



Australian Government

FBPCON2011 Operate a chocolate tempering process

Release: 1

FBPCON2011 Operate a chocolate tempering process

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to set up, operate, adjust and shut down a chocolate tempering process.

This unit applies to individuals who work under general supervision and in a food processing environment. It typically applies to the worker responsible for applying basic operating principles to the operation and monitoring of a chocolate tempering process and associated equipment.

All work must be carried out to comply with workplace procedures, in accordance with state/territory health and safety and food safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Confectionery (CON)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work in processing area	1.1 Confirm chocolate is available to meet tempering requirements 1.2 Identify and confirm equipment has been cleaned according to work health and safety and food safety requirements 1.3 Identify safety requirements and wear appropriate personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protective clothing and equipment, ensuring correct fit
2. Prepare the tempering equipment and process for operation	2.1 Fit machine components and related attachments, and adjust to meet operating requirements 2.2 Enter processing and operating parameters to meet safety and production requirements 2.3 Carry out pre-start checks according to workplace requirements
3. Operate and monitor equipment	3.1 Start and operate the tempering process according to standard operating procedures 3.2 Monitor tempering equipment to ensure optimal operations 3.3 Conduct and interpret temper tests and make required adjustments to ensure that specifications are met 3.4 Identify, adjust and report out-of-specification equipment, product or process outcomes according to workplace requirements 3.5 Follow and apply workplace housekeeping and waste disposal procedures
4. Shut down the tempering process	4.1 Identify the appropriate shutdown procedure 4.2 Shut down the process according to safe work procedures 4.3 Identify and report maintenance requirements according to workplace requirements 4.4 Maintain workplace records according to workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	- Interpret workplace and standard operating procedures relevant to work task - Interpret tempering requirements
Writing	Complete processing records using electronic, digital and/or paper-based formats

Skill	Description
Numeracy	• Monitor and interpret production and process control indicators and data, including time/temperature and pump speed • Read gauges and scales • Monitor supply and flow of materials to and from the process

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPCON2011 Operate a chocolate tempering process	FBPOPR2052 Operate a chocolate tempering process	Unit sector code updated to better match work task Minor changes to Performance Criteria to clarify intent Foundation Skills refined Performance Evidence clarified Minor changes to Knowledge Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPCON2011 Operate a chocolate tempering process

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated a chocolate tempering process to process at least one batch of chocolate to meet specifications, including:

- monitoring control points and conducting inspections to confirm process remains within specification, including:
 - setting pump speeds
 - checking temperature/zone settings
 - checking chocolate temperatures
- taking corrective action in response to out-of-specification results
- following safe work procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and basic principles of the tempering process, including:
 - basic understanding of the crystallisation behaviour of cocoa fat
 - relationship between crystal forms and melting points/temperatures
 - process stages, including heating, cooling, agitating and reheating, and effect of each of these on outcomes
- basic operating principles of equipment for the tempering process, including:
 - main equipment components
 - temperature zones
 - status and purpose of guards
 - equipment operating capacities and applications
 - purpose and location of sensors and related feedback instrumentation

- services required for the chocolate tempering process, and action to take if services are not available
- the flow of the tempering process, and the effect of outputs on downstream processes
- quality characteristics required of chocolate for tempering, and the effect of variation on tempering process performance
- operating requirements and parameters, and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment, and early warning signs of potential problems
- methods used to monitor the tempering process, including temper test procedures and the significance of results for tempering process adjustments
- good manufacturing practices (GMP) relevant to work task
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/cross-contamination and food safety risks associated with the tempering process, and related control measures
- common causes of variation related to the chocolate tempering process, and corrective action required
- health and safety hazards and controls related to the chocolate tempering process
- requirements of different shutdowns as appropriate to the tempering process and workplace production requirements, including emergency and routine shutdowns, and procedures to follow in the event of a power outage
- isolation, lock-out and tag-out procedures and responsibilities relevant to the chocolate tempering process
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the tempering process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- cleaning and sanitation procedures for chocolate tempering equipment
- procedures to record traceability of product and ingredients.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective clothing and equipment
 - tempering equipment and related services
 - chocolate to be tempered
 - temper meter

- cleaning materials and equipment
- specifications:
 - work procedures, including advice on safe work practices, food safety, and quality requirements
 - information on equipment capacity and operating parameters
 - recipe/batch specifications, control points and processing parameters
 - documentation and recording requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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