



National Occupational Standards

Sector	Building & Construction
Job Family	Plumbers
Job Title	Assistant Plumber
MQF	Level 2

Mandatory Competences

BAP: 201	Apply Occupational Health and Safety and Working Practices
BAP: 202	Identify Systems, Equipment and Components
BAP: 203	Calculating, Positioning and Drawing
BAP: 204	Identifying and Applying Systems, Equipment and Components

BAP: 201

Apply Occupational Health and Safety and Working Practices

<p>Description of Unit</p>	<p>This unit is about being able to use safe procedures and safe work practices applicable to pipe-work used for the transportation of non-hazardous fluids up to a pressure of 3 Bar. The persons carrying out this work must possess the necessary knowledge and skills to ensure that their actions do not create health and safety risks to others, identify risks and hazards associated with the working environment, tools and equipment and materials and substances used.</p>
<p>Performance Criteria</p>	<p>The candidate must have the necessary knowledge and skills to:</p> <ol style="list-style-type: none"> 1. Carry out safe working practices to prevent hazards and to ensure the safety of workers and members of the public. 2. Carry out safe working practices using appropriate equipment and materials to prevent damages to work areas. 3. Carry out the safe erection, use and dismantling of simple scaffold platforms less than 2m high. 4. Set up safety barriers and signage around a work environment hazard to protect workers and members of the public. 5. Use protective clothing and safety equipment to accomplish tasks. 6. Use and store material hazardous to health in a safe manner. 7. Locate and manually operate the isolating valve to disconnect domestic water services from the main water supply.

**Required
Knowledge**

1. Understands the roles and responsibilities of themselves and others under the Occupational Health and Safety Act 2000.
2. Knows the health and safety risks associated with their role which include tools, materials and equipment used and working practices and procedures.
3. Recognises potential hazardous material at the workplace.
4. Understands the procedures for dealing with potential hazardous material in the place of work.
5. Understands health concerns associated with the workplace and safe practices when carrying out work.
6. Seeks expert assistance when help is needed.
7. Acknowledges hazards and potential hazards at the place of work (such as electricity, slippery and uneven surfaces, dust and fumes, handling and transporting, contaminants and irritants, fire, heights, improper use of tools and equipment).
8. Understands the importance of being alert to the presence of hazards in the place of work.
9. Knows the responsible persons to whom to report health and safety matters.
10. Knows the emergency procedures in the place of work.
11. Knows the first aid facilities that exist within the work area.
12. Understands the general risk assessments, method statements and how to apply them in the place of work.
13. Understands the use of barriers and warning signs.
14. Knows and understands the method used to protect work areas from damage due to portable heating equipment.
15. Understands and explains how to safely use scaffold platforms (less than 2m).

<p>Required Knowledge</p>	<ol style="list-style-type: none"> 16. Understands the necessary safety precautions including the use of protective clothing and equipment for a range of applications. 17. Knows and understands the methods used for protecting customers' property. 18. Identifies isolating valves. 19. Knows and understand when it is required to isolate services from the supply. 20. Describe any materials hazardous to health 21. Used in plumbing installations. 22. Outlines the preventative and remedial actions to be taken in the case of exposure to toxic materials.
<p>Required Skills</p>	<ol style="list-style-type: none"> 1. Recognises which health and safety procedures are relevant to the working environment and follows these procedures. 2. Complies with duties and obligations as defined by the Occupational Health and Safety Act 2000. 3. Follows workplace policies and suppliers' and manufacturers' instructions for the safe use and maintenance of tools and equipment. 4. Controls health and safety hazards within their capability and job responsibility. 5. Reports any hazards which may present risk to relevant persons. 6. Ensures that correct procedures are taken at the place of work so that the health and safety of themselves, other workers and members of the public are not endangered. 7. Follows correct procedures in the event of injuries to themselves or others. 8. Adheres to work production and installation processes as officially instructed and which are in line with health and safety requirements as per instructions given to him by his employer.

**Required
Skills**

9. Applies the necessary skills to erect, use and dismantle access equipment (at height less than 2m).
10. Complies with warning signs and sets up safety barriers around a plumbing hazard.
11. Equips oneself with the appropriate protective clothing and safety equipment for specific tasks and/or use of PPE provided to him by employer.
12. Locates and operates the isolating mechanisms and emergency stops as applicable to disconnect a hydraulic system from its source.
13. Uses and stores material hazardous to health in a safe manner.

BAP: 202

Identify Systems, Equipment and Components

<p>Description of Unit</p>	<p>This unit is about applying the necessary preparations prior to work being conducted. This unit is also about identifying the different materials used for both installation and service and maintenance work.</p>
<p>Performance Criteria</p>	<p>The candidate must have the necessary knowledge and skills to:</p> <ol style="list-style-type: none"> 1. Identify and select copper pipe and fittings from given specifications. 2. Identify and select steel pipe and fittings from given specifications. 3. Identify and select plastic pipe and fittings from given specifications. 4. Identify and select iron pipe fittings from given specifications. 5. Identify the different types of solder and flux used for copper pipe work. 6. Identify and select sanitary accessories and fittings from given specifications. 7. Identify water storage tanks from given specifications. 8. Identify and select various fittings from given specifications.

**Required
Knowledge**

1. Knows and understands the range of materials, products and procedures applicable to the relevant work and their benefits.
2. Knows and understands the basic functions of plumbing pipes.
3. Knows and understands the basic functions and types of pipe fitting.
4. Knows and understands the different methods of connection.
5. Defines and understands the basic properties of pipe grades and sizes.
6. Defines and understands the types of fittings, materials and properties.
7. Defines and understands the basic properties of steel pipe grades and sizes.
8. Defines and understands the types of steel pipe fittings and properties.
9. Defines and understands the basic properties of plastic pipe types and sizes.
10. Defines and understands the types of plastic pipe fittings, materials and properties.
11. Defines and understands the basic properties of iron pipe types and sizes.
12. Defines and understands the types of iron pipe fittings, materials and properties.
13. States the basic properties and use of different types of solder and flux.
14. Defines the basic properties and types of sanitary accessories and fittings.
15. Knows and understands the basic properties and types of water storage tanks.
16. States the basic properties of fixings including masonry, concrete and timber.

Required Skills

1. Identifies the different types of materials, products, methods and procedures applicable to the relevant work.
2. Identifies the relevant pipes and fittings for a required job.
3. Confirms that all materials, tools and equipment necessary for the installation process are available as required.
4. Confirms that all material, tools and equipment are fit for their intended purpose.
5. Assembles all the components through methods that conform to industry requirements.
6. Connects components through methods that conform to industry requirement.
7. Identifies and selects copper pipe and fittings from given specifications.
8. Identifies and selects steel pipe and fittings from given specifications.
9. Identifies and selects plastic pipe and fittings from given specifications.
10. Identifies and selects iron pipe and fittings from given specifications.
11. Distinguishes between the different types of pipe joining techniques and materials.
12. Identifies and selects sanitary accessories and fittings from given specifications.
13. Selects water storage tanks from given specifications.
14. Identifies and selects various fixings from given specifications.

BAP: 203

Calculating, Positioning and Drawing

Description of Unit	<p>This unit is about understanding and applying dimensions from drawings and calculating quantities in the preparation, costing and estimation.</p>
Performance Criteria	<p>The candidate must have the necessary knowledge and skills to:</p> <ol style="list-style-type: none"> 1. Obtain and apply accurate dimensions from drawings of linear and rectangular structures. 2. Compile and apply overall linear dimensions from drawings. 3. Calculate volumes from dimensions obtained from drawings and water storage tanks. 4. Measure and apply domestic pipe work systems from drawings.
Required Knowledge	<ol style="list-style-type: none"> 1. Comprehends calculations involving volume. 2. Comprehends compilations of overall linear dimensions from drawings. 3. Comprehends calculations involving quantities and costs of materials. 4. Defines which tools and equipment are used to set out domestic pipe work systems. 5. Knows and explains the correct procedure for setting out domestic pipe work systems. 6. Understands and identifies scale working drawings from plans.

Required Skills

1. Translates drawings of linear and rectangular structures to accurate dimensions.
2. Translates and calculates volumes obtained from drawings of water storage tanks.
3. Calculates the quantity and cost of materials needed from set drawings.
4. Translates measurements from drawings and sets out domestic pipe work systems.
5. Applies working drawings from available plans.

BAP: 204

Identifying and Applying Systems, Equipment and Components

<p>Description of Unit</p>	<p>This Unit is about selecting and using hand tools in a correct and safe manner. It is also about positioning pipe runs and pipe work for domestic plumbing services. This Unit also deals with fixing and connecting accessories for domestic water services.</p>
<p>Performance Criteria</p>	<p>The candidate must have the appropriate knowledge and skills to:</p> <ol style="list-style-type: none"> 1. Identify, use, clean and store basic hand tools for installation of domestic cold water supply to a tap. 2. Identify, use, clean and store portable power tools. 3. Position pipe runs and install pipe work for domestic cold water supply tap. 4. Hand bend pipe work to fit pipe runs. 5. Fix plumbing accessories to walls. 6. Finish pipe work into accessories. 7. Identify, use, clean and store basic hand tools to install domestic water services. 8. Position pipe runs and install copper pipe work for domestic water services. 9. Position pipe runs and install steel pipe work for domestic water services. 10. Position pipe runs and install plastic pipe work for domestic water services. 11. Install storage tanks and sanitary fittings. 12. Finish pipe work into a storage tank and sanitary fittings. 13. Identify, use clean and maintain portable heating equipment.

<p>Performance Criteria</p>	<p>14. Position pipe runs and install sanitary pipe work for domestic services.</p> <p>15. Finish sanitary pipe work into fittings.</p>
<p>Required Knowledge</p>	<ol style="list-style-type: none"> 1. Names pipe bending equipment. 2. Explains how to use and maintain pipe bending equipment. 3. Lists pipe threading equipment. 4. Explains how to use and maintain pipe threading equipment. 5. Names the types of pipe, fittings and jointing systems used for sanitary pipe work. 6. Understands manufacturers' instructions and the use of the various types of equipment, pipes, jointing systems and fittings. 7. Identifies and understands the range of floor, wall and ceiling building materials used in domestic buildings.
<p>Required Skills</p>	<ol style="list-style-type: none"> 1. Confirms that materials, tools and equipment required are fit for their intended purpose. 2. Identifies, use, clean and store the basic hand tools used to install domestic cold water supply to a tap. 3. Identifies, use, clean and store portable power tools. 4. Positions pipe runs and install pipe work for a domestic cold water supply to tap. 5. Fixes system components to conform to the system to industry requirements. 6. Hand bends pipe work to fit pipe run. 7. Positions pipe work to accessories. 8. Applies plumbing accessories to wall.

Required Skills

9. Connects pipe work to accessories.
10. Identifies, use, clean and store pipe bending equipment.
11. Positions pipe runs and install copper pipe work for domestic water services.
12. Positions pipe runs and install steel pipe work for domestic water services.
13. Positions pipe runs and install plastic pipe work for domestic water services.
14. Installs storage tanks and sanitary fittings.
15. Connects pipe work into storage tanks and sanitary fittings.
16. Identifies, use, clean and store portable heating equipment.
17. Connects pipe runs and install sanitary pipe work for domestic services.
18. Connects sanitary pipe work into fittings.