Malta Further & Higher Education Authority

Building and Construction: Assistant Bar Bending and Steel Fixer
MQF Level 2

National Occupational Standards

Sector: Building and Construction

Occupation: Assistant Bar Bending and Steel Fixer

MQF Level: 2

Units:

- SBL201: Apply Occupational Health and Safety during Work-Practices
- SBL202: Identify systems, equipment and components
- SBL203: Reading of drawings and calculations
- SBL204: Bar bending and steel fixing production

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SBL201: Apply Occupational Health and Safety during Work-Practices
This unit is about being able to use safe procedures and safe work practices. 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 themselves and others, identify risks and hazards associated within the working environment, tools and equipment and materials and substances used. **Performance Criteria** The candidate must have the necessary knowledge and skills to: 1. Carry out safe working practices to prevent hazards and to ensure the safety of oneself, workers and members of the public. 2. Carry out safe working practices when using appropriate equipment and materials to prevent damages to work areas and injuries to oneself and 3rd parties. 3. Carry out the safe erection, use and dismantling of simple access platforms less than 2m high. 4. Set up safety barriers around a work environment hazard to protect colleagues and members of the public. 5. Use protective clothing and safety equipment according to specifications issued by manufacturers and know the whereabouts of first-aid equipment. 6. Use, handle and store materials hazardous to health in a safe manner. 7. Be aware of the risk assessment was carried out to cover the job assigned and the working area. 8. Locate and switch-off temporary or fixed electrical switch gear, systems isolating valves as instructed in the health and safety procedures.
Required Knowledge

The Level 2 Assistant Bar Bending and Steel Fixer must know and state:

1. The roles and responsibilities of themselves and others as per the risk assessment.
2. The health and safety risks associated with their role which includes tools, materials and equipment used and working practices and procedures.
3. The potential hazardous material commonly found at the workplace.
4. The procedures for dealing with potential hazardous material in the place of work.
5. The health concerns associated with the workplace and safe practices when carrying out work.
6. The 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, and working in high wind conditions).
7. The importance of being alert to the presence of hazards in the place of work.
8. The responsible persons to whom to report health and safety matters or any other occurring hazards.
9. The emergency procedures in the place of work.
10. The first aid facilities that exist within the work area.
11. The best way to make use of barricades, industrial hurdles, and warning signs to mark areas clearly marked out of bounds.
12. The safety procedures when using scaffold platforms.
13. The necessary safety precautions including the use of protective clothing and equipment for a range of applications.
14. The methods used for protecting customers' property.
15. When it is required to isolate domestic water services from the main water supply.
16. Any toxic effect from materials commonly used at construction sites.
17. The preventative and remedial actions to be taken in the case of exposure to materials hazardous to health.

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Required Skills
The Level 2 Assistant Bar Bending and Steel Fixer must be able to follow instructions to: 1. Identify which health and safety procedures are relevant to the working environment. 2. Seek supervisor's assistance when help is needed. 3. Ensure compliance with duties and obligations as defined by the risk assessment. 4. Follow workplace policies and employers' instructions for the safe use and maintenance of tools and equipment. 5. Control health and safety hazards within the job responsibility. 6. Report any hazards which may present risk to relevant persons. 7. Follow correct procedures in the event of injuries to oneself or others. 8. Take remedial action where work methods are not in line with control measures noted and identified from risk assessment. 9. Adhere to work production and installation processes as agreed with the employer. 10. Apply the necessary skills to erect, use and dismantle access equipment less than 2m in height and use appropriately all access equipment provided. 11. Read, interpret and install warning signs and set up safety barriers, around working areas. 12. Equip oneself with the appropriate protective clothing and safety equipment for bar bending and steel fixing tasks. 13. Use and store materials hazardous to health in a safe manner. 14. Monitor the workplace and maintain good housekeeping whilst keeping it free from hazards. 15. Communicate clearly information regarding unfamiliar and unpredictable situations to colleagues and supervisors. 16. Advocate appropriate health and safety procedures.

SBL202: Identify systems, equipment and components
This unit is about identifying the different materials for specific applications based on their technical properties and to identify direct and indirect environmental impacts. **Performance Criteria** The candidate must have the necessary knowledge and skills to: 1. Identify tools required for the execution of specific tasks. 2. Understand the correct work processes. 3. Ensure that appropriate safe practices are implemented. 4. Follow procedures to label and store raw and bended profiles and assembled modules.
Required Knowledge
The Level 2 Assistant Bar Bending and Steel Fixer must know and state: 1. The configuration of a range of ties. 2. The concept of the code structure used for labelling and storing material. 3. The standard codes of steel reinforcement (bars and mesh) used within the organisation. 4. The reasons behind keeping records. 5. The range of manual bar bending tools and bar bending machines within the organisation 6. the common type of spacers and covers.
Required Skills
The Level 2 Assistant Bar Bending and Steel Fixer must be able to follow instructions to: 1. Distinguish between different ties and their appropriate application. 2. Neatly label material for storage according to a given code structure. 3. Read and interpret codes of steel reinforcement (bars and mesh), spacers, covers and tying material. 4. Identify formers to match bars and bending equipment. 5. Assist and pass on information to keep records.

SBL203: Reading of drawings and calculations
This unit is about understanding and applying dimensions from drawings and calculating quantities in the preparation, costing and estimation. **Performance Criteria** The candidate must have the necessary knowledge and skills to: 1. Interpret simplified steel reinforcement drawings and bending schedules. 2. Assist in calculations to find the cut length (true length) of common reinforcement bars. 3. Assist in checking the overall cut length of bars for accuracy.
Required Knowledge
The Level 2 Assistant Bar Bending and Steel Fixer must know and state: 1. General building and civil engineering drawings. 2. The metric system and conversion from meters to cm to mm. 3. Basic scales. 4. Linear dimensions such as running dimensions and spaced dimensions. 5. Angular dimensions such as the 90/ 30/ 60/ and 45 degrees. 6. Grid marking techniques. 7. The 3:4:5 rule for right angles triangles. 8. Familiar with the terms such as: links, crank, knuckle, offset, maximum, minimum. 9. Basic calculations.
Required Skills
The Level 2 Assistant Bar Bending and Steel Fixer must be able to follow instructions to: 1. Translate metric units from meters to centimetres and millimetres. 2. Measure and mark from simplified working drawings also using interim dimensions and running dimensions. 3. Demonstrate the use of the 3:4:5 right angle rule. 4. Use digital measuring instruments and interpret recorded readings.

SBL204: Bar bending and steel fixing production
This unit is about using tools and equipment to fabricate and assemble and set out reinforcement bars. **Performance Criteria** The candidate must have the necessary knowledge and skills to: 1. Assist in measuring, cutting, bending and set out operations. 2. Assist in operating and maintaining hand and power tools and equipment. 3. Assist in Cutting and bending reinforcement as per the requirements of the schedule within tolerance stipulated. 4. Assist in organising bend bars by type and diameter for maximum traceability. 5. Perform sound and appropriate ties on assembled modules and cast-in-situ mesh. 6. Assist in Keeping the spacing of bars uniform. 7. Follow specific instructions to execute the sequence of reinforcement placing. 8. Assist to fabricate mesh and modular cages. 9. Assist to prepare steel bars and use mechanical connection systems for the extension of bars; 10. Assist in the protection of steel from corrosion.
Required Knowledge
The Level 2 Assistant Bar Bending and Steel Fixer must know and state: 1. Steel fixing tools. 2. Requirements to clean and store tools appropriately. 3. Steel bars in regular use by type and diameter 4. The purpose of cover blocks. 5. Familiar with the correct sequence of bar bending and steel fixing. 6. Applied safety procedures. 7. Interpret a range of simplified steel reinforcement drawings. 8. Regular and common terms used in the construction industry.
Required Skills
The Level 2 Assistant Bar Bending and Steel Fixer must be able to follow instructions to: 1. Uses different types of pliers to perform all types of ties. 2. Identifies all diameters of steel bar and differences between mild and ribbed bars. 3. Assist in carrying out simple measurements using metric systems. 4. Assist in laying and fixing of steel in giving positions keeping accurate and uniform spacing of bars – within +10mm/ -10mm). 5. Assist in maintaining cover to finished concrete – within +5mm/ -5mm). 6. Perform slash, crown, ring and splice ties correctly. 7. Assist in marking and bending bars to meet specifications on different types of bending machines, including hooks links and hop bars.