

National Occupational Standards

Sector: Building and Construction

Occupation: Assistant Concreter (Helper/semi skilled concreter)

MQF Level: 2

Units:

- CL201 - Occupational Health and Safety in the Work Place
- CL202 - Systems, Equipment and Components
- CL203 - Reading of Drawings and Calculations
- CL204 - Concrete Ordering and Casting

CL201 - Occupational Health and Safety in the Work Place

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 or to others. The person should be able to understand risks and hazards associated within the working environment and follow all safety instructions given.

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 one self, 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. Assess any risk in own working area prior to commencement of work.
4. Apply the necessary skills to assist in erecting, and dismantling access equipment less than 2m in height
5. Conform with the official risk assessment covering the job assigned and the working area.

Required Knowledge

The MQF Level 2 assistant concreter must know and state:

1. The roles and responsibilities of themselves and others under the Health and Safety Act.
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).
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 importance of having an induction meeting prior to commencement of work on a new site

12. The best way to make use of barricades, industrial hurdles, and warning signs to make areas clearly marked out of bounds.
13. The safety procedures when using scaffold platforms (not erecting and dismantling scaffold platforms).
14. The necessary safety precautions including the use of protective clothing and equipment for a range of applications.
15. The methods used for protecting own and third party property and personnel. .
16. When it is required to isolate domestic water services from the main water supply and any other services as applicable
17. Any toxic effect from materials commonly used on construction sites.
18. The preventative and remedial actions to be taken in the case of exposure to materials hazardous to health.

Required Skills

The MQF Level 2 assistant concreter must be able to:

1. Identify which health and safety procedures are relevant to the working environment.
2. Seek expert assistance when help is needed.
3. Ensure compliance with duties and obligations as defined by the Occupational Health and Safety Act, any recent amendments and any relevant regulation and legislation
4. Follow workplace policies and employers/supervisors' instructions for the safe use and maintenance of tools and equipment.
5. Assist in controlling health and safety hazards within the job responsibility and following instructions.
6. Participate and cooperate with supervisor during the induction meeting held prior to commencement of work on a new site.
7. Report any hazards which may present risk to relevant persons.
8. Follow correct procedures in the event of injuries to themselves or others.
9. Take remedial action where work methods within own remit are not in line with control measures noted and identified from risk assessment.
10. Locate and switch-off temporary or fixed electrical switch gear, systems isolating valves as instructed in the health and safety procedures.
11. Follow instructions to assist in carrying out the safe erection and dismantling of simple access platforms less than 2m high.
12. Use the access platforms and all scaffolds that are fit for use safely and appropriately

13. Set up safety barriers around a work environment hazard to protect colleagues and members of the public following instructions.
14. Use protective clothing and safety equipment according to specifications and following instructions.
15. Use, handle and store materials hazardous to health in a safe manner following instructions.
16. Read, interpret and follow instructions to install warning signs and sets up safety barriers, around working areas.
17. Monitor own work place and maintain good housekeeping whilst keeping it free from hazards.
18. Communicate properly with colleagues and supervisors.
19. Identify and inform supervisors and colleagues of any unfamiliar or unpredictable situations.

CL202 - Systems, Equipment and Components

This unit is about identifying the different materials for specific applications based on their technical properties as commonly used in the workplace. The person occupying this position needs to have the knowledge and skills to follow typical workplace systems and to know the importance that these have on quality assurance procedures.

Performance Criteria

The candidate must have the necessary knowledge and skills to:

1. Distinguish between the types and grades of cements and aggregates available in the workplace;
2. Assist in keeping records of the quantity of materials used in day to day work;
3. Assist in organising stores and production facilities;
4. Assist in keeping plant, tools and equipment organised;
5. Identify requirements regarding contraction, isolation and construction joints;
6. Distinguish between common admixtures

Required Knowledge

The MQF Level 2 assistant concreter must know and state:

1. The common concrete mix particular characteristics based on site constraints;
2. The basics of environmental management within the work place;
3. Work place recording systems;
4. Employer procedures regarding final decisions and work permits;
5. Environmental regulatory requirements and project environmental plans including equipment specifications dedicated for such tasks;
6. Routine checking procedures for accuracy checks;
7. Work place storage methods;
8. Common procedures and materials regarding contraction, isolation and construction joints;

Required Skills

The MQF Level 2 assistant concreter must be able to:

1. Follow schedules specifying 'concrete-pours' phases;
2. Select the different types of common cements and aggregates;
3. Cooperate with superiors in the implementation of the work plan and the project environmental plan;

4. Communication skills to work with colleagues in a civil engineering environment;
5. Distinguish site areas categories by required concrete grades;
6. Assist to handle and cast concrete in the preferred method;
7. Assist in the preparation of contraction, isolation and construction joints following instructions;

CL203 - Reading of Drawings and Calculations

This unit deals with basic knowledge and awareness about views, sections and general civil engineering drawings to assist in extracting measurements to calculate quantities in preparation of material orders and costings.

Performance Criteria

The candidate must have the necessary knowledge and skills to:

1. Assist in the checking for accuracy using leveling tools and equipment;
2. Read simplified construction and civil engineering site and building drawing;
3. Read simplified and common materials specifications;
4. Read and interpret simplified and common assembly drawings of shutters and form work;
5. Assist in calculating concrete weight using factors, area and volumes;
6. Recognize common concrete mix ratios by weight and volume;

Required Knowledge

The MQF Level 2 assistant concreter must know and state:

1. The basics of common environmental practices within the concrete industry;
2. Common concrete industry standards;
3. Scales, ratios and percentages;
4. Common drawings annotations used for levels, gradients and bearings;
5. Basic scientific parameters as used in digital calculators;
6. Basic tolerances accepted in construction and civil engineering projects especially concrete floor finish tolerances;
7. The techniques to produce manual simplified side sketches;
8. A selection of metric units of measurements

Required Skills

The MQF Level 2 assistant concreter must be able to:

1. Assist in the calculations regarding levels and measurements;
2. Assist in the calculations of areas, volumes to be concreted;
3. Assist in collecting measurements of routine data associated with levelling procedures;
4. Convert between units of measurements: meters; centimetres and millimetres;
5. Use calculators and digital measuring instruments to measure linear and angular measurements;
6. Follow calculations to convert between tonnes to Kilograms and millilitres to litres;

CL204 - Concrete Ordering and Casting

This Unit is about using tools and equipment to pour concrete and to assist in finishing it to contract specifications within the tolerances specified and following instructions.

Performance Criteria

The candidate must have the necessary knowledge and skills to:

1. Clean, check, maintain and store plant, tools and equipment according to manufacturer recommendations and work practices;
2. Remove and dispose unwanted materials according to project environmental policy as indicated by supervisors;
3. Assist in marking levels and prepare to pour concrete in horizontal layers;
4. Take necessary measures to keep the vertical drop of concrete within recommended practices and to transport concrete by chute/ wheelbarrow appropriately;
5. Check that bar chairs and spacers are positioned in accordance with drawings and specifications;
6. Use the recommended compaction or vibration equipment as stipulated in the procedures;
7. Assist as instructed in keeping measurements to adjust orders as concrete is being poured;
8. Assist in the draining and de-watering of site;
9. Assist in the use of levelling devices to confirm level of poured concrete;
10. Carry out screeding of concrete;
11. Assist in taking samples of delivered concrete;
12. Assist in the concrete curing procedures including protection from damage and pollution;
13. Assist in the keeping of records to document the curing process as defined in the work place procedures;
14. Remove screeding lines and surface inaccuracies with the use of bull floats;
15. Monitor the concrete surface during curing for bleed water to apply manual and mechanical troweling;
16. Assist in assembling and servicing moulds, and demoulding products of precast concrete;
17. Assist in carrying out remedial work on concrete;
18. Read and recognize workplace drawings and specifications;
19. Contribute to improve work activities;
20. Recognise the roles and responsibility of others;
21. Prepare control joints, finish edges and trowel concrete to specifications as instructed;

Required Knowledge

The MQF Level 2 assistant concreter must know and state:

1. Various procedures to calculate materials requirements;
2. Environmentally friendly waste management procedures;
3. Material storage work place practices;
4. Various properties of common concrete including quality requirements affected by method and environment ambient conditions when pouring;

5. The importance of the slump test specifications;
6. How to deal effectively with cold joints;
7. Various compaction techniques;
8. Types and applications of concrete materials;
9. Simplified safety data sheets of various products;
10. Various curing techniques;
11. Common concrete additives and the effect on concrete curing, finishing and performance;
12. Common methods to maintain temperature and other parameters to specifications;
13. Common quality requirements and techniques to obtain required concrete finish;
14. Site Isolation and traffic control responsibilities and authorities;
15. Traffic signs appropriate for roads approaching construction sites;
16. Tools to assemble and dismantle moulds;

Required Skills

The MQF Level 2 assistant concreter must be able to:

1. Recognize simplified drawings and schedules to assist in re-placing temporary removed steel reinforcement as instructed;
2. Follow instructions to calculate time required to place concrete and frequency of truck supplies;
3. Interpret simplified technical specifications from material schedules and data sheets;
4. Interpret concrete curing procedures from simplified work instructions;
5. Use plant, tools and equipment for the finishing of concrete surfaces;
6. Assist to implement procedures to manage storm-water and protect placed concrete during curing;
7. Communicate with workplace colleagues and superiors on technical matters;
8. Carry out preventive maintenance to hand, power tools and equipment;
9. Carry out cleaning and servicing of precast concrete moulds;
10. Handle precast moulds using the appropriate lifting gear;
11. Use lifting gear appropriately to assist crane operator teams;