

MAINTAIN PLUMBING SYSTEMS

UNIT CODE: CON/OS/PL/CR/04/3/A

Unit Description

This unit specifies the competencies required to maintain plumbing systems. It involves trouble shooting plumbing systems faults, quantifying requirements for repair, fixing plumbing system faults, and testing functionality of plumbing systems. It applies in the construction industry.

ELEMENTS AND PERFORMANCE CRITERIA

Element These describe the key outcomes which make up workplace function	Performance Criteria These are assessable statements which specify the required level of performance for each of the elements <i>Bold and italicized terms are elaborated in the Range</i>
1. Troubleshoot plumbing systems faults	1.1 History of the plumbing faults in taken as per workplace policy. 1.2 Possible causes of the plumbing faults are listed. 1.3 Most likely cause of the plumbing fault is identified by elimination. 1.4 Solution for the fault is identified based on best practice.
2. Quantify requirements for repair	2. 1 Materials required for plumbing fault repair are identified based on requirements of the job. 2. 2 Supplies required for plumbing fault repair are identified based on requirements of the job. 2. 3 Appliances that need replacement are identified based on the requirements of the job. 2. 4 Tools and equipment are identified based on job requirements.
3. Fix plumbing system faults	3.1 Notice for maintenance operation are issued as per standard Operating procedure. 3.2 Fluid flow is stopped as per standard operating procedure. 3.3 Tools and equipment are used as per manufacturer's instructions.

	<p>3.4 Faulty area is dis-assembled as per standard operating procedure.</p> <p>3.5 Fault is repaired based on building's pre-existing standards</p> <p>3.6 Work area is cleared as per standard operating procedure or best practice.</p> <p>3.7 Personal Protective Equipment is used in line with occupational safety and health regulations.</p>
4. Test functionality of Plumbing system	<p>4.1 Fluid flow is reinstated as per the design.</p> <p>4.2 Functionality of the plumbing system is tested based on expected outcome.</p> <p>4.3 Repair work area is returned to initial condition as per workplace policy.</p>

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variables	Range
Materials may include but not limited to:	<ul style="list-style-type: none"> • Screws • Adhesives • Cement • Sand • Pipes • Traps • Electric cables • Cloaking material • fittings
Appliances may include but not limited to:	<ul style="list-style-type: none"> • Wash hand basin • Water closet • Bath tub • Urinal • Bidet • Kitchen sink • Jacuzzi • Shower head

	<ul style="list-style-type: none"> • Solar water heaters • Rain water harvester • Strainers • Storage systems • Pumping systems • Instant Showers • Water Filters •
Personal Protective Equipment (PPE) may include but not limited to:	<ul style="list-style-type: none"> • Hardhat • Gloves • Dustcoat/overall • Dust mask • Safety shoes/boots •
Tools and equipment may include but not limited to:	<ul style="list-style-type: none"> • Pipe wrench • Pipe cutter • Hacksaw • Pipe threading equipment • Tap and Punch • Files • Screwdrivers • Drill with various sizes of bits • Mallet • Ball hammer • Masonry chisel • PPR machine/heat fusion equipment • Pipe bender • Trowel • De-clogging wire/de-clogging machine • Toilet pump •
Fluid may include but not limited to:	<ul style="list-style-type: none"> • Liquids • Gases •

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Analytical skills
- Drawing skills
- Problem-solving skills
- Critical thinking skills
- Organizing skills
- Measuring skills
- Numeracy skills
- Cutting skills
- Threading skills
- Fusion skills
- Bending skills

Required Knowledge

The individual needs to demonstrate knowledge of:

- Trouble shooting process
- Preventive maintenance of all systems
- Corrective maintenance of all systems
- Plumbing systems
- Types of fitting and appliances
- Maintenance of each type of fitting and appliance

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

<p>1. 1. Critical aspects of competency</p>	<p>Assessment requires evidence that the Candidate:</p> <ul style="list-style-type: none"> 1.1 Troubleshoot plumbing systems faults correctly. 1.2 Quantified requirements for repair accurately 1.3 Fixed plumbing faults correctly 1.4 Tested functionality of plumbing systems according to standards.
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<p>2. Resource Implications</p>	<p>The following resources must be provided:</p> <p>2.1 A functional workshop with basic tools, equipment and sanitary appliances.</p> <p>2.2 Reference and maintenance manuals</p> <p>2.3 Personal protective equipment</p>
<p>3. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <p>3.1 Observation.</p> <p>3.2 Written test</p> <p>3.3 Interview</p> <p>3.4 Oral questioning</p> <p>3.5 Project</p>
<p>4. Context of Assessment</p>	<p>Assessment may be done:</p> <p>4.1 On-the –job</p> <p>4.2 Off-the –job</p> <p>4.3 During work placement</p>
<p>5. Guidance information for assessment</p>	<p>Holistic assessment with other units relevant to the industry sector workplace and job role is recommended</p>