

Title	Perform complex industry calculations for roadmarking application		
Level	4	Credits	10

Purpose	<p>This unit standard is designed for operators of a roadmarking application plant.</p> <p>People credited with this unit standard are able to: calculate projected usage of resources for the purpose of job planning; perform complex industry calculations for roadmarking application; and record actual resource usage.</p>
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Classification	Infrastructure Works > Roadmarking
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with relevant industry requirements.
- 2 Legislation and standards relevant to this unit standard include:
 - Hazardous Substances and New Organisms Act 1996;
 - Health and Safety at Work Act 2015;
 - Health and Safety at Work (Hazardous Substances) Regulations 2017;
 - Resource Management Act 1991;
 - Traffic Regulations 1976; available from www.legislation.govt.nz/;
 - NZS 3910:2013: *Conditions of contract for building and civil engineering construction*;
 - NZS 3915:2005: *Conditions of contract for building and civil engineering construction (where no person is appointed to act as engineer to the contract)*; www.standards.co.nz/;
 - Quality Standard TQS1 and TQS2; available from www.nzta.govt.nz/resources/index.html;
 - and all subsequent amendments and replacements.
- 3 Definitions

Complex industry calculations are specific and precise calculations performed to a high level of accuracy, which are traceable, justifiable, and accountable within industry requirements and may be used in company accounts and quality assurance systems.

Industry requirements refer to relevant policies, processes, methodologies, industry codes of practice, site specific health and safety plans, standard operating procedures, site safety plans, quality plans, scope of works, work plans, traffic management plans, contract work programmes, job safety analysis, safe work method statements, job instructions, manufacturer's requirements, contract specifications, manuals, procedural documents, Waka Kotahi New Zealand Transport Agency specifications and guidelines.

Outcomes and performance criteria

Outcome 1

Calculate projected usage of resources for the purpose of job planning.

Performance criteria

- 1.1 Projected material usage is calculated in accordance with contract specifications and material compliance certificate.
- Range materials may include but are not limited to – paint, beads, raised pavement markers (RPMs), adhesives, thermoplastics, cold applied plastic; evidence of calculations for three materials is required.
- 1.2 Projected operation times are calculated.
- Range multiple jobs in one day, job variations, method selection, traffic control.
- 1.3 Projected fuel consumption is calculated in accordance with the vehicle being used and the work to be done.

Outcome 2

Perform complex industry calculations for roadmarking application.

Performance criteria

- 2.1 Site dimensions are calculated from site plan.
- 2.2 Roadmarking material usage is calculated.
- Range may include but is not limited to – dipstick, flowmeter, gauges, weighing scales, calibration kit as relevant to the material being measured; evidence of two calculations is required.
- 2.3 Application rates are calculated in accordance with contract specifications.
- Range may include but is not limited to – wet and dry film thickness gauge, plate testing, paint consumption, bead consumption; evidence of two calculations is required.

2.4 Adjustments to application rates are calculated.

Range may include but is not limited to – wet and dry film thickness gauge, plate testing, paint consumption, bead consumption; evidence of two adjustments is required.

Outcome 3

Record actual resource usage.

Performance criteria

3.1 Material usage is recorded.

3.2 Application rates are recorded.

3.3 Travel and job times are recorded.

Replacement information	This unit standard and unit standard 21426 replaced unit standard 15927.
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Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 September 2005	31 December 2018
Review	2	20 April 2017	31 December 2023
Review	3	30 September 2021	N/A

Consent and Moderation Requirements (CMR) reference	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.