

## Overview

This standard identifies the competences you need to produce engineering specifications based on client requirements, in accordance with approved procedures. The range of engineering processes could include manufacturing operations, installation, production, maintenance, engineering support functions or other activities, such as performance measurement or business improvement. You will be required to determine the feasibility of meeting the client requirements, and to notify the client of any changes that may be required. In addition, you will be expected to communicate the specifications and the rationale behind them to the appropriate people.

Your responsibilities will require you to comply with organisational policy and procedures for ensuring the successful production of specifications, and to report any problems that you cannot personally resolve to the relevant authority. You will be expected to work unsupervised, either on your own or as part of a team, which you may lead or direct, taking full responsibility for your actions and, possibly, for the work of colleagues or subordinates.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to producing engineering specifications. You will have a thorough understanding of general and design-specific engineering principles and processes. You will also know about patents, copyright and intellectual property issues, and will be fully conversant with the company procedures, systems of operation and standard specification formats, in adequate depth to provide a sound basis for carrying out your activities to the required standard.

You will be fully aware of any health, safety and environmental requirements, and the appropriate legislative and regulatory frameworks applicable to your area of responsibility. You will be required to ensure that safe working practices are maintained throughout, and will understand the responsibility you owe to yourself and others in the workplace.

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## Performance criteria

### *You must be able to:*

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. produce a specification for the engineering product or process that meets the requirements of the client
3. incorporate all necessary details into the specification
4. ensure that the specification is capable of being implemented
5. ensure that the specification complies with all relevant standards, regulations, directives and guidelines
6. agree the specification with the client at appropriate points in the design process
7. provide a suitable rationale for any requirements that cannot be achieved or any changes to the specification
8. produce the specification in the agreed formats with the necessary supporting documents
9. record the specification in the appropriate information systems

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## Knowledge and understanding

### *You need to know and understand:*

1. the different types of specification that are required by various clients
2. the types of detail that should be included in a specification
3. the appropriate level of detail that is required in a specification
4. how to assess whether the specification is capable of being achieved
5. how to consult with a client on a specification, and when it is most appropriate to do so
6. the types of change to a specification that could be necessary
7. how to identify alternatives when it is necessary to make changes to specifications
8. the different formats used for specifications, and their acceptability to the client
9. the regulations, directives and guidelines that are relevant to different types of specification
10. how to obtain and interpret information on regulations, directives and guidelines
11. the company systems for recording information
12. the importance of using the company information systems
13. the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

## Scope/range related to performance criteria

1.

Obtain the design requirements from the company information system, or from **one** of the following types of client:

- 1.1 external – existing client
- 1.2 internal – existing organisational requirement
- 1.3 external – potential client
- 1.4 internal – new organisational opportunity

2.

Prepare specifications incorporating client requirements, to include **six** of the following:

- 2.1 function
- 2.2 budget
- 2.3 technologies
- 2.4 manufacturer's specifications
- 2.5 performance/capability
- 2.6 volume
- 2.7 life cycles
- 2.8 monitoring/servicing/maintenance frequency
- 2.9 aesthetics
- 2.10 timing/delivery schedule
- 2.11 specific/special facilities or equipment
- 2.12 materials
- 2.13 manufacturing methods
- 2.14 inspection/testing
- 2.15 usability
- 2.16 resources
- 2.17 interfacing
- 2.18 ongoing support
- 2.19 environmental/sustainability
- 2.20 packaging
- 2.21 communication plan
- 2.22 other specific requirements

3.

Ensure that specifications comply with **three** of the following:

- 3.1 organisational guidelines and codes of practice
- 3.2 recognised compliance agency/body's standards
- 3.3 equipment manufacturer's operating
- 3.4 customer standards and requirements specification/range
- 3.5 British, European or International standards or directives
- 3.6 health, safety and environmental requirements

4.

Producing engineering specifications

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Consult with the client on **all** of the following:

- 4.1 evidence that the specifications are capable of being achieved
- 4.2 acceptability of specification formats and supporting documentation
- 4.3 any suggested changes to requirements, and why they are necessary
- 4.4 the regulations, directives and guidelines considered in the specification, and their implications

5.

Record and communicate specifications to the appropriate people, using:

- 5.1 a verbal report

plus **one** from the following:

2. electronic mail
3. computer-based presentation
4. computer generated report
5. specific company document
6. other appropriate media

## Behaviours

# Additional Information

You will be able to apply the appropriate behaviours required in the workplace to meet the job profile and overall company objectives, such as:

- strong work ethic
- positive attitude
- team player
- dependability
- responsibility
- honesty
- integrity
- motivation
- commitment

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