

T Level Technical Qualification in Engineering, Manufacturing, Processing and Control

8713-334 Fabrication and Welding Occupational Specialism Report (Summer 2024)

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Foreword

Summer 2024 Results

The occupational specialism qualification is made up of one component, which needs to be successfully achieved to attain the T Level Fabrication and Welding 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 (grading-arrangements-for-vtqsand-technical-qualifications-within-t-levels-in-the-academic-year-2023-to-2024), 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 Engineering and Manufacturing **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 2024 assessment series.

The grade boundaries that were used to determine candidate's final summer 2024 results are also provided. **For summer 2024, as per Ofqual guidance, the approach to grading recognises that these are new qualifications.**

8713-334 Fabrication and Welding Occupational Specialism

Task 1 – Planning

Candidates are required to produce a resource list, risk assessment, cutting list, quality check sheet template, method statement, calibration checks and complete a hot works permit.

Most candidates produce detailed cutting lists showing a clear understanding of the requirements of the technical information provided to them in the brief. The lower performing candidates showed gaps in knowledge relating to health and safety, specifically in their risk assessments where crucial technical and health and safety information was missing e.g. extraction requirements or PPE. Many candidates did not include key technical information in their method statements relating to welding positions, welding settings and how they would perform the non-destructive test (NDT). Candidates did not fully utilise technical documentation available to them e.g. welding standards, manufacturers manuals and data sheets.

Overall, this task resulted in basic and superficial evidence.

Actions providers can take to support assessment preparation for future series:

Candidates would benefit from more formal assessment opportunities to practice producing the required templates in the required timescales and utilising the technical documentation available to them to demonstrate their knowledge and understanding of fabrication and welding principals and processes.

Task 2 – Manufacturing

Candidates were required to prepare the work area, mark out, cut and prepare components for welding, fabricate and then fully weld the fire pit using two different welding processes, two different welding positions and three different welded joints.

Most candidates' selection and use of tools and equipment was particularly good, taking into account fabrication and testing requirements. The majority of candidates demonstrated a clear understanding of Health and Safety requirements in the work area and applied this correctly throughout their practical tasks. The fabrication activity was well performed with only a few dimensional and cutting errors, but generally were within tolerance of the specification requirements. Lower performing candidates did have some missed tolerances which were due to inaccurate marking or cutting out.

The lower performing candidates did have some porosity issues, which highlighted an issue either with welding technique or the settings formatted by the candidate. They were unable to explain how they would mitigate similar issues in the future.

Actions providers can take to support assessment preparation for future series:

Candidates would benefit from taking more time with their marking and cutting out to ensure a more accurate outcome to ensure all components were in tolerance and enable final assembly of components.

Task 3A – Quality review and testing

Candidates are required to prepare the work area and complete and record the test results, one NDT to three different welds and final quality assurance checks to their fabricated assembly.

The higher performing candidates completed their quality checks, NDT and recorded their results on their quality check sheets, whereas lower performing candidates completed their tests but did not fully complete their quality check sheet. Some candidates were not wearing suitable PPE for NDT tasks.

Actions providers can take to support assessment preparation for future series:

Encourage candidates to record all of their quality checks and NDT results on the quality check sheet, ideally at the time the tests are completed to ensure accurate records.

Task 3B – Evaluation and recording

Candidates are required to produce a quality inspection report evaluating the finished product.

Most of the candidate reports were generally sufficient but lacked reference to technical information, demonstrating gaps in knowledge and understanding of technical process and procedures, in particular the welding aspects e.g. welding positions, settings and step by step of how they completed the NDT. Higher performing candidates were able to provide more detailed technical information relating to the welding positions and make valid amendments to their method statements with justifications.

Actions providers can take to support assessment preparation for future series:

Candidates would benefit from more formative assessment opportunities to practice producing reports in specified timescales and follow the task guidance as to the required content of the report.

Task 3C – Handover

Candidates are required to hold a meeting with their supervisor to complete a handover procedure, that includes confirmation of the work completed, overview of the findings of the

quality inspection report, suggested improvements to the design or process and handing over of their finished assembly and quality inspection report.

Most candidates missed opportunities to utilise technical terminology and some explanations of processes were not very clear. Candidates tended to focus more on the fabrication and little about the technical welding aspects and the results of the NDT. Lower performing candidates were unable to make valid recommendations to improving the design or processes used to aid a better outcome.

Actions providers can take to support assessment preparation for future series:

Candidates should be encouraged to build their confidence in front of a camera during the academic year and formulate verbal presentations in a logical and confident manner utilising industry terminology.

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. This will not only help prepare candidates but will be an ideal opportunity for marker training and standardisation.

The centre staff and candidates must thoroughly read the assessment to ensure the work is carried out to the specification required. Moderators will be working to the assessment brief and marking grids and making judgments accordingly.

Appropriate PPE should be worn at all times and assessors should ensure that candidates are working safely and should not come to harm or risks to health from the materials, tools or equipment used in the assessment.

Where photographic evidence is requested ensure completed components and the completed assembly are included.

Photographs do not need to be great in number but do need to show everything a moderator would require to be able to perform the remote moderation work. Photographs need to be of sufficient resolution to enable “zooming in” to determine quality. Photographs should be collated into one document, and well labelled, and with commentary if possible.

Videos will need to show specific important points of the assessment, for instance the candidate preparing the work area, marking out and cutting or using a welding equipment safely.

Utilisation of the Photographic Evidence Guidance Document would support providers to capture relevant and valuable information for marking and moderation purposes to support practical observation feedback.

Providers should ensure that practical observation forms are detailed, accurate and offer differentiating commentary between individual candidate’s performance. They should also identify areas of strength and weakness to distinguish between the different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.

Support materials

Sample and Past Occupational Specialism (OS) Assessments:
It is recommended that Providers utilise and deliver the **sample OS** as well as **past OS** (if available) as formative assessment to support candidates in preparation for summative assessment.

Sample and past OS (if available):
mpc_practical_assignment_fabrication_welding_sample_assessor_pack_v2-0-pdf.ashx (cityandguilds.com)

Guide Standard Exemplification Material (GSEM) Assessments:
It is also recommended that Providers utilise the **GSEMs** to help understand the standard required to achieve a Distinction and Pass grade.

8713-334 OS Distinction GSEM: T Level Technical Qualification in Engineering, Manufacturing, Processing and Control – Fabrication and Welding – Guide Standard Exemplification Materials - Distinction (cityandguilds.com)

8713-334 OS Pass GSEM: T Level Technical Qualification in Engineering, Manufacturing, Processing and Control – Fabrication and Welding – Guide Standard Exemplification Materials – Threshold Competence (cityandguilds.com)

TQ Occupational Specialism Assessment Process Guide:
The guide gives support to Providers in preparing for and delivering T Level Occupational Specialism assessments.

Link: TQ Occupational Specialism Assessment process guide (cityandguilds.com)

Events and Webinars:
City & Guilds run free webinars and events throughout the year on preparing for and delivering the T Level Occupational Specialisms. The below link provides details on upcoming in person events, live webinars, on-demand webinars and preparation for the Occupational specialism assessment.

Link: Events and webinars - T Levels | City & Guilds (cityandguilds.com)

Grade boundaries

The table below shows the grade mark ranges for the Occupational Specialism **for the summer 2024 series.**

Grade	Mark range 8713-334
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.

Should you require assistance, please contact us using the details below:

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Web chat available **here**.

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