

### National Occupational Standards

**Sector:** Building and Construction

**Occupation:** Road Works Operative

**MQF Level:** 3

**Units:**

- **RWO301:** Work Area Protection and Safety Equipment
- **RWO302:** Laying of Precast Elements (Kerbs and Channels)
- **RWO303:** Concrete Casting and Finishing
- **RWO304:** Operate and Control Operations of road plant, machinery, or equipment for laying flexible and semi-flexible paving materials

**RWO301: Work Area Protection and Safety Equipment**

This unit is about installing, maintaining, and removing work area protection and safety equipment; interpreting information; adopting safe, healthy, and environmentally responsible work practices; and selecting and using materials, components, tools, and equipment. This standard is for people working in the occupational area of construction and civil engineering operations and can be used by operatives, supervisors, and managers.

**Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Interpret and comply with the given contract information to carry out the work efficiently to the required specification.
2. Comply with the relevant legislation and official guidance to carry out work and maintain safe and healthy work practices.
3. Select the required quantity and quality of resources for the methods of work.
4. Comply with organisational procedures to minimise the risk of damage to the work and surrounding area.
5. Comply with the given contract information to carry out the work efficiently to the required specification.
6. Complete the work within the allocated time, in accordance with the programme of work.

**Required Knowledge**

The Road Works Operative at MQF Level 3 must know and explain how to:

1. Apply knowledge of safe and healthy work practices, procedures, and skills relating to the method and area of work and materials used.
2. Plan for the protection and the safety of the work and surrounding environment.
3. Conform to agreed specifications.
4. Confirm the location of utility services and ensure they are protected.
5. Prepare and set out area protection equipment to required dimensions.
6. Install, check, and maintain the protection and safety equipment, barriers, and fences.
7. Dismantle and remove protection and safety equipment.
8. Install protection and safety notices.
9. Install safety lighting systems.
10. Monitor and check accuracy during progress and on completion of work.
11. Install, maintain, and remove work area protection equipment in public areas.
12. Transport, load, and off load work area protection equipment.
13. Recognise and determine when specialist skills and knowledge are required and report accordingly.
14. Report work undertaken.
15. Use hand and power tools and other ancillary tools.
16. Work at height.
17. Use access equipment.
18. Protect work against damage from general workplace activities, other occupations, and adverse weather conditions.

**Resources:**

1. Materials: cones, tapes, fences, barriers, hoarding, doors, and gates.
2. Components: protection and safety notices.
3. Equipment: signs and safety lighting.

**Required Skills**

The Road Works Operative at MQF Level 3 must be able to:

1. Work safely: consider the safety of yourself and those around you, challenge unsafe behaviour.
2. Communicate effectively.
3. Work effectively and safely with others with limited supervision.
4. Think logically: use clear and valid reasoning when making decisions to safely undertake the work instructions.
5. Work effectively: undertake the work in a reliable, safe, and productive manner.
6. Demonstrate time management; use own time effectively to complete the work instructions to schedule, take the time to be safe.
7. Show adaptability: be able to adjust to changes to the work instructions, put safety first.

**RWO302: Laying of Precast Elements (Kerbs and Channels)**

This unit is about interpreting information; adopting safe, healthy, and environmentally responsible work practices; selecting and using materials, components, tools and equipment; preparing for laying and reinstating preformed (precast and prepared natural stone) kerbs, channels, and combined drainage and kerb systems. This standard is for people working in the occupational area of road building and maintenance and construction and civil engineering operations and can be used by operatives, supervisors, and managers.

**Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Interpret and comply with the given contract information to carry out the work efficiently to the required specification.
2. Comply with the relevant legislation and official guidance to carry out work and maintain safe and healthy work practices.
3. Select the required quantity and quality of resources for the methods of work.
4. Comply with organisational procedures to minimise the risk of damage to the work and surrounding area.
5. Comply with the given contract information to carry out the work efficiently to the required specification.
6. Complete the work within the allocated time, in accordance with the programme of work.

**Required Knowledge**

The Road Works Operative at MQF Level 3 must know and explain how to:

1. Apply knowledge of safe and healthy work practices, procedures, and skills relating to the method and area of work and materials used.
2. Confirm the area and location of work, the operations, safety, and security requirements including temporary traffic management and immediate area protection.
3. Identify different types of kerbs, channels and combined drainage and kerb systems.
4. Conform to agreed specifications.
5. Set out the area and prepare substrate and foundation for laying kerbs, channels and combined drainage and kerb systems.
6. Lay and align kerbs, channels and combined drainage and kerb systems to the required specifications.
7. Mark and cut kerbs, channels and combined drainage and kerb systems.
8. Work around street furniture and ironwork.
9. Protect completed work for curing process.
10. Coordinate with others including third parties.
11. Return infrastructure to operational status.
12. Recognise and determine when specialist skills and knowledge are required and report accordingly.
13. Use hand and power tools.
14. Identify by calculation, quantity, length, area, and wastage associated with the method and procedure to lay preformed kerbs, channels and combined drainage and kerb systems.

**Resources:**

1. Materials: sand, cement, aggregates, additives, sealants, and resins.
2. Components: kerbs, channels and combined drainage and kerb systems.
3. Equipment: hand tools, power tools and other ancillary tools.

**Required Skills**

The Road Works Operative at MQF Level 3 must be able to:

1. Work safely; consider the safety of yourself and those around you, challenge and report unsafe behaviour.
2. Communicate effectively.
3. Work as a team: work effectively and safely with others with limited supervision.
4. Work independently; take responsibility for safe completion of your own work.
5. Think logically: use clear and valid reasoning when making decisions to safely undertake the work instructions.
6. Work effectively; undertake the work in a reliable, safe, and productive manner.
7. Demonstrate time management; use own time effectively to complete the work instructions to schedule, take the time to be safe.
8. Show adaptability: be able to adjust to changes to the work instructions, put safety first.

**RWO303: Concrete Casting and Finishing**

This unit is about placing and finishing concrete including preparing and compacting concrete slabs, footings, and bases; interpreting information; adopting safe, healthy, and environmentally responsible work practices; and selecting, preparing, and using materials, components, tools, and associated equipment. This standard is for people working in the occupational area of construction and civil engineering operations and can be used by operatives, supervisors, and managers.

**Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Interpret and comply with the given contract information to carry out the work efficiently to the required specification.
2. Comply with the relevant legislation and official guidance to carry out work and maintain safe and healthy work practices.
3. Select the required quantity and quality of resources for the methods of work.
4. Comply with organisational procedures to minimise the risk of damage to the work and surrounding area.
5. Comply with the given contract information to carry out the work efficiently to the required specification.
6. Complete the work within the allocated time, in accordance with the programme of work.

**Required Knowledge**

The Road Works Operative at MQF Level 3 must know and explain:

1. Apply knowledge of safe and healthy work practices, procedures and skills relating to the method and area of work and materials used.
2. Knowledge of different types of concrete mixed ratios.
3. Knowledge of handling, placing, compacting, and finishing concrete.
4. Knowledge of protecting concrete during curing.
5. Knowledge of placing reinforcement.
6. Knowledge of placing concrete into formwork and shuttering.
7. Form slab edging including joints and level changes.
8. Recognise and determine when specialist skills and knowledge are required and report accordingly.
9. Identify and follow the installation quality requirements.
10. Work with, around, and near plant and machinery.
11. Direct and guide the operations and movement of plant and machinery.
12. Use hand and power tools and other ancillary tools.
13. Work at height.
14. Use access equipment.
15. Confirm that resources and materials conform with the method statement and specification
16. Apply methods of calculating quantity, length, area, and wastage of materials associated with the method and procedure to place and finish concrete.

**Resources:**

1. Materials: concrete, reinforcement, timber, plywood, proprietary slab edgings and fixings.
2. Components: hand and power tools and other ancillary tools.
3. Equipment: how to confirm resources and materials conform with the method statement and specification 19 methods of calculating quantity, length, area, and wastage of materials associated with the method and procedure to place and finish concrete.

**Required Skills**

The Road Works Operative at MQF Level 3 must be able to:

1. Work safely: consider the safety of yourself and those around you, challenge unsafe behaviour.
2. Communicate effectively.
3. Demonstrate respect: apply equality, diversity, and inclusion in dealing with others.
4. Work effectively and safely with others with limited supervision.
5. Think logically: use clear and valid reasoning when making decisions to safely undertake the work instructions.
6. Work effectively: undertake the work in a reliable, safe; and productive manner.
7. Demonstrate time management; use own time effectively to complete the work instructions to schedule, take the time to be safe.
8. Show adaptability: be able to adjust to changes to the work instructions, put safety first.

**RWO304: Operate and Control Operations of road plant, machinery, or equipment  
for laying flexible and semi-flexible paving materials**

This unit is about interpreting information; adopting safe, healthy, and environmentally responsible work practices; selecting and using materials, components, and tools; preparing, setting up, completing pre-use checks and operating plant, machinery, or equipment for preparing, laying and finishing flexible paving materials. This standard is for people working independently or as part of a team in the occupational area of pavement construction and maintenance and can be used by operatives, technicians, supervisors, and managers.

**Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Interpret and comply with the given contract information to carry out the work efficiently to the required specification.
2. Comply with the relevant legislation and official guidance to carry out work and maintain safe and healthy work practices.
3. Select the required quantity and quality of resources for the methods of work.
4. Comply with organisational procedures to minimise the risk of damage to the work and surrounding area.
5. Comply with the given contract information to carry out the work efficiently to the required specification.
6. Complete the work within the allocated time, in accordance with the programme of work.

**Required Knowledge**

The Road Works Operative at MQF Level 3 must know and explain:

1. Apply knowledge of safe and healthy work practices, procedures and skills relating to the method and area of work and materials used.
2. Identify installation requirements.
3. Conform to agreed specifications.
4. Confirm the area and location of work, the operations, safety, and security requirements, including temporary traffic management and immediate area protection.
5. Identify the characteristics of flexible paving materials, e.g., hot rolled asphalt, stone mastic asphalt, mastic asphalt, asphalt concrete mixtures and geosynthetic material.
6. Identify the characteristics of semi-flexible paving materials, e.g., cement bound granular material (CGBM) and roller compacted concrete (RCC).
7. Prepare and install mesh reinforcement membrane.
8. Prepare, set up, and carry out pre-start and running checks of the plant, machinery, and accessories.
9. Confirm and monitor temperature and workability of flexible and semi-flexible paving materials throughout the process.
10. Recognise the causes of poor performance and factors that will affect the finished product.
11. Carry out and control operations according to your role and the required performance of plant, machinery, and equipment.
12. Adjust the work in relation to prevailing weather conditions.
13. Work around street furniture and ironwork.



14. Recognise sampling, testing and quality control processes.
15. Recognise, monitor, and control processes, e.g., treatment and preparation of joints, line, level, thickness, compaction, and finishes.
16. Recognise the duties of other operatives, including paver screw man, paver operator, roller operator, chipping machine operator, loader compressor operator, 180-degree machine operator, spray tanker operator and geosynthetic installation equipment operator or spray injection operator, to ensure cohesive operations.
17. Return infrastructure to operational status.
18. Recognise and determine when specialist skills and knowledge are required and report accordingly.
19. Shut down and secure plant, machinery, and equipment.
20. Use hand and power tools and other ancillary tools.
21. Identify weight, bearing pressure, pressure, quantity, length, and area associated with the method and procedure to operate plant, machinery, and equipment for laying flexible and semi-flexible paving materials.
22. Confirm resources and materials conform with agreed specification.

**Resources:**

1. Materials: consumables, lubricants, and fuels.
2. Components: attachments and flexible paving materials.
3. Equipment: hand and power tools and other ancillary tools.

**Required Skills**

The Road Works Operative at MQF Level 3 must be able to:

1. Work safely: consider the safety of yourself and those around you, challenge unsafe behaviour.
2. Communicate effectively.
3. Demonstrate respect: apply equality, diversity, and inclusion in dealing with others.
4. Work effectively and safely with others with limited supervision.
5. Think logically: use clear and valid reasoning when making decisions to safely undertake the work instructions.
6. Work effectively: undertake the work in a reliable, safe, and productive manner.
7. Demonstrate time management; use own time effectively to complete the work instructions to schedule, take the time to be safe.
8. Show adaptability: be able to adjust to changes to the work instructions, put safety first.