

<b>Domain</b>	<b>PLUMBING</b>	<b>Unit ID: 459</b>
<b>Title:</b>	<b>Plan and install water fire fighting system</b>	
<b>Level: 4</b>		<b>Credits: 6</b>

### Purpose

This unit standard specifies the competencies required to install water fire fighting system. It includes planning and preparing for work, identifying water fire fighting installation requirements, installing fire fighting systems and cleaning up the work area.

This unit standard is intended for those who work as plumbers.

### Special Notes

1. Entry information:

#### Prerequisites

- 434 - *Apply safety rules and regulations in plumbing operations or demonstrated equivalent knowledge and skills.*

2. To demonstrate competence, at a minimum, evidence is required of identifying four (4) fire fighting installation requirements, installing pipework and sprinkler system and testing the fire system in line with building plans and specifications.
3. Assessment evidence may be collected from a real workplace or simulated real workplace or an appropriate simulated realistic environment in which plumbing operations are carried out.
4. Machine processes are to include, but are not limited to, marking out, levelling, cutting, filing, deburring, drilling, forming, bending, fastening and tightening.
5. Power tools and machines are to include, but are not limited to thread cutting machine, guillotine machines, arc miller, folding machine, pipe bender, grinders, drilling machines, compressors, power saws and power drills.
6. Performance of all elements in this unit standard must comply with all relevant workplace requirements and/or manufacturers' specifications.
7. Regulations and legislation relevant to this unit standard include the following:
  - Labour Act, No. 6, 1992
  - Occupational Health and Safety Regulations No. 18, 1997
 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](http://www.nta.com.na).

## **Elements and Performance Criteria**

### **Element 1: Design installation of water fire fighting system**

#### **Performance Criteria**

- 1.1 Building plans and work specifications are designed.
- 1.2 Health and safety requirements associated with installation of fire fighting systems and workplace are adhered to throughout the work.
- 1.3 Fire fighting design requirements are determined from client.
- 1.4 Size of piping is calculated in accordance with standards.
- 1.5 Set out of piping is conducted in accordance with design drawings and workplace requirements.
- 1.6 Quality and types of materials which conform to appropriate standards are estimated from design drawings.

### **Element 2: Mount water fire fighting system**

#### **Range**

Fire fighting system may include but not limited to sprinkler systems, hose and reel and their accessories.

#### **Performance Criteria**

- 2.1 Water supply needs are established and graphs drawn for the automatic fire sprinkler system.
- 2.2 Pipework is sized to manufacturers' specifications and standards using hydraulic calculations.
- 2.3 Sprinkler heads are selected for size, spray, pattern, temperature and finish.
- 2.4 Sprinklers are spaced in accordance with manufacturers' specifications, standards and relevant regulations.

- 2.5 Pipe system is installed and joined in accordance with job specifications and manufacturers' recommendations.
- 2.6 Operation of system is tested in accordance with job specifications and manufacturers' recommendations.
- 2.7 System is commissioned to ensure correct operation in accordance with standards and job specifications.

**Element 3: Clean up work area**

**Performance Criteria**

- 3.1 Work is completed and appropriate personnel notified in line with workplace procedures.
- 3.2 Work area is cleared of waste, cleaned, restored and secured in line with workplace procedures.
- 3.3 Plant, tools and machines are cleaned, checked and maintained in line with workplace procedures.
- 3.4 Work completion details are finalised in line with workplace procedures.

**Registration Data**

<b>Subfield:</b>	General Construction
<b>Date first registered:</b>	15 November 2007
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<b>Body responsible for review:</b>	Namibia Training Authority