Title	**Describe bitumen emulsion tests in a civil engineering laboratory**		
Level	**4**	**Credits**	**10**

Purpose	People credited with this unit standard are able to describe, in a civil engineering laboratory: bitumen emulsion test methods; and the reporting requirements, meaning, and applicability of bitumen emulsion test results.

Classification	Infrastructure Civil Engineering > Infrastructure Laboratory

Available grade	Achieved

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.

3 Evidence is required for four bitumen emulsion tests used in a civil engineering laboratory, which may include but are not limited to – viscosity, sieve, binder content, pH, particle distribution.

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

Outcomes and performance criteria

Outcome 1

Describe bitumen emulsion test methods in a civil engineering laboratory.

Performance criteria

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

Range may include but is not limited to – equipment, apparatus, samples, technique, 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 bitumen emulsion 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

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

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

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangaAraRau.nz if you wish to suggest changes to the content of this unit standard.