



Australian Government

MSMPMC311 Operate a firing kiln

Release: 1

MSMPMC311 Operate a firing kiln

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552030 Operate a firing kiln.

Application

This unit describes the skills and knowledge required to operate a firing kiln and ancillary equipment. It applies to both large production and smaller craft contexts.

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to prepare the firing equipment, load and stack products and monitor and adjust kiln operation. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit does not apply to forming or drying prior to firing or finishing or operation of rotary kilns.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Operations

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 the firing equipment	1.1 Determine the firing requirements from the production program 1.2 Identify and set up the kiln cars or furniture 1.3 Check kiln refractories are within specifications, including kiln cars, kiln lining and refractories at burners 1.4 Check the firing equipment is safe to use 1.5 Check for fuel feed obstructions and clear burner pathways

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Load kiln and monitor operation	2.1 Use kiln space efficiently to set or stack products to specification 2.2 Use correct stacking pattern and allow adequate spacing around each item 2.3 Monitor kiln firing to ensure temperature rise and fall rate is to specification 2.4 Monitor and record kiln car movement or kiln contents 2.5 Monitor and adjust kiln heating equipment (elements or burners) and record temperature gradient details 2.6 Monitor the kiln atmosphere 2.7 Monitor for correct operation of kiln 2.8 Move kiln car or kiln contents to the appropriate storage area 2.9 Check and record condition of products leaving the kiln
3. Rectify routine problems	3.1 Identify and rectify faults and equipment failure 3.2 Maintain records and log books of equipment operations 3.3 Identify non-routine problems and report to designated person
4. Control hazards	4.1 Identify hazards in kiln work area 4.2 Assess the risks arising from those hazards 4.3 Implement measures to control those risks

Foundation Skills

This section describes those 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

Release 1. New unit. Supersedes and is equivalent to PMC552030 Operate a firing kiln.

Links

Companion Volume Implementation Guides are available at VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMPMC311 Operate a firing kiln

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up, configured, started and operated the firing equipment according to procedures on at least 1 occasion, including:
 - recognising possible causes of the following routine problems:
 - raw material variations
 - mechanical abnormalities
 - electrical and instrument reading variations
 - process abnormalities.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of firing process
- firing tools and equipment, including:
 - functions, limitations
 - principles of operation
- composition and nature of raw materials and finished product
- importance of stacking patterns
- stages and critical transitions during the firing process
- the potential effects of variations in raw materials and process conditions in relation to quality of product and output
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- kiln area hazards and:
 - their possible causes
 - potential consequences
 - risk control procedures.
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Assessment Conditions

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

- use of suitable facilities, equipment and resources, including:
 - kiln and ancillary equipment
 - products to be fired
 - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
 - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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