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## Overview

This standard identifies the competences you need to support colleagues in determining engineering requirements for the supply of products or services to customers, in accordance with approved procedures. You will assist in confirming the requirements with the customer, determining how your organisation can respond to these needs, and in assessing the implications to your organisation of providing the products or services with regard to present and future workloads. You will be required to complete the work within agreed timescales, whilst ensuring that the activities within your control conform to organisational and legal requirements.

Your responsibilities will require you to comply with organisational policy and procedures for determining the engineering requirements, and to report any problems that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work to instructions, either alone or in conjunction with others, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will be sufficient to provide a sound basis for your work, and will enable you to adopt an informed approach to gathering and determining engineering requirements from customers. You will have an understanding of the engineering products and services within your area of responsibility, in adequate depth to provide a sound basis for carrying out the activities to the required standard.

You will be aware of any health, safety and environmental requirements applicable to your area of responsibility. You will be required to demonstrate safe working practices 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, in accordance with the regulations for your work environment
2. obtain sufficient information to understand clearly the customer's requirements
3. advise the customer of relevant product or service features, and relate these to the customer's requirements
4. make sure that the customer requirements are accurately specified
5. check with the customer and obtain agreement that the requirements are interpreted correctly
6. determine how your organisation can respond to the requirements in terms of workload and resources
7. provide the information in an appropriate format, using recognised and accepted conventions for terms and references
8. record and file relevant information, in accordance with organisational requirements
9. maintain appropriate levels of confidentiality
10. make sure that communications with the customer meet organisational guidelines and procedures

## Knowledge and understanding

### You need to know and understand:

1. how to access information on health and safety regulations and guidelines relating to the engineering requirements for the products or services to be supplied
2. the implications of not taking account of legislation, regulations, standards and guidelines when determining the engineering requirements
3. how to obtain information on the engineering requirements, and the types of information that are available (such as customer order requirements and instructions, quality control requirements, product specification, manufacturing methods)
4. how to extract information from engineering drawings and related specifications (to include symbols and conventions to appropriate BS or ISO standards) in relation to work being considered
5. how to access and use the appropriate information and documentation systems containing the customer requirements
6. the need to check that the specific technical requirements/specifications requested by the customer are within the technical capabilities and resources of your organisation
7. the normal timescales for carrying out or supplying specific products or services, and how these will impact on the customer's requirements
8. the types of information that you will need to consider when determining the engineering requirements (such as activities to be carried out, specification to be achieved, timescales, resource requirements, health and safety issues, cost and budget implications)
9. the main components and the materials (if any) that are to be used
10. the products (or equipment) involved, their requirements, and their availability
11. the methods used to control costs, and who can provide cost estimates
12. the importance of maintaining records; what needs to be recorded, and where records are kept
13. the different ways of presenting information to different people
14. the importance of providing the right information at the right time
15. the types of problem that can occur when determining engineering requirements and their implications
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the extent of your own authority and to whom you should report in the event of problems that you cannot resolve

### Scope/range related to performance criteria

1. Carry out **all** of the following activities when determining the engineering requirements:
  1. use the correct issue of company information
  2. check that all essential information and data needed to make valid decisions are available
  3. determine the engineering requirements
  4. check that your organisation's work and technical capacity can meet the customer's requirements
  5. maintain appropriate levels of customer communication and confidentiality
  6. record and file the engineering requirements in the appropriate format
2. Assist in determining engineering requirements for customer needs, for **one** of the following:
  1. drawing/design activities (such as mechanical, electrical/electronic, motor vehicle, aerospace, marine)
  2. manufacturing activities (such as machining, detail fitting, fabrication of components, pressing)
  3. material processing activities (such as heat treatment, casting, injection moulding, purification)
  4. composite manufacture (such as wet lay-up, pre-preg laminating, resin infusion, blow moulding)
  5. finishing activities (such as stripping finishes, painting, plating, anodising, veneering, lacquering)
  6. assembly activities (such as mechanical, structural, fluid power, electrical/electronic, woodworking)
  7. installation activities (such as mechanical, electrical/electronic, avionic, structural, environmental equipment)
  8. plant and equipment (such as site preparation, plant layout, equipment changeover, equipment supply or replacement)
  9. equipment capability studies/performance measurement
  10. movement of materials, components or finished goods
  11. business improvement activities
  12. engineering safety audits or risk assessments
  13. quality control/quality assurance
  14. maintenance activities
  15. modification and repair activities
  16. testing and trialling
  17. research and development
  18. commissioning/decommissioning
  19. engineering support services

3. Assess the implications of providing the products or services, including **three** of the following:
  1. the technical capability of your organisation to provide the products or services requested
  2. availability of resources (such as people, materials, equipment, facilities and utilities)
  3. costs and capital expenditure involved
  4. timescales to supply the products or services
  5. effects on current schedules
  6. environmental and health and safety implications
  7. legal implications (if applicable)
  8. training implications
4. Record and file the product or service proposals, which should contain **six** of the following:
  1. description of the product or service required
  2. details of specification requirements
  3. customer requirements that may be difficult to meet
  4. delivery estimate
  5. workload schedule
  6. resources required
  7. potential opportunities arising from the proposed supply of the product or service
  8. a 'need versus benefit' analysis
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5. Record proposals, in accordance with organisational procedures, using **one** of the following:
  1. specific company documentation
  2. written or typed report
  3. electronic mail

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Assisting in determining engineering requirements for the supply of products or services



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