National Unit specification: general information

Unit title: Reinstatement of Modular Surface and Concrete Footways

Unit code: F939 04

Superclass: TG

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Version: Second

Credit points and level

1 National Unit credit(s) at SCQF level 5: (1 SCQF credit points at SCQF level 5*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

UNIT 009 Reinstatement of modular surfaces and concrete footways

Unit Aim

This unit is 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, to prepare the sub-base, to lay bedding materials and modular or concrete surfacing, using the correct equipment. They will also be able to identify and dispose correctly and safely 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, and stack them safely on site.

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

Assessment criteria:

2.1 explain the factors that influence the selection of **equipment** for the prescribed operation

2.2 explain how to check that **equipment** is in working condition and safe to use

2.3 explain how to avoid unnecessary damage when taking up existing **modules**

2.4 describe the **procedures** for taking up **concrete** surfacing

2.5 explain why adhesive residues are removed and **modules** brushed clean

2.6 describe the difference between suitable and unsuitable **modules** for interim and permanent reinstatement

2.7 describe 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 explain why loose and unacceptable **materials** are removed from the area to be reinstated
4.2 describe 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 explain the factors that influence the selection of sub-base compaction **equipment** for the prescribed operation
4.6 explain how to check that sub-base compaction **equipment** is in working condition and safe to use
4.7 explain the implications of poor reinstatement of **sub-base materials**
4.8 describe how to re-position displaced ironwork, kerbs and edge restraints.

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 describe the materials that are used for bedding modular surfaces
6.2 explain the factors that influence the selection of **equipment** for the prescribed operation
6.3 explain how to check that **equipment** is in working condition and safe to use
6.4 explain the importance of laying **bedding material** evenly and to a specified depth
6.5 state the specified tolerances for laying **bedding material**
6.6 describe the implications of poor compaction of **bedding materials**.

Learning Outcome 7 Lay modular or 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 or concrete surfacing

Assessment criteria:

8.1 explain the factors that influence the selection of **equipment** for the prescribed operation
8.2 explain how to check that **equipment** is in working condition and safe to use
8.3 describe **concrete** that is suitable for reinstatement
8.4 describe the different bond patterns used in modular construction
8.5 describe methods used for cutting **modules**
8.6 describe **procedures** for bedding and compacting **modules** to the existing line and level
8.7 describe **procedures** for applying and finishing jointing material
8.8 describe the consequences of inadequate compaction
8.9 explain the purpose of slip membranes used in rigid footway reinstatement
8.10 describe how to check that **concrete** is acceptable for use
8.11 describe **procedures** for laying the **concrete** surfacing
8.12 describe different types of textured finishes to **concrete** surfaces
8.13 describe **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 explain how to identify **materials** that are unsuitable for re-use or surplus to requirements
10.2 explain the importance of storing unsuitable and re-usable **materials** separately
10.3 describe how to load **materials** safely for transportation
10.4 explain when surplus **materials** should be removed from site.

Learning Outcome 11	Follow safe working practices for locating and avoiding underground apparatus and highways services

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 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.

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) BS 7533 Series
   (c) Health and Safety Guidance 150, *Health and Safety in Construction*
   (d) manufacturers' operating procedures for powered tools and plant
   (e) Application Guide 26.

8. **Materials** for disposal include:
   (a) unsuitable surplus materials
   (b) surplus materials that are suitable for re-use.

Assessment Requirements

Assessment for this unit consists of practical observations and knowledge questioning to cover the requirements of the learning outcomes.

Current requirements for practical observations, including assessor and verifier qualifications and facilities requirements are provided in the joint awarding organisation centre document.