

T Level Technical Qualification in Building Services Engineering for Construction

**8710-355 Heating Engineering
Occupational Specialism Report
(Summer 2023)**

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Foreword

Summer 2023 Results

The Occupational Specialism qualification is made up of one component, which needs to be successfully achieved to attain the T Level Heating Engineering Occupational Specialism.

We discussed the approach to standard setting/maintaining with Ofqual and the other awarding organisations before awarding this year. We have agreed to take account of the newness of qualifications in how we award this year to recognise that students and teachers are less familiar with the assessments ([Vocational and technical qualifications grading in 2023 – Ofqual blog](#)), whilst also recognising the standards required for these qualifications.

Introduction

This document has been prepared to be used as a feedback tool for providers in order to support and enhance teaching and preparation for assessment. It is advised that this document is referred to when planning delivery and when preparing candidates for the T Level Technical Qualification (TQ) in Building Services Engineering for Construction **Occupational Specialisms**.

This report provides general commentary on candidate performance in the occupational specialism assignment. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments in the summer 2023 assessment series.

The grade boundaries that were used to determine candidate's final summer 2023 results are also provided. **For summer 2023, as per Ofqual guidance, the approach to grading recognises that these are new qualifications.**

8710-355 Heating Engineering Occupational Specialism

This is the first sitting of this occupational specialism.

Task 1 – Planning the installation

- a) Plan the installation of pipework to existing boiler, magnetic filter, S Plan Plus heating system and LST radiator circuit in the children's nursery, following the client brief.
- b) Measure and mark out proposed working area.

Risk assessments were complete and covered a good range of risk factors. Risk mitigation methods were identified for some of the potential risks, but not all resulting in some candidates not reaching the higher mark bands.

Health and safety was followed during preparation and throughout tasks and all work completed safely.

Documents were clear, and the correct process set out in a logical sequence. Some reasoning was provided, and minimal links were made to the brief and tasks to justify choices made. Key materials, quantities and PPE required to meet the brief were identified although some candidates could have included more to reach the higher mark bands.

Installation drawing(s) were completed with only minor inaccuracies in pipe layout. Position of components was correct with some consideration of aesthetics or performance. Not all drawings included the required information resulting in the higher marking bands not being achieved.

Marking out was mostly accurate and method used is correct, resulting in only minor inaccuracies.

Task 2 – Installation, Commission and Decommission

- a) Install the pipework to the existing boiler, magnetic filter, S Plan Plus heating system and LST radiator circuit in accordance with your drawing and as agreed by your tutor/assessor.
- b) Wire the 2 port valves into the wiring centre, following the safe isolation process.
- c) Commission the system (pipework only) and handover to customer.
- d) Decommission the system.

Health and safety was followed during preparation and throughout tasks and all work completed safely.

Measurement of pipework met most tolerances and resulted in an install that had few errors from the proposed installation plan and minimal waste materials.

Installations followed logical sequencing throughout the tasks in line with the method statement which resulted in a timely completion of the task. There was a range of completed tolerances.

Use of tools was good and most candidates had very few wasted materials.

Decommissioning mostly followed a logical sequencing, resulting in timely completion of task. Process for safe removal of waste was followed at most stages of the task. Good attempts were made to make good the working but not all techniques were appropriate, resulting in a finish that was mostly good.

Reports/ checklists were completed in a clear format with only minor details missing. Content and terminology were mostly accurate.

Commissioning tests were completed with minimal guidance and reassurance from assessor. Commissioning checks were mostly accurate in sequence, resulting in a timely completion.

Candidates followed manufacturer's instructions at most stages of the task. Interaction with customer demonstrated some good customer care skills, through using appropriate language and checking the customer understood. Demonstration of system was clear and provided all functions of the system.

Task 3 – Carry out maintenance

- a) Discuss fault with customer, investigate and diagnose fault.
- b) Produce a written report of the maintenance activity.
- c) Repair and rectify fault.

Health and safety was followed during preparation and throughout tasks and all work completed safely.

Reports/ checklists were completed in a clear format with only minor details missing. Content and terminology were mostly accurate.

Some justification and reasoning for the work required is explained. Interaction with customer demonstrated some good customer care skills, through using appropriate language and checking the customer understood.

Discussion with customer was mostly clear and most questions asked were relevant to the task. Fault-finding techniques were carried out with some success demonstrating knowledge of fault finding techniques that was appropriate.

Investigation and analysis of fault was clear and followed some logic. Candidates followed manufacturer's instructions at most stages of the fault diagnosis and rectification of fault followed a logical process and was completed efficiently with only minor mistakes.

Best practice and guidance to providers on potential areas for improving performance in assessment

It is recommended that providers utilise and deliver the sample assessments as formative assessment to support candidates in preparation for summative assessment.

Task 1 – Planning the installation

- Allow learners to practice completing material and equipment lists in reference to an installation diagram.
- Spend time completing risk assessments for a range of tasks ensuring all hazards are identified and control measures are put in place.
- Work with learners on writing detailed method statements with justifications.
- Plan time to complete a range of installation diagrams for a range of heating systems.
- Demonstrate the correct method and equipment used for marking out an installation with reference to an installation diagram.

Task 2 – Installation, Commission and Decommission

- Allow learners time to practice installing a range of heating components.
- Practice various joining methods on a range of heating pipework materials.
- Correctly demonstrate the decommissioning of heating systems, highlighting the correct waste disposal methods.
- Providing training and guidance on the correct Commissioning of a range of heating systems including equipment used and industry documentation.
- Carrying out a range of timed discussions with learners on the hand over requirements of systems and components including explanations of service requirements, demonstration of system operation and discussing maintenance requirements.
- Provide training and guidance on making good to the building fabric, this includes filling and painting of a range of surfaces.

Task 3 – Carry out maintenance

- Carry out a range of simulated fault diagnosis scenarios including customer discussions, reference to manufacturer instructions and methods of repairing faults.
- Spend time completing written maintenance reports for a range of tasks detailing:
 - Details of the fault.
 - Method chosen for repair.
 - Detailed process of how they will repair the system.
- Providing training and guidance on the correct Commissioning following maintenance on a range of heating systems including equipment used and industry documentation.

Grade boundaries

The table below shows the grade mark ranges for the Occupational Specialism **for the summer 2023 series.**

Grade	Mark range 8710-355
Distinction	67-90
Merit	52-66
Pass	37-51
Unclassified (U)	0-36

Get in touch

The City & Guilds Quality team are here to answer any queries you may have regarding your T Level Technical Qualification delivery.

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