

Reinstatement of modular surfaces and concrete footways

Certificate Aim

This certificate has been designed to allow the candidate to demonstrate the skills and knowledge required to carry out the reinstatement of modular surfaces and concrete footways. The candidate will be able to remove existing modular or concrete surfacing, prepare the sub-base, lay bedding materials and modular or concrete surfacing using the correct equipment. The candidate will also be able to correctly identify and safely dispose of surplus materials and materials that cannot be re-used.

Learning Outcome 1 Remove existing modular and concrete surfacing

Assessment criteria:

- 1.1 Select equipment and ensure that it is
 - (a) suitable for the prescribed operation
 - (b) in working condition and safe to use
- 1.2 take up the existing modules and concrete surfacing without causing unnecessary damage
- 1.3 remove any adhesive residues and brush modules clean
- 1.4 identify any damaged modules and set them aside for disposal or for use in an interim reinstatement
- 1.5 set aside broken concrete for disposal
- 1.6 identify modules that are suitable for re-use in permanent reinstatement
- 1.7 stack modules for reuse safely on site.

Learning Outcome 2 Understand how to remove existing modular and concrete surfacing

Assessment criteria:

- 2.1 state the factors that influence the selection of equipment for the prescribed operation
- 2.2 state how to check that equipment is in working condition and safe to use
- 2.3 define the methods or techniques used to avoid damage when taking up existing modules
- 2.4 define the procedures for taking up concrete surfacing
- 2.5 state why adhesive residues are removed and modules brushed clean
- 2.6 differentiate between
 - (a) damaged modules that cannot be reused
 - (b) modules suitable for interim reinstatement
 - (c) modules suitable for permanent reinstatement
- 2.7 state the storage methods for
 - (a) damaged modules that cannot be reused
 - (b) modules suitable for interim reinstatement
 - (c) modules suitable for permanent reinstatement
 - (d) broken concrete.

Learning Outcome 3 Prepare sub-base

Assessment criteria:

- 3.1 Remove loose and unacceptable materials from the area to be reinstated using suitable equipment
- 3.2 identify any defects in the sub-base
- 3.3 make good any defects in the sub-base using specified materials
- 3.4 select sub-base compaction equipment and ensure that it is
 - (a) suitable for the operation
 - (b) in working condition and safe to use
- 3.5 compact the sub-base according to the specification
- 3.6 use suitable equipment to re-position displaced ironwork, kerbs and edge restraints in accordance with established levels

Learning Outcome 4 Understand how to prepare the sub-base

Assessment criteria:

- 4.1 state why loose and unacceptable materials are removed from the area to be reinstated
- 4.2 state how to remove loose and unacceptable materials from the area to be reinstated
- 4.3 identify different sub-base defects that could be encountered
- 4.4 identify approved sub-base materials for replacing defective materials
- 4.5 define the procedures for replacing defective sub-base materials with approved materials
- 4.6 define the factors that influence the selection of sub base compaction equipment for the prescribed operation
- 4.7 state the checks required to ensure that sub-base compaction equipment is in working condition and safe to use
- 4.8 define the consequences of poor reinstatement of sub-base materials
- 4.9 define how displaced ironwork, kerbs and edge restraints are repositioned.

Learning Outcome 5 Lay bedding materials

Assessment criteria:

- 5.1 select equipment and ensure that it is
 - a) suitable for the prescribed operation
 - b) in working condition and safe to use
- 5.2 select and lay the specified bedding material uniformly
- 5.3 compact the bedding material as necessary.

Learning Outcome 6 Understand how to lay bedding materials

Assessment criteria:

- 6.1 define the factors that influence the selection of bedding materials
- 6.2 define the factors that influence the selection of equipment for the prescribed operation
- 6.3 state the check required to ensure that equipment is in working condition and safe to use

- 6.4 state the importance of laying bedding material evenly and to a specified depth
- 6.5 state the specified tolerances for laying bedding material
- 6.6 define the consequences of poor compaction of bedding materials.

Learning Outcome 7 Lay modular and concrete surfacing

Assessment criteria:

- 7.1 select equipment and ensure that it is
 - (a) suitable for the prescribed operation
 - (b) in working condition and safe to use
- 7.2 select modules and concrete for the reinstatement operation
- 7.3 position the modules to match the existing bond or pattern
- 7.4 cut modules for reinstatement to the required size
- 7.5 bed modules using suitable bedding material
- 7.6 compact modules to the existing line and level
- 7.7 apply and finish jointing material according to the specification
- 7.8 lay and compact paving concrete according to the specification
- 7.9 place a membrane and lay quality checked concrete surfacing
- 7.10 texture the finished surface and cure the concrete.

Learning Outcome 8 Understand how to lay modular and concrete surfacing

Assessment criteria:

- 8.1 define the factors that influence the selection of equipment for the prescribed operation
- 8.2 define the checks required to ensure that equipment is in working condition and safe to use
- 8.3 identify modules and concrete that are suitable for different reinstatement operations
- 8.4 identify the different bond patterns used in modular construction
- 8.5 state the methods used for cutting modules
- 8.6 define the procedures for bedding and compacting modules to the existing line and level
- 8.7 define the procedures for applying and finishing jointing material
- 8.8 define the consequences of inadequate compaction
- 8.9 define the consequences of not replacing the membrane to specifications
- 8.10 state how concrete is checked to confirm it is acceptable for use
- 8.11 define the procedures for laying the concrete surfacing
- 8.12 define the procedures for applying a texture to the finished concrete surface
- 8.13 define the procedures for curing the concrete.

Learning Outcome 9 Dispose of surplus materials

Assessment criteria:

- 9.1 identify materials that are unsuitable for re-use or surplus to requirements
- 9.2 Store surplus materials and those unsuitable for reuse in safe temporary storage
- 9.3 Ensure materials for disposal are loaded safely for transportation.

Learning Outcome 10 Understand how to dispose of surplus materials

Assessment criteria:

- 10.1 define how materials that are unsuitable for re-use or surplus to requirements are identified
- 10.2 state the importance of storing unsuitable and re-usable materials separately
- 10.3 state when surplus materials should be removed from site.

Learning Outcome 11 Follow safe working practices

Assessment criteria:

- 11.1 follow current relevant health and safety regulations, standards and other legislation relating to:
 - (a) working practices within the construction environment
 - (b) working practices specific to any practical task that they are required to carry out
- 11.2 identify the current relevant health and safety regulations, standards and other legislation that must be applied in relation to:
 - (a) working practices within the construction environment
 - (b) working practices specific to any practical task that they are required to carry out
- 11.3 leave the site in a clean and safe condition
- 11.4 describe how to leave the site in a clean and safe condition.

Evidence Requirements / Scope

Some terms, used in the assessment criteria, cover a range of situations, as follows:

- 1. **Modules must** include:
 - (a) natural or pre-cast concrete paving slabs
 - (b) pre-cast concrete blocks or similar units.
- 2. **Concrete** is Class 25/30 concrete for footway concrete paving reinstatement
- 3. **Equipment** includes:
 - (a) hand tools – including square and round mouth shovels, lifting and clearing tools (including hand pick, crowbar, bolster, club hammer, wire brush, hard bristle broom, rake), hand rammer, straight edge (or suitably cut) timber, trowel, a textured roller.
 - (b) powered equipment – including concrete cutting equipment, concrete saw, vibrotamper, vibrating plate.
- 4. **Sub-base materials** include granular Type 1 sub-base or Class A material.
- 5. **Bedding material** includes:
 - (a) cement mortar or lime mortar
 - (b) sharp sand or fine aggregate.
- 6. **Safe working practices** include:
 - (a) safe use of tools and equipment

- (b) use of PPE (including, as necessary: high visibility jacket or waistcoat, hard hat, ear defenders, gloves, protective footwear, waterproof clothing, eye protection visor or goggles, dust mask)
- (c) use of risk assessment methods to identify and control hazards on site
- (d) precautions to minimise danger or inconvenience to road users
- (e) precautions to minimise danger or inconvenience to site personnel
- (f) precautions to minimise damage to equipment or apparatus.

7. **Specifications and procedures** include:

- (a) Specification for the Reinstatement of Openings in Highways
- (b) *Safety and Street Works and Road Works – A Code of Practice.*
- (c) BS 7533 Series
- (d) Health and Safety Guidance 150, *Health and Safety in Construction*
- (e) manufacturers' operating procedures for powered tools and plant.
- (f) Interpave guidance for laying and reinstatement of concrete block paving and slabs

8. **Materials** for disposal include:

- (a) unsuitable surplus materials
- (b) surplus materials that are suitable for re-use.

Assessment Requirements and Guidance

Assessment for this unit consists of practical observations and a multiple-choice knowledge examination to cover the requirements of the learning outcomes.

Current requirements for practical observations, including Assessor and Internal Quality Assurer qualifications and facilities requirements are provided in the HAUC (UK) The Street Works Assessment Strategy.