
Overview

This standard identifies the competences you need to lead an electrical/electronic manufacturing or test team, including agreeing and monitoring departmental budgets, developing and updating production/test schedules and plans in accordance with approved procedures and policies, to ensure that the products manufactured are fit for purpose and meet the required quality specification on time and to budget. You will also be required to ensure that the team have the appropriate skills knowledge and understanding required to produce the products required in the manufacturing area you have responsibility for.

You will also be required to identify and implement a systematic approach to improving the manufacturing activities undertaken.

Your responsibilities will require you to comply with organisational policy and procedures for the electrical/electronic manufacturing/testing activities undertaken, and to report any problems with the activities that you cannot personally resolve or that are outside your permitted authority, to the relevant people. You must ensure that that all necessary data, documentation is completed accurately and legibly and stored in the correct location and format. You will be expected to work with minimal supervision, taking personal responsibility for your own actions, and for the quality and accuracy of the work carried out by the electrical/electronic manufacturing/test team.

Your underpinning knowledge will provide an in depth understanding of your work, and will provide an informed approach to applying a range of leadership methods and techniques to ensure that the products manufactured/tested are fit for purpose and meet the quality specification on time and to budget. You will know about the equipment, tooling and consumables required in an adequate depth to provide a sound basis for leading the electrical/electronic manufacturing/testing activities. In addition, you will have sufficient knowledge on how to develop the manufacturing/test team and how to identify and implement a systematic approach to improving the manufacturing activities undertaken.

You will understand the safety precautions required when carrying out the electrical/electronic manufacturing/testing activities. You will also understand your responsibilities for safety and the importance of taking the necessary safeguards to protect yourself and others in the workplace.

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. develop, gain agreement and review manufacturing/test departmental budgets
3. produce, agree and update departmental production/test schedules and plans
4. ensure that schedules and plans are capable of meeting all relevant requirements
5. lead electrical/electronic manufacturing/test activities within the department
6. complete and save relevant production/test data and documentation accurately
7. identify and lead on making improvements to processes and procedures
8. ensure manufacturing/test activities are carried out correctly in line with agreed company processes and procedures
9. create and update visual management documentation and systems to support the activities of the department
10. report and evaluate the impact of improvement activities
11. produce and maintain departmental competency skills matrix of team members

Knowledge and understanding

You need to know and understand:

1. the health and safety requirements of the area in which the electrical/electronic manufacturing/testing activity is to take place, and the responsibility these requirements place on you
2. the information systems that are in use within your organisation, and how to record data to the system
3. how to obtain and interpret legislative and regulatory documentation
4. how to obtain and interpret company policies and procedures
5. how to prioritise your own and your team's workload to ensure that targets are met
6. the process to be followed to develop and gain agreement on departmental budgets
7. the importance of regularly monitoring departmental budgets and the implications for the business if this is not carried out
8. how to communicate effectively, listen, question, support and coach others to work towards the departmental targets
9. the importance of ensuring that teams have the required skills, knowledge and understanding in order to manufacture/test the equipment to the required standards
10. how to access training and development programmes once a training need has been identified
11. the specific health and safety precautions to be applied during the manufacturing/testing process, and their effects on others
12. the procedure for completing and reviewing risk assessments
13. hazards associated with carrying out activities in the department and how to minimise these and reduce any risks
14. the importance of ensuring employees wear protective clothing and other appropriate safety equipment during manufacturing/testing process
15. the importance of having access to up to date data and information such as drawings, specifications, manufacturers' manuals and other documents needed in the manufacturing/testing process
16. how to interpret drawings, charts, specifications, information, data, reports, manuals and other documents needed to understand the requirements of the manufacturing/testing activity
17. how interpret changes to the requirements for the manufacturing/testing

activities

18. who to contact for clarification of the manufacturing/testing requirements
19. who should be involved in authorising any changes required to manufacturing/testing activities
20. the operating principles and processes of the manufacturing/testing equipment used in your area of responsibility
21. the manufacturing/testing methods that could be used for different types of processes or activity
22. the different types of equipment, and how they should be used for various manufacturing/testing methods
23. how to determine the resources that are required for the manufacturing/testing activities
24. the methods used to calculate how long it should take to complete specific work outputs
25. the procedure for purchasing/obtaining materials and other consumables necessary for the manufacturing/testing activities
26. the company policy on repair/replacement of equipment required to manufacture/test products efficiently and effectively
27. the importance of keeping up to date with new technologies, manufacturing/testing processes and systems
28. the common problems associated with the manufacturing/testing activity.
29. the quality criteria that must be used for the different products or process
30. the quality assurance and control methods that are used in the department
31. the personnel involved to ensure that the quality of product outcomes are fit for purpose and their responsibilities to ensure this is achieved
32. the tools and equipment used to ensure the products meet the customers quality requirements
33. the process and procedures to be followed when defective products are identified both during production/on completion of the manufacturing/testing process
34. the organisational procedure(s) to be adopted for the safe disposal of all types of waste materials
35. how to conduct a systematic plan, do, check, act (PDCA) approach to problem-solving and business improvement
36. how to use "root cause" problem solving analysis using the 5 whys/how technique
37. how to evaluate improvement ideas in order to select those that are to be

pursued

38. how improvements to the process are achieved by engaging the knowledge and experience of the people working on the process

39. how to create, review and modify Standard Operating Procedures (SOP's) and correlate work activities into them

40. the techniques required to communicate information using visual control systems (such as card systems, colour coding, floor footprints, graphs and charts, team boards, tool/equipment shadow boards)

41. the extent of your own authority and to whom you should report if you have a problem that you cannot resolve

Scope/range related to performance criteria

1.

Lead the electrical/electronic manufacturing team by carrying out all the following:

- 1.1 obtain accurate details of the products to be manufactured/tested
- 1.2 review and interpret the product specification and documentation to assess their characteristics and requirements
- 1.3 clarify any aspects of the product specification or timescales that are unclear
- 1.4 communicate the manufacturing/testing activities to be undertaken with the team
- 1.5 involve the team in planning how the manufacturing/testing activities will be achieved
- 1.6 provide clear and accurate instructions to all the relevant people
- 1.7 secure, monitor and control the use of resources to achieve the most effective results
- 1.8 confirm and communicate any changes to the product specification and/or timescales required by the customer
- 1.9 allocate specific jobs/tasks to each team member
- 1.10 motivate the team to present their own ideas on improvements that could be made to the manufacturing process and procedures
- 1.11 encourage the team and/or individuals to take the lead where appropriate
- 1.12 deal efficiently and effectively with problems affecting production output
- 1.13 produce and agree contingency plans when required

2.

Lead electrical/electronic manufacturing/testing activities for one **of the following:

- 2.1 printed circuit board manufacture
- 2.2 electronic component manufacture
- 2.3 semi conductor manufacture
- 2.4 electronic control unit manufacture
- 2.5 testing electronic products/components
- 2.6 transformer and inductor manufacture
- 2.7 electrical motor and generator manufacture
- 2.8 electrical control system and equipment manufacture
- 2.9 instrumentation and control equipment manufacture
- 2.10 cable forms and loom manufacture
- 2.11 testing electrical equipment and systems
- 2.12 other specific product/component manufacturing/processing operations

3.

Obtain operational information from three of the following:

- 3.1 design office
- 3.2 industrial engineering
- 3.3 quality engineering

- 3.4 process engineering
- 3.5 production engineering
- 3.6 company information systems
- 3.7 customer
- 3.8 sales department
- 3.9 component/product manufacturers
- 3.10 material/component supplier
- 3.11 other specific source

4.

Create and maintain management data and information to include the following:

- 4.1 production or testing planning/delivery schedules

plus supporting documentation associated with three of the following

2. quality records/defects
3. problem history/resolution
4. resources/materials requisitions
5. budgets
6. equipment performance
7. equipment maintenance
8. equipment downtime/failure
9. equipment utilisation
10. health and safety
11. staff development and training
12. department procedures/work instructions
13. tests and trials
14. regulatory compliance

1.

Identify and implement improvements in the manufacturing department to achieve four of the following:

- 1.1 reduced production costs
- 1.2 reduced lead times
- 1.3 improved quality
- 1.4 improved equipment/tooling efficiency
- 1.5 improved staff utilisation
- 1.6 improved working practices
- 1.7 improved equipment downtime
- 1.8 improved equipment utilisation
- 1.9 improved use of production technologies
- 1.10 improved use of information technology
- 1.11 improved health and safety
- 1.12 improved visual management systems/documentation
- 1.13 improved resource planning

- 1.14 improved staff development and training
- 1.15 reduction in waste
- 1.16 reduction in energy usage
- 1.17 improved environmental impact
- 1.18 improved customer service
- 1.19 other specific improvement

2.

Ensure manufactured products complies with three **of the following:

- 2.1 organisational guidelines and procedures
- 2.2 equipment manufacturer's operating specification/range
- 2.3 British, European or International standards or directives
- 2.4 recognised compliance agency/body standards or directives
- 2.5 health, safety and environmental requirements
- 2.6 customer standards and requirements

3.

Complete the relevant documentation to include one **from the following:

- 3.1 job cards
- 3.2 company-specific production recording system

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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Leading electrical/electronic product manufacturing or testing activities



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