T Level Technical Qualification in Onsite Construction

8711-30 Core Report (Summer 2022)

Version 1.0

Contents

Foreword

Summer 2022 Results

The technical qualification is made up of two components, both of which need to be successfully achieved to attain the T Level Technical Qualification in Onsite Construction. This document covers the Core component only.

As this is the first assessment series, we discussed the approach to standard setting with Ofqual and the other awarding organisations before setting the grade boundaries. We have agreed to award the Core more generously this summer, to recognise the unfamiliarity of providers with the new assessments. This reflects the approach to first awarding in other new or reformed qualifications. It is also designed to avoid learners being disadvantaged in the context of Covid-19 related disruption to learning continuing into the 2021-2022 academic year and where learners taking other qualifications are also seeing some acknowledgement of this in the way the grade boundaries have been determined this year (What's behind this summer's VTQ results? - The Ofqual blog).

Introduction

This document has been prepared to be used as a feedback tool for providers 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 the T Level Technical Qualification (TQ) in Onsite Construction **core** assessments.

This report provides general commentary on candidate performance in both the examination papers and Employer Set Project (ESP). 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 2022 assessment series. It will explain aspects which caused difficulty and potentially why the difficulties arose.

The grade boundaries (and notional boundaries where appropriate) that were used to determine candidate's final summer 2022 results are also provided. **For summer 2022, as per Ofqual guidance, these grades recognise that these are new qualifications, and the ongoing impact of the pandemic.**

More information regarding T Levels TQ grading, awarding, UMS and rules for retakes can be found in the T Levels Technical Qualifications Grading Guide available on the City & Guilds T Levels Resources and Support Hub.

8711-031 Paper 1

This exam paper covers the following elements of the Onsite Construction core content:

- Health and safety in construction
- Construction design principles
- Construction and the built environment industry
- Construction sustainability principles
- Building technology principles
- Tools, equipment, and materials

This exam paper allowed for candidates to demonstrate a broad range of subject knowledge within the Onsite Construction core element.

The exam has been split into **two** sections. Below details the types of questions and marks available for each section.

Section A is made up of **60** marks and includes **12** short answer and medium answer questions.

Section B is made up of **30** marks and includes **3** extended response questions.

The exam is designed to provide sufficient sampling across the content and consists of a mixture of short answer questions (SAQs), some of which will be structured, and extended response questions (ERQs). The exam assesses across assessment objectives (AOs) 1a/b, 2 and 3 that will allow for the appropriate differentiation of candidates to support the reliable setting of boundaries. The assessment objectives represent the following:
- **AO1 a** Demonstrate knowledge
- **AO1 b** Demonstrate understanding
- **AO2** Apply knowledge and understanding to different situations and context
- **AO3** Analyse and evaluate information and issues

This was the first year for the exam component. Overall, the majority of candidates within the cohort were able to demonstrate knowledge of the core content, often scoring marks for recalling knowledge when asked to name, state or identify information. There was a clear differentiation of performance within the cohort when candidates were asked to demonstrate understanding, application, analysis, or evaluation. Often lower scoring candidates achieved marks by demonstrating knowledge but struggled to show any further depth of understanding of the subject.

It was very noticeable that candidate's responses to some questions, clearly identifies that technical terminology is not understood, in terms of the meaning of words/language. This misunderstanding and limited interpretation of technical terminology meant that some candidates did not answer what these questions were asking and therefor were unable to achieve many of the available marks.

Topic areas that were well answered by most candidates include:
- Safety legislation
- Approved Codes of Practice
- Benefits of good design
- PESTLE
- Sustainability

Both the high achieving and low achieving candidates generally responded well to these topic areas, with the high achieving candidates responding with more depth and detail in some questions, in comparison to the low achieving candidates. This resulted in some of the high achieving candidates obtaining the full marks available.

Topic areas that were not well answered by most candidates are as follows:
- Approved documents
- Types of foundations
- Business types
- Risk assessments
- Tendering for work
- Safety inspection of a work environment

Responses showed that low achieving candidates found these topic areas challenging, and some candidates did not provide a response. The higher achieving candidates attempted these questions, responding with depth and detail. It was noted for one question that most candidates confused a company safety officer with the Health and Safety Executive.

It was noticed that candidate's responses to some questions that technical terminology is not understood, in terms of the meaning of words/language. This misunderstanding and limited interpretation of technical terminology hindered candidates from achieving marks. As well preventing candidates from accessing the higher range marks.

There was one maths question in the paper and only a few candidates were able to answer this accurately with clear working out. Most generally struggled with working out volumes and had difficulty recalling, and then using the correct mathematical formula. Workings out were generally not set out in a logical sequence.

Overall, for the extended response questions (ERQs), candidates underperformed in this exam section and techniques to answer these questions need to be further developed. Many candidates focussed on particularly elements of the ERQ, rather than holistically looking at the question, meaning higher mark bands were not always achieved. Candidates often provided lengthy responses although these were not always coherent and contained some inaccuracies.

The first ERQ required candidates to understand the ground conditions, select the most appropriate foundation type and give the construction process. Some of the higher ability candidates did give justifications for the best foundation type, however few discussed the processes to construct the foundation chosen, meaning the higher mark bands were not achieved.

The second ERQ concerned an old building with a structural defect. Some candidates were able to determine the structural cause of the defect, with some remedies. Responses however lacked depth, and very few understood that listed buildings are protected and place certain restrictions on work that can be carried out. Higher marks could have been achieved with thorough use of analysis, application of knowledge, evaluation, and justification.

The third ERQ involved choices of materials that were environmentally friendly but also to a budget. While some candidates gave lengthy responses, the responses often lacked focus and contained inaccuracies. There was limited or no reference to the restricted budget or any arguments made over build cost compared to long-term running costs.

8711-032 Paper 2

This exam paper covers the following elements of the Onsite Construction core content:
- Construction science principles
- Construction measurement principles
- Construction information and data principles
- Relationship management in construction
- Digital technology in construction
- Construction commercial/business principles

The exam has been split into **two** sections. Below details the types of questions and marks available for each section.

Section A is made up of **60** marks and includes **12** short answer and medium answer questions.

Section B is made up of **30** marks and includes **3** extended response questions.

The exam is designed to provide sufficient sampling across the content and consists of a mixture of short answer questions (SAQs), some of which will be structured, and extended response questions (ERQs). The exam assesses across assessment objectives (AOs) 1a/b, 2 and 3 that will allow for the appropriate differentiation of candidates to support the reliable setting of boundaries. The assessment objectives represent the following:
- **AO1 a** Demonstrate knowledge
- **AO1 b** Demonstrate understanding
- **AO2** Apply knowledge and understanding to different situations and context
- **AO3** Analyse and evaluate information and issues

This was the first year for the exam component. Overall, the majority of candidates within the cohort were able to demonstrate knowledge of the core content, often scoring marks for recalling knowledge when asked to name, state or identify information. There was a clear differentiation of performance within the cohort when candidates were asked to demonstrate understanding, application, analysis, or evaluation. Often lower scoring candidates achieved marks by demonstrating knowledge but struggled to show any further depth of understanding of the subject.

It was very noticeable that candidate's responses to some questions, clearly identifies that technical terminology is not understood, in terms of the meaning of words/language. This misunderstanding and limited interpretation of technical terminology meant that some candidates did not answer what these questions were asking and therefor were unable to achieve many of the available marks.

Topic areas that were well answered by most candidates are as follows:
- Loads of buildings
- Planning methods
- Smart meters
- Digital engineering techniques

Both the high achieving and low achieving candidates generally responded well to these topic areas, with the high achieving candidates responding with more depth and detail in some questions, in comparison to the low achieving candidates. This resulted in some of the high achieving candidates obtaining the full marks available.

Topic areas that were not well answered by most candidates are as follows:
- Negotiation techniques
- Business structures
- Roles and responsibilities of site management personnel
- Drawing scales

Overall, the low achieving candidates found these topic areas very challenging, which was noted in their responses, with some candidates not answering the question at all. The high achieving candidates attempted these topic-based questions, responding with some depth and detail.

It was clear in the responses that candidates struggled with technical terminology, in terms of the meaning of words/language. This misunderstanding hindered candidates from achieving all marks available for questions, for example, candidates struggled with a question on non-ferrous metals, resulting in only low marks being accessed.

There were varied responses to a question on site surveys with many candidates not accessing the top marks within the question. The low achieving candidates did not answer the command verb "Explain" and simply gave a list. The high achieving candidates did give some depth and detail in their responses but did not fully answer the question, meaning they could not achieve full marks.

There was one maths question in this paper and some high achieving candidates answered this accurately with clear working out. The low achieving candidates struggled to work out areas and calculated the volume of the room instead of the required surface areas. Workings out were generally not set out in a logical sequence.

Overall, for the extended response questions (ERQs), candidates underperformed in this exam section and techniques to answer these questions need to be further developed. Many candidates focussed on particular elements of the ERQ, rather than holistically looking at the question, meaning higher mark bands were not always achieved. Candidates often provided lengthy responses, however these were not always coherent and contained inaccuracies.

The first ERQ referred to Employee Rights and Responsibilities (ERR). Responses focussed on health and safety training, missing the main aim of the question. In generally, candidates missed the confidentiality aspect of the question, indicating that the question was not properly analysed. Higher band responses would have required a thorough understanding of ERR, with reasoning and justifications to which content would be included with the training.

The second ERQ concerned internet security and GDPR requirements for a company that had suffered a ransomware attack. Responses tended to be brief and rather basic. Higher marks could have been awarded with better applying knowledge and understanding of data management, with discussion around staff training.

The third ERQ involved some analysis around a given set of common building faults that would be found on an older style pre-cavity wall property. Low achieving candidates did not fully read the question and responses only covered the main issue of condensation related to the lack of insulation. Some responses deferred the rectification of the faults to a specialist

rather than commenting on the detail of how the faults would be rectified. High achieving candidates demonstrated a good use of analysis around the possible defects and how to rectify the problem, however a better understanding of the construction methods used in the 19th century (no cavity) would have assisted them in accessing the higher mark band.

8711 Sub-Component: Exam

Best practice and guidance to providers on what they could improve or develop their delivery

Providers should emphasise the importance of candidates thoroughly reading and re-reading the question to determine the content and level of response required. This includes considering the command verb and the number of marks available for each question. Some of the papers had very unclear handwriting, making it difficult for the marker to read the response. Providers should encourage candidates to ensure their handwriting is legible. Writing in block capital letters is a possible solution if a candidate's handwriting is not legible.

Providers should help develop candidates, so they have the ability and skill set to construct a detailed and in-depth response, to a given ERQ type question. Providers can help candidates focus on question responses by devising their own targeted exam revision for both short / medium answer questions and ERQ questions, as well as offering support and guidance on various answer/response techniques. Providers should be aware of using the Sample and past series questions on the City & Guilds webpages, to help and guide both staff and candidates.

Grade boundaries

The table below shows the grade mark ranges for the Exam, along with the notional boundaries for Paper 1 and Paper 2 – **for the summer 2022 series.**

Grade	Mark range	Notional boundaries	
		Paper 1 (8711-031)	Paper 2 (8711-032)
A*	149 - 180	74 - 90	74 - 90
A	128 - 148	64 - 73	64 - 73
B	107 - 127	53 - 63	53 - 63
C	86 - 106	43 - 52	43 - 52
D	66 - 85	33 - 42	33 - 42
E	46 - 65	23 - 32	23 - 32
Unclassified (U)	0 - 45	0 - 22	0 - 22

8711-033 Sub-Component: Employer-Set Project

The Employer-Set Project (ESP) assessment is a project comprised of a number of tasks, based on a scenario comparable to a real-life project in the industry. The assessment is designed to allow candidates to show how they can perform on a project using the Core knowledge and skills. This approach to assessment emphasises to candidates the importance and applicability of the full range of their learning to industry practice.

The ESP covers the following elements of the Onsite Construction core content:
- Health and safety in construction
- Construction design principles
- Construction sustainability principles

The Employer-Set Project allowed for candidates to demonstrate a broad range of subject knowledge within the onsite construction Core element. The ESP assesses across assessment objectives that will allow for the appropriate differentiation of candidates to support the reliable setting of boundaries. The assessment objectives represent the following:
- **AO1** Planning skills and strategies
- **AO2** Apply knowledge and skills to the context of the project
- **AO3** Analyse contexts to make informed decisions
- **AO4** Use maths, English and digital skills
- **AO5** Carry out tasks and evaluate for fitness for purpose

The project is based around a brief which provides information on an Onsite Construction project and specific relevant details and resources. Candidates have to draw on their Core knowledge and skills and independently select the correct processes and approaches to take to provide a solution and the evidence specified in the project brief. All tasks are completed under supervised/controlled conditions.

This was the first year for the assessment component. Generally, candidates responded well to the ESP and its constituent tasks. Candidates demonstrated good research skills as a solid foundation to start the project. Presenting their work and debating within a team allowed candidates to demonstrate their knowledge confidently. Providers should be encouraged by the quality of the ESP produced by candidates. Candidates were able to use the time provided on the different tasks well, with very few weaknesses in the full answers given with no evident gaps.

Employer-Set Project tasks overview

Task	Task type	Assessment Objectives covered	Max mark	Task weighting
1.1	Research	AO1: Knowledge, AO2a: Apply knowledge, AO3: Select, AO4c: Digital	9	9%
1.2	Report	AO1: Knowledge	6	26%
		AO2a: Apply knowledge, AO2b: Apply skills	12	
		AO3: Select	2	
		AO4a: Maths, AO4b: English, AO4c: Digital	6	
1.3	Plan	AO1: Knowledge, AO3: Select, AO4a: Maths	8	24%
		AO2a: Apply knowledge, AO2b: Apply skills	16	
1.4	Presentation	AO1: Knowledge, AO3: Select, AO4b: English	6	18%
		AO2a: Apply knowledge, AO2b: Apply skills	12	
2.1	Collaborative Problem Solving	AO2a: Apply knowledge, AO2b: Apply skills, AO3: Select, AO5a: Realise project outcome	15	15%
2.2	Evaluation	AO4b: English, AO5b: Review outcome against brief	8	8%

Task 1.1 Research

Research suggestions in relation to adding in further sustainability measures for a new-build development.
- Candidates need to show all sources that were researched, with referencing continuity and the inclusion of a bibliography to summarise the sources.
- Candidates performed well with a higher-level mark towards the top of the range.
- Performance was good with some outstanding research demonstrated by each candidate.
- Some candidates just produced research notes which was not in a formal structure but provided all the information required to develop a report from linked to task 1.2.

Task 1.2 Report

Produce a report for the project brief considering current regulations, design aspects as well as the introduction of renewable technologies into the housing design.
- This task asked candidates to take their research and develop this into a report on future homes, with regards to sustainability and environmental impact reduction measures.
- In responding to the brief some candidates did not form a strong contextual link and were therefore unable to obtain the full marks available. For example, some candidates used wind power and hydroelectricity which are not applicable to a domestic project.
- Report structuring was good with some candidates using a professional approach with a title page, a content section followed by an introduction and then the main task.
- Candidates should be encouraged to use a consistent method of referencing and to use appropriate quotation marks around text that contains quotations.
- Candidates are encouraged to use a variety of sources to demonstrate a breadth of knowledge and understanding.
- Candidates should be advised this is a formal report, and they are required to reference where data has been obtained. They need to show all sources that were researched from task 1.1 and a bibliography to summarise the sources.

Task 1.3 Plan

Produce a site induction plan and statement in line with requirements of CDM for delivery to the onsite workforce.
- This task was answered well with an induction plan presented by candidates. All performed at the top third of the available marks for this task.
- Marks could be improved by ensuring that the candidates commentary reflected the inclusions given within the task.
- Candidates may benefit from site visits to reflect on a real-life site induction as part of their studies.

Task 1.4 Presentation

Present the findings of your report from Task 1.2 to your tutor, as if they were the Project Manager.
- Candidates provided PowerPoint slides that included text and images.
- Most of the presentations was videoed by a provider tutor using a camera distanced from the interactive whiteboard that candidates undertook a presentation upon. The recording of the presentation was weak due to a microphone attached to the camera.
- Providers are encouraged to use an external microphone as recordings with candidates too far away could not be heard.
- Most candidates were able to engage their audience and refer to their notes on the board. It is advisable for candidates to practice their presentation in similar conditions prior to the recorded submission to help improve performance and build confidence. This would be bolstered by providing candidates with guidance and examples of effective presentations.
- Observation records overall tended to use the descriptors within the mark bands which is good practice for the examiner to follow. An examiner is not in the room during the presentations, some are difficult to hear, and so the observation record is vital in making a mark band selection.

Task 2.1 Collaborative Working

Working in small groups you will discuss and work through a problem relating to the project brief and specification. You will then have to communicate your solution to the problem in writing.
- Candidates interacted well and managed to contribute to collaborative discussions.
- Candidates often produced some notes which had been scanned and uploaded, to support the discussion.
- It is advisable for providers to encourage candidates to discuss in groups projects they may be working on to develop interpersonal skills in a similar set of conditions.
- Providers are advised to use a desk top microphone to record the conversations to ensure all candidates can be heard clearly and assessed accordingly.
- The observation records were a valuable indication of performance from a tutor. Observation records discriminated correctly within the group discussion on individual performance.

Task 2.2 Evaluation

Review how the project has gone and how your work met the requirements of the brief.
- Candidates' evaluations were good, covering all the tasks in a reflective account. Some managed to evaluate the solutions that they had found from research and written in their report.
- Providers need to guide candidates into evaluating their project and not performance of the individual. The candidate needs to evaluate what they produced within each task, how it went and what could be improved.
- Candidates should be discouraged from including detail relating to their individualised perspective for example feelings of nervousness. Providers should encourage candidates to focus on what they have produced and learnt.

Best practice and guidance

- Providers to ensure files and documents are named better to ensure consistency and ease of access. This also includes the use of assessment component headers.

Task_1.4_presentation_[Registration numbers #]_[surname]_[first letter of first name]
Task_1.4_observation record_[Registration numbers #]_[surname]_[first letter of first name]

- Providers are strongly encouraged to use evidence headers for each task, to allow for ease of identification of candidate evidence and efficiency in marking. All information within the task headers should be completed. Candidate evidence should be included within the header document and not as a separate file.
- Observation records should be submitted as separate documents for each task and not scanned into one document.
- The 'what must be presented for marking' section of each task outlines the minimum expectations of evidence that must be submitted for marking. Providers must detail where evidence has not been submitted.
- Providers are advised that all tasks are marked in isolation and that each task has been weighted in relation to the assessment objectives covered. This information is detailed in the qualification handbook. Providers are advised that as all tasks are marked separately, where evidence is produced by a candidate contained elsewhere, in another task, within the Employer Set Project, no marks will be awarded for that evidence.
- The only evidence considered for the marking of an individual task is what is listed within the 'what must be produced for marking' section within the assessment materials. Evidence for another task that may demonstrate knowledge or skills will not be considered when marking that task.
- Providers are advised to ensure the tutor and candidate both sign and date declarations prior to uploading evidence.
- Providers should request that candidates include a word count for all written reports and tasks where applicable.

Grade boundaries

The table below shows the grade mark ranges for the Employer-Set Project – **for the summer 2022 series.**

Grade	Mark range
A*	80 - 100
A	70 - 79
B	60 - 69
C	51 - 59
D	42 - 50
E	33 - 41
Unclassified (U)	0 - 32

8711-30 Onsite Construction Core

The T Levels Technical Qualification (TQ) in Onsite Construction core is made up of the below sub-components (and weightings).

- Exam (70%)
- Employer-Set Project (30%)

UMS grade boundaries

The table below shows the UMS values available for grades in the sub-components. It also shows the UMS values required to achieve each grade for the overall Core. This table will not vary across the series, the values are fixed for this TQ.

Grade boundary	Exam sub-component	ESP sub-component	Overall Core
A*	252 - 280	108 - 120	360 - 400
A	224 - 251	96 - 107	320 - 359
B	196 - 223	84 - 95	280 - 319
C	168 - 195	72 - 83	240 - 279
D	140 - 167	60 - 71	200 - 239
E	112 - 139	48 - 59	160 - 199
Unclassified (U)	0 - 111	0 - 47	0 - 159

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**.