

## COGPPRO29

# Unit 29: Configure and Set Processing Systems to Meet Production Requirements within Polymer Processing and Related Operations



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### Overview

This unit is for those with responsibility for configuring and setting processing systems to meet production requirements. It is suitable for process industries personnel who work within an organisational context which requires them to achieve clearly defined specifications. The scope of the work is such that the individual would be expected to know when problems which might arise can be dealt with directly or when specialist assistance is required. The processing system may be for continuous or batch production and should include ancillary equipment.

This unit deals with the following:

1. Configure processing equipment
2. Set and verify processing parameters
3. Having sound knowledge of materials for process operation
4. Optimise the processing system

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

# COGPPRO29

## Unit 29: Configure and Set Processing Systems to Meet Production Requirements within Polymer Processing and Related Operations

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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
  - P2 When, which and how personal protective equipment should be used
  - P3 Make sure you have the necessary equipment, tools and people to complete the configuration safely and effectively within the specified timescale
  - P4 Configure the equipment to function effectively and within set tolerances
  - P5 Integrate processing equipment and ancillary equipment to function as an effective and efficient system
  - P6 Position safety devices and warning notices to protect both the process operators and people who work in the immediate area
  - P7 Carry out safety checks to ensure that equipment and the work area are safe and free from potential hazards
  - P8 Set and adjust **processing parameters** to comply with the processing specification
  - P9 Identify **materials** being processed and their basic characteristics
  - P10 Use visual inspections, monitoring devices and test results to check and verify equipment settings
  - P11 Identify and reporting specified settings that appear to conflict with **production requirements**
  - P12 Monitor the process system to identify variances from specification and taking appropriate action to maximise efficiency and effectiveness of the system
  - P13 Test the system over a period of time to ensure consistency of performance
  - P14 Maintain the records required for keeping specifications up-to-date
  - P15 Provide **information** to those who will run, maintain or quality assure the processing system
  - P16 Deal with **problems** within your responsibility and report any you cannot deal with in accordance with company procedures

# COGPPRO29

## Unit 29: Configure and Set Processing Systems to Meet Production Requirements within Polymer Processing and Related Operations

---

### 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 documents 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 The purpose and importance of **quality assurance** checks, and when and how these should be carried out
- K13 What processing and ancillary **equipment** is required to meet production requirements
- K14 How to identify **configuration requirements** from specifications and schedules
- K15 The importance of meeting production requirements and how equipment configuration contributes to this
- K16 The importance of safety inspections and how and when these should be carried out
- K17 The significance of not identifying defects in processing equipment and the associated costs in terms of equipment repair or replacement and lost production
- K18 What tolerances apply and how to set **equipment** to meet the specified tolerance limits
- K19 The consequences of not achieving specified tolerances at each stage of the processing operation
- K20 What safety protection devices and warning notices are required and how should these be positioned
- K21 How to identify information about **equipment** settings from visual inspections, monitoring devices and test results and how you would

# COGPPRO29

## Unit 29: Configure and Set Processing Systems to Meet Production Requirements within Polymer Processing and Related Operations

---

identify deviations from the required settings from these different **sources of information**

- K22 What conditions and **processing parameters** are required to produce the product within specification
- K23 The importance of setting and adjusting processing parameters to achieve the required specifications and how to do this
- K24 The importance of integrating process and ancillary equipment and how to achieve this
- K25 The importance of following the prescribed sequence for setting processing parameters and the implications of not doing this
- K26 How specified settings may conflict with production requirements and how you would identify
- K27 What level of monitoring is required by different processing systems
- K28 What **information** to gather and when
- K29 Why it is important to gather sufficient information before reaching conclusions
- K30 How to compare **data** with expected values
- K31 What working practices and authorisations apply
- K32 What sorts of records and documentation are kept and how to complete them
- K33 The purpose of different records and the implications of not maintaining them effectively
- K34 How to deal with defective **equipment**

# COGPPRO29

## Unit 29: Configure and Set Processing Systems to Meet Production Requirements within Polymer Processing and Related Operations

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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:** those you can deal with yourself by simple adjustments to the system, those which require specialist engineering/maintenance support, 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 use of tools, hazardous materials. personal protective equipment, equipment, lifting and moving items
4. **Materials:** Identify type of material being processed and their properties. Locate and interpret information relating to materials being processed including any significant hazards or special arrangements from the material safety data sheet. Identify correct melt temperature tolerance for material being processed as recommended by the manufacturer, 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. **Configuration requirements:** the processing and ancillary equipment to be configured, the timescales and deadlines and the processing requirements and tolerances
7. **Information:** processing specification, product specification, production schedule
8. **Production requirements:** production schedule, rate of production, product specification
9. **Processing parameters:** temperature, pressure, rate, sequence
10. **Sources:** visual checks on products, reading from instruments, analysing sample test results, reading from process control logs, measuring process parameters directly, output rate

## COGPPRO29

### Unit 29: Configure and Set Processing Systems to Meet Production Requirements within Polymer Processing and Related Operations

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11. **Equipment:** for material conditioning, for material forming, for finishing operations, for packaging operations, for monitoring production
12. **Data:** visual checks on output, reading from instruments, analysing sample test results, reading from process control logs, measuring process parameters directly, output rate
13. **Quality assurance** that will be determined by: The nature of the equipment being maintained, company policy, company national or international standards
14. **Documentation:** Records, analysis sheets, report sheets, log book

## COGPPRO29

### Unit 29: Configure and Set Processing Systems to Meet Production Requirements within Polymer Processing and Related Operations

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