

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

**Employer-Set Project
(8730-034)**

**Task 2
Summer 2023**

Task 2 – Report

You are required to produce a report in response to the project brief outlining your suggestions when designing and manufacturing a quenching tank.

With reference to the project brief and your research notes, produce a report detailing your intended approach to designing a quenching tank with consideration of:

- which basket has been sourced and why other options have been rejected
- the volume calculations for the basket and how this influences the size and shape of the overall tank
- the materials the tank and lid are to be fabricated from, material thickness considerations, and alternatives that have also been considered
- the allowances made for localised heating of parts of the tank
- the allowances made for the volume of components being quenched
- any space required due to increased volume when boiling is observed
- the selection and justification of handles and drain plugs should be included in your report along with the benefits of using the specific options selected.

The written report will typically be 2000 words.

You can include downloads from Original Equipment Manufacturers (OEM) catalogues showing tooling aids and basic design sketches to support your intended approach as detailed in your report.

Timing of assessment

- You will have **four hours** to complete your report.

Conditions of assessment

- Your report should be completed working alone under supervised conditions.
- You must not share or discuss your work with other candidates.
- You will have access to a copy of your research notes (for review purposes only).
- You will have access to the Internet for the completion of this task.
- Assessment evidence must be handed in at the end of each session for secure storage which cannot be accessed.

What you must submit on completion of this task

- Report (typically 2000 words) hard copy or file saved securely (e.g., in a secure online location or on memory stick to be handed in).

Additional evidence of your performance that will be captured for marking

- N/A

Marks available

- 18

Get in touch

City & Guilds Technicals Quality Team

We 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:

T: 0300 303 53 52 (Monday - Friday | 08:30 - 17:00 GMT)

E: technicals.quality@cityandguilds.com

W: cityandguilds.com/tlevels

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