

MAINTAIN PLUMBING SYSTEMS

UNIT CODE: CON/OS/PL/CR/06/5/A

UNIT DESCRIPTION

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

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
<p>These describe the key outcomes which make up workplace function.</p>	<p>These are assessable statements which specify the required level of performance for each of the elements.</p> <p><i>Bold and italicized terms are elaborated in the Range</i></p>
<p>1. Detect plumbing systems faults</p>	<p>1.1 Faults in plumbing systems are detected based on functionality</p> <p>1.2 Possible causes of the plumbing faults are classified based on routine maintenance reports, design purpose, manufacturer’s manual and best practice.</p> <p>1.3 Solution for the fault is identified based on best practice.</p>
<p>2. Quantify and cost requirements for repair</p>	<p>2.1 <i>Appliances and fittings</i> that need replacement are identified based on the requirements of the job.</p> <p>2.2 <i>Materials</i> required for plumbing fault repair are identified based on requirements of the job.</p> <p>2.3 Supplies required for plumbing fault repair are identified based on requirements of the job.</p> <p>2.4 Materials and supplies required are quantified and costed based on specifications</p>
<p>3. Fix plumbing system faults</p>	<p>3.1 Notice for maintenance operation are issued as per standard operating procedure.</p> <p>3.2 Affected areas are closed/isolated based on best practice</p> <p>3.3 <i>Tools and equipment</i> are identified and used based on job requirements.</p>

	<p>3.4 Fault is repaired based on standard operating procedures</p> <p>3.5 Housekeeping is observed as per best practice</p> <p>3.6 Safety and health practices are observed based on OSHA.</p>
4. Test plumbing system	<p>4.1 Plumbing system is tested based on specifications</p> <p>4.2 Make good repaired work area based on best practices</p> <p>4.3 Normal supply is reinstated where necessary as per the design</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
1. Appliances and fittings 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 • Solar water heaters • Rain water harvester • Cisterns • Pumps • Instant Showers • Water Filters <p><i>maintenance</i></p>
2. Materials may include but not limited to:	<ul style="list-style-type: none"> • Screws • Adhesives • Cement • Sand

	<ul style="list-style-type: none"> • Pipes • Traps • Electric cables • Caulking material • Fittings
3. Tools and equipment may include but not limited to:	<ul style="list-style-type: none"> • Pipe wrench • Pipe cutter • Hacksaw • Pipe Threading Equipment • Bench Vice • Taps • Punch • Files • Screwdrivers • Drill with various sizes of bits • Portable drill • Mallet • Ball pein hammer • Mason chisel • PPR machine / Heat Fusion equipment • Pipe bender • Trowel • De-clogging wire / de-clogging machine • Toilet pump

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

- 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. Critical Aspects of Competency</p>	<p>1.1 Assessment requires evidence that the candidate: 1.2 Detected faults in plumbing systems correctly 1.3 Classified Possible causes of the plumbing faults correctly 1.4 Identified Solution for the fault correctly 1.5 Identified Materials required for plumbing fault repair appropriately. 1.6 Identified Supplies required for plumbing fault repair appropriately. 1.7 Quantified and costed materials and supplies accurately. 1.8 Identified appliances and fittings that need replacement correctly 1.9 Issued notice for maintenance operation correctly 1.10 Closed/isolated affected areas appropriately 1.11 Identified tools and equipment correctly 1.12 Correctly repaired Faults 1.13 Observed Safety and health practices correctly 1.14 Tested plumbing system accurately 1.15 Repaired area made good appropriately 1.16 Reinstated water normal supply correctly 1.17 Conducted housekeeping correctly</p>
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2. Resource Implications	<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>
3. Methods of Assessment	<p>Competency may be assessed through:</p> <p>3.1 Practical Tests</p> <p>3.2 Oral Questioning</p> <p>3.3 Written test</p> <p>3.4 Third party report</p> <p>3.5 Portfolio</p>
4. Context of Assessment	<p>4.1 On-the-job</p> <p>4.2 Off-the-job</p> <p>4.3 Work placement</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>

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