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## Overview

This standard states the skills, knowledge and understanding required to demonstrate competence in running and controlling the plant processing materials. It includes starting, operating, monitoring, identifying faults and shutting down the plant. During this work the candidate must take account of the relevant operational requirements and safe working practices.

This standard is appropriate for any person, operative or supervisory, who is required to operate processing plant for any type of processing operation, plant or equipment, within the extractive, mineral processing or related manufacturing industries.

## MPQPO13

### Run and control the operations of processing plant

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#### Performance criteria

*You must be able to:*

- P1 confirm that the machinery and services for the **processing operations** are ready and operable to meet the requirements of the specified process
- P2 carry out prestart checks and procedures
- P3 confirm that operational safeguards are in place
- P4 start the processing plant in accordance with manufacturers' instructions and safe working practices
- P5 make adjustments to the plant, equipment or machine settings within agreed tolerances and limits of responsibility to meet the specified operational requirements
- P6 run and adjust the processing plant to meet the specified quality and quantity requirements
- P7 identify problems or faults with the plant or process and take appropriate remedial action
- P8 stop and shutdown the production process in accordance with manufacturer's instructions and safe working practices
- P9 leave the work area clean, tidy and hazard free on completion of shutdown
- P10 report according to organisational requirements
- P11 carry out work activities according to **approved policies, procedures and practices]**

## Knowledge and understanding

*You need to know and understand:*

- K1 the plant and equipment used in the **processing operations**
- K2 how and why to carry out pre-start up checks and inspections
- K3 the reasons for and methods of sequencing start-up, processing and shut down operation
- K4 the principles and practice of using safeguards to protect self, others, equipment and the surrounding environment
- K5 the precautions to take prior to and during start up procedures
- K6 your responsibilities under health and safety legislation
- K7 the meanings and use of symbols on consoles and equipment
- K8 how to identify and interpret visual displays for monitoring and controlling equipment, flow and production rates
- K9 the plant, machinery and equipment settings for the **processing operations**
- K10 processing and material specifications appropriate to the **processing operations**
- K11 the effect on plant of varying feed and flow rates
- K12 the potential reasons for stoppages and the remedial actions to be taken
- K13 how to shut down in routine and in an emergency situation
- K14 the circumstances that would require an emergency shut down
- K15 the types of, and reasons for, faults in the **processing operations**
- K16 the methods of rectifying faults in processing activities
- K17 the methods of, and reasons for, isolation and immobilisation of plant, machinery, equipment and services
- K18 the methods of reporting processing operations and problems
- K19 the limits of your personal responsibility
- K20 the **approved policies, procedures and practices** in the context of your work activity and your workplace environment

## Additional Information

### Scope/range

- 1 **processing operations:** must provide performance and knowledge evidence in relation to one or more of the following processing operations categories: Crushing/Screening/Washing; Drying; Concrete/Mortar Production; Asphalt/Coated Materials Production; Density/Fluid Separation; Chemical Separation; Forming; Heat Treatment; Sawing/Splitting/Shaping; Packaging; Water Monitoring
- 2 **approved policies, procedures and practices:** legislative, organisational, operational, emergency, health and safety, and environmental as appropriate to the plant or machinery and work activity

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**Glossary****Categories of Processing Operations for the E&MPI****1. Crushing/Screening/Washing**

The reduction in size of as extracted material by mechanical crushing equipment (fixed or mobile), grading by size and water washing of that material. This would also include blending or adding water to meet customer specification.

**2. Drying**

The application of heat in any type of oven to remove excess water from the as extracted or processed material

**3. Concrete/Mortar Production**

The production of concrete, mortar and similar materials, by batch (wet batch or dry batch) or continuous production. It is limited to the production of the material, and does not include the subsequent use of the material to make a product, for example a concrete block by casting/forming.

**4. Asphalt/Coated Materials Production**

The production of asphalt and other similar coated materials by any type of batch or continuous production

**5. Density/Fluid Separation**

Includes all processes to increase the purity and quality of the rock or minerals, or to separate different minerals utilising their differing physical properties (e.g. weight, density, shape, solubility), which may be a dry process or with the assistance of a fluid (e.g. air, water, other liquids).

**6. Chemical Separation**

The separation of rocks or minerals utilising their different chemical properties, or differing reactivity, which may involve the introduction of another chemical substance or substances to select the desired product. Note; this may often be combined with Density/fluid separation. This will also include those operations

used to release the separated mineral from the separating additive

**7. Forming**

Moulding, casting, forming, compressing or similar operations to produce a solid product of a shape to meeting customer requirements or aid transportation

**8. Heat Treatment**

The application of higher levels and duration of heat to change the physical or chemical properties of the rock or mineral, e.g.s. calcining, cement production.

**9. Sawing/Splitting/Shaping**

The use of specific plant/machinery to change the physical size and/or shape of a piece of (usually) dimensional stone to meet customer requirements

**10. Packaging**

The partial or total enclosure of the rock or mineral, which would normally be done to aid storage or transportation, or to meet customer requirements.

**11. Water Monitoring**

The extraction of a mineral from a mineral body (solid or broken) or a tip/stockpile by the use of a high pressure water jet.

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<b>Suite</b>	Processing Operations for the Extractive and Minerals Processing Industries
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