

Domain	ROAD CONSTRUCTION AND MAINTENANCE – BITUMEN SEAL OPERATIONS	Unit ID: 829
Title:	Apply bituminous seal	
Level: 3		Credits: 10

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; apply a bituminous seal, complete a bituminous seal operation; complete work related documents; and clean up work area.

Special Notes

1. Entry information:

Prerequisite

- Unit ID 719 – *Demonstrate knowledge of occupational health, safety and environmental requirements pertaining to 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, worksite control, environmental issues, public safety, and access, and work plans for one-day operations only.

Specifications include seal design and layer thickness and compaction requirements.

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 corrective action taken in accordance to workplace procedures.

Element 2: Apply 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

- 2.1 Work is carried out according to work place safety requirements.
- 2.2 The existing layer is marked out in accordance with contract requirements.
- 2.3 The first bitumen spray is applied in accordance with instructions and specifications.
- 2.4 Chips are spread evenly, and back and/or over chipping are controlled according to specific spread rates in the specifications.
- 2.5 Second bitumen spray is applied in accordance with instructions and specifications.
- 2.6 The joints between sections and lanes are controlled in accordance with all design specifications and given instructions.
- 2.7 Rolling of stone chips is controlled to comply with the requirements of the specifications.
- 2.8 Final brooming of the stone chips is controlled according to specifications.
- 2.9 The work task is completed in industry acceptable time frames.
- 2.10 Work is carried out in accordance with workplace and legislative safety requirements.

Element 3: Complete a bituminous seal operation

Performance Criteria

- 3.1 Work is carried out in accordance with work place safety requirements.
- 3.2 Tools and equipment are used in accordance with their design.
- 3.3 The cutting of edges is controlled in accordance with contract requirements.
- 3.4 Work is measured and recorded as far as production output is concern as per company procedure.

Element 4: Complete work related documents

Performance Criteria

- 4.1 Work related documents are completed in accordance with contract and workplace requirements.

- 4.2 Maintenance and service related documents are completed in accordance with manufacturer and workplace requirements.
- 4.3 Documents related to accidents or other incidents are completed in accordance with workplace requirements.

Element 5: Clean up work area

Performance Criteria

- 5.1 Work area is cleared and materials disposed of or recycled in accordance with project environment management plan.
- 5.2 The safe and correct removal of safety barricades and temporary traffic control signs are controlled.

Registration Data

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