8202-25 Level 2 Technical Certificate in Plumbing (360)

2025

Qualification Report

Contents

Introduction

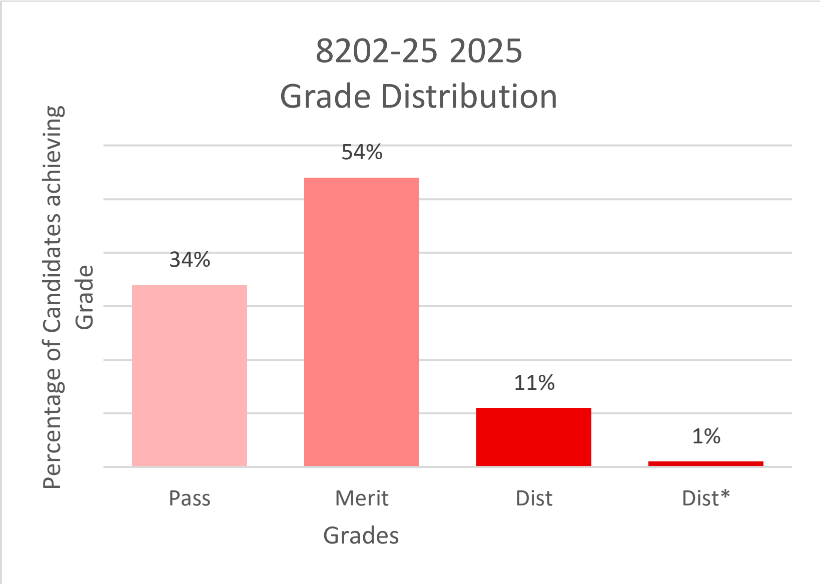
This document has been prepared by the Chief Examiner and Principal Moderator; it is designed to be used as a feedback tool for centres in order to enhance teaching and preparation for assessment. It is advised that this document is referred to when planning delivery and when preparing candidates for City & Guilds Technical assessments. This report provides general commentary on candidate performance in both the synoptic assignment and theory exam. 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 2025 academic year. It will explain aspects which caused difficulty and potentially why the difficulties arose.

The document provides commentary on the following assessments:

- 8202-525 Level 2 Plumbing – Theory exam
    - March 2025 (Spring)
    - June 2025 (Summer)
- 8202-026 Level 2 Plumbing – Synoptic Assignment

Qualification Grade Distribution

The approximate grade distribution for this qualification is shown below:



Please note City & Guilds will only report qualification grades for candidates who have achieved all of the required assessment components, including Employer Involvement, optional units and any other centre assessed components as indicated within the Qualification Handbook. The grade distribution shown above could include performance from previous years.

Theory Exam

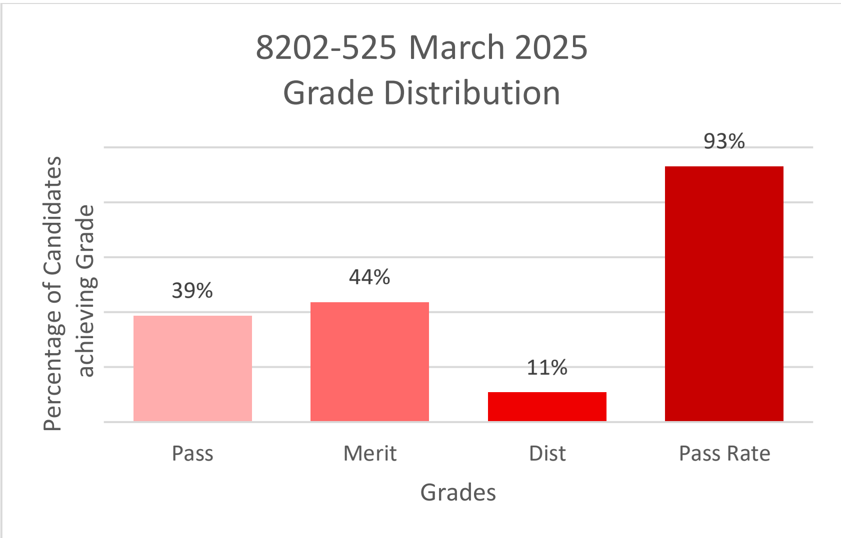
Grade Boundaries

Assessment: 8202-525
Series: March 2025 (Spring)

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Total marks available	60
Pass mark	25
Merit mark	34
Distinction mark	44

The graph below shows the distribution of grades and pass rates for this assessment:

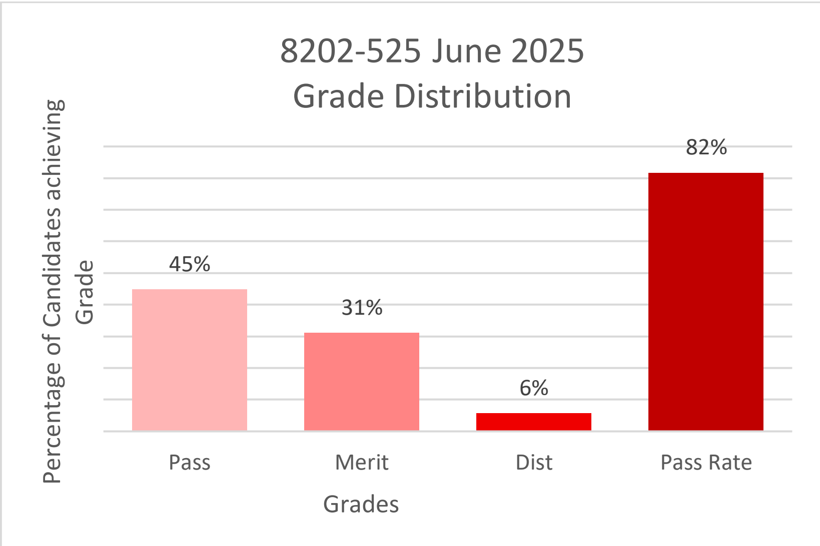


Assessment: 8202-525
Series 2: June 2025 (Summer)

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Total marks available	60
Pass mark	23
Merit mark	32
Distinction mark	41

The graph below shows the approximate distributions of grades and pass rate for this assessment:



Chief Examiner Commentary

8202-525 Level 2 Plumbing – Theory Exam

Series 1: March 2025 (Spring)

This exam covers units:

- 211 Health and safety and industry practices
- 212 Plumbing processes
- 213 Electrical and scientific principles
- 214 Cold water
- 215 Hot water
- 216 Central heating
- 217 Sanitation and drainage

The exam is designed to allow candidates to demonstrate a broad range of subject knowledge within the qualification.

This 60-question multiple-choice exam paper was set at an appropriate level and aligned with the test specification. A balanced mix of AO1 (recall of knowledge), AO2 (understanding), and AO4 (applied knowledge and understanding) questions were used across the breadth of units examined.

Overall, the paper performed well and was comparable to last year's. The higher-performing candidates were able to correctly respond to most questions assessing their recall of knowledge, understanding, and applied knowledge and understanding across the units examined. In contrast, the lower-performing candidates were able to correctly respond to most recall of knowledge questions but did not perform as well as the higher-performing candidates on questions assessing their applied knowledge and understanding.

Candidates generally demonstrated strong knowledge, particularly in areas where theoretical learning is directly applied in practical settings this was especially evident in topics related to health and safety and industry practices where most candidates were able to effectively demonstrate their recall of knowledge in questions focused on:

- The purpose of enforcing authorities.
- Identifying and preventing potential hazards, and the methods used to reduce the risk of injury.
- The types of electrical hazards and the procedures that must be followed to ensure safety during work.

Other areas of the examination where candidates demonstrated strong recall of knowledge and understanding included:

Plumbing Processes
Candidates showed strong recall of knowledge and understanding in most questions within this unit, particularly around using clips and brackets to support domestic plumbing and heating pipework components. Most candidates were able to:

- Identify a specific fixing device shown in an image.
- Select the correct fixing device used to secure a specific pipework type.
- Understand when a specific fixing device would be used.

Additional areas of strong performance in this unit include installing domestic plumbing and heating pipework, where most candidates were able to:

- Identify a pipework bend from an image.
- Select the correct use of a specific jointing method.

Electrical and Scientific Principles
Most candidates were able to:

- Identify a property of water.
- Select the correct principle of a specified simple machine.

Cold Water
Most candidates successfully demonstrated their knowledge of:

- The sources of information used during installation.
- The required depth of service pipework.

Hot Water
Candidates showed strong recall of knowledge and understanding of hot water systems and their layouts. Most candidates were able to:

- Identify the correct source of information used for hot water safety.
- Demonstrate knowledge of system safety and efficiency by selecting the correct outlet temperature for a specified appliance.
- Identify which pipe is connected to a certain point marked with an "X" on an image of an indirect system.
- Understand a method used to test pipework on a hot water system.
- Select the correct information that must be provided to users before decommissioning a system.

Central Heating
Candidates showed good recall of knowledge and understanding in most questions within this unit especially in questions related to the topics in the understanding central heating systems and their layout. Most candidates were able to:

- Identify the correct source of information to be used when installing a specified component.
- Select the correct operating principle of a specified central heating system component.
- Understand what allows a specified system to appropriately fill and vent.

Sanitation and Drainage
Candidates also performed well in questions around sanitary appliances used in dwellings. Most candidates were able to identify sanitary appliances from images and understand why a specified type of trap is used in a wash hand basin installation.

Areas of the examination where candidates demonstrated weaker knowledge and understanding included:

Health and Safety and Industry Practices
Dealing with asbestos in the workplace did not perform well. Most candidates were unable to correctly identify a type of asbestos from its colour. Candidates also struggled to demonstrate their understanding of the purpose of a specified enforcing authority and power tool safety checks.

Electrical and Scientific Principles
Candidates showed limited knowledge and understanding of electrical principles within the plumbing and heating industry topic within this unit. Most were unable to:

- Identify a unit of electrical measurement.
- Identify a type of electrical system protection component shown in an image.
- Select an electrical safety component based on a description of the protection it provides.

Cold Water
Candidates struggled with understanding-based questions for this unit, particularly:

- The process a specified cold water treatment goes through.
- Advantages of an indirect cold water system.

Sanitation and Drainage
Candidates did not perform well on questions assessing their understanding on the layouts of gravity rainwater systems. Most candidates were unable to correctly answer questions on the types of gutter profiles and components and features of a specified stack discharge system type.

The applied knowledge and understanding questions were scenario-based and allowed candidates to display their applied knowledge and understanding across the units. Candidates' performance was good when responding to these questions, with most of these questions answered correctly around plumbing processes, cold water, and components. Areas that did not perform well were questions focused on central heating and sanitation and drainage.

To improve candidate performance, centres are recommended to reinforce the underperforming topics when delivering the underpinning knowledge of these topic areas. Centres should continue to emphasise technical and theoretical knowledge aspects, with a focus on terminology.

Candidates must ensure they read the questions fully and carefully before selecting their response. They should also structure their time appropriately to ensure they have enough time to read the options and make their selection.

Series 2: June 2025 (Summer)

This exam covers units:

- 211 Health and safety and industry practices
- 212 Plumbing processes
- 213 Electrical and scientific principles
- 214 Cold water
- 215 Hot water
- 216 Central heating
- 217 Sanitation and drainage

The exam is designed to allow candidates to demonstrate a broad range of subject knowledge within the qualification.

This 60-question multiple-choice exam paper was set at an appropriate level and aligned with the test specification. A balanced mix of AO1 (recall of knowledge), AO2 (understanding), and AO4 (applied knowledge and understanding) questions were used across the breadth of units examined.

Overall, the paper performed well. Higher-performing candidates were able to correctly respond to most questions assessing their recall of knowledge, understanding, and application across the examined units. In contrast, while lower-performing candidates generally responded well to recall-based questions, they did not perform as strongly on those requiring applied knowledge and understanding.

Candidates generally demonstrated strong knowledge, particularly in areas where theoretical learning is directly applied in practical settings. This was especially evident in topics related to health and safety and industry practices where most candidates were able to effectively demonstrate their recall of knowledge in questions focused on:

- Regulations that apply when carrying out a specified work activity.
- Roles and responsibilities in relation to health and safety on a construction site.
- Types of asbestos.
- Plumbing tasks that the safe isolation procedure should be carried out on.
- Types of electricity supplies used on a construction site.

Other areas of the examination where candidates demonstrated strong recall of knowledge and understanding included:

Plumbing Processes
Candidates showed strong recall of knowledge and understanding in most questions within this unit, particularly around installing domestic plumbing and heating pipework. Most candidates were able to:

- Identify the correct pipework designation for a specified pipework material.
- Demonstrate an understanding on the correct installation method for a specified pipework material.
- Demonstrate an understanding on why a specified type of pipework protection is used.

Electrical and Scientific Principles
Candidate performance for this unit was mixed. Many candidates demonstrated strong recall of knowledge and understanding, particularly in questions focused on types of materials used in the industry, properties of water, density, force, pressure, flow rate, and basic mechanics. Most candidates were able to:

- Identify a correct metal classification.
- Select the correct statement describing a specified material's physical property.
- Identify the correct water temperature for a specified physical property.
- Select the correct SI unit for a given measurement.

However, most candidates showed limited knowledge and understanding for questions related to the properties of gases, units and formulas, and circuit protection and earthing.

Cold Water
Candidates showed strong recall of knowledge and understanding in most questions within this unit. Most candidates were able to:

- Identify the correct fluid category of water.
- Demonstrate an understanding of what a specified water treatment includes.
- Identify the correct water supply from its specified use.
- Demonstrate an understanding on the disadvantages of a specified coldwater system.

An area of the examination where candidates demonstrated limited recall of knowledge and understanding:

Central Heating
Candidates demonstrated limited recall of knowledge and understanding of central heating systems and their layout, as well as the decommissioning requirements of these systems and their components. Most candidates were unable to:

- Demonstrate an understanding of the operating principles of a specified component.
- Identify a central heating system layout from an image.
- Demonstrate an understanding of appropriate filling and venting of systems.
- Identify which central heating component is shown in an image.

Other areas of the examination where candidates demonstrated weaker recall of knowledge and understanding included:

Hot Water
Most candidates were unable to:

- Demonstrate an understanding of the working principle of a specified hot water component.
- Identify the correct outlet temperature for a specified appliance.
- Select the correct type of information a user should be provided with when decommissioning an installation.

Sanitation and Drainage
Candidates did not perform well on questions assessing their recall of knowledge and understanding of gravity rainwater system layouts, service maintenance requirements, and commissioning procedures. Additionally, many struggled with questions related to the sanitary appliances used in dwellings. Most candidates were unable to correctly answer questions on gutter profile types, jointing methods, minimum pipework diameters, and system components. They also found it challenging to respond to understanding questions on the features of a specified stack discharge system type and trap seal loss.

The scenario-based questions allowed candidates to display their applied knowledge and understanding across the units. Candidates' performance was good when responding to these questions, with most of these questions answered correctly around plumbing processes, electrical and scientific principles, hot water, and sanitation and drainage. An area where most candidates struggled to demonstrate their applied knowledge and understanding were for questions focused on the central heating unit.

To improve candidate performance, centres are recommended to reinforce the underperforming topics when delivering the underpinning knowledge of these topic areas. Centres should continue to emphasise technical and theoretical knowledge aspects, with a focus on terminology.

In line with the Spring Series, candidates are advised to read each question thoroughly before choosing their answers. Effective time management is essential to ensure they have adequate time to review all options and make well-considered decisions.

Synoptic Assignment

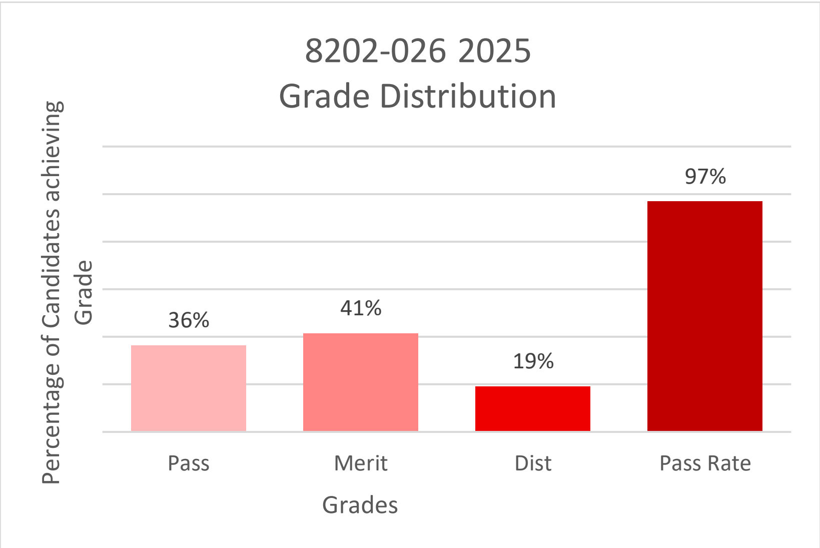
8202-026
Grade Boundaries

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Assessment: 8202-026
Series: 2025

Total marks available	60
Pass mark	24
Merit mark	36
Distinction mark	48

The graph below shows the approximate distributions of grades and pass rate for this assessment:



Principal Moderator Commentary

The assessment was deemed comparable in demand to previous series, and overall, candidate performance across the synoptic assignment was very good. Candidates were tasked with completing a range of activities that provided opportunities to accurately assess their breadth of knowledge, understanding, and practical skills across the planning, maintenance, and installation tasks

Most candidates showed a solid grasp of planning, maintenance, and installation tasks. High-performing candidates exhibited detailed knowledge, logical reasoning, and practical skills aligned with industry standards. Their work was well planned, methodical, and supported by meaningful self-reflection.

In contrast, lower-scoring candidates often missed opportunities to evidence their understanding and technical ability, particularly in areas requiring attention to detail. The synoptic effectively enabled candidates to apply theoretical knowledge in practical contexts, and marking was consistent across the cohort. Centres provided robust evidence to support assessment decisions, including effective use of photographs.

Candidates generally demonstrated strong recall through planning and self-reflection activities. High-performing candidates provided detailed plans and meaningful reflections, clearly evidencing their understanding and identifying areas for improvement. Lower-scoring candidates, however, often missed opportunities to showcase their knowledge effectively.

Understanding across the cohort was very good. High-performing candidates required minimal prompting and articulated their reasoning clearly and confidently. Lower-performing candidates tended to provide limited, less detailed responses, which impacted their overall marks.

Practical skills varied. High-performing candidates produced installations that exceeded minimum industry standards and were well planned, aesthetically pleasing, and technically sound. Lower-performing candidates met basic requirements but lacked precision in fabrication, soldering, and system layout.

The synoptic allowed candidates to demonstrate how theory informs practice. High-performing candidates sequenced tasks logically, provided in-depth method statements, and reflected effectively. Lower-performing candidates showed gaps in reasoning and lacked confidence and attention to detail. Attention to detail was most evident among high-performing candidates, particularly in planning and self-reflection. While all candidates checked their work, the quality of evidence varied significantly.

Centres generally provided strong supporting evidence, including effective photographs and referencing. However, improvements are needed in the commentary content of some CRFs, and certain supporting images should be submitted in digital format to ensure consistency and clarity during moderation.