



## **ProQual Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction)**

### **Qualification Specification**

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## Introduction

The ProQual Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction) is aimed at individuals working in a roadbuilding and maintenance environment. There are 18 pathways:

There are 18 pathways available:

- Pathway 1: Manual Road Building – Slurry Surfacing (Manual)
- Pathway 2: Manual Road Building – High Friction Surfacing – Cold Applied (Manual)
- Pathway 3: Manual Road Building – High Friction Surfacing – Hot Applied (Manual)
- Pathway 4: Manual Road Building – Crack and Joint Repair (Manual)
- Pathway 5: Manual Road Building – Thermal Repair (Manual)
- Pathway 6: Manual Road Building – Resin Bonded or Resin Bound Surfacing (Manual)
- Pathway 7: Pavement Marking (Manual)
- Pathway 8: Road Maintenance – Pavement Marking (Road Studs)
- Pathway 9: Plant – Flexible Paving (Machine)
- Pathway 10: Plant – Rigid Paving (Machine)
- Pathway 11: Plant – Slurry Micro-surfacing (Machine)
- Pathway 12: Plant – Surface Dressing (Machine)
- Pathway 13: Plant – High Friction Surfacing (Machine)
- Pathway 14: Plant – Planing (Machine)
- Pathway 15: Plant – Road Recycling (Machine)
- Pathway 16: Plant – Soil Stabilisation (Machine)
- Pathway 17: Plant – Surface Retexturing (Machine)
- Pathway 18: Plant – Pavement Marking (Machine)

The awarding body for the qualification is ProQual Awarding Body and the regulatory body is the Office of Qualifications and Examinations Regulation (Ofqual).

This qualification has been accredited onto the Regulated Qualifications Framework and it provides a progression route to discipline related qualifications.

## Qualification Profile: Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction)

Qualification title	<b>ProQual Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction)</b>
Ofqual qualification number	610/3398/4
Level	Level 2
Guided learning hours	210-1137 (Dependent on Pathway)
Total qualification time	540-1870 (Dependent on Pathway)
Assessment	Pass or fail Internally assessed and verified by centre staff External quality assurance by ProQual verifiers
Qualification start date	01/12/2023
Qualification end date	

## Entry Requirements

There are no formal entry requirements for this qualification.

Centres should carry out an **initial assessment** of candidate skills and knowledge to identify any gaps and help plan the assessment.

## Qualification Structure

To achieve the qualification candidates must complete all of the Mandatory units for their chosen Pathway.

**Unit Endorsements** are indicated in the Pathway unit listings below.

<b>Pathway</b>	<b>TQT</b>
Pathway 1: Manual Road Building – Slurry Surfacing (Manual)	600
Pathway 2: Manual Road Building – High Friction Surfacing – Cold Applied (Manual)	600
Pathway 3: Manual Road Building – High Friction Surfacing – Hot Applied (Manual)	600
Pathway 4: Manual Road Building – Crack and Joint Repair (Manual)	600
Pathway 5: Manual Road Building – Thermal Repair (Manual)	600
Pathway 6: Manual Road Building – Resin Bonded or Resin Bound Surfacing (Manual)	600
Pathway 7: Pavement Marking (Manual)	1870
Pathway 8: Road Maintenance – Pavement Marking (Road Studs)	540
Pathway 9: Plant – Flexible Paving (Machine)	540
Pathway 10: Plant – Rigid Paving (Machine)	540
Pathway 11: Plant – Slurry Micro-surfacing (Machine)	540
Pathway 12: Plant – Surface Dressing (Machine)	540
Pathway 13: Plant – High Friction Surfacing (Machine)	540
Pathway 14: Plant – Planing (Machine)	540
Pathway 15: Plant – Road Recycling (Machine)	540
Pathway 16: Plant – Soil Stabilisation (Machine)	540
Pathway 17: Plant – Surface Retexturing (Machine)	540
Pathway 18: Plant – Pavement Marking (Machine)	540

**CITB references are provided in this document for information only.**

### Pathway 1: Manual Road Building – Slurry Surfacing (Manual)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
R/650/8925	Manually applying slurry surfacing materials in the workplace	2	183	383Av1

### Pathway 2: Manual Road Building – High Friction Surfacing – Cold Applied (Manual)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
T/650/8926	Manually applying high friction (cold applied) surfacing materials in the workplace	2	183	383Bv1

### Pathway 3: Manual Road Building – High Friction Surfacing – Hot Applied (Manual)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
Y/650/8927	Manually applying high friction (hot applied) surfacing materials in the workplace	2	183	383Cv1

### Pathway 4: Manual Road Building – Crack and Joint Repair (Manual)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
T/650/1436	Manually applying crack and joint repair surfacing materials in the workplace	2	183	383Dv1

## Pathway 5: Manual Road Building – Thermal Repair (Manual)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

<b>Mandatory Units – candidates must complete all units in this group</b>				
<b>Unit Reference Number</b>	<b>Unit Title</b>	<b>Unit Level</b>	<b>GLH</b>	<b>CITB Ref. No</b>
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
A/650/8928	Manually applying thermal repair surfacing materials in the workplace	2	183	383Ev1

### Pathway 6: Manual Road Building – Resin Bonded or Resin Bound Surfacing (Manual)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
D/650/8929	Manually applying resin bonded or resin bound surfacing materials in the workplace	2	183	383Fv1

### Pathway 7: Pavement Marking (Manual)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
J/650/8930	Applying and removing pavement markings manually in the workplace  <b>Unit endorsements:</b> The following endorsement required (i.e. own area of work): Manual Roadbuilding Plus <b>one</b> of the following endorsements required: Permanent markings Temporary markings	2	1090	377v3

## Pathway 8: Road Maintenance – Pavement Marking (Road Studs)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
K/650/8931	Installing and removing permanent road studs in the workplace  <b>Unit endorsements:</b> The following endorsement required (i.e. own area of work): Manual Roadbuilding Plus <b>two</b> of the following endorsements required: Inset milled stud Inset drilled stud Fixed surface mounted studs Stud maintenance	2	163	378v3

## Pathway 9: Plant – Flexible Paving (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
L/650/8932	<p>Operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Paver screwman                      Paver                      Roller                      Chipping machine                      Loader compressor                      180 degree Excavator                      Spray Tanker                      Geosynthetic installation equipment                      Spray injection</p>	2	163	772v1

## Pathway 10: Plant – Rigid Paving (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
M/650/8933	<p>Operating and controlling operations of road plant, machinery or equipment for laying rigid paving in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Feed machine                      Paver screwman                      Paver                      Finishing beam or float                      Reinforcement placement equipment                      Spray                      Texturing and/or curing machine                      Horizontal travel slip form machine operator</p>	2	163	773v1

## Pathway 11: Plant – Slurry Micro-surfacing (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
R/650/8934	<p>Operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Applicator steerman                      Applicator                      Slurry supply tanker                      Tipper grab                      Roller</p>	2	163	774v1

## Pathway 12: Plant – Surface Dressing (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
T/650/8935	<p>Operating and controlling operations of road plant, machinery or equipment for laying surface dressing in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Spray tanker                      Self-propelled chipping machine                      Tailboard chipping machine                      Combined spray tanker and chipping machine                      Spray bar                      Tipper grab                      Loading shovel                      Roller</p>	2	163	775v1

### Pathway 13: Plant – High Friction Surfacing (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
Y/650/8936	<p>Operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Heating pot                      Tanker                      Spray bar                      Chipper machine</p>	2	163	776v1

## Pathway 14: Plant – Planing (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
F/650/8939	<p>Operating and controlling operations of road plant, machinery or equipment for planing or milling operations in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Wheeled planing and/or milling machine up to 1 metre                      Tracked planing and/or milling machine up to 1.5 metre's                      Tracked planing and/or milling machine over 1.5 metre's</p>	2	163	777v1

## Pathway 15: Plant – Road Recycling (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
K/650/8940	<p>Operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Pulveriser recycling machine                      Combination in-situ recycling machine                      Bulk binder spreader machine                      Tanker truck                      Motor grader                      Roller</p>	2	163	778v1

## Pathway 16: Plant – Soil Stabilisation (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
L/650/8941	<p>Operating and controlling operations of road plant, machinery or equipment for soil stabilisation in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Combination soil stabilisation machines                      Mixer machine                      Bulk builder spreader machine                      Tiling machine                      Self-propelled water browser                      Towed water browser                      Roller</p>	2	163	779v1

## Pathway 17: Plant – Surface Retexturing (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
M/650/8942	<p>Operating and controlling operations of road plant, machinery or equipment for surface retexturing in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Bush hammering machine                      Grooving machine                      Flailing machine                      High pressure jetting machine                      Shot blasting machine                      Planing or milling machine                      Grinding machine</p>	2	163	780v1

## Pathway 18: Plant – Pavement Marking (Machine)

To achieve the qualification candidates must complete 3 Mandatory units.

*CITB reference numbers are given for information only.*

Mandatory Units – candidates must complete all units in this group				
Unit Reference Number	Unit Title	Unit Level	GLH	CITB Ref. No
M/508/6537	Conforming to general health, safety and welfare in the workplace	1	7	641
T/508/6538	Conforming to productive working practices in the workplace	2	10	642
R/650/8943	<p>Operating and controlling operations of road plant, machinery or equipment for pavement markings in the workplace</p> <p><b>Unit endorsements:</b>                      The following endorsement required (i.e. own area of work):                      Roadbuilding and maintenance plant                      Plus <b>one</b> of the following endorsements required:                      Applicator steersman                      Applicator                      Feeder vehicle</p>	2	163	781v1

## Centre Requirements

Centres must be approved to offer this qualification. If your centre is not approved please complete and submit form **ProQual Additional Qualification Approval Application**.

### **Staff**

Staff delivering this qualification must be appropriately qualified and/or occupationally competent.

### **Assessors/Internal Quality Assurance**

For each competence-based unit centres must be able to provide at least one assessor and one internal quality assurance verifier who are suitably qualified for the specific occupational area. Assessors and internal quality assurance verifiers for competence-based units or qualifications will normally need to hold appropriate assessor or verifier qualifications, such as:

- Level 3 Award in Assessing Competence in the Work Environment
- Level 3 Award in Assessing Vocationally Related Achievement
- Level 3 Certificate in Assessing Vocational Achievement
- Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practices
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practices

## Support for Candidates

Materials produced by centres to support candidates should:

- enable them to track their achievements as they progress through the learning outcomes and assessment criteria;
- provide information on where ProQual's policies and procedures can be viewed;
- provide a means of enabling Internal and External Quality Assurance staff to authenticate evidence

## Links to National Standards / NOS mapping

National Occupational Standards (NOS) are owned by a Sector Skills Council or Standard Setting Body and they describe the skills, knowledge and understanding needed to undertake a particular task or job at different levels of competence.

The structure and units of this qualification are based on NOS for the construction sector.

## Assessment

This qualification is competence-based, candidates must demonstrate the level of competence described in the units. Assessment is the process of measuring a candidate's skill, knowledge and understanding against the standards set in the qualification.

The qualification must be assessed in line with the Construction Sector Qualifications Strategy and must be internally assessed by an appropriately experienced and qualified assessor.

Each candidate is required to produce a portfolio of evidence which demonstrates their achievement of all of the learning outcomes and assessment criteria for each unit.

- Evidence can include:
- observation report by assessor
  - assignments/projects/reports
  - professional discussion
  - witness testimony
  - candidate product
  - worksheets
  - record of oral and written questioning
  - Recognition of Prior Learning

**Learning outcomes** set out what a candidate is expected to know, understand or be able to do.

**Assessment criteria** specify the standard a candidate must meet to show the learning outcome has been achieved.

Learning outcomes and assessment criteria can be found from page 25 onwards.

## Internal Quality Assurance

An internal quality assurance verifier confirms that assessment decisions made in centres are made by competent and qualified assessors, that they are the result of sound and fair assessment practice and that they are recorded accurately and appropriately.

## Adjustments to Assessment

Adjustments to standard assessment arrangements are made on the individual needs of candidates. ProQual's Reasonable Adjustments Policy and Special Consideration Policy sets out the steps to follow when implementing reasonable adjustments and special considerations and the service that ProQual provides for some of these arrangements.

Centres should contact ProQual for further information or queries about the contents of the policy.

## Results Enquiries and Appeals

All enquiries relating to assessment or other decisions should be dealt with by centres, with reference to ProQual's Enquiries and Appeals Procedures.

## Certification

Candidates who achieve the required units for the qualification will be awarded:

- A certificate listing all units achieved, and
- A certificate giving the full qualification title -

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#### **Claiming certificates**

Centres may claim certificates for candidates who have been registered with ProQual and who have successfully completed the qualification. All certificates will be issued to the centre.

#### **Unit certificates**

If a candidate does not achieve all of the units required for a qualification, the centre may claim a unit certificate for the candidate which will list all of the units achieved.

#### **Replacement certificates**

If a replacement certificate is required a request must be made to ProQual in writing. Replacement certificates are labelled as such and are only provided when the claim has been authenticated. Refer to the Fee Schedule for details of charges for replacement certificates.

## Unit T/508/6538

### Conforming to general health, safety and welfare in the workplace

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
1 Comply with all workplace health, safety and welfare legislation requirements.	<p>1.1 Comply with information from workplace inductions and any health, safety and welfare briefings attended relevant to the occupational area.</p> <p>1.2 Use health and safety control equipment safely to carry out the activity in accordance with legislation and organisational requirements.</p> <p>1.3 Comply with statutory requirements, safety notices and warning notices displayed within the workplace and/or on equipment.</p> <p>1.4 State why and when health and safety control equipment, identified by the principles of protection, should be used relating to types, purpose and limitations of each type, the work situation, occupational use and the general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>– collective protective measures</li> <li>– personal protective equipment (PPE)</li> <li>– respiratory protective equipment (RPE)</li> <li>– local exhaust ventilation (LEV).</li> </ul> <p>1.5 State how the health and safety control equipment relevant to the work should be used in accordance with the given instructions.</p> <p>1.6 State which types of health, safety and welfare legislation, notices and warning signs are relevant to the occupational area and associated equipment.</p> <p>1.7 State why health, safety and welfare legislation, notices and warning signs are relevant to the occupational area.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>1.8 State how to comply with control measures that have been identified by risk assessments and safe systems of work.</p>
<p>2 Recognise hazards associated with the workplace that have not been previously controlled and report them in accordance with organisational procedures.</p>	<p>2.1 Report any hazards created by changing circumstances within the workplace in accordance with organisational procedures.</p> <p>2.2 List typical hazards associated with the work environment and occupational area in relation to resources, substances, asbestos, equipment, obstructions, storage, services and work activities.</p> <p>2.3 List the current Health and Safety Executive top ten safety risks.</p> <p>2.4 List the current Health and Safety Executive top five health risks.</p> <p>2.5 State how changing circumstances within the workplace could cause hazards.</p> <p>2.6 State the methods used for reporting changed circumstances, hazards and incidents in the workplace.</p>
<p>3 Comply with organisational policies and procedures to contribute to health, safety and welfare.</p>	<p>3.1 Interpret and comply with given instructions to maintain safe systems of work and quality working practices.</p> <p>3.2 Contribute to discussions by offering/providing feedback relating to health, safety and welfare.</p> <p>3.3 Contribute to the maintenance of workplace welfare facilities in accordance with workplace welfare procedures.</p> <p>3.4 Safely store health and safety control equipment in accordance with given instructions.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>3.5 Dispose of waste and/or consumable items in accordance with legislation.</p> <p>3.6 State the organisational policies and procedures for health, safety and welfare, in relation to:</p> <ul style="list-style-type: none"> <li>– dealing with accidents and emergencies associated with the work and environment</li> <li>– methods of receiving or sourcing information</li> <li>– reporting</li> <li>– stopping work</li> <li>– evacuation</li> <li>– fire risks and safe exit procedures</li> <li>– consultation and feedback.</li> </ul> <p>3.7 State the appropriate types of fire extinguishers relevant to the work.</p> <p>3.8 State how and when the different types of fire extinguishers are used in accordance with legislation and official guidance.</p>
<p>4 Work responsibly to contribute to workplace health, safety and welfare whilst carrying out work in the relevant occupational area.</p>	<p>4.1 Demonstrate behaviour which shows personal responsibility for general workplace health, safety and welfare.</p> <p>4.2 State how personal behaviour demonstrates responsibility for general workplace health, safety and welfare, in relation to:</p> <ul style="list-style-type: none"> <li>– recognising when to stop work in the face of serious and imminent danger to self and/or others</li> <li>– contributing to discussions and providing feedback</li> <li>– reporting changed circumstances and incidents in the workplace</li> <li>– complying with the environmental requirements of the workplace.</li> </ul>



## Unit M/508/6537 Conforming to Productive Work Practices in the workplace

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Communicate with others to establish productive work practices.</p>	<p>1.1 Communicate in an appropriate manner with line management, colleagues and/or customers to ensure that work is carried out productively.</p> <p>1.2 Describe the different methods of communicating with line management, colleagues and customers.</p> <p>1.3 Describe how to use different methods of communication to ensure that the work carried out is productive.</p>
<p>2 Follow organisational procedures to plan the sequence of work.</p>	<p>2.1 Interpret relevant information from organisational procedures in order to plan the sequence of work.</p> <p>2.2 Plan the sequence of work, using appropriate resources, in accordance with organisational procedures to ensure work is completed productively.</p> <p>2.3 Describe how organisational procedures are applied to ensure work is planned and carried out productively, in relation to:</p> <ul style="list-style-type: none"> <li>– using resources for own and other’s work requirements</li> <li>– allocating appropriate work to employees</li> <li>– organising the work sequence</li> <li>– reducing carbon emissions.</li> </ul> <p>2.4 Describe how to contribute to zero/low carbon work outcomes within the built environment.</p>
<p>3 Maintain relevant records in accordance with the organisational procedures.</p>	<p>3.1 Complete relevant documentation according to the occupation as required by the organisation.</p> <p>3.2 Describe how to complete and maintain documentation in accordance with organisational procedures, in relation to:</p> <ul style="list-style-type: none"> <li>– job cards</li> <li>– worksheets</li> <li>– material/resource lists</li> <li>– time sheets.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>3.3 Explain the reasons for ensuring documentation is completed clearly and within given timescales.</p>
<p>4 Maintain good working relationships when conforming to productive working practices.</p>	<p>4.1 Carry out work productively, to the agreed specification, in conjunction with line management, colleagues, customers and/or other relevant people involved in the work to maintain good working relationships.</p> <p>4.2 Apply the principles of equality and diversity and respect the needs of individuals when communicating and working with others.</p> <p>4.3 Describe how to maintain good working relationships, in relation to:</p> <ul style="list-style-type: none"> <li>– individuals</li> <li>– customer and operative</li> <li>– operative and line management</li> <li>– own and other occupations.</li> </ul> <p>4.4 Describe why it is important to work effectively with line management, colleagues and customers.</p> <p>4.5 Describe how working relationships could have an effect on productive working.</p> <p>4.6 Describe how to apply principles of equality and diversity when communicating and working with others.</p>

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p>
Sector Subject Area	<p>Workplace evidence of skills cannot be simulated.</p> <p>5.2 Building and Construction</p>
Availability for use	Shared unit
Unit guided learning hours	10

**Unit R/650/8925**  
**Manually applying slurry surfacing materials in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to the work and resources when manually applying slurry surfacing materials.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions and current regulations relating to manually applying slurry road surfacing materials.</li> </ul>
<p>2 Know how to comply with relevant legislation and official guidance when manually applying slurry surfacing materials.</p>	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>
<p>3 Maintain safe and healthy working practices when manually applying slurry surfacing materials.</p>	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when manually applying slurry surfacing materials.</p>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

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|---|---|--|
| 4 | Select the required quantity and quality of resources for the methods of work to manually apply slurry surfacing materials. | <p>3.2 Demonstrate compliance with given information and relevant legislation when manually applying slurry surfacing materials in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools and equipment</li> <li>- specific risks to health.</li> </ul> <p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to manually applying slurry surfacing materials, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul> <p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p> <p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p> <p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- primers, epoxy or thermoplastic resins, bituminous emulsion, catalyst, doping agents, fibres, rubber, pigment and asphalt rejuvenators</li> <li>- aggregates</li> <li>- protection and masking materials</li> <li>- mixer and mixer pot</li> <li>- pre-heaters and thermal heaters</li> <li>- hand tools, power tools, pedestrian operated plant and equipment.</li> </ul> <p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p> |
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Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to manually apply slurry surfacing materials.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when manually applying slurry surfacing materials</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy work space.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>6 Complete the work within the allocated time when manually applying slurry surfacing materials.</p>	<p>6.1 Demonstrate completion of the work within the allocated time.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
<p>7 Comply with the given contract information to manually apply slurry surfacing materials to the required specification.</p>	<p>7.1 Demonstrate the following work skills when manually applying slurry surfacing materials:</p> <ul style="list-style-type: none"> <li>- measuring, setting out, marking, positioning, drying, cleaning, masking, priming, sealing, mixing, heating and decanting, spreading, curing, inspecting and communicating.</li> </ul> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment</p> <p>7.3 Prepare for and manually apply slurry surfacing materials by mixing and squeegee operations, and by providing protection for the curing process to given working instructions</p> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- establish an agreed time frame for treatment</li> <li>- conform to agreed specification</li> <li>- prepare substrate, to include measuring, setting out, marking out, drying, cleaning and repairing</li> <li>- prepare equipment to manually apply slurry surfacing materials</li> <li>- protect and work around street furniture and ironwork</li> <li>- prepare materials, to include storing, handling and mixing</li> <li>- apply materials to prepared surfaces, to include heating, pouring, laying, screeding, spreading and floating</li> <li>- work with, around and in close proximity to plant and machinery</li> <li>- remove and dispose of arisings</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- communicate and co-ordinate progress on specialist treatment
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- use hand tools, power tools, pedestrian operated plant and equipment
- work at height
- use access equipment.

7.5 Describe the needs of other occupations and how to effectively communicate within a team when manually applying slurry surfacing materials.

7.6 Describe how to maintain the tools and equipment used to manually apply slurry surfacing materials.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

Sector Subject Area

05.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

183

**Unit T/650/8926**

**Manually applying high friction (cold applied) surfacing materials in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to the work and resources when manually applying high friction (cold applied) surfacing materials.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions and current regulations relating to manually applying high friction (cold applied) surfacing materials.</li> </ul>
<p>2 Know how to comply with relevant legislation and official guidance when manually applying high friction (cold applied) surfacing materials.</p>	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Maintain safe and healthy working practices when manually applying high friction (cold applied) surfacing materials.</p>	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when manually applying high friction (cold applied) surfacing materials.</p> <p>3.2 Demonstrate compliance with given information and relevant legislation when manually applying high friction (cold applied) surfacing materials in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools and equipment</li> <li>- specific risks to health.</li> </ul> <p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to manually applying high friction (cold applied) surfacing materials, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul> <p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>4 Select the required quantity and quality of resources for the methods of work to manually apply high friction (cold applied) surfacing materials.</p>	<p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p> <p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- primers, epoxy or thermoplastic resins, bituminous emulsion, catalyst, doping agents, fibres, rubber, pigment and asphalt rejuvenators</li> <li>- aggregates</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- protection and masking materials</li> <li>- mixer and mixer pot</li> <li>- pre-heaters and thermal heaters</li> <li>- hand tools, power tools, pedestrian operated plant and equipment.</li> </ul> <p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to manually apply high friction (cold applied) surfacing materials.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when manually applying high friction (cold applied) surfacing materials.</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy work space.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>6 Complete the work within the allocated time when manually applying high friction (cold applied) surfacing materials.</p>	<p>6.1 Demonstrate completion of the work within the allocated time.</p> <p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
<p>7 Comply with the given contract information to manually apply high friction (cold applied) surfacing materials to the required specification.</p>	<p>7.1 Demonstrate the following work skills when manually applying high friction (cold applied) surfacing materials:</p> <ul style="list-style-type: none"> <li>- measuring, setting out, marking, positioning, drying, cleaning, masking, priming, sealing, mixing, heating and decanting, spreading, curing, inspecting and communicating.</li> </ul> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment</p> <p>7.3 Prepare for and manually apply high friction (cold applied) surfacing materials by mixing materials, applying and spreading aggregate, and by providing protection for the curing process, to given working instructions</p> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- establish an agreed time frame for treatment</li> <li>- conform to agreed specification</li> <li>- prepare substrate, to include measuring, setting out, marking out, drying, cleaning and repairing</li> <li>- prepare equipment to manually apply high friction (cold applied) surfacing materials</li> <li>- protect and work around street furniture and ironwork</li> <li>- prepare materials, to include storing, handling and mixing</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- apply materials to prepared surfaces, to include heating, pouring, laying, screeding, spreading and floating
- work with, around and in close proximity to plant and machinery
- remove and dispose of arisings
- communicate and co-ordinate progress on application of high friction (cold applied) surfacing materials
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- use hand tools, power tools, pedestrian operated plant and equipment
- work at height
- use access equipment.

7.5 Describe the needs of other occupations and how to effectively communicate within a team when manually applying high friction (cold applied) surfacing materials.

7.6 Describe how to maintain the tools and equipment used to manually apply high friction (cold applied) surfacing materials.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

Sector Subject Area

05.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

183

**Unit Y/650/8927**

**Manually applying high friction (hot applied) surfacing materials in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to the work and resources when manually applying high friction (hot applied) surfacing materials.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions and current regulations relating to manually applying high friction (hot applied) surfacing materials.</li> </ul>
<p>2 Know how to comply with relevant legislation and official guidance when manually applying high friction (hot applied) surfacing materials.</p>	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>
<p>3 Maintain safe and healthy working practices when manually applying high friction (hot applied) surfacing materials.</p>	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when manually applying high friction (hot applied) surfacing materials.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>3.2 Demonstrate compliance with given information and relevant legislation when manually applying high friction (hot applied) surfacing materials in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools and equipment</li> <li>- specific risks to health.</li> </ul> <p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to manually applying high friction (hot applied) surfacing materials, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul> <p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>4 Select the required quantity and quality of resources for the methods of work to manually apply high friction (hot applied) surfacing materials.</p>	<p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p> <p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- primers, epoxy or thermoplastic resins, bituminous emulsion, catalyst, doping agents, fibres, rubber, pigment and asphalt rejuvenators</li> <li>- aggregates</li> <li>- protection and masking materials</li> <li>- mixer and mixer pot</li> <li>- pre-heaters and thermal heaters</li> <li>- hand tools, power tools, pedestrian operated plant and equipment.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to manually apply high friction (hot applied) surfacing materials.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when manually applying high friction (hot applied) surfacing materials.</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy workspace.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations, and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations, and official guidance.</p>
<p>6 Complete the work within the allocated time when manually applying high friction (cold applied) surfacing materials.</p>	<p>6.1 Demonstrate completion of the work within the allocated time.</p> <p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>7 Comply with the given contract information to manually apply high friction (hot applied) surfacing materials to the required specification.</p>	<ul style="list-style-type: none"> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul> <p>7.1 Demonstrate the following work skills when manually applying high friction (hot applied) surfacing materials:</p> <ul style="list-style-type: none"> <li>- measuring, setting out, marking, positioning, drying, cleaning, masking, priming, sealing, mixing, heating and decanting, spreading, curing, inspecting and communicating.</li> </ul> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment</p> <p>7.3 Prepare for and manually apply high friction (hot applied) surfacing materials by mixing materials, applying and spreading aggregate, and by providing protection for the curing process, to given working instructions</p> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- establish an agreed time frame for treatment</li> <li>- conform to agreed specification</li> <li>- prepare substrate, to include measuring, setting out, marking out, drying, cleaning and repairing</li> <li>- prepare equipment to manually apply high friction (hot applied) surfacing materials</li> <li>- protect and work around street furniture and ironwork</li> <li>- prepare materials, to include storing, handling and mixing</li> <li>- apply materials to prepared surfaces, to include heating, pouring, laying, screeding, spreading and floating</li> <li>- work with, around and in close proximity to plant and machinery</li> <li>- remove and dispose of arisings</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- communicate and co-ordinate progress on application of high friction (hot applied) surfacing materials
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- use hand tools, power tools, pedestrian operated plant and equipment
- work at height
- use access equipment.

7.5 Describe the needs of other occupations and how to effectively communicate within a team when manually applying high friction (hot applied) surfacing materials.

7.6 Describe how to maintain the tools and equipment used to manually apply high friction (hot applied) surfacing materials.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

Sector Subject Area

05.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

183

**Unit T/650/1436**  
**Manually applying crack and joint repair surfacing materials in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to the work and resources when manually applying crack and joint repair surfacing materials.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions and current regulations relating to manually applying crack and joint repair surfacing materials.</li> </ul>
<p>2 Know how to comply with relevant legislation and official guidance when manually applying crack and joint repair surfacing materials.</p>	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment, and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Maintain safe and healthy working practices when manually applying crack and joint repair surfacing materials.</p>	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when manually applying crack and joint repair surfacing materials.</p> <p>3.2 Demonstrate compliance with given information and relevant legislation when manually applying crack and joint repair surfacing materials in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools, and equipment</li> <li>- specific risks to health.</li> </ul> <p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to manually applying crack and joint repair surfacing materials, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul> <p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>4 Select the required quantity and quality of resources for the methods of work when manually applying crack and joint repair surfacing materials.</p>	<p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p> <p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- primers, epoxy or thermoplastic resins, bituminous emulsion, catalyst, doping agents, fibres, rubber, pigment and asphalt rejuvenators</li> <li>- aggregates</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- protection and masking materials</li> <li>- mixer and mixer pot</li> <li>- pre-heaters and thermal heaters</li> <li>- hand tools, power tools, pedestrian operated plant and equipment.</li> </ul> <p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to manually apply crack and joint repair surfacing materials.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when manually applying crack and joint repair surfacing materials.</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy workspace.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
6 Complete the work within the allocated time when manually applying crack and joint repair surfacing materials.	<p>6.1 Demonstrate completion of the work within the allocated time.</p> <p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
7 Comply with the given contract information to manually apply crack and joint repair surfacing materials.	<p>7.1 Demonstrate the following work skills when manually applying crack and joint repair surfacing materials:</p> <ul style="list-style-type: none"> <li>- measuring, setting out, marking, positioning, drying, cleaning, masking, priming, sealing, mixing, heating and decanting, spreading, curing, inspecting and communicating.</li> </ul> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment.</p> <p>7.3 Prepare for and manually apply crack and joint repair surfacing materials by preparing the surface, mixing and applying materials, finishing and providing protection for the curing process, to given working instructions.</p> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the</li> <li>- operations, safety and security requirements</li> <li>- including temporary traffic management and</li> <li>- immediate area protection</li> <li>- establish an agreed time frame for treatment</li> <li>- conform to agreed specification</li> <li>- prepare substrate, to include measuring, setting out,</li> <li>- marking out, drying, cleaning and repairing</li> <li>- prepare equipment to manually apply crack and</li> <li>- joint repair surfacing materials</li> <li>- protect and work around street furniture and</li> <li>- ironwork</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- prepare materials, to include storing, handling and
- mixing
- apply materials to prepared surfaces, to include heating, pouring, laying, screeding, spreading and floating
- work with, around and in close proximity to plant and machinery
- remove and dispose of arisings
- communicate and co-ordinate progress on specialist treatment
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- use hand tools, power tools, pedestrian operated plant and equipment
- work at height
- use access equipment

7.5 Describe the needs of other occupations and how to effectively communicate within a team when manually applying crack and joint repair surfacing materials.

7.6 Describe how to maintain the tools and equipment used to manually apply crack and joint repair surfacing materials.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p>
Sector Subject Area	05.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	183

**Unit A/650/8928**  
**Manually applying thermal repair surfacing materials in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to the work and resources when manually applying thermal repair surfacing materials.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions and current regulations relating to manually applying thermal repair surfacing materials.</li> </ul>
<p>2 Know how to comply with relevant legislation and official guidance when manually applying thermal repair surfacing materials.</p>	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Maintain safe and healthy working practices when manually applying thermal repair surfacing materials.</p>	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when manually applying thermal repair surfacing materials.</p> <p>3.2 Demonstrate compliance with given information and relevant legislation when manually applying thermal repair surfacing materials in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools and equipment</li> <li>- specific risks to health.</li> </ul> <p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to manually applying thermal repair surfacing materials, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul> <p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>4 Select the required quantity and quality of resources for the methods of work when manually applying thermal repair surfacing materials.</p>	<p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p> <p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- primers, epoxy or thermoplastic resins, bituminous emulsion, catalyst, doping agents, fibres, rubber, pigment and asphalt rejuvenators</li> <li>- aggregates</li> <li>- protection and masking materials</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- mixer and mixer pot</li> <li>- pre-heaters and thermal heaters</li> <li>- hand tools, power tools, pedestrian operated plant and equipment.</li> </ul> <p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to manually apply thermal repair surfacing materials.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when manually applying thermal repair surfacing materials.</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy work space.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
6 Complete the work within the allocated time when manually applying thermal repair surfacing materials.	<p>6.1 Demonstrate completion of the work within the allocated time.</p> <p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
7 Comply with the given contract information to manually apply thermal repair surfacing materials to the required specification.	<p>7.1 Demonstrate the following work skills when manually applying thermal repair surfacing materials:</p> <ul style="list-style-type: none"> <li>- measuring, setting out, marking, positioning, drying, cleaning, masking, priming, sealing, mixing, heating and decanting, spreading, curing, inspecting and communicating.</li> </ul> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment.</p> <p>7.3 Prepare for and manually apply thermal repair surfacing materials by removing arisings and preparing the surface, heating, raking, mixing, compacting, levelling and finishing surfacing materials and by providing protection for the curing process, to given working instructions.</p> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- establish an agreed time frame for treatment</li> <li>- conform to agreed specification</li> <li>- prepare substrate, to include measuring, setting out, marking out, drying, cleaning and repairing</li> <li>- prepare equipment to manually apply thermal repair surfacing materials</li> <li>- protect and work around street furniture and ironwork</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- prepare thermal repair surfacing materials, to include storing, handling and mixing
- apply thermal repair surfacing materials to prepared surfaces, to include heating, pouring, laying, screeding, spreading and floating
- work with, around and in close proximity to plant and machinery
- remove and dispose of arisings
- communicate and co-ordinate progress on specialist the treatment
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- use hand tools, power tools, pedestrian operated plant and equipment
- work at height
- use access equipment.

7.5 Describe the needs of other occupations and how to effectively communicate within a team when manually applying thermal repair surfacing materials.

7.6 Describe how to maintain the tools and equipment used to manually apply thermal repair surfacing materials.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p>
Sector Subject Area	05.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	183

**Unit D/650/8929**  
**Manually applying resin bonded or resin bound surfacing materials in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to the work and resources when manually applying resin bonded or resin bound surfacing materials.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written, electronic and graphical instructions and current guidance relating to manually applying resin bonded or resin bound surfacing materials.</li> </ul>
<p>2 Know how to comply with relevant legislation and official guidance when manually applying resin bonded or resin bound surfacing materials.</p>	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Maintain safe and healthy working practices when manually applying resin bonded or resin bound surfacing materials.</p>	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when manually applying resin bonded or resin bound surfacing materials.</p>
	<p>3.2 Demonstrate compliance with given information and relevant guidance when manually applying resin bonded or resin bound surfacing materials in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools and equipment</li> <li>- specific risks to health.</li> </ul>
	<p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to manually applying resin bonded or resin bound surfacing materials, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul>
	<p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p>
	<p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>4 Select the required quantity and quality of resources for the methods of work when manually applying resin bonded or resin bound surfacing materials.</p>	<p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p>
	<p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- polyurethane, primers, epoxy or thermoplastic resins, bituminous emulsion, catalyst, fibres, rubber, pigment and asphalt rejuvenators</li> <li>- aggregates</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- protection and masking materials</li> <li>- mixer and mixer pot</li> <li>- pre-heaters and thermal heaters</li> <li>- hand tools, power tools, pedestrian operated plant and equipment.</li> </ul> <p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to manually apply resin bonded or resin bound surfacing materials.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when manually applying resin bonded or resin bound surfacing materials.</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy work space.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
6 Complete the work within the allocated time when manually applying resin bonded or resin bound surfacing materials.	<p>6.1 Demonstrate completion of the work within the allocated time.</p> <p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
7 Comply with the given contract information to manually apply resin bonded or resin bound surfacing materials to the required specification.	<p>7.1 Demonstrate the following work skills when manually applying resin bonded or resin bound surfacing materials:</p> <ul style="list-style-type: none"> <li>- measuring, setting out, marking, positioning, drying, cleaning, masking, priming, sealing, mixing, heating and decanting, spreading, curing, inspecting and communicating.</li> </ul> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment.</p> <p>7.3 Prepare the surface, mix and manually apply resin bonded or resin bound surfacing materials by at least one of the following methods, to given working instructions:</p> <ul style="list-style-type: none"> <li>- for resin bound – level and float</li> <li>- for resin bonded – spray, squeegee and cast aggregates.</li> </ul> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary pedestrian and traffic management and immediate area protection</li> <li>- establish an agreed time frame for treatment</li> <li>- conform to agreed specification</li> <li>- prepare substrate, to include measuring, setting out, marking out, drying, cleaning and repairing</li> <li>- prepare equipment to manually apply resin bonded or resin bound surfacing materials</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- protect and work around street furniture and ironwork
- prepare resin bonded or resin bound surfacing materials, to include storing, handling and mixing
- apply resin bonded or resin bound surfacing materials to prepared surfaces, to include heating, pouring, laying, squeegeeing, screeding, spreading and floating
- work with, around and in close proximity to plant and machinery
- remove and dispose of arisings
- communicate and co-ordinate progress
- use hand tools, power tools, pedestrian operated plant and equipment

7.5 Describe the needs of other occupations and how to effectively communicate within a team when manually applying resin bonded or resin bound surfacing materials.

7.6 Describe how to maintain the tools and equipment used to manually apply resin bonded or resin bound surfacing materials.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p>
Sector Subject Area	05.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	183

## Unit J/650/8930

### Applying and removing pavement markings manually in the workplace

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to the work and resources when applying and removing pavement markings manually.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, official guidance and current regulations governing temporary and permanent markings on pavement surfaces.</li> </ul>
<p>2 Know how to comply with relevant legislation and official guidance when applying and removing pavement markings manually.</p>	<p>2.1 Describe their responsibilities regarding potential accidents health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Maintain safe and healthy working practices when applying and removing pavement markings manually.</p>	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when applying and removing pavement markings manually.</p> <p>3.2 Demonstrate compliance with given information and relevant legislation when applying and removing pavement markings manually in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools and equipment</li> <li>- specific risks to health.</li> </ul> <p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention should be used, relating to applying and removing pavement markings manually, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul> <p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>4 Select the required quantity and quality of resources for the methods of work to apply and remove pavement markings manually.</p>	<p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p> <p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- thermoplastic materials</li> <li>- adhesives</li> <li>- primers and tack coats</li> <li>- paints</li> <li>- temporary materials</li> <li>- temporary surface mounted studs</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- hand tools, power tools, pedestrian operated plant and equipment.</li> </ul> <p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to apply and remove pavement markings manually.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when applying and removing pavement markings manually.</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy work space.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
6 Complete the work within the allocated time when applying and removing pavement markings manually.	<p>6.1 Demonstrate completion of the work within the allocated time.</p> <p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity charts and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme</li> </ul>
7 Comply with the given contract information to apply and remove pavement markings manually to the required specification.	<p>7.1 Demonstrate the following work skills when applying and removing pavement markings manually: measuring, setting out, marking, positioning, preparing and communicating.</p> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment.</p> <p>7.3 Apply pavement markings manually to given specifications and working instructions for one of the following:</p> <ul style="list-style-type: none"> <li>- permanent markings (thermoplastic applications, preformed and/or paint applications)</li> <li>- temporary markings (temporary applications and temporary surface mounted studs).</li> </ul> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- establish agreed time frame for pavement marking work</li> <li>- conform to agreed specifications</li> <li>- prepare area, materials and equipment</li> <li>- apply pavement markings manually</li> <li>- remove pavement markings</li> <li>- apply and remove preformed applications</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- install and remove temporary surface mounted studs
- work around street furniture and ironwork
- communicate and co-ordinate progress
- work with, around and in close proximity to plant and machinery
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- use hand tools, power tools, pedestrian operated plant and ancillary equipment
- work at height
- use access equipment

7.5 Describe the needs of other occupations and how to effectively communicate within a team when applying and removing pavement markings manually.

7.6 Describe how to maintain the tools and equipment used when applying and removing pavement markings manually.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p> <p>This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.</p>
Sector Subject Area	05.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	1090

## Unit K/650/8931

### Installing and removing permanent road studs in the workplace

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
1 Interpret the given information relating to the work and resources when installing and removing permanent road studs.	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, risk assessments, method statements, and manufacturers' information.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, risk assessments, method statements, manufacturers' information, verbal, written and graphical instructions and current regulations governing installing and removing permanent road studs.</li> </ul>
2 Know how to comply with relevant legislation and official guidance when installing and removing permanent road studs.	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment, whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting.</li> </ul> <p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>2.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p>
3 Maintain safe and healthy working practices when installing and removing permanent road studs.	<p>3.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when installing and removing permanent road studs.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>3.2 Demonstrate compliance with given information and relevant legislation when installing and removing permanent road studs in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of materials, tools and equipment</li> <li>- specific risks to health</li> </ul> <p>3.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to installing and removing permanent road studs, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul> <p>3.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>3.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>4 Select the required quantity and quality of resources for the methods of work to install and remove permanent road studs.</p>	<p>4.1 Select resources associated with own work in relation to materials, components, fixings, tools and equipment.</p> <p>4.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- setting and marking out equipment</li> <li>- road studs</li> <li>- fixing materials</li> <li>- maintenance materials</li> <li>- hand tools, power tools and ancillary equipment.</li> </ul> <p>4.3 Describe how to confirm that the resources and materials conform to the specification.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>4.6 Describe any potential hazards associated with the resources and methods of work.</p> <p>4.7 Describe how to identify by calculation, quantity, length, area and wastage associated with the method and procedure to install and remove permanent road studs.</p>
<p>5 Minimise the risk of damage to the work and surrounding area when installing and removing permanent road studs.</p>	<p>5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>5.2 Maintain a clear and tidy workspace.</p> <p>5.3 Dispose of waste in accordance with current legislation.</p> <p>5.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>5.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>6 Complete the work within the allocated time when installing and removing permanent road studs.</p>	<p>6.1 Demonstrate completion of the work within the allocated time.</p> <p>6.2 Describe the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
7 Comply with the given contract information to install and remove permanent road studs to the required specification.	<p>7.1 Demonstrate the following work skills when installing and removing permanent road studs:</p> <ul style="list-style-type: none"> <li>- measuring, setting out, marking, positioning, fitting, fixing, securing and communicating.</li> </ul> <p>7.2 Use and maintain hand tools, power tools and ancillary equipment.</p> <p>7.3 Install, maintain and remove permanent road studs to given working instructions, relating to at least two of the following:</p> <ul style="list-style-type: none"> <li>- inset milled stud</li> <li>- inset drilled stud</li> <li>- fixed surface mounted studs</li> <li>- maintenance of studs by replacing parts</li> </ul> <p>7.4 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- establish agreed time frame for installing, maintaining and removing permanent road studs</li> <li>- conform to agreed specification</li> <li>- prepare area, materials and equipment for installing, maintaining and removing permanent road studs</li> <li>- set and mark out for the installation of permanent road studs</li> <li>- install, maintain and remove milled, drilled and surface mounted road studs and permanent road studs</li> <li>- work around street furniture and ironwork</li> <li>- work with, around and in close proximity to plant and machinery</li> <li>- communicate and co-ordinate progress on the installation, maintenance and removal of permanent road studs</li> <li>- return infrastructure to operational status</li> <li>- recognise and determine when specialist skills and knowledge are required and report accordingly</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- use hand tools, power tools and equipment.
- 7.5 Describe the needs of other occupations and how to effectively communicate within a team when installing maintaining and removing permanent road studs.
- 7.6 Describe how to maintain the tools and equipment used when installing and removing permanent road studs.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.

Sector Subject Area

05.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

163

**Unit L/650/8932**

**Operating and controlling operations of road plant, machinery or equipment for laying flexible and semiflexible paving materials in the workplace**

<b>Learning Outcome - The learner will:</b>	<b>Assessment Criterion - The learner can:</b>
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to: drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery and accessories for laying flexible and semi-flexible paving materials.</p>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials.</p>	<p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials</p> <p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>• in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul> <p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials in relation to tools, ancillary equipment and/or accessories</p> <p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- flexible paving materials</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul> <p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).</p> <p>5.7 Describe how to identify weight, bearing pressure, pressure, quantity, length and area associated with the method and procedure to operate plant, machinery or equipment for laying flexible and semi-flexible paving materials.</p>
<p>6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials.</p>	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy work space.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials.</p>	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials.to the required specification.	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials</p> <ul style="list-style-type: none"> <li>- checking, setting up, adjusting, communicating, operating, controlling, securing, laying, compacting, marking, levelling and finishing.</li> </ul> <p>8.2 Use and maintain hand tools, ancillary equipment and/or accessories.</p> <p>8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions</p> <ul style="list-style-type: none"> <li>- paver screwman (screed operator) maintaining line and level</li> <li>- paver (tracked or wheeled) operator maintaining consistency of surface materials, line and direction</li> <li>- roller operator ensuring compaction, transverse and longitudinal evenness</li> <li>- chipping machine operator maintaining speed and distribution</li> <li>- loader compressor or 180 degree excavator operator maintaining supply of materials and/or preparing surfaces</li> <li>- spray tanker operator maintaining speed, line, direction and distribution</li> <li>- geosynthetic (membrane or steel mesh) installation equipment operator maintaining uniformity, line, direction, overlap and adhesion</li> <li>- spray injection operator ensuring compaction and finish</li> </ul> <p>8.4 Shut down and secure plant, machinery or equipment.</p> <p>8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- identify installation requirements</li> <li>- conform to agreed specifications</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
- identify the characteristics of flexible paving materials e.g. hot rolled asphalt, stone mastic asphalt, mastic asphalt, asphalt concrete mixtures and geosynthetic material
- identify the characteristics of semi-flexible paving materials e.g. cement bound granular material (CGBM) and roller compacted concrete (RCC)
- prepare and install mesh reinforcement membrane
- prepare, set up and carry out pre-start and running checks of the plant, machinery and accessories
- confirm and monitor temperature and workability of flexible and semi-flexible paving materials throughout the process
- recognise the causes of poor performance and factors that will affect the finished product
- carry out and control operations according to your role and the required performance of plant, machinery or equipment
- adjust the work in relation to prevailing weather conditions
- work around street furniture and ironwork
- recognise sampling, testing and quality control processes
- recognise, monitor and control processes e.g. treatment and preparation of joints, line, level, thickness, compaction and finishes
- recognise the duties of the paver screwman, paver operator, roller operator, chipping machine operator, loader compressor operator, 180 degree machine operator, spray tanker operator, geosynthetic installation equipment operator and spray injection operator to ensure cohesive operations
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- shut down and secure plant, machinery or equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating plant, machinery or equipment for laying flexible and semi-flexible paving materials

8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate plant, machinery or equipment for laying flexible and semi-flexible paving materials.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.

Sector Subject Areas

5.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

163

**Unit M/650/8933**  
**Operating and controlling operations of road plant, machinery or equipment for laying rigid paving in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying rigid paving.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery and equipment for laying rigid paving.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for laying rigid paving to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for laying rigid paving.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for laying rigid paving.</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for laying rigid paving materials and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying rigid paving.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for laying rigid paving.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for laying rigid paving in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for laying rigid paving, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul>
	<p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p>
	<p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for laying rigid paving</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for laying rigid paving in relation to tools, ancillary equipment and/or accessories.</p>
	<p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- rigid paving materials</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul>
	<p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p>
	<p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p>
	<p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p>
	<p>5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	5.7 Describe how to identify weight, bearing pressure, pressure, quantity, length and area associated with the method and procedure to operate plant, machinery or equipment for laying rigid paving.
6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for laying rigid paving.	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy workspace.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for laying rigid paving.	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for laying rigid paving to the required specification.	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying rigid paving</p> <ul style="list-style-type: none"> <li>- checking, setting up, adjusting, aligning, communicating, operating, controlling, securing, laying, spreading, compacting, marking, levelling, smoothing, treating and finishing.</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.2 Use and maintain hand tools, ancillary equipment and/or accessories
- 8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions
- feed machine operator, (e.g. tipper truck, dump truck, 360 degree excavator, concrete truck mixer) placing and spreading materials evenly
  - paver screwman maintaining line and level
  - paver operator maintaining speed and consistency of concrete lay and spread
  - finishing beam or float operator maintaining surface finish
  - reinforcement placement equipment operator maintaining line, level and overlap
  - spray operator maintaining speed and coverage
  - texturing and/or curing machine operator maintaining speed
  - horizontal travel slip form machine operator maintaining consistent feed to the mould and speed of lay
- 8.4 Shut down and secure plant, machinery or equipment.
- 8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:
- identify installation requirements
  - conform to agreed specifications
  - confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
  - identify the workability of concrete mixes
  - prepare and install reinforcement
  - prepare, set up and carry out pre-start and running checks of the plant, machinery, equipment and accessories
  - check and monitor ambient conditions and adjust work in relation to prevailing weather conditions
  - receive, handle and extract samples for testing concrete

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- level, vibrate and compact concrete
- screed concrete to finished level
- protect concrete for the curing process
- carry out and control operations according to your role and the required performance of plant, machinery or equipment
  - identify the duties of other operatives in the surfacing crew, feed machine operator, paver screwman, paver operator or finishing crew finishing beam or float operator, spray operator, texturing machine operator, curing machine operator and horizontal travel slipform machine operative
  - recognise, monitor and control processes e.g. treatment and preparation of joints, line, level, thickness, compaction and finishes
  - return infrastructure to operational status
  - recognise and determine when specialist skills and knowledge are required and report accordingly
  - record and report, machine operation factors, work progress and completions
  - shut down and secure plant, machinery and equipment
  - use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating plant, machinery or equipment for laying rigid paving

8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate plant, machinery or equipment for laying rigid paving.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p> <p>This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.</p>
Sector Subject Areas	5.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	163

**Unit R/650/8934**

**Operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery, equipment and accessories for laying slurry micro-surfacing.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing.</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing materials and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing, and the types, purpose</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul>
	<p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p>
	<p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for laying slurry micro-surfacing.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing in relation to tools, ancillary equipment and/or accessories.</p> <p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- slurry micro-surfacing materials</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul> <p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>5.6 Describe any potential hazards associated with the resources and methods of work including those</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>identified by the control of substances hazardous to health assessments (COSHH).</p> <p>5.7 Describe how to identify weight, pressure, quantity, length and area associated with the method and procedures to operate plant, machinery or equipment for laying slurry micro-surfacing.</p>
<p>6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing.</p>	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy work space.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing.</p>	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
<p>8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for</p>	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying slurry micro-surfacing</p> <ul style="list-style-type: none"> <li>• checking, setting up, adjusting, aligning, communicating, operating and controlling.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
laying slurry micro-surfacing to the required specification.	8.2 Use and maintain hand tools, ancillary equipment and accessories
	8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions <ul style="list-style-type: none"> <li>- applicator steersman reacting to signals to maintain speed, direction and line</li> <li>- applicator operator maintaining feed, spread of materials and communicating with steersman</li> <li>- slurry supply tanker operator collecting and delivering materials to the applicator</li> <li>- tipper grab operator collecting and delivering materials to the applicator</li> <li>- roller operator ensuring embedment of mix and continuity of joints.</li> </ul>
	8.4 Shut down and secure plant, machinery or equipment.
	8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to: <ul style="list-style-type: none"> <li>- identify installation requirements</li> <li>- conform to agreed specifications</li> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- identify the workability of slurry micro-surfacing materials</li> <li>- prepare, set up and carry out pre-start and running checks of the plant, machinery and equipment</li> <li>- check and monitor ambient conditions and adjust work in relation to prevailing weather conditions</li> <li>- recognise the test criteria for slurry micro-surfacing materials</li> <li>- screed slurry micro-surfacing materials to finished level</li> <li>- protect and work around street furniture and ironwork</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- carry out and control operations according to your role and the required performance of plant, machinery and equipment
- recognise the duties of the operatives, applicator steersman, applicator operator, slurry supply tanker operator, tipper grab operator and roller operator to ensure cohesive operations
- recognise, monitor and control processes e.g. treatment and preparation of joints, line, level, thickness, embedment and finishes
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- record and report machine operation factors, work progress and completions
- shut down and secure plant, machinery and equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating plant, machinery or equipment for laying slurry micro-surfacing.

8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate plant, machinery or equipment for laying slurry micro-surfacing.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p> <p>This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.</p>
Sector Subject Areas	5.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	163

**Unit T/650/8935**

**Operating and controlling operations of road plant, machinery or equipment for laying surface dressing in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying surface dressing.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery and equipment for laying surface dressing.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for laying surface dressing to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for laying surface dressing.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for laying surface dressing.</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for laying surface dressing materials and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying surface dressing.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for laying surface dressing.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for laying surface dressing in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for laying surface dressing, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul>
	4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.
	4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.
5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for laying surface dressing	5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for laying surface dressing in relation to tools, ancillary equipment and/or accessories.
	5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to: <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- surface dressing materials</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul>
	5.3 Describe how to confirm that the resources and materials conform to the specification.
	5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.
	5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.
	5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>5.7 Describe how to identify weight, pressure, quantity, length and area associated with the method and procedures to operate plant, machinery or equipment for laying surface dressing.</p>
<p>6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for laying surface dressing.</p>	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy workspace.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for laying surface dressing.</p>	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
<p>8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for laying surface dressing to the required specification.</p>	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying surface dressing</p> <ul style="list-style-type: none"> <li>- checking, setting up, adjusting, aligning, communicating, operating, controlling, securing, laying, spreading, embedding, marking, levelling, treating and finishing.</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.2 Use and maintain hand tools, ancillary equipment and accessories
- 8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions
- spray tanker operator maintaining speed, coverage and communicating with spray bar operator
  - self-propelled chipping machine operator maintaining speed and distribution
  - tailboard chipping machine operator maintaining speed and distribution
  - combined spray tanker and chipping machine operator maintaining speed, distribution and communicating with spray bar operator
  - spray bar operator maintaining level, distribution and communicating with spray tanker operator or combined spray tanker and chipping machine operator
  - tipper grab operator delivering materials to chipping machine
  - loading shovel operator supplying materials to the tipper
  - roller operator ensuring embedment and continuity of joints
- 8.4 Shut down and secure plant, machinery or equipment.
- 8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:
- identify installation requirements
  - conform to agreed specifications
  - confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
  - identify the components of surface dressing
  - prepare and mask street furniture
  - prepare, set up and carry out pre-start and running checks of the plant, machinery and equipment

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- check and monitor ambient conditions and adjust work in relation to prevailing weather conditions
- recognise the test criteria for surface dressing materials
- carry out and control operations according to your role and the required performance of plant, machinery and equipment
- recognise, monitor and control processes e.g. treatment and preparation of joints, line, level, rate of spread and finishes
- work around street furniture and ironwork
- identify the duties of other operatives, spray tanker operator, self-propelled and tailboard chipper operator, combined spray tanker operators, spray bar operator and roller operator to ensure cohesive operations
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- record and report, machine operation factors, work progress and completions
- shut down and secure plant, machinery and equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating plant, machinery or equipment for laying surface dressing.

8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate plant, machinery or equipment for laying surfacing dressing.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p> <p>This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.</p>
Sector Subject Areas	5.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	163

**Unit Y/650/8936**

**Operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery and accessories for high friction surfacing.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing.</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing materials and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing, and the types, purpose</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE).</li> </ul>
	<p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p>
	<p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for laying high friction surfacing.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing in relation to tools, ancillary equipment and/or accessories.</p> <p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- high friction surfacing materials</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul> <p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>5.6 Describe any potential hazards associated with the resources and methods of work including those</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	identified by the control of substances hazardous to health assessments (COSHH).
	5.7 Describe how to identify weight, pressure, quantity, length and area associated with the method and procedures to operate plant, machinery or equipment for laying high friction surfacing.
6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing.	6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.
	6.2 Maintain a clear and tidy work space.
	6.3 Dispose of waste in accordance with current legislation.
	6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.
	6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.
7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing.	7.1 Demonstrate completion of the work within the allocated time.
	7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for laying high friction surfacing to the required specification.	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing</p> <ul style="list-style-type: none"> <li>- checking, setting up, adjusting, aligning, communicating, operating, controlling, securing, laying, spreading, marking, levelling and finishing.</li> </ul> <p>8.2 Use and maintain hand tools, ancillary equipment and/or accessories</p> <p>8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions</p> <ul style="list-style-type: none"> <li>- heating pot operator heating materials to specified temperature, avoiding overheating and delivering heated materials to shoe</li> <li>- tanker operator maintaining speed and distribution</li> <li>- spray bar operator maintaining level and distribution</li> <li>- chipper machine operator maintaining speed and distribution</li> </ul> <p>8.4 Shut down and secure plant, machinery or equipment.</p> <p>8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- identify installation requirements</li> <li>- conform to agreed specifications</li> <li>- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection</li> <li>- identify the constituents of high friction surfacing materials</li> <li>- prepare and mask features</li> <li>- prepare, set up and carry out pre-start and running checks of the plant, machinery and equipment</li> <li>- check and monitor ambient conditions and adjust work in relation to prevailing weather conditions</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- recognise the test criteria for high friction surfacing materials
- carry out and control operations according to your role and the required performance of plant, machinery and equipment
- recognise the duties of the operatives; tanker operator, spray bar operator and chipper machine operator to ensure cohesive operations
- recognise, monitor and control processes e.g. treatment and preparation of joints, line, level, spread, thickness, and finishes
- work around street furniture and ironwork
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- record and report, machine operation factors, work progress and completions
- shut down and secure plant, machinery and equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating plant, machinery or equipment for laying high friction surfacing.

8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate plant, machinery or equipment for laying high friction surfacing.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p> <p>This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.</p>
Sector Subject Areas	5.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	163

**Unit F/650/8939**

**Operating and controlling operations of road plant, machinery or equipment for planing or milling operations in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for planing or milling operations.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery and equipment for planing and milling operations.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for planing or milling operations to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for planing or milling operations.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for planing or milling operations.</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for planing or milling operations and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for planing or milling operations.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for planing or milling operations.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for planing or milling operations in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for planing or milling operations, and the types, purpose</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul>
	<p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p>
	<p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for planing or milling operations.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for planing or milling operations in relation to tools, ancillary equipment and/or accessories.</p> <p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul> <p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>5.7 Describe how to identify weight, bearing pressure, pressure, quantity, length and area associated with the method and procedures to operate plant, machinery or equipment for planing or milling operations.</p>
<p>6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for planing or milling operations.</p>	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy work space.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for planing or milling operations.</p>	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
<p>8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for planing or milling operations to the required specification.</p>	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for planing or milling operations</p> <ul style="list-style-type: none"> <li>- checking, setting up, adjusting, aligning, communicating, operating, controlling, cutting abrading, levelling, finishing and securing.</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.2 Use and maintain hand tools, ancillary equipment and/or accessories
- 8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions
- wheeled planing and/or milling machine operator up to 1 metre maintaining speed, line, depth, level and communication with arisings collection vehicle
  - tracked planing and/or milling machine up to 1.5 metre operator maintaining speed, line, depth, level and communication with arisings collection vehicle
  - tracked planing and/or milling machine over 1.5 metre operator maintaining speed, line, depth, level and communication with arisings collection vehicle
- 8.4 Shut down and secure plant, machinery or equipment.
- 8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:
- identify planning and milling requirements
  - conform to agreed specifications
  - confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
  - prepare, set up and carry out pre-start and running checks of the plant, machinery, equipment and accessories
  - work around street furniture and ironwork
  - identify location marking of utility services
  - recognise the duties of other operatives, planing machine operator, milling machine operator and arisings collection vehicle operator to ensure cohesive operations
  - recognise, monitor and control processes, rate of removal, depth and finishes
  - recognise and determine when specialist skills and knowledge are required and report accordingly

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- record and report, machine operation factors, work progress and completions
- shut down and secure plant, machinery and equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating plant, machinery or equipment for planing or milling operations.

8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate plant, machinery or equipment for planing or milling operations.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.

Sector Subject Areas

5.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

163

**Unit K/650/8940**

**Operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of specialist road plant, machinery and equipment for in-situ structural road recycling operations.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p>	<p>specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p> <p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for in-situ structural road recycling operations and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul> <p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p> <p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- in-situ structural road recycling additions</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul> <p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).</p> <p>5.7 Describe how to identify weight, bearing pressure, pressure, quantity, length and area associated with the method and procedures to operate and control operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p>
<p>6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p>	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy workspace.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>7 Complete the work within the allocated time when operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations.</p>	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
<p>8 Comply with the given contract information to operate and control operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations to the required specification.</p>	<p>8.1 Demonstrate the following work skills when operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations</p> <ul style="list-style-type: none"> <li>- checking , setting up, adjusting, aligning, communicating, operating, controlling, removing, laying, spreading, compacting, marking, levelling, smoothing, treating and finishing.</li> </ul>
	<p>8.2 Use and maintain hand tools, ancillary equipment and/or accessories</p>
	<p>8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions</p> <ul style="list-style-type: none"> <li>- pulveriser (milling or planing), recycling and mixing machine operator maintaining speed, line and level</li> <li>- combination in-situ recycling machine operator maintaining speed, line and level</li> <li>- bulk binder spreader machine operator ensuring even spread and distribution of recycled materials and binder</li> <li>- tanker truck (water, emulsion or bitumen) operator maintaining speed, coverage and communication with pulveriser or recycling machine operator</li> <li>- motor grader operator grading and shaping to profile</li> <li>- roller operator (single drum, tandem and pneumatic-tyred) ensuring compaction</li> </ul>
	<p>8.4 Shut down and secure plant, machinery or equipment.</p>
	<p>8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- identify installation requirements</li> <li>- conform to agreed specifications</li> </ul>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
- identify markings for ironwork and utilities
- prepare, set up and carry out pre-start and running checks of the plant, machinery and equipment
- check and monitor ambient conditions and adjust work in relation to prevailing weather conditions
- carry out and control operations according to your role and the required performance of plant, machinery and equipment
- recognise the duties of other operators, pulverising operator, recycling and mixing machine operator, bulk binder spreader machine operator, motor grader operator, roller operator, tanker truck operator to ensure cohesive operations
- recognise, monitor and control processes e.g. removal, mixing, compacting, laying, treatment and preparation of joints, line, level, spread, thickness and finishes
- work around street furniture and ironwork
- identify trafficable times and protect site for curing
- clear gullies, relocate ironwork and reinstate verges
- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- record and report, machine operation factors, work progress and completions
- shut down and secure plant, machinery and equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating specialist road plant, machinery or equipment for in-situ structural road recycling operations.

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate specialist road plant, machinery or equipment for in-situ structural road recycling operations.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.

Sector Subject Areas

5.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

163

**Unit L/650/8941**

**Operating and controlling operations of road plant, machinery or equipment for soil stabilisation in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for soil stabilisation.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery and equipment for soil stabilisation operations.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for soil stabilisation to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for soil stabilisation.</p>
<p>3 Know how to comply with relevant legislation and official guidance when operating and</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
controlling operations of road plant, machinery or equipment for soil stabilisation.	<ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for soil stabilisation and describe how and when they are used.</p>
4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for soil stabilisation.	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for soil stabilisation.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for soil stabilisation in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for soil stabilisation, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p> <p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for soil stabilisation.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for soil stabilisation.</p> <p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- binding materials</li> <li>- sealing agents</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul> <p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).</p> <p>5.7 Describe how to identify weight, bearing pressure, pressure, quantity, length and area associated with the method and procedures to operate and control</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	operations of road plant, machinery or equipment for soil stabilisation.
<p>6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for soil stabilisation.</p>	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy work space.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
<p>7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for soil stabilisation.</p>	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
<p>8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for soil stabilisation to the required specification.</p>	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for soil stabilisation</p> <ul style="list-style-type: none"> <li>- checking , setting up, adjusting, aligning, communicating, operating, controlling, laying, spreading, compacting, levelling, smoothing, and finishing.</li> </ul> <p>8.2 Use and maintain hand tools, ancillary equipment and/or accessories</p>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions
- combination soil stabilisation machine operator maintaining depth, speed, line, level and consistent integration of binding materials
  - mixer machine operator mixing binding materials and supplying the spreader machine
  - bulk binder spreader machine operator ensuring even spread and distribution of binding materials
  - tilling machine operator maintaining depth, speed, line and level
  - self-propelled or towed water bowser machine operator maintaining speed and distribution
  - roller operator ensuring light compaction for sealing
- 8.4 Shut down and secure plant, machinery or equipment.
- 8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:
- identify installation requirements
  - conform to agreed specifications
  - confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
  - identify markings for utilities
  - prepare, set up and carry out pre-start and running checks of the plant, machinery and equipment
  - check and monitor ambient conditions and adjust work in relation to prevailing weather conditions
  - carry out and control operations according to your role and the required performance of plant, machinery and equipment
  - recognise the duties of other operators, combination soil stabilisation machine operator, mixing machine operator, bulk binder spreader operator, tilling machine

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

operator, self-propelled and towed water bowser and roller operator to ensure cohesive operations

- recognise, monitor and control processes including removal, mixing, spreading, tilling, compacting, maintaining line, level, spread, depth, and finishes
- recognise and determine when specialist skills and knowledge are required and report accordingly
- record and report, machine operation factors, work progress and completions
- shut down and secure plant, machinery and equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating and controlling operations of road plant, machinery or equipment for soil stabilisation.

8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate and control operations of road plant, machinery or equipment for soil stabilisation.

**Additional information about this unit**

Assessment Guidance	<p>This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p> <p>This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.</p>
Sector Subject Areas	5.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	163

**Unit M/650/8942**

**Operating and controlling operations of road plant, machinery or equipment for surface retexturing in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for surface retexturing.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery, equipment and accessories for surface retexturing.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for surface retexturing to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for surface retexturing.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for surface retexturing.</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for surface retexturing and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for surface retexturing.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for surface retexturing.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for surface retexturing in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for surface retexturing, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul>
	<p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p>
	<p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for surface retexturing.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for surface retexturing.</p>
	<p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul>
	<p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p>
	<p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p>
	<p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p>
	<p>5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).</p>
	<p>5.7 Describe how to identify weight, pressure, quantity, length and area associated with the method and procedures to operate and control operations of road</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	plant, machinery or equipment for surface retexturing.
6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for surface retexturing.	6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.
	6.2 Maintain a clear and tidy work space.
	6.3 Dispose of waste in accordance with current legislation.
	6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.
	6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.
7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for surface retexturing.	7.1 Demonstrate completion of the work within the allocated time.
	7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for surface retexturing to the required specification.	8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for surface retexturing <ul style="list-style-type: none"> <li>- checking, setting up, adjusting, aligning, communicating, operating, controlling, securing, treating and finishing.</li> </ul>
	8.2 Use and maintain hand tools, ancillary equipment and/or accessories

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.3 Prepare, operate or control operations of plant, machinery or equipment for at least one of the following to given working instructions, monitoring speed, time and surface quality
- bush hammering machine operator
  - grooving machine operator
  - flailing machine operator
  - high pressure jetting machine operator
  - shot blasting machine operator
  - planing or milling machine operator
  - grinding machine operator
- 8.4 Shut down and secure plant, machinery or equipment.
- 8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:
- identify treatment requirements
  - conform to agreed specifications
  - confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
  - prepare, mask and work around street furniture and ironworks
  - check and monitor ambient conditions and adjust work in relation to prevailing weather conditions
  - carry out and control operations according to your role and the required performance of plant, machinery and equipment
  - recognise, monitor and control processes e.g. uniformity of finish and texture depth
  - return infrastructure to operational status
  - recognise and determine when specialist skills and knowledge are required and report accordingly
  - record and report, machine operation factors, work progress and completions
  - shut down and secure plant, machinery and equipment
  - use hand tools, ancillary equipment and accessories.

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating and controlling operations of road plant, machinery or equipment for surface retexturing.
- 8.7 Describe how to maintain the plant or machinery, tools equipment and/or accessories used to operate and control operations of road plant, machinery or equipment for surface retexturing.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.

Sector Subject Areas

5.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

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**Unit R/650/8943**

**Operating and controlling operations of road plant, machinery or equipment for pavement markings in the workplace**

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>1 Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for pavement marking.</p>	<p>1.1 Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the plant, machinery or equipment operations and the work to be carried out.</p> <p>1.2 Comply with information and/or instructions derived from risk assessments and method statements.</p> <p>1.3 Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</p> <p>1.4 Describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of road plant, machinery, and equipment for pavement marking.</li> </ul>
<p>2 Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for pavement marking to be carried out.</p>	<p>2.1 Organise the work according to given information or instructions.</p> <p>2.2 Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings.</p> <p>2.3 Organise and communicate with team members and other associated occupations.</p> <p>2.4 Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for pavement marking.</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
<p>3 Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for pavement marking.</p>	<p>3.1 Describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting.</li> </ul> <p>3.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</p> <p>3.3 Explain what the accident reporting procedures are and who is responsible for making reports.</p> <p>3.4 Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for pavement marking and describe how and when they are used.</p>
<p>4 Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for pavement marking.</p>	<p>4.1 Use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with current legislation and organisational requirements when operating and controlling operations of road plant, machinery or equipment for pavement marking.</p> <p>4.2 Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for pavement marking in relation to the following:</p> <ul style="list-style-type: none"> <li>- safe use, storage and handling of plant, machinery, equipment and tools</li> <li>- safe use, storage and handling of materials</li> <li>- specific risks to health.</li> </ul> <p>4.3 Explain why and when health and safety control equipment, identified by the principles of prevention, should be used, relating to operating and controlling operations of road plant, machinery or equipment for pavement marking, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> </ul>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	<ul style="list-style-type: none"> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> </ul>
	<p>4.4 Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions.</p>
	<p>4.5 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related activities.</p>
<p>5 Request and select the required quantity and quality of resources to operate and control operations of road plant, machinery or equipment for pavement marking.</p>	<p>5.1 Request and select consumables, materials and other resources associated with operating and controlling operations of road plant, machinery or equipment for pavement marking.</p> <p>5.2 Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:</p> <ul style="list-style-type: none"> <li>- consumables, lubricants and fuels</li> <li>- attachments</li> <li>- pavement marking materials</li> <li>- hand tools, ancillary equipment and accessories.</li> </ul> <p>5.3 Describe how to confirm that the resources and materials conform to the specification.</p> <p>5.4 Describe how the resources should be used correctly and how problems associated with the resources are reported.</p> <p>5.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.</p> <p>5.6 Describe any potential hazards associated with the resources and methods of work including those identified by the control of substances hazardous to health assessments (COSHH).</p> <p>5.7 Describe how to identify weight, pressure, quantity, length and area associated with the method and</p>

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	procedures to operate and control operations of road plant, machinery or equipment for pavement marking.
6 Minimise the risk of damage to the work and surrounding area when operating and controlling operations of road plant, machinery or equipment for pavement marking.	<p>6.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.</p> <p>6.2 Maintain a clear and tidy work space.</p> <p>6.3 Dispose of waste in accordance with current legislation.</p> <p>6.4 Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions.</p> <p>6.5 Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p>
7 Complete the work within the allocated time when operating and controlling operations of road plant, machinery or equipment for pavement marking.	<p>7.1 Demonstrate completion of the work within the allocated time.</p> <p>7.2 Describe the purpose of the work programme and describe why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- types of productivity targets and time scales</li> <li>- how times are estimated</li> <li>- organisational procedures for reporting circumstances which will affect the work programme.</li> </ul>
8 Comply with the given contract information to operate and control operations of road plant, machinery or equipment for pavement marking to the required specification.	<p>8.1 Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for pavement marking</p> <ul style="list-style-type: none"> <li>- checking, setting up, adjusting, aligning, communicating, operating, controlling, securing and laying.</li> </ul> <p>8.2 Use and maintain hand tools, ancillary equipment and/or accessories</p>

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- 8.3 Prepare, operate or control operations of at least one of the following items of plant, machinery or equipment to given working instructions
- applicator steersman reacting to signals to maintain speed, direction and line
  - applicator operator maintaining feed, flow, coverage, quantity and thickness of materials and communicating with steersman
  - feeder vehicle operator supplying materials to the applicator
- 8.4 Shut down and secure plant, machinery or equipment.
- 8.5 Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:
- identify installation requirements
  - conform to agreed specifications
  - confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
  - ensure clean and dry surfaces for pavement marking application
  - identify types of pavement marking materials; spray, rib, extrusion, cold applied systems and wet visibility
  - prepare, set up and carry out pre-start and running checks of the plant, machinery and equipment
  - check and monitor ambient conditions and adjust work in relation to prevailing conditions
  - recognise the test criteria for pavement marking materials
  - carry out and control operations according to your role and the required performance of plant, machinery and equipment
  - work around street furniture and ironwork
  - recognise the duties of other operatives, applicator steersman, applicator operator and feeder vehicle operator to ensure cohesive operations
  - recognise, monitor and control processes e.g. preparation, line, thickness and finishes

**Learning Outcome - The learner will:**

**Assessment Criterion - The learner can:**

- return infrastructure to operational status
- recognise and determine when specialist skills and knowledge are required and report accordingly
- record and report, machine operation factors, work progress and completions
- shut down and secure plant, machinery and equipment
- use hand tools, ancillary equipment and accessories.

8.6 Describe the needs of other occupations and how to effectively communicate within a team when operating and controlling operations of road plant, machinery or equipment for pavement marking.

8.7 Describe how to maintain the plant, machinery or equipment and/or accessories used to operate and control operations of road plant, machinery or equipment for pavement marking.

**Additional information about this unit**

Assessment Guidance

This unit must be assessed in a work environment and in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the endorsements detailed within the relevant NVQ structure. Please refer to the NVQ structure applicable to the qualification/occupational area in which the candidate is being assessed.

Sector Subject Areas

5.2 Building and Construction

Availability for use

Shared unit

Unit guided learning hours

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**Behaviours**

When performing to this standard you are likely to demonstrate the following behaviours.

- 1 **Work safely:**  
Consider the safety of yourself and those around you, challenge unsafe behaviour.
- 2 **Effective communication:**  
Oral, written, electronic, listening, body language, presentation.
- 3 **Respect:**  
Apply equality, diversity and inclusion in dealing with others.
- 4 **Team work:**  
Work effectively and safely with others with limited supervision.
- 5 **Independent working:**  
Take responsibility for safe completion of your own work.
- 6 **Logical thinking:**  
Use clear and valid reasoning when making decisions to safely undertake work instructions.
- 7 **Working effectively:**  
Undertake the work in a reliable, safe and productive manner.
- 8 **Time management:**  
Use own time effectively to complete the work instructions to schedule, take the time to be safe.
- 9 **Adaptability:**  
Be able to adjust to changes to the work instructions, put safety first.



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