

COGPOLY29

Configure and set processing systems to meet production requirements



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.

This unit deals with the following:

1. Configure processing equipment
2. Set and verify processing parameters
3. Optimise the processing system

During this work you must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO YOU.

Previous Version

Adapted from Unit D1 of Polymer Processing and Related Operations NOS – version November 2004.

COGPOLY29

Configure and set processing systems to meet production requirements

Performance criteria

You must be able to:

- P1 identify the configuration requirements from available information
- P2 identify and obtain the resources required for configuring the processing equipment
- P3 check the suitability and condition of equipment to be configured and report promptly any deficiencies and defects to the appropriate person
- P4 configure the processing equipment and its energy supplies to meet production requirements
- P5 position the set points correctly and accurately to meet specified tolerance limits at each stage of the process operation
- P6 ensure safety protection devices and warnings notices are positioned to comply with organisational and legal requirements
- P7 ensure that the equipment is safe and ready for production on completion of the required safety checks
- P8 organise the immediate work environment to allow for the safe and effective use of equipment and the safe and effective movement of materials
- P9 establish the processing parameters and settings to meet production requirements
- P10 set and adjust the processing parameters in a safe and effective sequence
- P11 check and verify that processing parameters conform to processing requirements
- P12 use appropriate sources of information to check and verify equipment settings
- P13 identify any specified settings which appear to conflict with production requirements and immediately report these to a person in authority
- P14 accurately record the information required to meet organisational requirements
- P15 interpret data correctly to judge if the process is in specification and the process is running optimally
- P16 balance settings to maximise output within safety limits and without compromising quality of output
- P17 monitor the system over a period of time sufficient to verify the processing parameters
- P18 collect and analyse sufficient and appropriate data to confirm that processing output is consistently within acceptable tolerances
- P19 make appropriate adjustments to ensure that specifications are met
- P20 confirm that the processing system is operating efficiently and effectively
- P21 make sure that operational data is kept up-to-date, accurate and complete
- P22 give clear operational information to others involved in the production

COGPOLY29

Configure and set processing systems to meet production requirements

process

- P23 make realistic recommendations for changing processing specifications as appropriate
- P24 ensure that products which do not meet the specification are segregated out

COGPOLY29

Configure and set processing systems to meet production requirements

Knowledge and understanding

You need to know and understand:

- K1 what processing and ancillary equipment is required to meet production requirements
- K2 the function of different equipment and how they interact within the processing system
- K3 the dangers associated with different equipment and the safety standards and procedures that apply
- K4 how to identify configuration requirements from specifications and schedules
- K5 what equipment and tools are required for the configuration process and what safety and performance standards apply
- K6 the importance of meeting production requirements and how equipment configuration contributes to this
- K7 the importance of safety inspections and how and when these should be carried out
- K8 the significance of not identifying defects in processing equipment and the associated costs in terms of equipment repair or replacement and lost production
- K9 what tolerances apply and how to set equipment to meet the specified tolerance limits
- K10 the consequences of not achieving specified tolerances at each stage of the processing operation
- K11 what safety protection devices and warning notices are required and how should these be positioned
- K12 how to identify information about equipment settings from visual inspections, monitoring devices and test results and how you would identify deviations from the required settings from these different sources of information
- K13 what conditions and processing parameters are required to produce the product within specification
- K14 the importance of setting and adjusting processing parameters to achieve the required specifications and how to do this
- K15 the importance of integrating process and ancillary equipment and how to achieve this
- K16 the importance of following the prescribed sequence for setting processing parameters and the implications of not doing this
- K17 how specified settings may conflict with production requirements and how you would identify
- K18 what level of monitoring is required by different processing systems
- K19 what information to gather and when
- K20 why it is important to gather sufficient information before reaching conclusions

COGPOLY29

Configure and set processing systems to meet production requirements

- K21 how to compare data with expected values
- K22 what working practices and authorisations apply
- K23 what lines of communication and command should be followed in a given situation
- K24 why it is important to work within the `rules' of the organisation
- K25 what sorts of records are kept and how to complete them
- K26 the purpose of different records and the implications of not maintaining them effectively
- K27 what agreed workplace health and safety procedures relate to controlling risks to Health and Safety in the process environment
- K28 the specific organisational Health and Safety procedures covering the configuration of processing equipment
- K29 what safe working practices apply to your own job role in configuring processing equipment
- K30 what personal protective equipment should be used, how to fit and use it correctly and how to deal with defective equipment
- K31 your scope and responsibility for dealing with potential hazards in the work area
- K32 the workplace procedures for reporting potential hazards you are unable to deal with

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Additional Information

Glossary

Configuration requirements

The processing and ancillary equipment to be configured, the timescales and deadlines and the processing requirements and tolerances

Information

Processing specification, product specification, production schedule

Resources

Physical (e.g. tools, equipment, materials), human, energy

Production requirements

Production schedule, rate of production, product specification

Processing parameters

Temperature, pressure, rate, sequence

Sources

Visual checks on products, reading from instruments, analysing sample test results, reading from process control logs, measuring process parameters directly, output rate

Equipment

For material conditioning, for material forming, for finishing operations, for packaging operations, for monitoring production

Data

Visual checks on output, reading from instruments, analysing sample test results, reading from process control logs, measuring process parameters directly, output rate

Others

Process operators, quality control, personnel, maintenance and engineering

COGPOLY29

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staff, line management

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