



PED/15 - EN 473 QUALIFICATION CRITERIA

(applicable to NDT personnel seeking approval under PED 97/23/EC)

Applicable Definitions

1. Qualification - Evidence of training, professional knowledge, skill and experience as well as physical fitness to enable NDT personnel to properly perform NDT tasks.
2. Industrial NDT Experience - Experience in the applicable NDT method and field of application concerned, which leads to the acquisition and maintenance of the required skill and knowledge.
3. 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.
4. General Examination - The examination concerned with knowledge of the principles of an NDT method.
5. Specific Examination - An examination, which is concerned with testing techniques, applied in a particular industrial sector, knowledge of the product being tested, and of standards, codes, specifications and acceptance criteria (see also 'job-specific examination').
6. Practical Examination - an examination of practical skills in which the level 1 or 2 candidate demonstrates familiarity with and the ability to operate the necessary test equipment, to test the prescribed specimens, and to record and to analyse the resulting information to the degree required.
7. Test Specimen - A sample used in practical examinations. Samples are representative of products typically tested in the applicable industrial sector and may include more than one area or volume to be tested.
8. Job-specific examination - an additional examination concerned with the application of an NDT method to a specialised product. The job specific examination, which is usually 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).

NDT Training: Level 1 and Level 2

9. The minimum duration of any training for level 1 and level 2, which includes both theoretical and practical elements, in order to satisfy EN 473 criteria is shown below:

NDT Method	Level 1 hours	Level 2 hours
PT	16	24
MT	16	24
RT	40	80
UT	40	80

- a. NOTE: Direct access to Level 2 requires the total number of hours shown in Table 1 for Level 1 and Level 2.

NDT Experience: Level 1 and Level 2

10. The minimum requirements for duration of experience for level 1 and level 2, in order to satisfy EN 473 criteria shall be as shown below:

NDT Method	Level 1 months	Level 2 months
ET	3	9
PT	1	3
MT	1	3
RT	3	9
UT	3	9

NOTE 1 - Work experience in months is based on a nominal 160 hours/month. When a candidate for certification is working in excess of 160 hours per month, he or she may be credited with experience based on the total hours, but shall be required to produce evidence of this experience.

NOTE 2 - For Level 2 certification, the intent of this document 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.

NOTE 3 - Credit for work experience may be gained simultaneously in two or more of the NDT methods covered by this document, with the reduction of total required experience in each method 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 time by 50%

Note 4 - Up to 50% of the practical experience time may be achieved by the same duration of an appropriate practical course. The course shall be concentrated on practical solutions of frequently occurring testing problems, and the British Institute of NDT must approve the training programme.

Vision Requirements

11. The EN 473 requirements for colour perception and acuity of vision, are as follows:
- a. Near vision acuity shall permit reading a minimum of Jaeger number 1 or Times Roman N4 letters at not less than 30 cm with one or both eyes, either corrected or uncorrected;
 - b. Colour vision shall be sufficient that the candidate can distinguish and differentiate contrast between the colours used in the NDT method concerned as specified by the employer.
 - c. Tests for visual acuity should be carried out and recorded at least every twelve months.

Qualification examination content: Level 1 and Level 2

12. General Examination

- a. The general examination includes questions selected in an unpredictable way from the collection of general questions approved by the British Institute of NDT. The number of questions in each NDT method general examination is as defined below.

NDT Method	Level 1	Level 2
ET	40	40
PT	30	30
MT	30	30
RT	40	40
UT	40	40

13. Specific Examination

- a. The specific examination includes questions selected in an unpredictable way from the collection of specific questions approved by the British Institute of NDT. The number of questions is as defined below.

NDT Method	Level 1	Level 2
ET	20	30
PT	20	30
MT	20	30
RT	20	30
UT	20	30

14. Practical Examination

- a. 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.
- b. 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 or procedure.
- c. The specimens used for the practical test will be selected from a collection of representative specimens approved by the British Institute of NDT during the approval audits.

Grading of Examinations

15. Levels 1 and 2 - grading

- a. To be eligible for certification, the candidate shall obtain a minimum grade of 70% in each examination part, and a minimum composite grade of 80%. The composite grade N is calculated in accordance with the following formula:

$$N = 0.25 n_g + 0.25 n_s + 0.50 n_p \text{ where:}$$

n_g = grade for the general examination

n_s = grade for the specific examination

n_p = grade for the practical examination.