



National Unit specification: general information

Unit title: Reinstatement in Cold-lay Bituminous Materials (006)

Unit code: F936 04

Superclass: TK

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Source: Scottish Qualifications Authority

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 Aim

This unit is designed to allow the candidate to demonstrate the skills and knowledge required to carry out reinstatement using cold-lay bituminous surfacing material. The candidate will be able to prepare the pavement layer to receive cold-lay surfacing materials, to identify and select materials to be used for the reinstatement, and to construct the cold-lay bituminous surfacing layer, 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 Prepare the layer of pavement structure to receive permanent cold-lay surfacing materials

Assessment criteria:

- 1.1 remove loose and unacceptable **materials** from the area to be reinstated using suitable **equipment**
- 1.2 identify and rectify any pavement layer surface contamination or defect
- 1.3 use suitable **equipment** to trim back edges where damage has occurred
- 1.4 use suitable **equipment** to re-position displaced ironwork, kerbs and edge restraints in accordance with established levels
- 1.5 confirm against the **specifications** that the correct depth is left for the cold-lay surface material.

Learning Outcome 2 Understand how to prepare the layer of pavement structure to receive cold-lay surfacing materials

Assessment criteria:

- 2.1 explain why loose and unacceptable **materials** are removed from the area to be reinstated
- 2.2 explain how surface and ground water should be controlled from excavations
- 2.3 explain the implications of pavement layer surface contamination or defects
- 2.4 explain how to identify and rectify pavement layer surface contamination or defects
- 2.5 explain how to identify and rectify edge damage and undercut
- 2.6 describe how to re-position displaced ironwork, kerbs and edge restraints
- 2.7 explain how to check and confirm that the pavement layer construction is correct
- 2.8 explain the implications of incorrect pavement layer construction.

Learning Outcome 3 Construct a cold-lay bituminous surfacing layer

Assessment criteria:

- 3.1 check that imported bituminous material complies with the specification
- 3.2 select compaction **equipment** and ensure that it is
 - (a) suitable for the operation
 - (b) in working condition and safe to use
- 3.3 spread and level cold-lay bituminous material in binder course and surface course layers
- 3.4 handle cold-lay bituminous material correctly
- 3.5 store cold-lay bituminous material to prevent contamination, oxidation and wetting
- 3.6 reinstate around highway iron work according to the specification
- 3.7 seal edges of the cavity using specified edge sealant
- 3.8 compact the bituminous material according to the specification.

Learning Outcome 4 Understand how to construct a cold-lay bituminous surfacing layer

Assessment criteria:

- 4.1 explain the factors that influence the selection of **equipment** for the prescribed operation
- 4.2 explain how to check **equipment** is in working condition and safe to use
- 4.3 describe handling and storage **procedures** for cold-lay bituminous material
- 4.4 explain the reasons for sealing cavity edges before placing surface layers
- 4.5 explain how to determine required surcharge prior to compaction of cold-lay surfacing **materials**
- 4.6 explain compaction **procedures** for cold-lay bituminous material
- 4.7 describe how to confirm that the compacted layer thickness meets **specifications**.

Learning Outcome 5 Dispose of surplus materials

Assessment criteria:

- 5.1 identify **materials** that are unsuitable for re-use or surplus to requirements
- 5.2 store surplus **materials** and those unsuitable for reuse in safe temporary storage
- 5.3 ensure **materials** for disposal are loaded safely for transportation.

Learning Outcome 6 Understand how to dispose of surplus materials

Assessment criteria:

- 6.1 explain how to identify **materials** that are unsuitable for re-use or surplus to requirements
- 6.2 explain the importance of storing unsuitable and re-usable **materials** separately
- 6.3 describe how to load **materials** safely for transportation
- 6.4 explain when surplus **materials** should be removed from site.

Learning Outcome 7 Follow safe working practices

Assessment criteria:

- 7.1 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.
- 7.2 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
- 7.3 leave the site in a clean and safe condition
- 7.4 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. **Equipment** includes:
 - (a) Hand tools – including square and round mouth shovels, hand pick, hard bristle broom, profile gauge and measuring tape
 - (b) powered equipment – including breakout equipment, road saw, disc cutter, vibrotamper, vibrating roller or vibrating plate and Turk's head brush.
2. Safe **working practices** include:
 - (a) safe use of tools and equipment
 - (b) 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.
3. **Specifications** and **procedures** include:
 - (a) Specification for the Reinstatement of Openings in Highways
 - (b) Health and Safety Guidance 47, *Avoiding Danger from Underground Services*
 - (c) Health and Safety Guidance 150, *Health and Safety in Construction*
 - (d) manufacturers' operating procedures for powered tools and plant.
4. **Materials** identified for reinstating a cold-lay bituminous surfacing layer include:
 - (a) deferred set mixtures for reinstatement
 - (b) permanent cold-lay binder and surfacing materials
 - (c) cold edge sealant.
5. **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.