

## INSTALL SANITARY APPLIANCES

**UNIT CODE:** CON/OS/PL/CR/04/5/A

### UNIT DESCRIPTION

This unit specifies the competencies required to install sanitary appliances. It involves preparing simple working drawings, quantifying and cost sanitary appliances, fixing sanitary appliances and testing and commissioning working of sanitary appliances. It applies in the construction industry

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
<p>These describe the <b>key outcomes</b> which make up <b>workplace function</b>.</p>	<p>These are <b>assessable</b> statements which specify the required level of performance for each of the elements.  <b><i>Bold and italicized terms are elaborated in the Range</i></b></p>
<p>1. Prepare working drawing</p>	<p>1.1 Drawings are identified and selected based on the job.                      1.2 Scale of the drawing is determined based on the <b><i>specifications</i></b>.                      1.3 Measurements are converted based on scale.                      1.4 Symbols are identified based on best practices.                      1.5 Sanitary appliances are identified based on the drawing                      1.6 Simple working drawings are Prepared based on specifications                      1.7 Isometric working drawings are drawn based on best practices.                      1.8 Manufacturers drawing of sanitary appliances are interpreted as presented.                      1.9 Assembling of sanitary appliances is identified and interpreted as per manufacturers' drawing.</p>
<p>2. Quantify and cost sanitary appliances</p>	<p>3.1 <b><i>Materials</i></b> and <b><i>Supplies</i></b> required for fixing are identified based on requirements of the job.                      3.2 Schedule of sanitary appliances is prepared based on the drawing.                      3.3 Materials and supplies required are measured and estimated based on working drawings and specifications</p>

	3.4 Sanitary appliances are costed based on best practice
3. Fix sanitary appliances	<p>3.1 <b>Tools and equipment</b> needed for fixing appliances are identified based on the type of sanitary appliance.</p> <p>3.2 Appliance positioning is determined based on working drawings.</p> <p>3.3 Tools and equipment are used based on best practices.</p> <p>3.4 Support for sanitary appliances are put in place based on manufacturers' instructions.</p> <p>3.5 Sanitary appliances are mounted based on best practices.</p> <p>3.6 <b>Parameter checks</b> are done in accordance to industry standards.</p> <p>3.7 <b>Housekeeping</b> is conducted based on best practice.</p> <p>3.8 <b>Personal Protective Equipment</b> is used in line with occupational safety and health regulations.</p> <p>3.9 Safety and health practices are observed based on OSHA.</p>
4. Test and commission working of sanitary appliances	<p>4.1 Functionality of the appliance is tested based on best practices.</p> <p>4.2 <b>Faults</b> in appliance functionality are corrected based on best practices</p> <p>4.3 The works are commissioned in accordance to job requirements</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.

<b>Variables</b>	<b>Range</b>
Materials may include but not limited to:	<ul style="list-style-type: none"><li>• Screws</li><li>• Adhesives</li><li>• Cement</li><li>• Sand</li><li>• Pipes</li><li>• Traps</li><li>• Gutters</li><li>• Electric cables</li><li>• Caulking material</li></ul>
Tools and equipment may include but not limited to:	<ul style="list-style-type: none"><li>• Pipe wrench</li><li>• Pipe cutter</li><li>• Hacksaw</li><li>• Pipe Threading Equipment</li><li>• Vices</li><li>• Tap and Punch</li><li>• Files</li><li>• Screwdrivers</li><li>• Drill with various sizes of bits</li><li>• Mallet</li><li>• Ball hammer</li><li>• Masonry chisel</li></ul>

	<ul style="list-style-type: none"> <li>• PPR machine / Heat Fusion equipment</li> <li>• Pipe bender</li> <li>• Trowel</li> </ul>
Personal Protective Equipment may include but not limited to:	<ul style="list-style-type: none"> <li>• Helmet</li> <li>• Gloves</li> <li>• Dustcover / overall</li> <li>• Safety shoes / boots</li> </ul>
Specifications may include but not limited to:	<p>:</p> <ul style="list-style-type: none"> <li>• manufacturer's specifications</li> <li>• engineer's specifications</li> <li>• client's specifications</li> </ul>
Faults may include but not limited to:	<ul style="list-style-type: none"> <li>• installation faults</li> <li>• manufacturer's faults</li> </ul>
Parameter checks may include but not limited to:	<ul style="list-style-type: none"> <li>• Levelness</li> <li>• Plumpness</li> <li>• Accuracy of measurements</li> <li>• Positioning</li> </ul>
Housekeeping may include but not limited to:	<ul style="list-style-type: none"> <li>• Protecting existing works and sanitary appliances</li> <li>• Clearing work area</li> <li>• Cleaning work area</li> <li>• Keeping work area tidy</li> </ul>

## 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:

- Drawing and interpretation skills
- Problem-solving skills

- Critical-thinking skills
- Organizing skills
- Measuring skills
- Numeracy skills
- Cutting skills
- Threading skills
- Bending skills
- Joining and jointing skills

### **Required Knowledge**

The individual needs to demonstrate knowledge of:

- Interpretation of symbols
- Conversion of units
- Measurement
- Types of drawings
- Types of scales
- Joining and jointing
- Bending methods
- Mensuration
- Materials and supplies
- Types of caulking materials
- Types of valves
- Types of sanitary appliances
- Types of traps
- Testing methods.
- Faults.
- Special appliances
- New technologies

### **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>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared working Drawings correctly</li> <li>1.2 Read and used drawing scales correctly</li> <li>1.3 converted measurements accurately</li> <li>1.4 Identified Symbols correctly</li> <li>1.5 Identified Sanitary appliances correctly</li> <li>1.6 Prepared Simple working drawings accurately</li> <li>1.7 Drew Isometric working drawings correctly</li> <li>1.8 Interpreted Manufacturers drawing correctly</li> <li>1.9 Assembled sanitary appliances accordingly</li> <li>1.10 Identified Materials required for fixing correctly.</li> <li>1.11 Identified Supplies required for fixing correctly</li> <li>1.12 Prepared Schedule of sanitary appliances accurately</li> <li>1.13 Measured and estimated materials and supplies required accurately</li> <li>1.14 Costed Sanitary appliances accurately</li> <li>1.15 Tested appliances correctly</li> <li>1.16 Corrected faults in appliances appropriately</li> </ul>
<p>2. Resource Implications</p>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>2.1 A functional workshop with basic tools, equipment and sanitary appliances.</li> <li>2.2 Reference and appliance manuals</li> <li>2.3 Personal protective equipment</li> </ul>
<p>3. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Practical Test</li> <li>3.2 Written test</li> <li>3.3 Third party report</li> <li>3.4 Portfolio</li> </ul>
<p>4. Context of Assessment</p>	<ul style="list-style-type: none"> <li>4.1 On-the-job</li> <li>4.2 Off-the-job</li> <li>4.3 Work placement</li> </ul>
<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>