from the need to retake the basic examination and the Level 3 Part D of the main method examination

Application for sector changes shall be made in writing.

4 EXAMINATION REQUIREMENTS

4.1 Initial Discipline Recognition

A Discipline Recognition for both PT1 (Level 1) and PT2 (Level 2) requires three examinations consisting of two written examinations and a practical examination. The written exam papers shall comprise a general paper and a specific paper.

4.2 Recertification

Recertification shall be by way of a practical examination as per the Level 2 practical examination in Penetrant Testing.

The requirements of the Guidelines for Certification – General Requirements (PRO-CER-18), Section 10. and shall also be complied with.

4.3 Significant Interruption

Where significant interruption has occurred, a recertification examination is required.

Refer to Guidelines for Certification – General Requirements (PRO-CER-18), Section 3 for a definition of Significant Interruption.

4.4 Examination References

References for completing the examinations are listed on the CBIP website at www.cbip.co.nz.

4.5 Penetrant Testing Level 1

PT1 (Level 1) General Paper (Written)

- 40 multi choice questions covering the general theory of Liquid Penetrant Inspection.
- 90 minutes duration in a closed book format.
- Refer to appendix B for exam topics and sample questions

PT1 (Level 1): Specific Paper (Written)

- 20 multi choice and 10 short answer questions covering specific applications of the Liquid Penetrant Inspection method.
The questions may involve portable and stationary (Tank) equipment, and questions on standards, specifications and procedures. Some basic knowledge of inspection equipment is also required.
- Permitted reference material AS 2062, ISO 9712 and this GCPTP
- 2.5 Hour duration,
- Refer to appendix B for exam topics and sample questions

PT1 (Level 1) Practical examination

- The practical examination shall comprise of inspection and reporting on at least 3 samples. The examination shall be carried out in accordance with a detailed written instruction supplied by the examiner and should comply with AS 2062.
- An examination observer will be present and will allocate marks (15%) in accordance with a check sheet supplied by CBIP.
- Written examination reports, including defect indications and datum, will be required to be presented to the examiner at the end of the test.
- A report pro-forma will be supplied to the candidate.
- Time allowed will be 3 hours.

4.6 Penetrant Testing Level 2

PT2 (Level 2) General Paper (Written)

- 40 multi choice questions at level 2 covering the general theory of Liquid Penetrant Inspection.
- 90 minutes duration in a closed book format.
- Refer to appendix B for exam topics and sample questions

PT2 (Level 2): Specific Paper (Written)

- 20 multi choice and 10 short answer questions covering specific applications of the Liquid Penetrant Inspection method. The questions may involve portable and stationary (Tank) equipment, and questions on standards, specifications and procedures. Knowledge of inspection equipment, calibration and use is also required.
- Permitted reference material AS 2062, ISO 9712 and this GCPTP.
- 2.5 Hour duration,
- Refer to appendix B for exam topics and sample questions.

PT2 (Level 2) Practical examination

- The practical examination shall consist of two (2) parts. Time allowed for both parts will be 4 hours, 3 hours for the practical samples plus one hour for the written work instruction.
- Practical Test
 - The practical test shall consist of an inspection and reporting on at least 3 samples in the relevant product sectors. The examination shall be carried out in accordance with a Standard Practice or General Procedure such as AS 2062. This will require the level 2 candidate to interpret the document and determine the inspection procedure.
 - Permitted reference material – AS 2062 and/or the candidates Company Penetrant Testing procedure.
 - Written examination reports, including defect indications, datum and interpretation, will be required to be presented to the examiner at the end of the test. No pro-forma worksheet will be supplied, but candidates may use their own company report sheets.
- Written Instruction (Procedure)
 - The second part shall consist of producing a written instruction for the inspection of a specific part nominated by CBIP. The instruction shall be such that it complies with the requirements of AS 2062 or ASTM E1417 and can be used by a level 1 with no interpretation required.
 - Permitted reference material – AS 2062 and ASTM E1417.

4.7 Practical Re-examination

Applicants who do not obtain the required pass mark of 70% in the practical examination, are only required to re-sit the failed sections.

The re-examination may take place one month after the first attempt, and no longer than two years after the original examination. The re-examination time may be less than one month if evidence of further training acceptable to the certification body is provided.

5 EXAMINATION REQUIREMENTS LEVEL 3

PT3 requires successful completion of one practical and two theory examinations.

PT3 (Level 3): Basic Paper (Written)

- 100 multi choice questions covering basic knowledge, as per the table below

Part	Subject	Number of questions
A	Technical knowledge in materials science and process technology.	25
B	Knowledge of the certification body's qualification and certification system based on this International Standard. This may be an open book examination.	10
C	General knowledge of at least four methods as required for Level 2 and chosen by the candidate from the methods given in Clause 1. These four methods shall include at least one volumetric method (MT or PT).	15 for each NDT method. 60 in total

PT3 (Level 3): Main Paper (Written)

- 100 multi choice questions covering MT knowledge, as per the table below

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

	certification body may replace the drafting of a procedure with the critical analysis of an existing PT procedure containing errors and/or omissions.	
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PT3 (Level 3): Practical examination

- The practical examination shall be as per the Level 2, with the exemption of the Level 1 written instruction

5.1 Recertification Level 3

Recertification shall be by way of a practical examination, as per the Level 2, with the exemption of the Level 1 written instruction.

Plus either:

- Written examination 20 questions on the application of PT, which demonstrates an understanding of current NDT techniques, standards codes or specifications, and applied technology and, at the option of the certification body, five additional questions on the requirements of the certification scheme.

Or:

- Meeting the requirements for a structured credit system, as given in 5.2.

5.2 Level 3 Credit System

Credits are gained over a five year period prior to recertification, as per the table below. Note that there are a maximum number of points that can be gained in both a single year and over the five years.

A minimum of 70 points are required for a recertification.

A maximum of 25 points can be earned in a single year.

Item	Activity	Points accorded for each item (or function)	Maximum points per year per item	Maximum points per 5 year period per item
1	Membership of an NDT society, attendance at seminars, symposia, conferences and/or courses covering NDT and related sciences and technologies	1	3	8 ^a
2.1	Attendance at international and national standardization committees	1	3	8 ^a
2.2	Convenorship of standardization committees	1	3	8 ^{ab}
3.1	Attendance at sessions of other NDT committees	1	3	8 ^a
3.2	Convenorship of sessions of other NDT committees	1	3	8 ^{ab}
4.1	Attendance at sessions of NDT related working groups	1	5	15 ^a
4.2	Convenorship of NDT related working groups	1	5	15 ^{ab}
5.1	NDT related technical/scientific contributions or publications	3	6	20 ^{cd}
5.2	NDT related research work published	3	6	15 ^{cd}
5.3	NDT research activity	3	6	15 ^{cd}
6	NDT technical instructor (per 2 h) and/or NDT examiner (per examination)	1	10	30 ^d
7	Professional activity	—	—	—
7.1	within a NDT facility, NDT training centre or NDT examination facility or for Engineering of NDT (see Annex E) (for each full year)	10	10	40 ^d
7.2	Dealing with disputes referring to clients	1	5	15 ^d
7.3	Development of NDT applications	1	5	15 ^d
^a Maximum points for items 1 to 4: 20. ^b Points to be given for both convenorship and attendance. ^c If there is more than one author, the lead author shall define points for the other authors. ^d Maximum points for each of items 5 and 6: 30, and 7: 50.				

Appendix A – Knowledge requirements (General)

PENETRANT INSPECTION

PENETRANT INSPECTION	PT1	PT2
Introduction to basic Penetrant Inspection concepts	X	X
History of Penetrant Inspection	X	X
Capabilities and Limitations	X	X
PENETRANT PROPERTIES		
Capillary action	X	X
Contact angle, wet ability and surface tension		X
Flammability	X	X
Removability	X	X
Specific Gravity		X
Viscosity	X	X
PENETRANT CLASSIFICATION		
Type 1 and 2, Method A, B, C and D	X	X
Water washable and Post emulsifiable	X	X
Solvent removable	X	X
Mil Std 25135 including QPL		X
AMS 2644 including QPL		X
Visible	X	X
Fluorescent	X	X
Relative sensitivity	X	X
Water based penetrants		X
CLEANERS		
Solvents	X	X
Solvent and water based degreasers	X	X
Alkaline	X	X
Etching	X	X
EMULSIFIERS		
Lipophilic and Hydrophilic	X	X
DEVELOPERS		
Dry	X	X
Water soluble and water suspensible	X	X
Non aqueous	X	X
Special form		X
PRECLEANING		
Typical contaminants	X	X
Selecting of pre cleaning method	X	X

Paint and corrosion removal	X	X
Blasting, grinding and etching	X	X
De greasers	X	X
PENETRANT APPLICATION		
Dwell times and temperatures	X	X
Different ways to apply penetrant and penetrant selection	X	X
Dip and Drain technique	X	X
Defect and surface condition	X	X
Electrostatic spray		X
PENETRANT REMOVAL		
Water wash, temp, pressure and distance	X	X
Emulsifier application and times	X	X
Diffusion vs scrubbing action	X	X
Hydrophilic and lipophilic	X	X
Pre and post rinse	X	X
Solvent wipe	X	X
Psi vs kPa and Degrees C vs degrees F		X
DRYING		
Drying ovens	X	X
Temperature and times	X	X
DEVELOPER APPLICATION		
Dry powder, dust chambers and spray applications	X	X
Wet developer tanks	X	X
Non Aqueous spray	X	X
Development times	X	X
Action of developer	X	X
Coating thickness with Visible and Fluorescent	X	X
INSPECTION		
White and fluorescent light requirements	X	X
Ambient lighting and Dark adaption	X	X
Background	X	X
Use of glasses	X	X
Scanning technique	X	X
False, relevant and non relevant indications	X	X
Recording, reporting and retesting	X	X
INTERPRETATION		
Solvent wipe	X	X
Characterisation of indications, shapes and sizes	X	X
Length of time for indications to appear	X	X
Visual inspection using magnification	X	X
SPECIAL TECHNIQUES		

Filtered particle	X	X
Water based penetrants	X	X
Leak through method	X	X

EQUIPMENT		
Portable kits	X	X
Black capes	X	X
Stationary tank lines	X	X
Electrostatic spray		X
Extraction	X	X
White and Black (UV) lights	X	X
Pressure and temp indicators	X	X
Refractometers and Hydrometers		X
Binoculars and magnifiers	X	X
Timers	X	X
EQUIPMENT CHECKS		
Process sensitivity test, KDS and TAM panels	X	X
Contamination and concentration tests	X	X
Black and white light measurement, Lux and W/m ²	X	X
Developer contamination	X	X
Remover tests	X	X
BASIC MATERIALS		
Basic Metallurgy	X	X
Types of Materials – Carbon, Stainless Steel, Aluminium	X	X
Welding Processes – Common methods	X	X
Casting and forging	X	X

PENETRANT INSPECTION - Knowledge Requirements - Specific

PI PROCEDURES		
PI procedures involving inspection of common welded parts such as Plate, Pipe, Nozzles & Nodes and there typical defects	X	X
Casting and forging defects	X	X
"In service" defects	X	X
PI procedures involving Stationary and portable equipment	X	X
Interpretation and evaluation techniques	X	X
HAZ cracking and Lamellar tearing	X	X
Level 1 written instruction	X	X
CODES, STANDARDS and supporting documents		
This Standard of Proficiency and ISO 9712	X	X
CBIP Code of Ethics	X	X
AS 2062	X	X
ASTM E 1417		X
AMS 2644		X
Mil std 25135		X
Manufacturers MSDS sheets	X	X

Appendix B – Examination Questions

PENETRANT INSPECTION SAMPLE EXAMINATION QUESTIONS

PT1 PENETRANT INSPECTION LEVEL 1 GENERAL PAPER (40 Multi Choice)

- 1 Which of the following materials would be most difficult to test using the liquid penetrant method?
 - A. Unglazed porous ceramic
 - B. Titanium
 - C. Forged Aluminium
 - D. Cast iron

- 2 Which of the following is NOT a characteristic that applies to liquid penetrant testing?
 - A. This method can accurately measure of the depth of a crack or discontinuity.
 - B. This method can be used for on-site testing of large parts.
 - C. This method can be used to find shallow surface discontinuities.
 - D. This method can be made more or less sensitive by using different penetrant materials?

- 3 The stage of the inspection process that removes excess surface penetrant from a test specimen is generally referred to as:
 - A. The washing or removal stage
 - B. The pre rinse step
 - C. The post rinse step
 - D. The washing dwell time

PT1 PENETRANT INSPECTION LEVEL 1 SPECIFIC PAPER (20 Multi Choice and 10 short answer)

- 1 According to ISO 9712 and the CBIP Standard of Proficiency for Liquid Penetrant Inspection, Level 1 personnel may be authorised to perform which of the following.
 - A. Set NDT equipment
 - B. Perform specific PT inspections only
 - C. Report on the results of the inspection
 - D. All of the above

- 2 Describe the method for applying non aqueous developer during a portable inspection and state the developer thickness required for a visible penetrant.

PT2 PENETRANT INSPECTION LEVEL 2 GENERAL PAPER (40 Multi Choice)

- 1 Capillary action is?
 - A. Required in order to carry out a successful penetrant inspection

- B. Associated with the contact angle and surface tension of a fluid
 - C. Both A and B are correct
 - D. The property of a fluid which will affect it's resistance to flow
- 2 Method "A" Penetrants commonly refer to:
- A. Magnetic Penetrants
 - B. Fluorescent penetrants
 - C. Chemical etch penetrants
 - D. Water Washable penetrants
- 3 When penetrant testing for shallow discontinuities using a post- emulsification penetrant, the emulsification times should be long enough to:
- A. Mix the emulsifier with the surface penetrant only
 - B. Mix the emulsifier with all the penetrant
 - C. Mix the emulsifier with penetrant in the discontinuities
 - D. Allow the emulsifier to break down the surface tension of the penetrant

PT2 PENETRANT INSPECTION LEVEL 2 SPECIFIC PAPER

(20 Multi Choice and 10 short answer)

- 1 A typical penetrant indication from a large area of lack of side wall fusion on a single run "V" butt weld would:
- A. Appear very quickly
 - B. Appear at the toe of the weld
 - C. Be visible on the surface once the developer was removed
 - D. All of the above
- 2 What information, relative to the solvent you are using, would you expect to find on the manufacturers MSDS

Appendix C - PT1 and PT2 Practical examinations

The marks allocated for the Level 1 and 2 Practical examinations will be in accordance with a set of pre-defined criteria. The following gives general information on how the marks are allocated at each level.

PT1

Correct use of the equipment

Correct interpretation of the written instruction

Performance of the inspection

Finding all mandatory indications

Defect datum

Reporting

Note: A candidate failing to report a defect specified on the master report as 'mandatory shall be awarded zero marks in the Recording and Reporting part of the practical examination.

PT2

Selection and correct use of the equipment

Equipment control and checks

Correct interpretation of standard / Code

Performance of the inspection

Finding all mandatory indications

Defect datum

Reporting

Writing Level 1 Instruction 15%

Note: A candidate failing to report a defect specified on the master report as 'mandatory shall be awarded zero marks in the Recording and Reporting part of the practical examination.