



Australian Government

Department of Education, Employment and Workplace Relations

FDFSFGP2B Operate a grinding process

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This is a Specialist unit. It covers the skills and knowledge required to set up, operate, adjust and shut down processes such as grinding, rolling and breaking to reduce the particle size of grains and pulses.

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Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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Element	Performance Criteria
1 Prepare the grinding equipment and process for operation	1.1 Materials are confirmed and available to meet production requirements 1.2 Cleaning and maintenance requirements and status are identified and confirmed 1.3 Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4 Processing/operating parameters are entered as required to meet safety and production requirements 1.5 Equipment performance is checked and adjusted as required 1.6 Pre-start checks are carried out as required by workplace requirements
2 Operate and monitor the grinding process	2.1 The process is started and operated according to workplace procedures 2.2 Equipment is monitored to identify variation in operating conditions 2.3 Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4 The process is monitored to confirm that specifications are met 2.5 Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6 Workplace housekeeping standards are maintained 2.7 Workplace records are maintained according to workplace recording requirements
3 Shut down the grinding process	3.1 The appropriate shutdown procedure is identified 3.2 The process is shut down according to workplace

procedures

- 3.3 Maintenance requirements are identified and reported

Required Skills and Knowledge

Not applicable.

Evidence Guide

The assessment process must address all of the following items of evidence.

Ability to:

1. Access workplace information to identify processing requirements
2. Select, fit and use personal protective clothing and/or equipment
3. Confirm supply of necessary materials and services to the grinding process
4. Conduct pre-start checks. This may involve inspecting equipment condition to identify any signs of wear; selecting appropriate settings and/or related parameters; cancelling isolation or lockouts as required; confirming that equipment is clean and correctly configured for processing requirements; sensors and controls are correctly positioned; any scheduled maintenance has been carried out, and that all safety guards are in place and operational
5. Operate stockfeed control panel to transfer and grind product
6. Monitor and adjust the grinding process and equipment operation to achieve required outcomes. This may include monitoring control points and conducting inspections as required to confirm process remains within specification, and running adjustments to hammer mills and roller mills
7. Monitor supply and flow of materials to and from the grinding process
8. Take corrective action in response to out-of-specification results
9. Respond to and/or report equipment failure within level of responsibility
10. Locate emergency stop functions on equipment
11. Follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
12. Complete workplace records as required
13. Demonstrate batch/product changeovers
14. Sort, collect, treat, recycle or dispose of waste
15. Maintain work area to meet housekeeping standards

May include ability to:

16. Collect samples and conduct tests
17. Conduct routine maintenance
18. Clean and sanitize equipment

Knowledge of:

19. Purpose and basic principles of the grinding process. This includes a basic understanding of the characteristics of materials which can be reduced to a suitable form for stockfeed
20. Basic operating principles of equipment. This may include an operational understanding of main equipment components, bulk materials transfer systems and equipment, dust collection equipment, grinding equipment operating capacities and applications, and the purpose and location of magnets, sensors and related feedback instrumentation. It also includes knowledge of services required and action to take if services are not available
21. Basic operating principles of process control. This includes the relationship between control panels and systems and the physical equipment
22. The flow of the grinding process and the effect of product output on downstream processes
23. Quality characteristics and uses of grinding process outputs
24. Effect of the grinding process on the end product
25. Effect of raw material characteristics on grinding process performance
26. Operating requirements and parameters and corrective action required where operation is outside specified operating parameters
27. Typical equipment faults and related causes. This includes recognition of signs and symptoms of faulty equipment and early warning signs of potential problems
28. Techniques used to monitor the production process. This may include inspecting, measuring and testing as required by the process. It requires awareness of inspection or test points (control points) in the process and the related procedures and recording requirements
29. Contamination/food safety risks associated with the grinding process and related control measures
30. Common causes of variation and corrective action required
31. OHS hazards and controls including the risk of dust explosion and an understanding of the limitations of protective clothing and equipment relevant to the work process
32. Requirements of different shutdowns as appropriate to the process and workplace production requirements. This includes emergency and routine shutdowns and procedures to follow in the event of a power outage
33. Product/process changeover procedures and responsibilities
34. Isolation, lock out and tag out procedures and responsibilities
35. Procedures and responsibility for reporting production and performance information
36. Environmental issues and controls relevant to the process. This includes waste/rework collection and handling procedures related to the process

May include knowledge of:

37. Sampling and testing associated with process monitoring and control
38. Routine maintenance procedures
39. Cleaning and sanitation procedures

Relationship with other standards

Pre-requisite units

There are no pre-requisite units for this competency standard.

Co-assessment of related units

This unit should be assessed together with core units and other units of competence relevant to the function or work role. In addition, the following optional or ancillary units may be relevant:

- FDFZPRCI2A Operate a process control interface
- FDFOPTISP2A Implement sampling procedures
- PMLTEST300B Perform basic tests

FDFOPTCRM2A Conduct routine maintenance

FDFZCSCS2A Clean and sanitize equipment

Resources required for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

Personal protective clothing and equipment

Work procedures including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch/recipe instructions

Specifications, control points and processing parameters

Production schedule/batch instructions

Information on equipment capacity and operating parameters

Grinding and related equipment and services

Stock required for the grinding process

Sampling schedules and test procedures and equipment as required

Documentation and recording requirements and procedures

Cleaning procedures, materials and equipment as required

Assessment requirements

For information on how to assess this competency standard and who can assess, refer to the Assessment Guidelines for this Training Package.

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Range Statement

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The range statement indicates the context for demonstrating competence. This statement is a guide and, unless otherwise indicated, items may or may not apply as required by the work context.

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity

Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and instructions, manufacturers' advice, standard forms and reports

Equipment used in the grinding process may include conveyors/elevators, augers, magnets, fans, sieves, hammer mills, roller mills, breaker bars, and cyclones

Materials include grains and pulses. Pulses are legumes and typically include peas, beans and lentils

Operators carry out changeovers within workplace arrangements and the relevant changeover procedures should be used to customise the details of this unit. Where more detailed changeovers are carried out, also refer to FDFOPTCRM2A **Conduct routine maintenance**

Shutdown procedures may include cleaning. In some cases cleaning may be carried out by a dedicated cleaning crew

Services may need to be confirmed. These depend on the nature of the process. Typical examples include power, steam, water, vacuum, and compressed and instrumentation air

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Unit Sector(s)

Not applicable.