

	Unit ID: 1021
Domain	ROAD CONSTRUCTION AND MAINTENANCE – BITUMEN SEAL OPERATIONS
Title:	Assist in applying a bituminous seal
Level: 2	Credits: 15

Purpose

This unit standard is intended for those who work in road construction and maintenance operations. People holding credit for this unit standard are able to: Plan and prepare for work; demonstrate knowledge of bituminous seal surfacing operation; prepare a road surface to receive a bituminous seal; assist in applying a bituminous seal, complete a bituminous seal operation; and clean up work area.

Special Notes

1. Entry information:

Prerequisite

- Unit ID 712 - *Comply with health, safety and environmental rules and regulations in road construction and maintenance work operations*

2. Quality in this unit standard means adherence to contract requirements and workplace instructions.
3. Expected worksite production target are to be met.
4. Assessment evidence may be collected from a real workplace, a simulated workplace or an appropriately simulated environment in which road construction and maintenance operations are carried out.
5. Safe working practices include but are not limited to day-to-day observation of safety policies and procedures and compliance with workplace procedures.
6. Performance of all elements in this unit standard must comply with all relevant legal and workplace requirements, contractual agreement and/or manufacturers' specifications.
7. Regulations and legislation relevant to this unit standard include but are not limited to the following:
 - Labour Act, No. 11 of 2007 as amended
 - Occupational Health and Safety Regulations No. 18, 1997
 - Road Traffic and Transport Regulations No. 52, 1999 and Government Notice No 53 Road Traffic and Transport Regulations
 - Road Ordinance 1972 and other relevant legislations and all subsequent amendments.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the

Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Range

Plans refer to construction plans, which include surface preparation and repairs, application of materials, and environmental issues.

Specifications include seal design and layer thickness and compaction requirements.

Preparations include brooming, cleaning and application of prime or tack coat.

Activities include type and quantities of materials, tools and equipment, plant, personnel, the work sequence, time frame and handling arrangements to maintain productive workflow and to assure the quality and minimize waste.

Materials include bitumen products, additives and aggregates.

Performance Criteria

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, explained, clarified and applied to the allocated task.
- 1.2 Safety requirements including personal protective clothing and equipment, are obtained from the site safety plan, workplace policies and procedures, and applied to the allocated task.
- 1.3 Traffic control requirements are identified from the project traffic management plan and implemented.
- 1.4 Plant, tools, fuel, lubricants, equipment, attachments and accessories selected to carry out tasks are checked for consistency with the requirements of the job, their usability and any faults rectified or reported prior to commencement of work.
- 1.5 Environmental protection requirements are identified from the project environmental management plan and applied to the allocated task.
- 1.6 Work activities are clarified with the team supervisor.
- 1.7 Work area is checked for hazards including the absence of signs and traffic control. All hazards are identified and reported in accordance to workplace procedures.

Element 2: Demonstrate knowledge of bituminous seal surfacing operation

Performance Criteria

- 2.1 The technology of bituminous seal surfacing is explained.
- 2.2 The need for timely re-sealing of existing and newly constructed roads is explained.
- 2.3 The difference between this technology and slurry seal technology is explained.

Element 3: Prepare a road surface to receive a bituminous seal

Performance Criteria

- 3.1 The existing layer is prepared to receive the seal as per specifications.
- 3.2 Work area is checked for hazards. All hazards are identified and reported in accordance to workplace procedures.
- 3.3 Personal protective equipment is fitted and worn in accordance to instructions and specifications.
- 3.4 Signs are erected and the worksite is secured in accordance to instructions and specification.
- 3.5 Prime or tack coat is applied in accordance with road surface and specifications.
- 3.6 Work is carried out according to work place safety requirements.

Element 4: Assist in applying a bituminous seal

Range

Seals include single seal and double seal, on newly constructed pavement layers and overlays to existing surfaced roads.

Rolling includes the use of pedestrian rollers and ride on rollers. Rollers include steel drum and pneumatic type.

Performance Criteria

- 4.1 Work is carried out according to work place safety requirements.
- 4.2 Joints between sections and lanes are cleaned and adhere to all design specifications in accordance with given instructions.
- 4.3 Final brooming of the stone chips is carried out according to specifications.
- 4.4 The work task is completed in industry acceptable time frames.
- 4.5 Work is carried out in accordance with workplace and legislative safety requirements.

Element 5: Complete a bituminous seal operation

Performance Criteria

- 5.1 Work is carried out in accordance with work place safety requirements.
- 5.2 Tools and equipment are used in accordance with their design.
- 5.3 The edges are cut in accordance with contract requirements.

Element 6: Clean up work area

Performance Criteria

- 6.1 Work area is cleared and materials disposed of or recycled in accordance with project environment management plan.
- 6.2 Safety barricades are uplifted and temporary traffic control signs are removed in a safe manner.
- 6.3 Tools and equipments are cleaned, checked, maintained, serviced and stored in accordance with manufacturers' recommendations and standard work practices.
- 1.4 Unused materials are safely stored and stacked for future use.

Registration Data

Subfield:	Road Construction and Maintenance
Date first registered:	
Date this version registered:	
Anticipated review:	
Body responsible for review:	Namibia Training Authority