

	Unit ID: 836
Domain	ROAD CONSTRUCTION AND MAINTENANCE – MACHINE OPERATIONS
Title:	Carry out road construction and maintenance activities using a bitumen distributor truck
Level: 3	Credits: 18

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; perform maintenance and authorised service operations on the bitumen distributor truck; start and shut down bitumen distributor truck; fill and haul bitumen; apply bitumen; maintain bitumen application equipment; complete work related documents; and clean up work area.

Being credited with this unit standard does not enable a person to drive the vehicle on an open, public road. In order to do so, a person must be in possession of a valid and current driving licence relevant to this vehicle type.

Special Notes

1. Entry information:
 - Prerequisite
 - Unit 712 - *Comply with health, safety and environmental rules and regulations in road construction and maintenance work operations*
2. Expected worksite production target are to be met.
3. 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.
4. Equipment, tools and materials may include but are not limited to water distributor truck machine guidance system, fuel and specified oil and lubricants, construction water and accessory tools.
5. Bitumen in this unit standard may include but are not limited to various bitumen grades, cut back bitumen, bitumen emulsions (anionic and cationic) and modified bitumen emulsion. Evidence is required for only one type of bitumen.
6. Bitumen distributor truck is a purpose build vehicle.
7. Maintenance may include but is not limited to cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance and repair activities.
8. Safe working practices include but are not limited to day-to-day observation of safety policies and procedures, and compliance with emergency procedures.

9. Performance of all elements in this unit standard must comply with all relevant legal and workplace requirements, contractual agreement and/or manufacturers' specifications.
10. Regulations and legislation relevant to this unit standard may include but are not limited to the following:
 - Labour Act, No. 11 of 2007
 - 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 on www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

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 and workplace policies and procedures, and applied to the allocated task.
- 1.3 Traffic control requirements are obtained and implemented in line with workplace requirements.
- 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.

Element 2: Perform maintenance and authorised service operations on the bitumen distributor truck

Performance Criteria

- 2.1 Bitumen distributor truck is maintained and serviced in accordance with the workplace requirements and manufacturer's procedures.

Element 3: Start and shut down bitumen distributor truck

Performance Criteria

- 3.1 Pre-operational checks are carried out according to appropriate checklist and workplace procedures.
- 3.2 Daily and weekly operator maintenance is performed according to appropriate checklist and workplace procedures.
- 3.3 Start-up and shutdown procedures are followed according to manufacturer's specifications.
- 3.4 Operating hours are recorded, if required, in accordance with workplace requirements.
- 3.5 Bitumen distributor truck maintenance and faults are reported in accordance with workplace requirements.

Element 4: Fill and haul bitumen

Performance Criteria

- 4.1 The suitability of the truck to be filled with specified bitumen material is verified in line with workplace requirements.
- 4.2 Filling is checked as been in accordance with work instructions and manufacturers' specifications.
- 4.3 Heating is undertaken in accordance with work instructions and manufacturers' specifications.
- 4.4 Blending is undertaken in accordance with work instructions and manufacturers' specifications.
- 4.5 Bitumen is transported in accordance with contractual requirements, set standards and manufacturers' specifications.
- 4.6 Safe working procedures are followed according to manufacturers' specifications, site specific and statutory requirements.
- 4.7 Bitumen distributor truck performance is monitored and corrective action is taken when necessary, in accordance with manufacturers' specifications.
- 4.8 Bitumen distributor truck is operated without risk of damage or loss to machine or property, third party or injury to people.
- 4.9 Hazards specific to operating bitumen distributor truck and ways to minimise these are explained in terms of potential damage to bitumen distributor truck and property, third party and injury to people.

Element 5: Apply bitumen

Performance Criteria

- 5.1 Controls are set appropriate to the number of nozzles selected (for width of spray run), the application rate required, the pump speed and road speed required to achieve that application rate.
- 5.2 Bitumen is applied in accordance with the contractual requirements, set standards and manufacturers' specifications.
- 5.3 The performance of spray control is monitored in accordance with the target application rate, and the achieved performance is recorded in accordance with company procedures and quality assurance requirements.
- 5.4 Safe working procedures are followed according to manufacturers' specifications, site specific and statutory requirements.
- 5.5 Bitumen distributor truck performance is monitored and corrective action is taken when necessary, in accordance with manufacturers' specifications.
- 5.6 Bitumen distributor truck is operated without risk of damage or loss to machine or property, third party or injury to people.
- 5.7 Hazards specific to operating bitumen distributor truck and ways to minimise these are explained in terms of potential damage to bitumen distributor truck and property, third party and injury to people.

Element 6: Maintain bitumen application equipment

Performance Criteria

- 6.1 The bitumen application equipment is checked for maintenance requirements and minor adjustments are made in accordance with manufacturers' instructions and specialist maintenance requirements are reported in accordance with workplace procedures.
- 6.2 Application equipment is cleaned in accordance with manufacturers' instructions and project environmental plan.
- 6.3 Application equipment is emptied, flushed, and decontaminated in accordance with the operating manual and project environmental plan.

Element 7: Complete work related documents

Performance Criteria

- 7.1 Work related documents are completed in accordance with contract and workplace requirements.
- 7.2 Maintenance and service related documents are completed in accordance with manufacturer and workplace requirements.
- 7.3 Documents related to accidents or other incidents are completed in accordance with workplace requirements.

Element 8: Clean up work area

Performance Criteria

- 8.1 Work area is cleared and materials disposed of or recycled in accordance with project environment management plan.
- 8.2 Truck, tools and equipments are cleaned, checked, maintained, serviced and stored in accordance with manufacturers' recommendations and standard work practices.
- 8.3 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