
Overview

This standard states the skills, knowledge and understanding required to demonstrate competence in the receiving, storing and handling of materials for processing operations in the extractive, minerals processing and related manufacturing industries. It covers receiving materials and placing them into intermediate storage, handling and using materials. During this work the candidate must take account of the relevant operational requirements and safe working practices.

Materials in this sense refers to both the rocks and minerals to be processed, any additive materials or any other consumables required for the processing plant to operate or to produce a processed material

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

Performance criteria

- You must be able to:*
- P1 identify **materials** as the required type and quantity to meet specifications and production schedules
 - P2 check that material handling equipment appropriate to the materials are available and operational
 - P3 carry out handling of the **materials**
 - P4 store **materials**
 - P5 rectify spillages or loss of **materials**
 - P6 take safeguards to protect yourself, others, the **processing operations**, the **materials** and the surrounding environment when handling **materials**
 - P7 check stocks, rotating, using or disposing stock as appropriate
 - P8 maintain records of **materials** according to organisational requirements
 - P9 carry out work activities according to **approved policies, procedures and practices**

Knowledge and understanding

You need to know and understand:

- K1 the types and uses of **materials** required for the **processing operations**
- K2 the methods of handling and storing **materials**
- K3 how and why to check and rotate stocks of **materials**
- K4 the methods and procedures for the identification and disposal of surplus, poor quality, waste, out of specification or out of date **materials**
- K5 the precautions to be taken when handling **materials**
- K6 your responsibilities under health and safety legislation
- K7 the hazards, risks, environmental aspects and impacts associated with the **materials** involved in the **processing operations**, and how these are controlled
- K8 emergency procedures in the event of spillage of **materials**, bodily contact, inhalation or ingestion
- K9 the types and uses of personal protective equipment associated with the work activity and **materials**
- K10 the **approved policies, procedures and practices** in the context of your operations, 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
- 3 **materials:** rocks, minerals, dusts, sands, gravels, additives, processing materials and consumables, or other materials (solid, liquid or gasses) as appropriate to the work activity

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.

MPQPO09

Receive, store and handle materials for processing

Developed by	MPQC
Version number	1
Date approved	January 2014
Indicative review date	January 2019
Validity	Current
Status	Original
Originating organisation	MPQC
Original URN	MPQPO09
Relevant occupations	Process Operatives; Process, Plant and Machine Operatives; Quarry workers and related operatives
Suite	Processing Operations for the Extractive and Minerals Processing Industries
Key words	processing; process; extractive; mineral; operations; plant; machinery; rock; minerals; safety; equipment; crushing; screening; washing; drying; asphalt; concrete; cement; lime; density; fluid; chemical; monitoring; saw; shape; shear; packing; forming; materials