

WATER SUPPLY SYSTEMS INSTALLATION

UNIT CODE: CON/CU/PL/CR/01/5/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: Install Water Supply Systems

Duration of Unit: 100 hours

Unit Description

This unit specifies the competencies required to install water supply and systems. It involves preparing working drawings, identifying materials, quantifying and costing, identifying and using pipework tools and equipment, installing pipe works, designing simple pipework and install water distribution system. It applies in the construction industry.

Summary of Learning Outcomes

1. Prepare working drawings
2. Identify materials, quantify and cost
3. Identify and use pipework tools and equipment
4. Install pipe works
5. Design simple pipework
6. Install Water distribution system

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Prepare working drawing	<ul style="list-style-type: none">• Terms and Concepts• Symbols• Scales• Measurements• Reference points	<ul style="list-style-type: none">• Observation• Oral questioning• Third party report• Interviewing• Written tests
2. Identify materials, quantify and cost	<ul style="list-style-type: none">• Terms and concepts• Piping materials and supplies• Pipe sizes• Types of pipes• Types of fittings• Types of valves	<ul style="list-style-type: none">• Observation• Written tests• Oral questioning• Interviewing

	<ul style="list-style-type: none"> • Estimation of quantities 	<ul style="list-style-type: none"> • Third party report
3. Identify and use pipework tools and equipment	<ul style="list-style-type: none"> • Terms and concepts • PPEs and their application • Types of tools and equipment • Care and maintenance • Storage • Use of tools 	<ul style="list-style-type: none"> • Observation • Written tests • Oral questioning • Interviewing • Third party report
4. Install pipe works	<ul style="list-style-type: none"> • Terms and concepts • Types of Pipes <ul style="list-style-type: none"> ✓ PVC ✓ GI ✓ PPR • Mild steel • Stainless steel • Copper • CPVC • Traps and valves • Piping systems <ul style="list-style-type: none"> ✓ Hot water ✓ Cold water • Pipe jointing and connections • Clenching materials • Adhesives • Pipe fitting • Pipe bending • Functionality tests <ul style="list-style-type: none"> ✓ Air ✓ Water ✓ Pressure ✓ Smoke • Occupational safety and legal framework 	<ul style="list-style-type: none"> • Observation • Written tests • Oral questioning • Interviewing • Third party report
5. Design simple pipework	<ul style="list-style-type: none"> • Terms and concepts • Materials and supplies • Types of water supply systems <ul style="list-style-type: none"> ✓ Hot water ✓ Cold water 	<ul style="list-style-type: none"> • Observation • Written tests • Oral questioning • Interviewing

	<ul style="list-style-type: none"> • Occupational safety and legal requirements 	<ul style="list-style-type: none"> • Third party report
6. Install Water distribution system	<ul style="list-style-type: none"> • Terms and concepts • Water supply systems • Setting out • Materials and supplies • Tools and equipment • Installation • Housekeeping • Tests • Faults • Safety and health practice 	<ul style="list-style-type: none"> • Observation • Written tests • Oral questioning • Interviewing • Third party report

Suggested methods of instructions

- Discussions
- Demonstration
- visiting Lecturer/Expert
- Industrial Visits

Recommended Resources

Functional Workshop with the following:

Tools and Equipment

- Welding machine
- Reamers
- Files
- Pipe and tube cutters
- Pipe inspection equipment
- Pipe extractors
- Mason's hammer
- Chisel
- Trowels (Brick, pointing, window, corner and finishing trowels)
- Spirit level
- Bolster
- Cold chisel
- Hawk (Hand board)
- Sandpaper/Sponge

- Jointing knife/rod
- Stepping ladder
- Mason's line

Supplies and Materials

- Adhesive
- Pipes
- Pipe fittings
- Valves
- Taps
- Water filters
- Water pumps