

# **Level 3 NVQ Diploma in Heating & Ventilating - Ductwork Installation (6188-31) (QCF)**



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**Unit 318 - Understand Industrial and Commercial  
Plastic Ductwork Installation and Pre-commissioning  
Techniques**

**Multiple Choice assessment pack - Version A**

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# 1 Introduction and general information

## General

This document contains Version A of the multiple choice assessment for Unit 318 - Understand Industrial and Commercial Plastic Ductwork Installation and Pre-commissioning Techniques, part of the **Level 3 NVQ Diploma in Heating & Ventilating - Ductwork Installation (6188-31)**.

A separate Answer Guide for this assessment is also available via password-protected download.

## Internal quality assurance requirements

Approved centres **must** have effective quality assurance systems to ensure optimum delivery and assessment of qualifications.

Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance, and City & Guilds is responsible for external quality assurance.

Full details and guidance on the internal and external quality assurance requirements and procedures, are provided in Providing City & Guilds Qualifications and in the Centre toolkit.

This document also explains the tasks, activities and responsibilities of quality assurance staff.

## Entry for assessment and certification

Candidates should be registered via the Walled Garden.

Results of the test should be submitted via the Walled Garden. Only those units which have been achieved should be included in the submission.

## 2 Assessor guidance

### Underpinning knowledge tests

These underpinning knowledge tests are set by City & Guilds and are administered by the centre when the candidate is ready. They are then internally marked by the centre, using the answer guide provided and the results submitted via the walled garden.

Internally marked assessments are subject to internal and external verification.

Tests should be taken under supervised exam conditions as closed-book tests.

It is envisaged that most candidates will take the tests in their normal learning environment with their own tutor present.

A suitable invigilator must be present throughout to guarantee the integrity of the assessment, hand out papers, monitor the time taken and ensure that all tests/completed answers are collected. Suitable people include trainers, tutors, assessors and internal verifiers who are part of the centre's quality assurance systems. It is the centre's responsibility to ensure that each candidate's responses are their own and their own only.

The tests are graded **pass or fail** only. Where candidates do not achieve the necessary pass mark as indicated in the answer pack, candidates can be given a chance to re-sit the assessment at a later date.

The question papers should be photocopied and be handed out to candidates immediately before they take the test. Centres can photocopy the test and hold a stock securely within the centre.

The answer keys for each multiple-choice test are contained in the Answer Guide. The answers **must** be held securely by centres and **not** made available to candidates.

Centre quality assurance co-ordinators are responsible for ensuring that all assessment materials and answer guides are held securely before and after the date of the assessment.

### Scheduling assessments

The underpinning knowledge tests can be completed in any order. Centres will be expected to organise the tests in a logical order according to the requirements of the course, as well as candidate readiness.

### Preparation of candidates

Tutors should teach to the learning outcomes of the unit and **not** the assessments.

Candidates should **not** be entered for assessment before they are ready.

### **3 Unit 318 - Understand Industrial and Commercial Plastic Ductwork Installation and Pre-commissioning Techniques**

#### 3.1 Version A

**Level 3 NVQ Diplomas in Heating and Ventilating**  
6188-318 - Understand Industrial and Commercial Plastic  
Ductwork Installation and Pre-commissioning Techniques

**Duration: 1 hour 15 minutes**

**You should have**

- a calculator

Version A

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**This question paper is the property of City and Guilds.**

**Read the following notes before you answer any questions.**

- Attempt all questions.
- If you find a question difficult, leave it and return to it later.

**This paper contains 42 questions. All questions have equal marks.**



- 1 Which one of the following industry specifications is **not** associated with plastic ductwork?
  - a) DW/144.
  - b) DW/143.
  - c) DW/172.
  - d) DW/154.
  
- 2 A control damper within a plastic ductwork system would **most** likely be manufactured from which one of the following materials?
  - a) Stainless Steel.
  - b) UPVC.
  - c) Aluminium.
  - d) Galvanised Steel.
  
- 3 Which one of the following filter types would **most** likely be associated with fume cupboard extract systems?
  - a) Baffle.
  - b) Mesh.
  - c) Cartridge.
  - d) HEPA.
  
- 4 A non hazardous plastic extract system located in a residential area would **most** likely incorporate which one of the following?
  - a) Additional supports.
  - b) Additional filtration.
  - c) Additional attenuation.
  - d) Additional sealants.
  
- 5 The selection of a plastic ductwork system will usually be determined by which one of the following factors?
  - a) Its environmental friendliness.
  - b) Its non corrosive properties.
  - c) Its economical efficiency.
  - d) Its ease of maintenance.
  
- 6 Under the COSHH regulations, what is the **maximum** period that may elapse between the testing of most systems serving fume cupboards?
  - a) 10 months.
  - b) 12 months.
  - c) 14 months.
  - d) 16 months.

- 7 Which of these documents provides information on the specification of plastic ductwork?
- a) DW/172
  - b) DW/144
  - c) DW/154
  - d) DW/191
- 8 Which one of the following industry standards or specifications defines the responsibilities for installation and signing off of fire dampers?
- a) DW/143.
  - b) DW/144.
  - c) DW/145.
  - d) DW/154.
- 9 Which one of the following is **not** permitted to witness a pressure test of a ductwork system?
- a) Main contractor.
  - b) Ductwork contractor.
  - c) Architect.
  - d) Mechanical consultant.
- 10 Which one of the following would be used in conjunction with a pre commission activity of a plastic ductwork system?
- a) Test sheet.
  - b) Risk assessment.
  - c) Quality workmanship report.
  - d) Progress site report.
- 11 An existing operational fume cupboard system has to be modified.
- Which one of the following actions **must** be taken prior to work starting?
- a) Client informed.
  - b) Variation order in place.
  - c) Plant locked off and isolated.
  - d) Risk assessment in place
- 12 Which one of the following is the **most** important in respect of pre commissioning activity for a fire damper?
- a) Check access.
  - b) Check position.
  - c) Check thermal release mechanism.
  - d) Check blade pack operation

13 A rectangular plastic extract system is sized at 225 x 50 mm within a domestic apartment location.

This system would most likely use which one of the following support types?

- a) Stirrup.
- b) Side cleat.
- c) Profiled bearer.
- d) Angle.

14 Which one of the following is the correct application regarding a V-groove weld?

- a) Stainless steel rivet.
- b) Hot air welding.
- c) Solvent cement.
- d) Aluminium rivet-steel mandrel.

15 A polypropylene extract duct sized at 600 x 600 mm and positioned vertically must use which one of the following support arrangements?

- a) 8 mm drop rods.
- b) 10 mm drop rods.
- c) Stiffening frames/flanged joints.
- d) A cold-rolled profiled bearer.

16 A plastic fume extract system is to be installed to P.D.I. Level 3 criteria.

Which one of the following would be used to establish this?

- a) DW/154.
- b) TR19.
- c) DW/144.
- d) TR17.

17 A PVC duct provides natural ventilation to a food storage area within a domestic dwelling.

What are the testing requirements in this scenario?

- a) Testing to Class A.
- b) Testing to Class B.
- c) Testing to Class C.
- d) Testing is not required.

18 Which one of the following accreditations deals specifically with environmental matters?

- a) I.S.O. 9001.
- b) I.S.O. 10006.
- c) I.S.O. 14001.
- d) I.S.O. 18001.

19 Variation works which **cannot** be costed would be recorded on which one of the following documents?

- a) Daywork sheets.
- b) Time sheets.
- c) Test sheet.
- d) Handover sheet

20 Which one of the following industry specifications would **not** give details of access requirements for plastic ductwork systems?

- a) DW/143.
- b) DW/144.
- c) DW/154.
- d) TR19.

21 Leakage testing of plastic ductwork systems is based on the requirements of which one of the following industry standards?

- a) DW/143.
- b) DW/144.
- c) DW/145.
- d) DW/154.

22 Ductwork leakage would **least** likely occur at which one of the following areas?

- a) Blank membranes.
- b) Cross joints.
- c) Longitudinal seams.
- d) Rivet heads.

23 In what part of a test sheet should physical details be entered?

- a) Part One.
- b) Part Two.
- c) The 'General' section.
- d) The table section.

24 Re-testing procedures are shown in what part of the HVCA Practical Guide to Leakage Testing?

- a) Part One.
- b) Part Two.
- c) Part Two Appendix A.
- d) Part Two Appendix B.

25 Which one of the following documents would identify the conditions on site affecting the safe de-commissioning of a plastic extract system?

- a) Method Statement.
- b) Company H & S statement.
- c) Tool box talk manual.
- d) Risk Assessment.

26 A PVC extract system serving a domestic kitchen within an existing occupied building is to be de-commissioned.

Who would **most** likely be disrupted by this activity?

- a) Site workers.
- b) Site visitors.
- c) Building occupants.
- d) Building maintenance operatives.

27 Which one of the following documents gives a detailed description of any de-commission activity?

- a) Risk Assessment.
- b) Method Statement.
- c) Permit to work.
- d) Specific site safety plan.

27 A plastic extract system which includes fans, attenuators and louvres and located on a roof plant area is to be de-commissioned.

What **must** be implemented before works can commence?

- a) Roof permit.
- b) Roof protection.
- c) Fan isolation and lock off.
- d) Risk Assessment.

28 A de-commission activity on an existing system is about to commence when it is found that the system is still live.

What action **must** be taken in this situation?

- a) Proceed with the work with caution.
- b) Advise the M & E consultant.
- c) Stop work and inform site safety representative.
- d) Stop work and inform immediate supervision.

- 30 Which one of the following regulations is the **most** likely to be used in conjunction with plastic ductwork systems?
- a) L.E.V. regulations.
  - b) L.O.L.A. regulations.
  - c) Confined spaces regulations.
  - d) Working at height regulations.
- 31 Where should the locking ramp on fire dampers be installed?
- a) Adjacent to the access door.
  - b) Downstream of the airflow.
  - c) Upstream of the airflow.
  - d) Horizontally.
- 32 Compared to the industrial and commercial sectors, plastic systems within the domestic and residential sectors of the ductwork industry are normally
- a) of higher complexity
  - b) of lower complexity
  - c) more hazardous
  - d) as hazardous.
- 33 A pre-commission hand over and sign off activity would usually be carried out by which one of the following?
- a) Ductwork supervision.
  - b) Main contractor.
  - c) M & E contractor.
  - d) Client's nominated representative.
- 34 Which one of the following would be required to confirm that the system is complete, safe and available for full commissioning?
- a) Main contractor's sign off.
  - b) Architect's sign off.
  - c) Client's signed pre commission hand over sheet.
  - d) Builder's signed pre commission hand over sheet.
- 35 A pre commission check reveals a faulty V.C.D. within a fume cupboard extract system.
- Which one of the following actions should be taken next?
- a) Faulty item repaired.
  - b) Faulty item replaced.
  - c) Client supervision advised.
  - d) Ductwork contractor supervision advised.

36 Which one of the following components **must** be checked for operational compliance using a visual inspection method?

- a) Attenuator.
- b) Fire damper.
- c) Filter.
- d) VCD.

37 A faulty plastic fume cupboard extract system within a busy research facility has to be shut down for remedial works.

Who would be **most** disrupted by this activity?

- a) Co workers.
- b) Building maintenance team.
- c) Building security staff.
- d) Laboratory occupants.

38 A centrifugal fan within a live system requires maintenance.

Which one of the following would be the **most** important in this process?

- a) Ductwork installer.
- b) Building maintenance engineer.
- c) Electrician.
- d) Health and Safety officer.

39 Which one of the following is the **most** common cause of poor fan coil unit operation?

- a) Coil fins blocked.
- b) Fan incorrectly wired.
- c) Dirty filter media.
- d) Lack of primary fresh air.

40 A faulty fan within an existing system is to be replaced.

Which one of the following correctly states the sequence of actions that **must** be implemented prior to works starting?

- a) Work area cordoned off, Risk Assessment in place, permit to work in place, fan disconnected.
- b) Risk Assessment in place, permit to work in place, work area cordoned off, fan disconnected.
- c) Fan disconnected, work area cordoned off, Risk Assessment in place, permit to work in place.
- d) Permit to work in place, Risk Assessment in place, work area cordoned off, fan disconnected.

41 A pressure test is to be carried out on a fume extract system to determine air worthiness.

In what format should the results be reported to the client?

- a) Via a site memo.
- b) Verbally.
- c) Via email.
- d) Via a test sheet.

42 A range of terminal devices within an occupied laboratory are faulty and need replacement.

In terms of action, which one of the following time frames would normally be the **most** suitable for the client?

- a) Action immediately.
- b) Action to an agreed programme.
- c) Action outside of normal working hours.
- d) Action to the building owner's directions.



## 4 Useful contacts



### UK learners

#### General qualification information

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### International learners

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F: +44 (0)20 7294 2404 (BB forms)

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