

Title	Describe asphalt tests in a civil engineering laboratory		
Level	4	Credits	20

Purpose	People credited with this unit standard are able to describe, in a civil engineering laboratory: asphalt test methods; and the reporting requirements, meaning, and applicability of asphalt test results.
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Classification	Infrastructure Civil Engineering > Infrastructure Laboratory
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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 applicable legislative and organisational requirements.
- 2 Applicable legislation, regulations, rules, standards, and codes include but are not limited to: Health and Safety at Work Act 2015, Hazardous Substances and New Organisms Act 1996, and their associated regulations and subsequent amendments; ISO/IEC 17025:2018 *General requirements for the competence of testing and calibration laboratories*, available from <https://www.iso.org/store.html>; AS/NZS 2891: 2014-2015 *Methods of sampling and testing asphalt*, available from <https://standards.govt.nz>.
- 3 Evidence is required for two asphalt tests used in a civil engineering laboratory from each of the following categories:
 Asphalt design tests including but not limited to – specific gravity and density, maximum specific gravity, specimen compaction, tensile strength ratio, Cantabro, fatigue, wheel tracking, resilient modulus.
 Asphalt manufacture tests including but not limited to – binder content, grading, maximum specific gravity, air voids.
 Asphalt construction tests including but not limited to – pavement density (cores and nuclear density meter), NAASRA (ride), permeability, texture.
 Samples may include but are not limited to – prepared materials and test materials such as standards and reagents.
- 4 Definitions
Describe refers to stating the individual components of the test sequentially in terms of the relevant test method and organisational requirements. Components will vary between the tests and include but are not limited to – the sample specifications, equipment requirements, environmental requirements, units of measurement, purpose and scope of the test. *Describe* does not include the explanation of results, the interaction between tests or their scientific basis.

Organisational requirements refer to instructions to staff on policy and procedures which are formally documented or generally accepted at the worksite. This may include legislation; industry standards and methods; national and international standards and methods; standard operating procedures; specifications; manuals; and manufacturer's information.

Outcomes and performance criteria

Outcome 1

Describe asphalt test methods in a civil engineering laboratory.

Performance criteria

- 1.1 The test method is described in terms of scope, sample requirements, processes involved and results.

Range may include but is not limited to – equipment, apparatus calibration, environment.

- 1.2 The factors that influence the outcomes of the test are described.

Range may include but is not limited to – temperature, humidity, environment, condition of sample, size of sample.

- 1.3 The quality assurance of the test is described.

Range may include but is not limited to – test method, recording requirements, checking.

Outcome 2

Describe the reporting requirements, meaning, and applicability of asphalt test results in a civil engineering laboratory.

Performance criteria

- 2.1 The reporting requirements for test results are described.

Range may include but is not limited to – equipment, apparatus, samples, technique, calibration, environment, rounding, remarks.

- 2.2 The meaning and applicability of test results are described.

Range may include but is not limited to – uncertainty of measurement, specification reliability, limitations.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 January 2011	31 December 2016
Review	2	19 February 2015	31 December 2021
Review	3	23 January 2020	31 December 2021
Review	4	22 October 2020	N/A
Rollover and Revision	5	24 October 2024	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 Waihangā Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangāAraRau.nz if you wish to suggest changes to the content of this unit standard.