

## Overview

This unit covers the skills and knowledge you will need to carry out forming operations by applying physical pressure to change the shape of the material or component. This could be by pressing, bending, vacuum forming, stretching, extrusion, shrinking.....etc

This will involve producing formed products according to defined operating procedures. You will be expected to monitor and control the forming operation, minimising any waste, making adjustments within the limits of your permitted authority and ensuring that the completed components are to the required specification. Meeting production targets will be an important issue and your production records must show consistent and satisfactory performance.

Your responsibilities will require you to comply with organisational policy and procedures for the forming activities undertaken, and to report any problems with the forming activities that you cannot personally resolve, or are outside your permitted authority to the appropriate people.

You will be expected to work to instructions, with minimum supervision, taking personal responsibility for your actions and for the quality and accuracy of the work that you produce. You will also be expected to complete any necessary documentation accurately and legibly.

Your underpinning knowledge will be sufficient to provide a sound basis for your work, and will enable you to adopt an informed approach to applying the required work instructions and forming procedures. You will have an understanding of the forming operation used, and its application, and will know about the equipment, materials and consumables in adequate depth to provide a sound background for carrying out the activities, making allowable adjustments when required, to ensure that the required specification is achieved.

You will understand the safety precautions required when working with the forming tools and equipment. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

This unit on producing formed products involves:

1. working with minimum supervision
2. using the correct tools, equipment and materials for the forming operation
3. performing the forming operation
4. monitoring and controlling the forming operation

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5. making adjustments within your permitted authority
6. reporting unsolvable problems or problems that you are not responsible for, to the appropriate person
7. completing any necessary documentation accurately and legibly
8. working in ways which maintain the safety of yourself and others

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### Performance criteria

*You must be able to:*

- P1 work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines
- P2 obtain and follow the correct job instructions and any relevant forming procedure and quality specifications
- P3 use the correct forming tools, equipment, materials and work holding methods for the forming operations being performed
- P4 perform the forming operation according to instructions and safe operating procedures
- P5 monitor and control the forming operation and identify any faults, variations or problems that occur
- P6 make any necessary adjustments within your permitted authority
- P7 report any problems that you cannot solve or are outside your permitted authority to the appropriate person
- P8 minimise any waste during the forming operation
- P9 produce formed products which comply with the forming specification and quality requirements
- P10 work to achieve your production targets
- P11 deal appropriately with finished components and complete any necessary documentation accurately and legibly

### Knowledge and understanding

*You need to know and understand:*

- K1 what are the relevant health and safety requirements of the work area in which you are carrying out the forming operations
- K2 what are the specific safe working practices, forming procedures and environmental regulations that need to be observed
- K3 what are the hazards associated with carrying out the forming operations and how can they be minimised
- K4 what actions need to be taken in case of emergencies
- K5 what personal protective equipment needs to be used during the forming activities and where can it be obtained
- K6 how to obtain the necessary job instructions, operating procedures and forming specifications that are used, and how to interpret them
- K7 what tools and equipment are used for the forming operations undertaken and how to check that they are in safe and usable condition
- K8 how to hold the materials securely without causing damage or distortion
- K9 how to operate, monitor and control the forming equipment to achieve the required specification
- K10 what are the specific forming operations to be performed
- K11 why it is important to follow the specified forming sequence and procedure at all times
- K12 what methods can be used to minimise waste during forming operations
- K13 what faults, problems or variations can occur in the forming operation
- K14 how to identify faults, problems or variations in the forming operation
- K15 what allowable adjustments can you make to achieve specification in the forming operation
- K16 why it is important to report faults, variations or problems that are outside your permitted authority and or you cannot solve immediately
- K17 how to check the quality of the formed components, against the required quality standards and what tools and equipment are used
- K18 what documentation may need to be completed, and why it is important to complete it accurately and legibly
- K19 what your responsibilities are with regard to the reporting lines and procedures in your working area
- K20 who are the appropriate people and what are their responsibilities within your working area

### Additional Information

#### Scope/range related to performance criteria

You must be able to:

1. Follow the relevant forming procedures and safety requirements to include **all** of the following:
  - 1.1. health and safety regulations
  - 1.2. forming equipment / tool operating instructions
  - 1.3. safe working practices
  - 1.4. company standards and procedures
  - 1.5. job instructions
  
2. Perform forming operations using **one** of the following methods:
  - 2.1. hand forming operations
  - 2.2. fully automated machine forming operations
  - 2.3. manually operated machine forming operations
  - 2.4. combined forming operations
  
3. Carry out checks of the formed products to include **all** of the following:
  - 3.1. completeness of forming operations
  - 3.2. freedom from deformity or ripples
  - 3.3. shape/profile of formed product
  - 3.4. freedom from damage or tool marks
  - 3.5. quality of finish and appearance
  
4. Make permitted adjustments to solve production faults, variations or problems related to **two** of the following:
  - 4.1. quality
  - 4.2. operational safety
  - 4.3. accuracy
  - 4.4. manufacturing changes
  - 4.5. material utilisation
  - 4.6. productivity
  
5. Report problems that you cannot solve and or are outside your permitted authority to the appropriate person to include **one** of the following:
  - 5.1. supervisor
  - 5.2. team leader
  - 5.3. quality control
  
6. Work to achieve production targets for **both** of the following:
  - 6.1. output
  - 6.2. quality

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