

Level 2 Technical Certificate in Plumbing (8202-25)

Synoptic Assignment 2019 – v2.1

Version and date	Change detail	Section
2.0 November 2018	Additional guidance has been provided in the candidates brief	<i>Assignment Brief</i>
	Altered figure 1 and figure 2 to provide better clarity on the tasks and moved onto assignment brief	
	Additional Guidance provided in the candidates tasks	<i>Tasks</i>
	The requirement for candidates to create a drawing as part of Task 1 has been removed	
	Addition guidance provided in for the instructions to centres on the task including resources	<i>Task instructions for centres</i>
2.1 January 2019	Additional guidance provided for centres clarity on tasks	<i>Task specific guidance</i>
	Additional clarity provided for expected photographs as candidate evidence	
	Additional clarity provided on drainage	<i>Assignment Brief Tasks</i>
2.2 June 2019	Updated marking grid - AO2	<i>Marking Grid</i>

General guidance for candidates

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 your practical performance and the written work you produce. It is therefore important that you carry your work out to the highest standard you can. How well you know and understand the subject, and how you have used your knowledge and skills together to complete the tasks must be clear to the marker. This means you will have to explain your thinking and the reasons behind the way you have carried out the tasks and how/why you have made your decisions within your written work e.g. as part of your planning, reflections, or evaluations.

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 assessment.

Your tutor is allowed to give you some help understanding the assignment 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 assignment.

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 all sources and clearly reference any information taken from them.

Timings and planning

Where you have to plan your time, you should take care to make sure you have divided the time available between tasks appropriately. In some assignments, there are specified timings which cannot be changed and which need to be taken into account. You should check your plan is appropriate with your tutor.

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.

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 and codes of practice.

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

Presentation of work

Presentation of work must be neat, legible and appropriate to the task.

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

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

Written work e.g. reports 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, and answers must be expressed to a degree of accuracy, consistent with the requirements of the task.

PAST ASSIGNMENT (2019) - DO NOT USE FOR LIVE ASSESSMENT

Assignment Brief

You have been asked to install a new cloakroom in a domestic property.

For the new installation the client has identified a ground floor space that they want to convert into a cloakroom and has requested the following:

- Installation of two thermostatically controlled radiators that are connected to the existing central heating system circuit (shown in figure 1)
- New hot and cold supplies for a wash hand basin (WHB) and close coupled WC cistern (shown in figure 2)
- Drainage from the WHB

The hot, cold and central heating pipework will be connected to existing supplies. Suitable drainage is available for the WC, however the WHB will require the installation of a trap and suitable drainage pipework fitted for a maximum of 1m.

Detailed requirements of the installation can be found on the next page.

You are required to plan out how you will approach the required works for the installation. You will need to check with your supervisor that your plan is fit for purpose before carrying out the works.

You will then have to carry out the installation of the radiators, WC and WHB. The radiators and WHB must be dressed. At completion you will soundness and performance test the installation and hand over to the client (which will be your assessor).

Once you have handed over to the client you will need to complete a self-evaluation reflecting on the work you've carried out. You will need to consider what went well and what you would do differently if you were to carry out a job like this again in the future.

In addition to this the client advises that the WC in the main bathroom is leaking when flushed, the tap is dripping, and the basin isn't draining away and appears to be blocked. Your supervisor is attending the site with you and has carried out an inspection; this has identified the following repair work, which you have been asked to carry out:

- the syphon doughnut washer need replacing
- the tap washer will need replacing
- remove and replace waste trap

Cloakroom Specification

Two thermostatically controlled radiators

- The bottom of the radiators should be installed 250 mm from the finished floor level (ffl) and 300 mm apart.
- They will use 15 mm copper pipe
- They should be fitted with thermostatic valves on the flow pipework and lockshield valves on the return pipework, to be accessed from existing supplies.
- Half passovers to be pulled where return pipework passes over the flow.
- A 100 mm skirting board will be fitted once your installation is complete.

Hot and cold water supplies

- Supplies should be connected to any suitable WC and WHB.
- All pipework is to be surface mounted and installed to a commercially acceptable standard.
- Installation must be in copper for water supplies and adequately supported.
- All bends to be fabricated by machine and joints to be made using new capillary solder fittings.
- Half passovers to be pulled where cold pipework passes over the hot.
- All pipework is 15 mm copper with 50 mm centres, unless otherwise stated.
- The isolation valves for the appliances must be installed 400 mm ffl.
- All pipework from the isolation valves to the WHB must be pulled copper bends. No flexible connections.
- The WC and WHB should be installed 900 mm apart, 450 mm from a vertical datum line.

Drainage

- The WHB outlet drainage will be installed with push fit pipework and must be installed a minimum of 100 mm from the appliance.

Installation Drawings

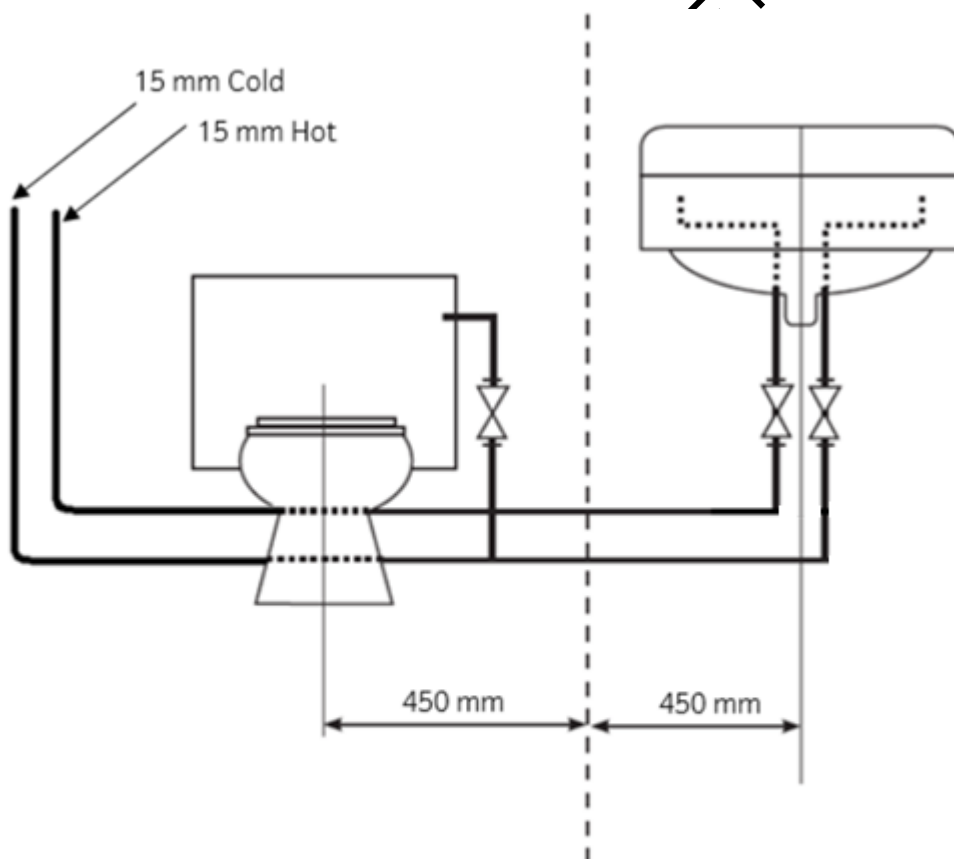
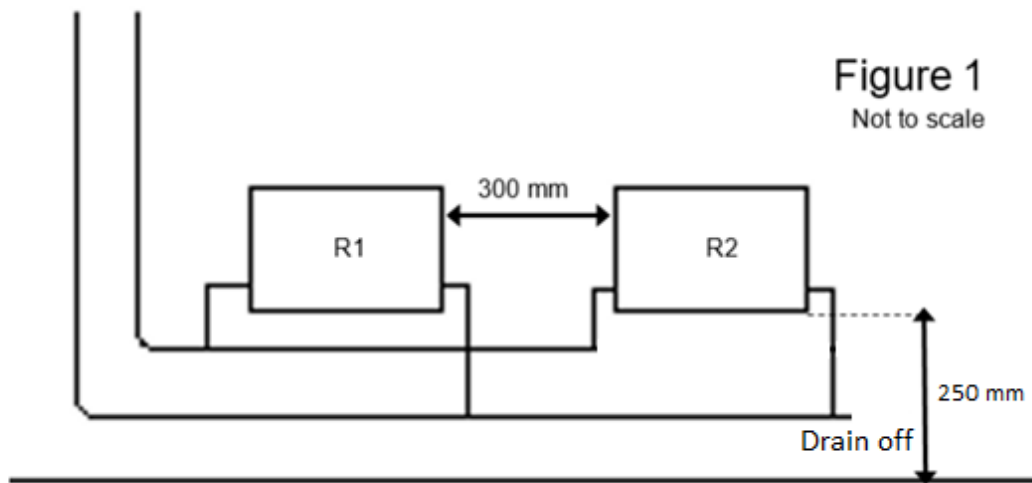


Figure 2 Not to Scale

Tasks

Task 1 - Planning the works

Plan how you will carry out the works to install the new cloakroom

Conditions of assessment:

- you must carry the task out on your own under supervised conditions.

What you must produce for marking:

- planning documentation - a method statement and resource list at a minimum

Task 2 - Installation

Install the radiators, WC and WHB

Conditions of assessment:

- you must carry the task out on your own under supervised conditions.

What you must produce for marking:

- an installation that has been soundness and performance tested and handed over to the client
- a test certificate detailing the test procedure (Installation must be tested at 3 bar for 10 minutes)

Additional evidence of your performance that must be captured for marking:

- your assessor's notes of your working practice describing the quality, consistency and accuracy of the finished work
- photographs taken by your assessor throughout this task as per assessor guidance notes

Task 3 - Evaluation

Carry out a reflective evaluation of the work you've completed.

Consider what has gone well and what you may change if you were to complete a job like this again in the future.

Conditions of assessment:

- you must carry the task out on your own under supervised conditions.

What you must produce for marking:

- a written reflective evaluation that considers all tasks you've carried out within the assignment. It is recommended that your evaluation is a minimum of 200 words

Task 4 - Emergency Maintenance

Remove and replace the defective components.

Conditions of assessment:

- you must carry the task out on your own under supervised conditions.

What you must produce for marking:

- all three components replaced, tested and working.

Additional evidence of your performance that must be captured for marking:

- your assessor's notes of your working practice describing the quality, consistency and accuracy of the finished work.

PAST ASSIGNMENT (2019) - DO NOT USE FOR LIVE ASSESSMENT

Task instructions for centres

Resources

Candidates must have access to a suitable range of resources to carry out the tasks and to have the opportunity to select tools/equipment or materials in order to demonstrate understanding of appropriate selection.

Centres have to meet the specification given in Figure 1 and Figure 2 at a minimum to ensure consistency in assessment.

Task 1

Candidates should use the template provided within the recording forms pack and should be allowed access to computers with word processing software to allow them to type up their evidence if they wish.

Task 2

Candidates need to be provided with a work space that allows for the installation of the radiators, WC and WHB specification given within the assignment brief.

The dimensions given within this assignment pack are given as a minimum requirement to ensure consistency and comparability. If the centre cannot achieve these dimensions, alterations to the dimensions must be documented and revised for the entire cohort for standardisation.

The hot, cold and central heating pipework must be connected to the existing pipework 800 mm from the floor using an isolation valve.

The WC and WHB must be 450 mm from the vertical datum to the centre of the appliances.

No flexible connections to the basin supplies are permitted. Candidates must pull offset bends. Passovers are not expected to exceed a 20 mm clearance.

Drainage to be terminated to centre's discretion. A suggestion would be to terminate into a false soil stack if required but this must permit performance testing of appliances.

The resources available to each candidate must include:

- 15 mm Copper pipe (approx. 4 ½ m per candidate)
- Push fit pipework (approx. 1.8 m per candidate)
- Push fit fittings
- 3 isolation valves
- Side entry close coupled or low level WC
- 1/2" float valve
- Wall-hung WHB (this must be large enough to allow appropriate bends to the taps)
- 15 mm clips
- 32 mm trap
- ½" taps (separate hot and cold taps)
- 3 ½" tap connectors

- 32 mm basin waste
- 15 mm drain off
- 15 mm end-feed fittings

Task 4

This task will need to be carried out on a maintenance rig that must have a working WC, a working basin and working drainage from the basin.

Time

The recommended time allocated for the completion of the tasks and production of evidence for this assessment is approximately **15 1/2** hours. Only **12** hours of this needs to be carried out in a practical workshop. The other **3** hours can be carried out in a classroom environment.

Suggested timings per task are given below; candidates should be made aware of the time they have available to ensure they formulate an appropriate plan.

Actual time spent preparing the work space – loading material, for example – is not included in the total hours.

The following timings are provided to support centre planning.

Task 1 – 1 ½ hours

Task 2 – 11 hours

Task 3 – 1 hour

Task 4 – 2 hours

Timings are recommended, where the candidates require extra time this should be captured within the tutors notes and reflected in the marks awarded.

Task specific guidance

All work carried out should be to industry standards, done in a safe manner, and compliant with building regulations. If a candidate fails to carry out the activities in a healthy and safe manner the assessment should be stopped immediately.

Task 1 – Planning the work

Candidates should be provided with the scenario brief and given time to plan their works in a classroom environment. As a minimum, it is expected that candidates will produce a resource list, a method statement planning their works.

It is recommended that centres use the template in the assignment recording pack to ensure the candidate captures the materials, equipment and tools needed, along with the quantities of materials needed and the reasoning behind requesting these resources.

A template for the method statement has been included within the assignment pack. When completing their method statement, candidates should also consider the time they have available to them and ensure they plan timings accordingly. Candidates must complete this activity prior to carrying out the works.

If candidates provide plans that are not fit for purpose the assessor may suggest corrections to the plans prior to the candidate carrying out the installation. However, this must be commented on in the marking documentation and reflected in marks awarded.

Task 2 – Cloakroom Installation

Candidates should now utilise the plans they devised in Task 1 and carry out the installation that meets the requirements of the specification.

Centres must provide candidates with an allocated area where they will complete their practical work to allow them to set out the new installation of the WC and wash hand basin. These areas must conform to the specification given within this pack at a minimum to ensure consistency across all centres.

Candidates will install and test the two new installations detailed in the brief.

Candidates are expected to dress the WHB and Radiators

The installations will need to go through a soundness test for a minimum of 10 minutes at 3 bar. Candidates must record the testing outcomes on the pressure test certificate pro-forma included within this pack.

Tolerances

The following tolerances should be considered when marking the candidate's work.

- Measurements are to within a tolerance of +/- 4 mm
- Passover gaps should not exceed 20 mm

Due to the practical nature of this task, the evidence that will be marked and moderated will primarily be assessors observations of the candidate captured on the practical observation form (POF). These comments/observations are also vital to inform assessors' marking decisions when they confirm marks at the end of the assignment.

Photographs required:

1. One photograph of the candidates work area marked out before installing the WC, WHB.
2. One photograph of the candidates work area marked out before installing the radiators
3. One photograph of the candidates completed pipework installation with WC and WHB installed.
4. One photograph of the candidates completed pipework installation with radiators installed
5. Connections to WHB
6. Half passover (WC)
7. Completed WC and WHB installation on test pressure
8. Half passover (central heating)
9. Completed central heating installation on test pressure

Task 3 – Self-evaluation

The purpose of this task is for candidates to reflect upon the work they've carried out in a classroom environment. It is expected that candidates will produce a minimum of 200 words (approximately half a page of A4) written self-evaluation, it is recommended that candidates have access to a computer suite to allow them to type up their evaluations. Candidates should reflect on their own performance and consider how they would change what they did if they were to carry out the activity again. Candidates must complete this activity after carrying out the works.

Task 4 – Replace components

The candidate must be able to demonstrate that they can carry out the following maintenance task to industry standards using appropriate tools and equipment:

- Replacement of WC syphon doughnut washer on a closed couple pan
- Replacement of like for like tap washer
- Removal and replace a waste trap.

Centre guidance

Guidance provided in this document supports the administration of this assignment. The following documents, available on the City & Guilds website, provide essential generic guidance for centres delivering technical qualifications and **must** be referred to alongside this guidance:

- **Technical qualifications – marking**
- **Technical qualifications – moderation** (updated annually)
- **Technical qualifications – teaching, learning and assessment**

This synoptic assessment is designed to require the candidate to make use of the knowledge, understanding and skills they have built up over the course of their learning to tackle problems/tasks/challenges.

This approach to assessment emphasises to candidates the importance and applicability of the full range of their learning to practice in their industry area, and supports them in learning to take responsibility for transferring their knowledge, understanding and skills to the practical situation, fostering independence, autonomy and confidence.

Candidates are provided with an assignment brief. They then have to draw on their knowledge and skills and independently select the correct processes, skills, materials, and approaches to take to provide the evidence specified by the brief.

During the learning programme, it is expected that tutors will have taken the opportunity to set shorter, formative tasks that allow candidates to be supported to independently use the learning they have so far covered, drawing this together in a similar way, so they are familiar with the format, conditions and expectations of the synoptic assessment.

Candidates should be made aware during learning what the assessment objectives are and how they are implemented in marking the assignment, so they will understand the level of performance that will result in high marks.

Candidates should not be entered for the assessment until the end of the course of learning for the qualification so they are in a position to complete the assignment successfully.

Health and safety

Candidates should not be entered for assessment without being clear of the importance of working safely, and practice for doing so. The tutor must immediately stop an assessment if a candidate works unsafely. At the discretion of the tutor, depending on the severity of the incident, the candidate may be given a warning. If they continue to work unsafely however, their assessment must be ended and they must retake the assessment at a later date.

Compliance with timings

The timings provided are estimates to support centre planning. They refer to assessment time, not any additional setting up the centre needs to carry out to create an appropriate assessment environment.

It is the centre's responsibility to plan sufficient assessment sessions, under the appropriate conditions and within the assignment window, to allow candidates reasonable time to complete the assessment tasks.

Where candidates are required to plan their work they should have their plans confirmed for appropriateness in relation to the time allocated for each task.

Candidates should be allowed sufficient time to fully demonstrate the range of their skills, however this also needs to be reasonable and practicable. Candidates should be allowed to overrun their planned timings or professional service times (where they exist) in order for evidence of a range of their skills to be captured. If, however, the time required exceeds reasonably set assessment periods, or the tolerance suggested for professional service times, the centre may stop the assessment and base the marking on the evidence up to that point, including the tutor's notes of how far over time the task has taken.

Observation evidence

Where the tutor is required to carry out observation of performance, detailed, descriptive notes must be recorded on the practical observation form (POF) provided. The centre has the flexibility to adapt the form to suit local requirements (e.g. to use a tablet, hand-written formats, or to ease local administration) as long as this does not change or restrict the type of evidence collected.

The number of candidates a tutor will be able to observe at one time will vary depending on:

- the complexity of evidence collection for the task
- local conditions e.g. layout of the assessment environment,
- amount of additional support available (e.g. to capture image/ video evidence), staggered starts etc,
- whether there are any peak times where there is a lot of evidence to collect that will need additional support or any that are quieter.

It is advisable to trial the planned arrangements where possible during formative assessment, reviewing the quality of evidence captured and manageability. It is expected that for straightforward observations, and unless otherwise specified, no more than eight candidates will be observed by a single tutor at one time, and that the number will usually be fewer than this maximum. The key factor to consider is the logistics of collecting sufficient evidence.

As far as is possible, candidates should not be distracted, or their performance affected, by the process of observation and evidence collection.

Observation notes form part of the candidate's evidence and must describe **how well** the activity has been carried out, rather than stating the steps/actions the candidate has taken. The notes must be very descriptive and focus on the **quality** of the performance in such a way that comparisons between performances can be made. They must provide sufficient, appropriate evidence that can be used by the marker (and moderator) to mark the performance using the marking grid.

Identifying what it is about the performances that is **different** between candidates can clarify the quantities that are important to record. Each candidate is likely to carry out the same steps, so a checklist of this information would not help differentiate between them. Qualitative comments on **how well** they do it, along with quantitative records of accuracy and tolerances, would, however.

The tutor should refer to the marking grid to ensure appropriate aspects of performance are recorded. These notes will be used for marking and moderation purposes and so must be **detailed, accurate and differentiating**.

Tutors should ensure that any required additional supporting evidence, including e.g. photographs or video, can be easily matched to the correct candidate, and are clear, well-lit and showing the **areas of particular interest** in **sufficient detail** and **clarity** for assessment (i.e. taken at appropriate points in production, showing accuracy of measurements where appropriate).

If candidates are required to work as a team, each candidate's contribution must be noted separately. The tutor may intervene if any individual candidate's contribution is unclear or to ensure fair access (see below).

The **Technical qualifications guides on marking and moderation** are essential guidance documents and are available on the City & Guilds website. These provide further information on preparing for assessment, evidence gathering, standardisation, marking and moderation, and must be referred to when planning and carrying out assessment.

Minimum evidence requirements for marking and moderation

The sections in the assignment:

- **What you must produce for marking**, and
- **Additional evidence of your performance that must be captured for marking**

list the minimum requirements of evidence to be submitted for marking and the moderation sample.

Evidence produced during assessment above and beyond this may be submitted, as long as it provides useful information for marking and moderation and has been produced under appropriate conditions.

While technological methods which support the capturing or creating of evidence can be helpful, e.g. pinboard style websites for creating mood boards, the final evidence must be converted to a suitable format for marking and moderation, which cannot be lost/deleted or amended after the end of the assessment period (e.g. screen prints, pdf files). Considerations around tracking authenticity and potential loss of material hosted on such platforms during assessment are the centre's responsibility.

Where candidates have carried out some work as a group, the contribution of each candidate must be clear. It is not appropriate to submit identical information for each candidate without some way for the marker and moderator to mark the candidates individually.

Note: Combining candidates' individual pieces of evidence into single files or zip files may make evidence management during internal marking more efficient and will greatly simplify the uploading of the moderation sample.

Where the minimum requirements have **not been submitted** for the moderation sample by the final moderation deadline, or the **quality of evidence is insufficient** to make a judgement, the moderation, and therefore any subsequent adjustment, will be based on the evidence that *has been* submitted. **Where this is insufficient to provide a mark on moderation, a mark of zero may be given.**

Preparation of candidates

Candidates should be aware of which aspects of their performance (across the AOs) will give them good marks in assessment. This is best carried out through routinely pointing out good or poor performance during the learning period, and through formative assessment.

During the learning programme, direct tutor instruction in how to tackle practical tasks through modelling, support, guidance and feedback are critical. However gradual removal of this support is necessary in preparation for summative assessment. This supported approach is **not** valid for summative assessment.

The purpose of summative assessment is to confirm the standard the candidate has reached as a result of participating in the learning process. Candidates should be encouraged to do the best they can and be made aware of the difference between these summative assessments and any formative assessments they have been subject to. Candidates may not have access to the full marking grids, as these may be misinterpreted

as pass, merit and distinction descriptors. Refer to the **Technical qualifications – teaching, learning and assessment** centre guidance document, available on the City & Guilds website, for further information on preparing candidates for technical qualification assessment.

Guidance on assessment conditions

The assessment conditions that are in place for this synoptic assignment are to:

- ensure the rigour of the assessment process
- provide fairness for candidates
- give confidence in the outcome.

They can be thought of as the rules that ensure that all candidates who take an assessment are being treated fairly, equally and in a manner that ensures their result reflects their true ability.

The conditions outlined below relate to this summative synoptic assignment. These do not affect any formative assessment work that takes place, although it is advised that candidates are prepared for the conditions they will need to work under during summative assessment.

The evidence for the tasks that make up this synoptic assignment must be completed under the specified conditions. This is to ensure authenticity and prevent malpractice as well as to assess and record candidate performance for assessment in the practical tasks. Any aspect that may be undertaken in unsupervised conditions is specified. It is the centre's responsibility to ensure that local administration and oversight gives the tutor sufficient confidence to be able to confirm the authenticity of the candidate's work.

Security and authentication of candidate work

Candidate evidence must be kept secure to prevent unsupervised access by the candidate or others. Where evidence is produced over a number of sessions, the tutor must ensure learners and others cannot access the evidence without supervision. This might include storing written work or artefacts in locked cupboards and collecting memory sticks of evidence produced electronically at the end of each session.

Candidates are required to sign declarations of authenticity, as is the tutor. The relevant form is included in this assignment pack and must be signed after the production of all evidence.

Where the candidate or tutor is unable to, or does not confirm authenticity through signing the declaration form, the work will not be accepted at moderation and a mark of zero will be given. If any question of authenticity arises e.g. at moderation, the centre may be contacted for justification of authentication.

Accessibility and fairness

Where a candidate has special requirements, tutors should refer to the *Access arrangements and reasonable adjustments* section of the City & Guilds website.

Tutors can support access where necessary by providing clarification to **any** candidate on the requirements or timings of any aspect of this synoptic assignment. Tutors should **not** provide more guidance than the candidate needs as this may impact on the candidate's grade; see the guidance and feedback section below.

All candidates must be provided with an environment, time frame and resources that allows them reasonable access to the full range of marks available.

Where candidates have worked in groups to complete one or more tasks for this synoptic assessment, the tutor must ensure that no candidate is disadvantaged as a result of the performance of any other team member. If a team member is distracting or preventing another team member from fully demonstrating their skills or knowledge, the tutor must intervene.

Guidance and feedback

To support centre file management, tutors may specify a suitable file format and referencing format for evidence (unless otherwise specified e.g. if file naming is an assessment point for the assignment). Guidance must only support access to the assignment and must not provide feedback for improvement. The level and frequency of clarification & guidance must be

- recorded fully on the candidate record form (CRF),
- taken into account along with the candidate's final evidence during marking
- made available for moderation.

Tutors **must not** provide feedback on the quality of the performance or how the quality of evidence can be improved. This would be classed as malpractice.

Tutors **should** however provide general reminders to candidates throughout the assessment period to check their work thoroughly before submitting it, and to be sure that they are happy with their final evidence as it may not be worked on further after submission.

Candidates can rework any evidence that has been produced for this synoptic assignment during the time allowed. However, this must be as a result of their own review and identification of weaknesses and not as a result of tutor feedback. Once the evidence has been submitted for assessment, no further amendments to evidence can be made.

Tutors **should** check and be aware of the candidates' plans and designs to ensure management of time and resources is appropriate, and so any allowed intervention can take place at an appropriate time.

Tutors **should** ensure that candidates' plans for completion of the tasks distribute the time available appropriately and may guide candidates in a general way on where they should be up to at any point. Any excessive time taken for any task should be recorded and should be taken into account during marking if appropriate.

It is up to the marker to decide if the guidance the candidate has required suggests they are lacking in any AO, the severity of the issue, and how to award marks on the basis of this full range of evidence. The marker must record where and how guidance has had an impact on the marks given, so this is available should queries arise at moderation or appeal.

What is and is not, an appropriate level of guidance

A tutor **should intervene with caution** if a candidate has taken a course of action that will result in them not being able to submit the full range of evidence for assessment. However, this should **only** take place once the tutor has prompted the candidate to check that they have covered all the requirements. Where the tutor has to be explicit as to what the issue is, this is likely to demonstrate a lack of understanding on the part of the candidate rather than a simple error, and full details should be recorded on the CRF.

- The tutor **should not** provide guidance if the candidate is thought to be able to correct the issue without it, and a prompt would suffice. In other words, only the minimum support the candidate actually needs should be given, since the more tutor

guidance provided, the less of the candidate's own performance is being demonstrated and therefore the larger the impact on the marks awarded.

- A tutor **must not** provide guidance to the effect that the candidate's work is not at the required standard or on how to improve their work. This gives candidates the chance to identify and correct any errors on their own, providing valid evidence of knowledge and skills that will be credited during marking.
- The tutor **must not** produce any templates, pro-formas, work logs etc., unless instructed to by the assignment guidance. Where instructed, these materials must be produced as specified and contain no additional guidance. Templates forming part of the assignment should be used as provided, and not adapted.

All specific prompts and details of the nature of any further guidance must be recorded on the relevant form and reviewed during marking and moderation.

Guidance on marking

Please refer to the **Technical qualifications – marking**, and – **moderation** centre guidance documents for further information on gathering evidence suitable for marking and moderation, and on using the marking grid and forms.

The candidate record form (CRF) is used to record:

- Details of any guidance or the level of prompting the candidate has received during the assessment period.
- Rough notes bringing together relevant evidence from across tasks during marking.
- Summary justifications when holistically coming to an overall judgement of the mark.

The practical observation form (PO) is used to record:

- Descriptive information and evidence of candidate performance during an observation. Although descriptions of the quality of performance should support decisions against the AOs, the notes should follow the flow of the observation, rather than attempting to assign evidence against the AOs at this point.

Marking grid

For any category, 0 marks may be awarded where there is no evidence of achievement

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
10	AO1 Recall of knowledge relating to the qualification LOs <ul style="list-style-type: none"> Does the candidate seem to have the full breadth and depth of taught knowledge across the qualification to hand? How accurate is their knowledge? Are there any gaps or misunderstandings evident? How confident and secure does their knowledge seem? 	(1 - 2 marks) Recall shows some weaknesses in breadth and/or accuracy. Hesitant, gaps, inaccuracy	(3 - 4 marks) Recall is generally accurate and shows reasonable breadth. Inaccuracy and misunderstandings are infrequent and usually minor. Sound, minimal gaps	(5 - 6 marks) Consistently strong evidence of accurate and confident recall from the breadth of knowledge. Accurate, confident, complete, fluent, slick
		Examples of types of knowledge expected: PPE, Health and safety, component identification and layout, roles and responsibilities, types of access equipment, guidance material, heat transfer, backflow protection, selection of tools and safety checks, fixings.		
		Where the candidate has demonstrated knowledge it has been limited and/or showing inaccuracies. There are clear gaps in knowledge with little confidence in working independently.	The candidate has shown a good range of knowledge from across the qualification which is sound. The candidate seeks minimal guidance or reassurance in the completion of tasks.	The candidate shows in-depth and detailed knowledge across the whole qualification range, showing a high degree of accuracy. The candidate is confident and requires no reassurance.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
20	AO2 Understanding of concepts theories and processes relating to the LOs <ul style="list-style-type: none"> Does the candidate make connections and show causal links and explain why? How well are the theories and concepts applied to new situations/the assignment? How well chosen are exemplars – how well do they illustrate the concept? 	(1-4 marks) Some evidence of being able to give explanations of concepts and theories. Explanations appear to be recalled, simplistic or incomplete. Misunderstanding, illogical connections, guessing.	(5-8 marks) Explanations are logical. Showing comprehension and generally free from misunderstanding, but may lack depth or connections are incompletely explored. Logical, slightly disjointed, plausible.	(9-12 marks) Consistently strong evidence of clear causal links in explanations generated by the candidate. Candidate uses concepts and theories confidently in explaining decisions taken and application to new situations. Logical reasoning, thoughtful decisions, causal links, justified.
		Examples of understanding expected: Explanations/comparisons related to hazardous situations and PPE measures, hot, cold and drainage systems and layouts, installation requirements, installation methods, testing and decommissioning, materials and uses, principles of electricity, heat and power, sanitary appliances, water regulations, SI units.		
		The candidate has shown a basic understanding of industry concepts and theories from this qualification. Understanding is satisfactory but does cover a limited range. Justifications are typically brief or simplistic and do not underpin choices made.	The candidate has demonstrated a broad level of understanding regarding the plumbing industry with minor inconsistencies. Work produced has some justified links between theory and practical aspects.	The candidate demonstrates a high degree of understanding. The candidate makes confident and in depth links between theories and concepts that are well justified. Explanations of concepts being clear and strong enabling them to be applied with consistent success.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
40	AO3 Application of practical/ technical skills <ul style="list-style-type: none"> How practiced/fluid does hand eye coordination and dexterity seem? How confidently does the candidate use the breadth of practical skills open to them? How accurately/ successfully has the 	<p align="center">(1-8 marks)</p> <p>Some evidence of familiarity with practical skills. Some awkwardness in implementation, may show frustration out of inability rather than lack of care.</p> <p>Unable to adapt, frustrated, flaws, out of tolerance, imperfect, clumsy.</p>	<p align="center">(9-16 marks)</p> <p>Generally successful application of skills, although areas of complexity may present a challenge. Skills are not yet second nature.</p> <p>Somewhat successful, some inconsistencies, fairly adept/capable.</p>	<p align="center">(17-24 marks)</p> <p>Consistently high levels of skill and/or dexterity, showing ability to successfully make adjustments to practice; able to deal successfully with complexity.</p> <p>Dextrous, fluid, comes naturally, skilled, practiced.</p>
		<p>Examples of skills expected: Working with tools, equipment and materials, promoting health and safety, work methods, installation techniques, work practice, time management, economical use of materials, site safety, communication skills, accuracy and presentation.</p>		

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
	candidate been able to use skills/achieve practical outcomes?	<p>The candidate has completed the tasks but exceeded the allocated time by no more than 10%. Candidates show low confidence in practical skills and tasks are carried out with some awkwardness. Measurements are often inaccurate and tolerances are not met.</p> <p>Access to higher marks: Candidate has completed the tasks but exceeded the allocated time by no more than 10%. Candidate has limited confidence in performing practical skills but has the ability to carry out basic tasks. Some measurements and tolerances are met.</p>	<p>The candidate has completed the tasks within the allocated time. The candidate's practical skills are reasonably well developed allowing most measurements and tolerances to be met but some inconsistencies exist.</p> <p>Access to higher marks: The candidate has completed the tasks within the allocated time. Practical skills are of a good standard and shows a good level of confidence on all basic tasks.</p>	<p>The candidate has completed the tasks within the allocated time. Candidates show a high degree of confidence and efficiency along with a methodical approach to completing tasks. Practical skills are highly developed and the majority of measurements and tolerances are met.</p> <p>Access to higher marks: The candidate has completed the tasks within the allocated time. Practical skills demonstrated are outstanding and all measurements and tolerances are met.</p>

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
20	AO4 Bringing it all together - coherence of the whole subject <ul style="list-style-type: none"> Does the candidate draw from the breadth of their knowledge and skills? Does the candidate remember to reflect on theory when solving practical problems? How well can the candidate work out solutions to new contexts/ problems on their own? 	(1-4 marks) Some evidence of consideration of theory when attempting tasks. Tends to attend to single aspects at a time without considering implication of contextual information. Some random trial and error, new situations are challenging, expects guidance, narrow. Many need prompting.	(5-8 marks) Shows good application of theory to practice and new context, some inconsistencies. Remembers to apply theory, somewhat successful at achieving fitness for purpose. Some consolidation of theory and practice	(9-12 marks) Strong evidence of thorough consideration of the context and use of theory and skills to achieve fitness for purpose. Purposeful experimentation, plausible ideas, guided by theory and experience, fit for purpose, integrated, uses whole toolkit of theory and skills.
		Examples of bringing it all together: applying knowledge and understanding to the tasks/scenario, able to plan activities from information provided. Materials and techniques are used appropriately, correct sequence of operations carried out. Safe working practices demonstrated.		
		There is some evidence of the candidate using knowledge, understanding and skills from across the qualification. However the candidate finds new situations challenging and this has resulted in signs of random trial and error which has produced some work of low quality.	There is good evidence of the candidate using knowledge, understanding and skills from across the qualification. The candidate has shown signs of consolidating theory and practice. This has resulted in the candidate demonstrating the ability to solve minor problems. The work produced is of a good standard.	There is strong evidence of the candidate using knowledge, understanding and skills from across the qualification. The candidate is able to use their whole toolkit of theory and skills in an integrated manner to produce work of a consistently high quality.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
10	AO5 Attending to detail/perfecting <ul style="list-style-type: none"> Does the candidate routinely check on quality, finish etc. and attend to imperfections/omissions? How much is accuracy a result of persistent care and attention (e.g. measure twice cut once)? Would you describe the candidate as a perfectionist and wholly engaged in the subject? 	(1-2 marks) Easily distracted or lack of checking. Insufficiently concerned by poor result; little attempt to improve. Gives up too early; focus may be on completion rather than quality of outcome. Careless, imprecise, flawed, uncaring, unfocused, unobservant, unmotivated	(3-4 marks) Aims for satisfactory result but may not persist beyond this. Uses feedback methods but perhaps not fully or consistently. Variable/intermittent attention, reasonably conscientious, some imperfections, unremarkable.	(5-6 marks) Alert, focused on task. Attentive and persistently pursuing excellence. Using feedback to identify problems for correction. Noticing, checking, persistent, perfecting, refining, accurate, focus on quality, precision, refinement, faultless, meticulous.
		Examples of attending to detail: housekeeping, storage of tools, working within tolerances, detail of drawings, drawings and documentation are accurate, attention to accuracy during work, thinking about and attending to specific requirements of the task, attention to detail in risk assessment and risk reduction/method statements.		
		There is superficial attention to detail. The drawings and documents show some inaccuracies or gaps. The clients' needs are interpreted in a generic rather than personal way with basic attention to their aims.	There is an adequate attention to detail – drawings and documentation are accurate. The candidate normally is aware of others when working and keeps work areas generally clean and tidy.	The candidate has been highly focused on the task showing extreme care in the accuracy and usability of drawings and document preparation. The candidate is conscientious in their work place and is aware of others working, keeping their work area clean and tidy at all times