

Title	Operate an asphalt paving machine		
Level	4	Credits	20

Purpose	People credited with this unit standard are able to: demonstrate knowledge of asphalt paving machines; prepare for asphalt paving operations; set up and use asphalt paving machine screed; operate level control systems on an asphalt paving machine; apply asphalt to prepared surfaces using an asphalt paving machine; carry out post-operational checks for asphalt paving work; and carry out post-operational procedures and maintenance for an asphalt paving machine.
----------------	---

Classification	Infrastructure Works > Bitumen Surfacing Construction
-----------------------	---

Available grade	Achieved
------------------------	----------

Prerequisites	Class of driver licence required for the vehicle being driven.
----------------------	--

Guidance Information

- 1 Legislation and references relevant to this unit standard include:
Health and Safety at Work Act 2015 and Health and Safety in Employment Regulations 1995, Traffic Regulations 1976;
Code of Practice for Temporary Traffic Management (CoPTTM), New Zealand Transport Agency, and
NZTA M/10 Dense Graded and Stone Mastic Asphalt, both available at <http://www.nzta.govt.nz/resources/>.
- 2 Competence for this unit standard requires that both driving and screed operation are demonstrated.
- 3 Assessment against this unit standard must take place in a workplace environment and the candidate must be familiar with the type and size of plant to be used for assessment. Assessment parameters will depend on company and site-specific equipment, procedures, and practices. Practices must reflect industry best practice and comply with legislative requirements.
- 4 Definitions
Company requirements include the policy, procedures, and methodologies of the company. They include legislative and regulatory requirements applicable to the company or a specific site. Requirements are documented in the company's health and safety plans, traffic management plans, and contract work.
Contract specifications include plans, diagrams, and special technical conditions. They do not include special administrative conditions.

Walk round means to walk around a machine or equipment inspecting it and its environment for hazards, and removing hazards that may impair operation.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of asphalt paving machines.

Performance criteria

- 1.1 Asphalt paving machines and their attachments and controls are described in terms of purpose and function, and correct operation.
- 1.2 Types and sizes of asphalt paving machine are described in terms of their capabilities and limitations, and suitability for specific infrastructure works tasks.
- 1.3 Calibration and adjustment of asphalt paving machines is described in terms of purpose, requirements, and procedures.
- 1.4 Asphalt paving machines are described in terms of their safety features and requirements for safe use.

Outcome 2

Prepare for asphalt paving operations.

Performance criteria

- 2.1 Job requirements, process, and sequence of tasks are determined and confirmed in accordance with contract specifications and company requirements.
- 2.2 Site is checked and confirmed as suitable for work to take place prior to starting work. Any required changes are made in accordance with company requirements.
- 2.3 Pre-start check of machine is carried out before starting work, and minor adjustments are made, if required, in accordance with company requirements.

Range includes but is not limited to – walk round, safety and fire equipment, tyre condition and air pressure or track tension and drive sprockets, gauges and controls (including governor on engine), hopper, conveyors, feed control gates, auger, fuels, lubricants, water levels, hydraulic fluid level, cleanliness, feeders, conveyors, augers, screed, screed heater, sensing and control equipment, wear on the screed plate, wear on tamping bar if fitted, screed attack angle.

2.4 Site management and communication requirements are identified and confirmed as being in place before commencement of work.

Range site safety plan, environmental plan, traffic management plan.

2.5 Paving machine hopper is made ready to receive mix, and feed rate controls are set in accordance with manufacturer's instructions and company requirements.

Range feed gates, mix conveyors, augers.

Outcome 3

Set up and use asphalt paving machine screed.

Performance criteria

3.1 Screed is set up, prepared for use, and heated in accordance with manufacturer's instructions and contract specifications.

Range level, thickness, width, transverse shape, transverse slope.

3.2 Mat thickness controls are set up in accordance with manufacturer's instructions and contract specifications.

Range manual controls, automatic sensors, automatic control systems.

3.3 Screed controls are set up in accordance with manufacturer's instructions and contract specifications.

3.4 Screed with different mixes is operated in accordance with contract specifications for shape and thickness.

Outcome 4

Operate level control systems on an asphalt paving machine.

Performance criteria

4.1 Level control system is set up and operated in accordance with contract specifications and company requirements.

Outcome 5

Apply asphalt to prepared surfaces using an asphalt paving machine.

Range a wearing course, an open graded porous asphalt, and a stone mastic asphalt or a structural pavement layer.

Performance criteria

- 5.1 Quality and temperature of material is monitored and visually inspected before discharge from truck to hopper in accordance with company requirements.
- 5.2 Communication with paving machine driver ensures that delivery truck is positioned for the safe and accurate discharge of hot mix into the paving machine hopper.
- 5.3 Forward speed is determined to ensure and mix delivery rate meets contract specifications.
- 5.4 Laying instructions are communicated to paving machine driver in accordance with company requirements.
- Range feed control gate settings, rate of asphalt feed, paving machine speed, auger settings and adjustments.
- 5.5 Paving run is monitored, and adjustments are made to achieve smooth application and laying of asphalt and to prevent mix segregation in accordance with job requirements.

Outcome 6

Carry out post-operational checks for asphalt paving work.

Performance criteria

- 6.1 Visual check is carried out and any required repair work to ensure paving meets contract specifications is completed in accordance with company requirements.
- Range levels, uniformity.
- 6.2 Any feedback or recommendations for improvements to the process are reported in accordance with company requirements.

Outcome 7

Carry out post-operational procedures and maintenance for an asphalt paving machine.

Performance criteria

- 7.1 Machine is emptied and cleaned down and solvent runoff is controlled in accordance with company requirements.
- 7.2 Waste materials are disposed of in accordance with company requirements.
- 7.3 Machine is moved to a safe location, parked, and secured in accordance with manufacturer's instructions and company requirements.
- 7.4 Routine servicing is carried out in accordance with company requirements.

- 7.5 Where routine servicing indicates that specialist maintenance is required, it is reported to specialist mechanic or supervisor in accordance with company requirements.
- 7.6 Operator servicing and maintenance are documented in accordance with company requirements.

Planned review date	31 December 2023
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 March 1998	31 December 2013
Revision	2	5 January 1999	31 December 2013
Review	3	27 October 2005	31 December 2013
Revision	4	25 January 2008	31 December 2013
Review	5	15 March 2012	31 December 2016
Review	6	19 February 2015	31 December 2021
Review	7	27 September 2018	N/A

Consent and Moderation Requirements (CMR) reference	0101
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the Infrastructure ITO qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.