



Australian Government

Department of Education, Employment and Workplace Relations

FDFST4033A Implement and review the production of chocolate products

Release: 2

FDFFST4033A Implement and review the production of chocolate products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for preparation and manufacture of chocolate products. This unit does not cover the manufacture of chocolate, which is covered by the unit of competency FDFFST4019A Implement and review the manufacturing of chocolate.
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Application of the Unit

Application of the unit	This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
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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 the manufacture of chocolate products	1.1 The statutory compositional requirements for the different types of chocolate products is established 1.2 The required formulation and design of chocolate products is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the manufacture of chocolate products to ensure quality standards are met	2.1 Bulk chocolate is sourced to meet the product specifications 2.2 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.3 Production system is set to operating specifications before and during production 2.4 Data requirements and collection points appropriate for food safety, quality and production standards are identified 2.5 Procedures to deal with non-conformance in relation to process and the final product are developed 2.6 Process control systems are implemented and monitored confectioneries
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of chocolate products	3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of chocolate products 3.2 Identified adjustments to inputs, process & equipment are implemented 3.3 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken and data generated for the product label 4.5 Operating procedures and the process control system are reviewed 4.6 Safe work systems for processing of chocolate products are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for processing of chocolate products

Required Skills and Knowledge

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

Required skills include:

Ability to:

- interpret market specifications for confectionery products
- carry out the production processes related to chocolate products
- monitor the output of each of the processes used in the preparation and manufacture of chocolate products
- manage production systems for preparation and manufacture of chocolate products
- check product against market specifications for chocolate products
- operate equipment and accessories used for the preparation and manufacture of chocolate products
- check product against market specifications.

Required knowledge includes:

Knowledge of:

- types of chocolate and compound chocolate and the ingredients used to manufacture each
- critical factors in the preparation and manufacture of chocolate products
- forming processes used in the manufacture of chocolate products such as enrobing, moulding (shell, one-shot, pocket, etc), hollow goods moulding ("spinning"), drop depositing and cluster depositing
- the role of tempering especially, with regard to chocolate, and its relationship to key product attributes such as shine, bloom formation, snap, hardness and shrinkage.
- the rheological properties (plastic viscosity and yield value) of liquid chocolate and their relationship to the forming process use
- the role of the major ingredients found in chocolate products
- the production system for the preparation and manufacture of chocolate products including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials
- cooling processes used for chocolate and compound chocolate identification of defects during production and of final products stages of production, CCPs and critical limits
- resource requirements for the preparation and manufacture of chocolate products
- product defects and their causes, which may arise in the preparation and manufacture of chocolate products
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

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	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to prepare and manufacture chocolate products including: implementing process control procedures and data collection; diagnosing and reporting problems; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment. Assessment must occur in a real or simulated workplace where the assessee has access to: • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
Method of assessment	The following assessment methods are suggested: • Observation of candidate carrying out product development and conducting a range of tests and procedures • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner • Case studies

EVIDENCE GUIDE	
	Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

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 according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	- legislation, regulations, Codes of practice - safety data sheets (SDSs) - enterprise and process specific occupational health and safety requirements
Chocolate products	Chocolate products include all confectionery products that include chocolate or compound chocolate in a recognisable solid form including moulded bars, blocks or shapes, moulded and enrobed filled chocolate pieces, hollow goods such as eggs or seasonal figures, and deposited items such as drops or nut clusters. Chocolate products can be consumed as is or included as a centre for further processes such as sugar panning.

Unit Sector(s)

Unit sector	Technical
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