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Unit 16: Produce Products Using Hand-Based Operations within Polymer Processing and Related Operations



Overview

This unit is about producing products using hand-based operations to achieve product specifications and production requirements. It is suitable for process operators who work within an organisational context that provides them with procedures to work to and criteria for making decisions and taking actions.

Examples of production operations that might be involved include:

1. Laminating
2. Assembly
3. Welding/bonding
4. Fabrication
5. Re-treading tyres

This unit deals with the following:

6. Produce products to specification
7. Shutdown a hand-based production process

During this work you must take account of the relevant worksite operational requirements, procedures and safe working practices as they apply to you.

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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, legislation and guidelines** in accordance with company procedure
- P2 Achieve the **product specification** by following organisational work methods and **techniques**
- P3 Working effectively to achieve **production requirements and** output with minimise downtime and wastage
- P4 Correctly identify and deal with processing **problems** by taking appropriate remedial **action**
- P5 Carrying out **quality** assurance checks against relevant **quality** standards and identifying product deviances that are within and outside acceptable tolerances
- P6 Taking appropriate action to isolate and report non-conforming products
- P7 Carrying out the necessary preparations to maintain the condition, safety and security of products
- P8 Safely and effectively dispose of waste materials in accordance with organisational and legal requirements
- P9 **Prepare** products and forward to the next stage of the production process to meet **production requirements** or to store according to requirements
- P10 Estimate completion time and adjust the preparation and feed systems accordingly
- P11 Identify and take prompt and effective action against potential hazards to minimise risks to people, property and the environment
- P12 Input any shutdown settings in accordance with procedures
- P13 Safely and effectively stop the production processes in the prescribed sequence
- P14 Ensure **equipment and tools** are serviced and cleaned in accordance with operational requirements arranging for servicing if required, and storing them safely and securely for future use
- P15 Store materials and equipment safely and securely in accordance with organisational requirements
- P16 Keep the relevant documentation up to date in accordance with organisational procedures
- P17 Deal with **problems** within your responsibility and report any you cannot deal with in accordance with company procedures

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Knowledge and understanding

You need to know and understand:

- K1 The specific organisational health, safety and environmental policies and other **regulations, legislation and guidelines** for your work area and why they are important
- K2 The different types potential **hazards**, how they can be minimised and the action to take in the event of a work area hazard
- K3 What the workplace procedures are for reporting potential **hazards** you are unable to deal with
- K4 When, which and how personal protective equipment should be used
- K5 The importance of checking equipment, how to do this and to whom you should report defects
- K6 What risks are associated with the working environment
- K7 What risk control measures are in place and how to comply with them
- K8 Where to find **work procedures** and production requirements and how to interpret these
- K9 What sort of records are kept and how to complete them and the implications of not maintaining them accurately and legible
- K10 The importance of disposing of waste **materials** safely and how to do this
- K11 The sorts of **problems** that might occur and who you should report these to
- K12 How to interpret and use product specifications
- K13 Which work methods to use to achieve the product specification
- K14 What potential hazards are associated with the production processes and the appropriate actions required to minimise risk to people, property and the environment
- K15 The importance of achieving **production requirements** and the consequences of not doing so
- K16 The effects of downtime and wastage and how these can be minimised
- K17 The sorts of processing problems that might occur and the appropriate **remedial actions** to take in response to these
- K18 The purpose and importance of **quality assurance checks**, and when and how these should be carried out
- K19 What organisational quality standards apply to the product and how these relate to any current and relevant British and/or European quality standards
- K20 What the specified tolerances are and the appropriate action to take in response to deviations within and outside specified tolerances
- K21 The importance of identifying non-conforming materials and products and the actions to take in response to these
- K22 The importance of disposing of waste materials safely and how to do this
- K23 What the next stage of the production process is and how products

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- should be **prepared** for this
- K24 The organisational requirements for maintaining the condition, safety and security of products
 - K25 How to identify shutdown requirements from specifications, schedules, procedures and instructions
 - K26 What shutdown settings should be inputted and the importance of inputting them correctly
 - K27 What the potential shutdown hazards are and what actions can be taken to minimise risk to people, property and the environment
 - K28 The importance of stopping processes in the correct sequence and the consequences of not following the prescribed sequence to shutdown
 - K29 The importance of cleaning **equipment and tools** and how to do this safely and effectively
 - K30 The requirements for servicing different **equipment and tools** and the organisational procedures for arranging this to be carried out
 - K31 The organisational requirements for the safe and secure storage of materials and equipment
 - K32 The different types of documentation that is required

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Additional Information

Glossary

1. **Regulations/Legislation/Guidelines:** organisational procedures and guidelines, Work place Policies, Health, safety and environmental requirements and regulations relevant to the work and work area being carried out.
2. **Problems:** services, equipment, materials, products; incomplete procedures, imprecise instructions, inaccurate information, damage, wear, malfunction, variances in material supplies, non-conforming materials or products
3. **Hazards** and control measures: waste, spillage, obstructions, hazardous materials. personal protective equipment
4. **Materials:** raw materials, part-processed materials, re-processed materials, finished products, process related materials, e.g. packaging, processing equipment and waste materials
5. **Operating Procedures/Work Procedures:** Work instructions, Method Statements, Standard Operating Procedures
6. **Product:** requirements; processing specification, quality, quantity
7. **Work methods and techniques:** material and product handling, operation and control of equipment and tools, sequencing process operations
8. **Production requirements:** rate of production, production schedule
9. **Remedial actions:** implementing procedures to correct faults within the limits of your authority, requesting specialist assistance
10. **Quality assurance checks:** programmed checks, spot checks
11. **Prepare process:** protection of the product, storage requirements,

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Developed by Cogent

Version number 1

Date approved March 2011

Indicative review date March 2013

Validity Current

Status Original

Originating organisation Cogent

Original URN O11NPOL16

Relevant occupations Professional Occupations; Engineering Professionals; Engineering and manufacturing technologies; Manufacturing technologies

Suite Polymer Processing and Related Operations

Key words produce, products, hand-based, operations, specification, shut-down
