



Australian Government

HLTDET008 Construct cast alloy removable partial denture framework

Release: 1

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Modification History

Release	Comments
Release 1	This version was released in <i>HLT Health Training Package release 3.0</i> and meets the requirements of the 2012 Standards for Training Packages. Minimal changes to the elements and performance criteria. New evidence requirements for assessment including volume and frequency requirements. Removal of pre-requisites Supersedes HLTDT509D

Application

This unit of competency describes the skills and knowledge required to construct burnout patterns for cast metal framework and to devest, trim, treat, finish and evaluate alloy structures.

This unit applies to work in dental technology.

The skills in this unit must be applied in accordance with Commonwealth and State/Territory legislation, Australian/New Zealand Standards and industry codes of practice.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

Elements define the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Prepare master model

1.1 Read and interpret the work order

1.2 Confirm the survey of model that has been carried out by the operator

1.3 Transfer design to master model

1.4 Block out undesirable undercuts

1.5 Create clasp ledges

1.6 Scribe food lines

ELEMENT	PERFORMANCE CRITERIA
Elements define the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. 1.7 Apply tissue relief 1.8 Apply saddle relief
2. Construct refractory model	2.1 Duplicate master model in refractory material to produce an accurate copy of the model 2.2 Construct sprue former as necessary 2.3 Prepare the refractory model appropriately and apply an appropriate hardener or sealant
3. Wax and invest removable partial denture framework	3.1 Transfer design outline correctly to the refractory model 3.2 Select appropriate wax and pre-formed components 3.3 Wax up patterns to the refractory cast consistent with the design 3.4 Sprue the pattern using material of the correct size and in the correct shape and position for the material being cast, and attach it to the investment former 3.5 Select appropriate investment and technique according to the alloy 3.6 Prepare investment materials in accordance with manufacturers' instructions 3.7 Treat the surface of the wax, patterns and sprues 3.8 Allow for investment setting time in accordance with manufacturer's instructions
4. Burnout and cast removable partial denture framework	4.1 Select appropriate alloy according to work order 4.2 Select burnout and preheat cycles for appropriate investment and alloy combination 4.3 Burnout wax from investment mould and hold at recommended temperature for casting 4.4 Melt alloy and cast using appropriate materials, equipment and techniques

ELEMENT**PERFORMANCE CRITERIA**

Elements define the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

5. Devest, trim, finish and evaluate alloy structures for removable partial denture

5.1 Select and apply cooling cycle

5.2 Remove the cast alloy structure from the investment without damaging the integrity of the structure

5.3 Remove oxides using an appropriate abrasive or chemical treatment

5.4 Visually examine the cast alloy structure and correctly identify any casting faults and assess the viability of the casting

5.5 Remove sprues and trim and shape the alloy structure

5.6 Treat the surface of the alloy using appropriate materials and equipment, and finish using appropriate abrasives and polishes

5.7 Position the cast on the master model and check accuracy of major connection and clasps, and adjust any metal occlusal contacts with antagonist

5.8 Decontaminate the denture framework according to infection control guidelines

5.9 Dry the denture framework, replace on model and place in a sealed container for dispatch

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No Equivalent Unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTDET008 Construct cast alloy removable partial denture framework

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Performance Evidence

The candidate must show evidence of the ability to complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the job role. There must be evidence that the candidate has:

- followed a set of sequenced written instructions and manufacturers' specifications for preparing materials used in a cast for removable alloy partial denture
- used standard precautions and safe work practices to construct 1 removable alloy framework that includes a combination of bounded and free end saddles
- critically evaluated the 1 cast for removable alloy partial denture produced to meet technical laboratory and patient requirements.

Knowledge Evidence

The candidate must be able to demonstrate essential knowledge required to effectively complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the work role. This includes knowledge of:

- Australian/New Zealand Standards, workplace health and safety (WHS) policies, Dental Board of Australia guidelines on infection control, Commonwealth and State/Territory legislation and organisation policies relating to dental laboratory work
- fundamental oral anatomy including:
 - dentition – arrangement of the teeth, naming and coding of teeth
 - structures of the oral cavity – hard and soft palate, lateral and posterior borders of the oral cavity, tongue and floor of the mouth
 - teeth form and function

- dental alloys
- heat treatment
- melting and casting
- relevant material science for carrying out procedures
- solidification
- surface finishing

Assessment Conditions

Skills must have been demonstrated in a dental laboratory workplace or in a simulated dental laboratory environment that reflects workplace laboratory conditions. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources including
- access to work order
- Dental Board of Australia guidelines on infection control on which the candidate bases the planning process
- laboratory safety manuals and procedures in line with relevant Commonwealth and State/Territory legislation
- WHS policies on which the candidate bases the planning process.

Assessors must satisfy the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory competency requirements for assessors.

Links

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