

# T Level Technical Qualification in Building Services Engineering for Construction

Plumbing Engineering (8710–36) (356)

**Candidate Pack**

**Practical Assignment 2020 – Sample**

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Sample

## 1. Assessment

This assessment is for the Plumbing Engineering occupational specialism component of the Technical Qualification. This pack consists of a practical assignment that includes a project brief including drawing and diagrams as necessary along with several tasks for you to complete.

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## 2. Candidate Guidance

### General guidance

This is a formal assessment that you will be marked and graded on. You will be marked on the quality and accuracy of the work you produce. It is therefore important that you carry your work out to the highest standard you can.

### Plagiarism

This is an assessment of your abilities, so the work must be all your own work and carried out under the conditions stated. You will be asked to sign a declaration that you have not had any help with the assignment.

Your tutor is allowed to give you some help understanding the instructions if necessary, but they will record any other guidance you need, and this will be taken into account during marking.

Plagiarism is the failure to acknowledge sources properly and/or the submission of another person's work as if it were your own. Plagiarism is not allowed in this project.

Where research is allowed, your tutor must be able to identify which work you have done yourself, and what you have found from other sources. It is therefore important to make sure you acknowledge sources used and clearly reference any information taken from them.

### Timings and planning

You are advised to study the details of the assessment before starting.

You should check with your tutor that you have all the relevant materials, equipment and information/data sources that you need before starting the assessment.

You should take care when planning to make sure you have divided the time available between parts of the assignment tasks appropriately. Timings for tasks are provided within this pack to support with planning and time allocation.

If you have a good reason for needing more time, you will need to explain the reasons to your tutor and agree a new deadline date. Changes to dates will be at the discretion of the tutor, and they may not mark work that is handed in after the agreed deadlines.

If you have a good reason for needing more time, you will need to explain the reasons to your tutor, and this must be agreed by City & Guilds.

### Health and Safety

You must always work safely, in particular while you are carrying out practical tasks.

You must always follow any relevant Health and Safety regulations, Risk Assessments and codes of practice in line with centre requirements.

If your tutor sees you working in a way that is unsafe for yourself or others, they will highlight the issue and ask you to stop the task immediately. Your tutor will not be able to reassess you until they are sure you are ready for assessment and can work safely.

## **Presentation of work**

Presentation of work must be appropriate to the task.

You should make sure that each piece of evidence including any forms are clearly labelled with your name and the project reference.

All electronic files must be given a clear file name that allows your tutor to identify it as your work.

Written work may be word-processed or hand written unless stated otherwise.

All sketches and drawings should be neat and tidy, to scale and annotated.

Calculations should be set out clearly, with all working shown, as well as any assumptions made. You should use appropriate units at all times, consistent with the requirements of the assignment.

## **Instructions for this assignment**

Ensure you read all the provided assessment information contained in this candidate pack.

You must work independently and not share your work with any other candidates in these supervised assessment sessions.

Your work will be kept secure during any supervised breaks that are taken.

Internet access is **not** allowed.

You must complete all the tasks and present all evidence that is detailed in each task.

This assessment booklet contains:

- An assignment brief
- Task 1
- Task 2
- Task 3

### **Within each task you will find the following:**

**Conditions of assessment:** This will tell you the duration and rules you must follow when completing a task.

**What must be produced for marking:** This describes the evidence you must submit when the task is completed. Be aware failure to submit any evidence requested can adversely affect your overall mark for the assessment.

**Additional evidence for this task:** This describes other forms of evidence that will be collected by the assessor to support the marking of your performance. This will often include but not limited to photographic and video evidence.

### 3. Assignment Brief

You are working as a plumbing engineer and have been called to a domestic property to undertake the planning and installation of an additional cloakroom.

The property currently has:

- A kitchen with sink and dishwasher
- A utility room with sink and washing machine
- One bathroom – with 3 piece bathroom suite
- One ensuite with shower
- One ensuite with bath

As part of this work you will be required to carry out a full survey of the proposed installation, including; planning activities, measurements and calculations.

The customer has identified a ground floor space that they want to convert into a cloakroom and has requested the installation of:

- A new Water Closet (WC)
- A new Wash Hand Basin (WHB)
- Unvented Hot Water Cylinder (UHWC)

The existing hot/cold supplies are available from an installation that is already in place.

Your supervisor will notify you of the requirements of the installation and a plan of the proposed space and location of existing services where you will carry out the installation.

The installation must include:

- hot and cold water supply to any suitable WHB
- all pipework is to be surface mounted and installed to a commercially acceptable standard.
- Plastic pipework to be used for the cloakroom and copper pipework for the unvented hot water cylinder.

Once your installation has been completed, commissioned and checked to the customer's satisfaction, you are required to decommission the installation.

After a period of time the customer calls to notify you that there is a fault on the hot water system. You are required to discuss this with the customer, produce a written report of the maintenance activity and carry out the repair work.

Figure 1

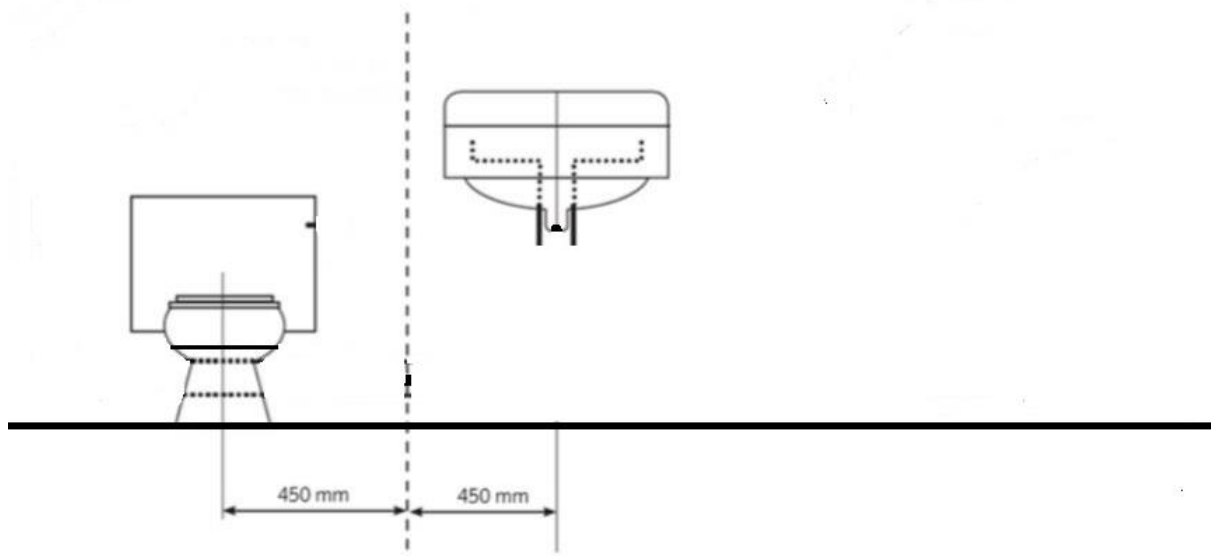
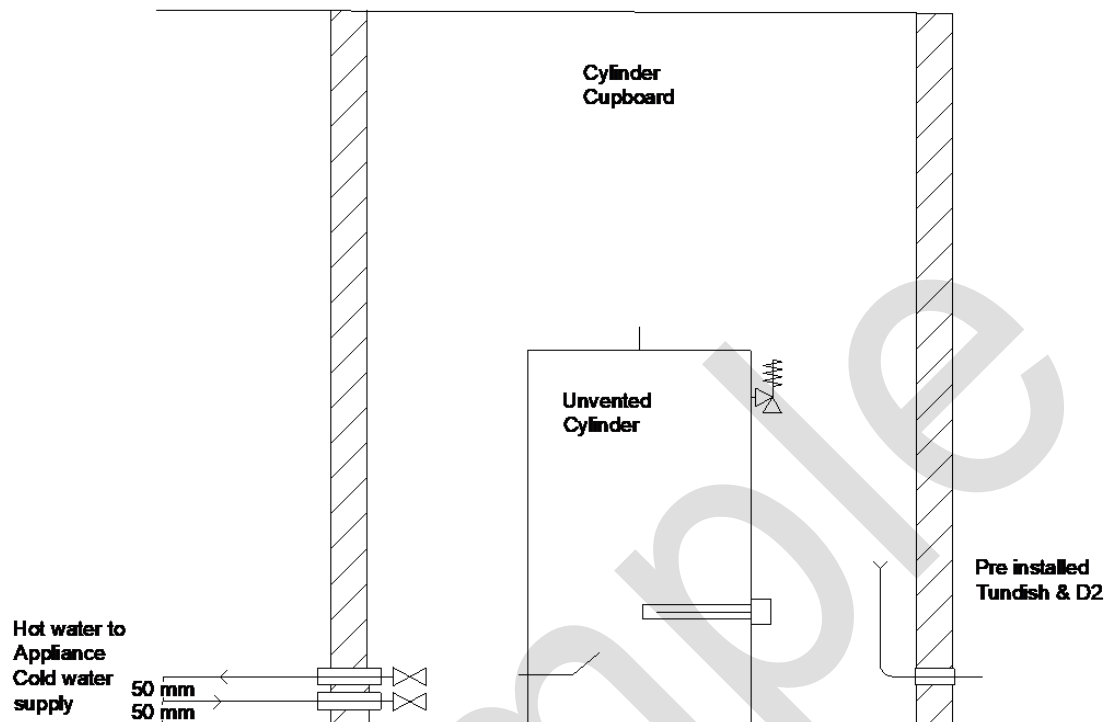




Figure 2



This assignment has a time of 21 hours. Plan your time accordingly to enable completion.

## 4. Tasks

### Task 1 - Planning the installation

Your assessor will provide you with a specific working area and a drawing template to ensure the dimensions meet the centre's resources. You must ensure the drawing is applicable to the location you are being assessed and completed to a commercially acceptable standard.

- a) Plan the installation of the cloakroom and the unvented hot water cylinder following the client brief
- b) Measure and mark out work area as detailed in your diagram

#### Conditions of assessment:

- The time allocated for this task is 5 hours
- You must carry out the task on your own, under controlled conditions

#### What must be produced for marking:

- Risk assessment
- Method statement with justifications
- Installation diagrams with pipework layout, pipe clips and associated components
- Materials list

#### Additional evidence for this task:

- Assessor observation of measurements and marking out of space allocation/ work area

### Task 2 - Installation, Commission and Decommission

- a) Install the cloakroom and unvented hot water cylinder in accordance with your drawings and as agreed by your assessor. Hot and cold pipework should be 100 mm centre for the cloakroom unless otherwise stated
- b) Connect the electrical supply to the unvented cylinder from a suitably supplied fused spur connection following the safe isolation procedure
- c) Commission the system and handover to customer
- d) Decommission the system

**Conditions of assessment:**

- The time allocated for this task is 13 hours
- You must carry out the task on your own, under controlled conditions

**What must be produced for marking:**

- Commissioning checklists

**Additional evidence for this task:**

- Assessor observations:
  - Installation of system
  - Working to tolerances
  - Safe isolation
  - Commissioning
  - Handover to customer
  - Decommissioning

**Task 3 – Carry out maintenance**

- a) Discuss fault with customer, investigate and diagnose fault
- b) Produce a written report of the maintenance activity to include:
  - Details of the fault
  - Method chosen for repair and why
  - Detailed process of how you will repair the fault
- c) Rectify and repair fault

**Conditions of assessment:**

- The time allocated for this task is 3 hours
- You must carry out the task on your own, under controlled conditions

**What must be produced for marking:**

- A written report of the maintenance activity

**Additional evidence for this task:**

- Assessor observations
  - Discussion with customer
  - Fault diagnosis
  - Rectification of fault

**End of Assessment**

Sample

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