



Australian Government

Department of Education, Employment and Workplace Relations

FDFSUG307A Perform factory control tests

Release: 1

FDFSUG307A Perform factory control tests

Modification History

New Unit based on *SUGPFCT3A Perform factory control tests*.

Unit Descriptor

This unit describes the outcomes required to perform tests for factory control. These tests are typically complex and/or non-routine and require interpretation of results within broad guidelines.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

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

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for testing	1.1 Testing requirements and methods are identified 1.2 Calibration of test equipment is managed to maintain accurate equipment 1.3 Standard graphs are prepared 1.4 Test chemicals and reagents are prepared and labelled as required for laboratory requirements 1.5 Samples are prepared as required by test method 1.6 Pre-test checks are conducted and recorded according to workplace recording requirements
2 Conduct test	2.1 Conduct test in accordance with test method and test schedule 2.2 Identify and report atypical test results 2.3 Record and communicate test results as required 2.4 Follow procedures to repeat or validate results 2.5 Clean, care for and store equipment as required 2.6 Dispose of waste materials according to workplace procedure
3 Record test data in laboratory information system	3.1 Results are entered into laboratory information systems according to workplace procedure 3.2 Correct data entry errors 3.3 Store and retrieve data in the laboratory information system 3.4 Produce standard and non-standard reports from laboratory information system

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information such as the test regime to identify test requirements and methods
- select, fit and use personal protective clothing and/or equipment
- prepare standard graphs and standard chemicals for laboratory use
- manage calibration of test equipment
- handle chemicals safely including following correct handling and preparation procedures and use of appropriate protective clothing and equipment
- demonstrate test procedures according to test schedule and test method
- identify and report any out-of-specification results
- communicate test results to relevant personnel
- maintain stocks of laboratory chemicals and materials
- sort, collect, treat, recycle or dispose of tested materials
- record information in the laboratory information system including ability to enter and edit data, generate standard reports and store information
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose of the test procedure including a basic knowledge of chemistry and physics principles relating to the tests performed and operating principles of equipment used
- mill operations for interpreting test results including identifying implications of results for mill performance
- awareness of legislative requirements relating to cane payment tests
- terminology relating to the types of tests and related methods used
- safe work procedures including hazards associated with specific test procedures requirements such as working with chemicals and test equipment
- specific test methods/procedures
- typical causes of out-of-specification results and procedure for repeating the analysis
- methods used to plot, analyse and present test data including production of both standard and non-standard reports
- laboratory information system recording and reporting requirements that meet legislative record keeping requirements and workplace requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: • identify test requirements and methods • prepare standard graphs and standard chemicals for laboratory use • manage calibration of test equipment • handle chemicals safely • demonstrate test procedures • identify and report any out-of-specification results • communicate test results to relevant personnel • record information in the laboratory information system
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • Test equipment, chemicals and reagents and related equipment • Materials to be tested • Test methods and procedures • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Sample labelling and recording systems, requirements and procedures • Laboratory recording and reporting system
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include • Standard Operating Procedures (SOPs) • Specifications • test methods and • procedures.
Testing Equipment	Equipment is defined by test method and legislative requirements. Confirming equipment condition may include: • conducting calibration procedures. Calibration procedures are routine, documented procedures.
Factory control tests	The types of tests conducted depends on the test equipment and methods used and may include but are not limited to: • Sugar - ash, colour, dextran, filterability, reducing sugars, starch, phosphate, grist/grain size • Molasses/massecuite/syrup - true purity by dry substandard and sucrose, HPLC • Cane/bagasse - POC, pol and brix by disintegrator method, fibre by prepared cane method • Clarified juice or ESJ - phosphate, starch • Mud - fibre, insolubles • Boiler water - caustic alkalinity, phosphate, sulphate, hardness, total dissolved solids, sulphate • Effluent - sucrose, BOD, suspended solids • Caustic - concentration

	• EDTA - concentration and activity • Lime - sucrose soluble alkali
Teamwork	Work may require the ability to work within a team environment
Information systems	Information systems may be print or screen based

Unit Sector(s)

Sugar Milling