

Title	Perform bitumen or modified bitumen tests in a civil engineering laboratory		
Level	4	Credits	15

Purpose	People credited with this unit standard are able to perform bitumen or modified bitumen tests in a civil engineering laboratory.
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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 organisational and legislative 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>; NZTA M01: 2022 *Specification for Bitumen*, available from <http://www.nzta.govt.nz>, NZTA M01-A: 2022 *Specification for Performance-Graded Asphalt Binder*, available from <https://www.nzta.govt.nz>.
- 3 Evidence is required for four bitumen or modified bitumen tests used in a civil engineering laboratory, which may include but are not limited to – penetration, softening point, kinematic viscosity, dynamic viscosity, solubility, flash point (Cleveland open cup), rolling thin film, rheology (dynamic shear), flexural creep (bending beam rheometer), pressure ageing, ductility.
- 4 Definitions
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.
Perform refers to completing the individual components of the test sequentially in terms of the relevant test method and organisational requirements. Components will vary between tests and include but are not limited to – the completion of tasks from sample and equipment preparation to the calculation and reporting of results.
Perform does not include the evaluation or the troubleshooting of tests.

Samples may include but are not limited to – prepared materials and test materials such as standards and reagents.

- 5 It is recommended people achieve Unit 26673, *Describe bitumen or modified bitumen tests in a civil engineering laboratory*, or demonstrate equivalent knowledge and skills, before being assessed against this unit standard.

Outcomes and performance criteria

Outcome 1

Perform bitumen or modified bitumen tests in a civil engineering laboratory.

Performance criteria

- 1.1 Samples and equipment are prepared.
- 1.2 Test is performed.
- 1.3 Test measurements are checked to be within precision requirements.
- 1.4 Test equipment is maintained and stored.
- 1.5 Results are recorded, and calculations are performed.
- 1.6 Results are reported.

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	N/A
Rollover and Revision	4	24 October 2024	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 Waihangara Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangaraAraRau.nz if you wish to suggest changes to the content of this unit standard.