

Title	Demonstrate basic knowledge of safety relating to bituminous materials and associated products		
Level	2	Credits	5

Purpose	<p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – describe bituminous materials and associated products; – demonstrate basic knowledge of health and safety hazards and adverse effects on the environment associated with bituminous materials and describe requirements for their control; – demonstrate basic knowledge of bitumen fires and bitumen-related fires and their control; and – demonstrate knowledge of first aid relating to hot bituminous materials and associated products.
----------------	--

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

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

Guidance Information

- 1 Learning and assessment within this unit standard must be carried out in an infrastructure works environment in accordance with industry requirements, the following legislation, guidelines, as relevant to their role, and any subsequent amendments or replacements:
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991, available from www.legislation.govt.nz;
 - Best Practice Guideline: Safe Handling of Bituminous Materials Used for Roothing (BPG01), available from BPG01 | Civil Contractors NZ;
 - The Bitumen Safety Handbook, available from <https://civilcontractors.co.nz/>.
- 2 Assessment for this unit standard may be based on evidence from workplace and/or provider contexts. This unit standard may be considered relevant to, and supportive of Unit 20449, *Demonstrate knowledge of the dangers of handling bituminous materials and the need for safety*, which covers more detailed knowledge for people who are required to handle or to work with hot bituminous materials.
- 3 Definitions

Associated products refer to kerosene, diesel, and chemical additives.

Bitumen Safety Handbook refers to the handbook based on BPG01.

Bituminous materials refer to bituminous liquids and materials containing bitumen, that are applied to pavement surfaces including hot cutback bitumen, hot polymer modified, emulsified bitumen, hot binders, emulsified binders, straight bitumen.

Burns Card refers to the bitumen Burns Card in the Bitumen Safety Handbook and the Code of Practice.

Industry requirements include the policy, procedures, and methodologies of the company. They include legislative and regulatory requirements that may apply across the company or to a specific site. Requirements are documented in the company health and safety plans, traffic management plans, contract work programmes, quality plans, policies, and procedural documents.

Safety Data Sheets (SDS) refer to information that includes hazard and reporting procedures, protection of workers and the public, environmental management, and emergency response procedures.

Outcomes and performance criteria

Outcome 1

Describe bituminous materials and associated products.

Performance criteria

- 1.1 The basic properties of bitumen are identified and described in accordance with the Bitumen Safety Handbook.
- 1.2 Bitumen is described in terms of its use in pavement surfacing.
- 1.3 Associated products commonly used with bitumen are described in accordance with the Bitumen Safety Handbook.

Outcome 2

Demonstrate basic knowledge of health and safety hazards and adverse effects on the environment associated with bituminous materials and describe requirements for their control.

Performance criteria

- 2.1 SDS are described in terms of purpose, content, and employer obligations.
- 2.2 Health hazards are identified and the procedures and equipment for controlling them are described in accordance with the Bitumen Safety Handbook.
- 2.3 Safety hazards are identified and the procedures and equipment for controlling them are described in accordance with the Bitumen Safety Handbook.

Range hazards include – burns, fire, flammable vapour explosion, water contamination, explosion, spillage, impact of cutbacks.

2.4 Hazard control procedures for personal and public safety are described in accordance with the Bitumen Safety Handbook.

Range procedures include – exclusion from work area, traffic safety, emergencies;
personal safety includes – protective clothing, protective equipment, skin protection, cleanliness.

2.5 Adverse effects on the environment are stated and the procedures and equipment for controlling them are described in accordance with the Bitumen Safety Handbook.

Range procedures include – storage, transport, handling, housekeeping, removal and disposal of spillage, removal and disposal of surplus material, protection of waterways, protection of drainage systems.

2.6 Monitoring of health, safety, and adverse effects on the environment is described.

Outcome 3

Demonstrate basic knowledge of bitumen fires and bitumen-related fires and their control.

Performance criteria

3.1 Fire and health dangers related to the properties and quantity of bitumen and associated products are described in accordance with the Bitumen Safety Handbook.

Range dangers include – smoke, vapour;
properties include – mobility, flammability, self-ignition, toxicity.

3.2 Safety precautions to prevent bitumen fires and bitumen-related fires are described in accordance with the Bitumen Safety Handbook.

3.3 Emergency procedures for bitumen fires and bitumen-related fires are described in accordance with the Bitumen Safety Handbook.

3.4 Fire extinguishers used for bitumen fires and bitumen-related fires are described in accordance with the Bitumen Safety Handbook.

3.5 Procedures for fighting small bitumen fires and small bitumen-related fires are described in accordance with the Bitumen Safety Handbook.

Outcome 4

Demonstrate knowledge of first aid relating to hot bituminous materials and associated products.

Performance criteria

- 4.1 First aid equipment requirements and availability on mobile plant are described in accordance with the Bitumen Safety Handbook.
- Range equipment includes – SDS, burns card, water container, first aid kit, safety showers, eye washer.
- 4.2 Immediate first aid treatment of hot bitumen burns and chemical burns from associated products are described in accordance with the Burns Card and the Bitumen Safety Handbook.
- 4.3 Procedures for transporting and transferring a patient into medical care are described in accordance with the Burns Card.
- 4.4 First aid for inhalation of bitumen and associated products is described in accordance with the Bitumen Safety Handbook.

Planned review date	31 December 2028
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 October 2005	31 December 2013
Review	2	15 March 2012	31 December 2019
Review	3	30 August 2018	31 December 2026
Review	4	29 June 2023	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 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.