

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

## **Specification**

NVQs/Competence-based qualifications

First registration May 2019

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# 1 Introducing Edexcel NVQs/ Competence-based qualifications

## What are NVQs/Competence-based qualifications?

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National Vocational Qualifications (NVQs)/Competence-based qualifications are work-based qualifications that give learners the opportunity to develop and demonstrate their competence in the area of work or job role to which the qualification relates.

NVQs/Competence-based qualifications are based on recognised occupational standards for the appropriate sector. Occupational Standards define what employees, or potential employees, must be able to do and know, and how well they should undertake work tasks and work roles. These standards are written in broad terms to enable employers and providers to apply them to a wide range of related occupational areas.

NVQs/Competence-based qualifications are outcomes-based with no fixed learning programme, therefore allowing flexible delivery to meet the individual learner's needs. At Level 2 and above, these qualifications are recognised as approved training and development for employees who have been in the workplace for some time. The qualifications are also a way of inducting, training and developing new entrants into the workplace. Qualifications at Level 1 can be used in Traineeships, which enables progression to entry-level employment or to Apprenticeship programmes.

Learners will work towards their qualification in the workplace or in a setting that replicates the working environment as specified in the assessment requirements. Colleges, training centres and/or employers can offer these qualifications as long as they have access to appropriate physical and human resources and have the necessary quality assurance systems in place.

## Sizes of NVQs/Competence-based qualifications

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For all regulated qualifications, Pearson specifies a total estimated number of hours that learners will require to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities, such as lessons, tutorials, online instruction, supervised study and giving feedback on performance, that directly involve tutors and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by tutors or assessors includes private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

As well as TQT and GLH, qualifications can also have a credit value – equal to one tenth of the TQT, rounded to the nearest whole number.

TQT and credit values are assigned after consultation with users of the qualifications.

NVQs/Competence-based qualifications are generally available in the following sizes:

- Award – a qualification with a TQT value of 120 or less (equivalent to a range of 1–12 credits)
- Certificate – a qualification with a TQT value in the range of 121–369 (equivalent to a range of 13–36 credits)
- Diploma – a qualification with a TQT value of 370 or more (equivalent to 37 credits and above).

## 2 Qualification summary and key information

Qualification title	Pearson Edexcel Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction)
Qualification Number (QN)	603/4369/2
Regulation start date	01/05/2019
Operational start date	01/05/2019
Approved age ranges	16–18 19+ Please note that sector-specific requirements or regulations may prevent learners of a particular age from embarking on this qualification. Please refer to the assessment requirements in <i>Section 8 Assessment</i> .
Minimum Total Qualification Time (TQT)	540
Minimum Guided Learning Hours (GLH)	180
Assessment	Portfolio of evidence (internal assessment).
Grading information	The qualification and units are graded pass/fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow the <i>Pearson Guide for Centres to Enrolling onto Qualifications</i> (see <i>Section 7 Access and recruitment</i> ).
Funding	Qualifications eligibility for 16–19, apprenticeship and 19+ advanced learner loan funding can be found on the funding Hub. The Education and Skills Funding Agency (ESFA) also publishes a list of the qualifications eligible for the 19–23 Level 2 and Level 3 legal entitlement, and a list of the qualifications eligible for 19+ advanced learner loans.

Centres will need to use the Qualification Number (QN) when they seek public funding for their learners. The qualification title, unit titles and QN will appear on each learner's final certificate. Centres should tell learners this when recruiting them and registering them with Pearson. There is more information about certification in our *UK Information Manual*, available on our website.

## 3 Qualification purpose

### Qualification objectives

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The Pearson Edexcel Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction) is for learners who work in, or who want to work in, the construction and built environment sector, primarily road building sector.

The qualification gives learners the opportunity to:

- develop the technical skills, role-related knowledge and understanding, and behaviours required to work in job roles such as construction operative, highways maintenance/road worker and surface dressing and marking operative, who are responsible for operating a range of machinery and plant in specific conditions and for specific tasks
- gain recognition for existing skills and knowledge
- achieve a nationally-recognised Level 2 qualification
- develop personal growth and engagement in learning.

### Relationship with previous qualifications

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This qualification is part of the replacement group of qualifications for those formerly titled 'Construction Operations and Civil Engineering Services', following a review of National Occupational Standards. This has resulted in title changes for qualifications within this branch of civil engineering.

### Progression opportunities

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Learners who achieve the Pearson Edexcel Level 2 NVQ Diploma in Roadbuilding and Maintenance can progress to supervisory and management qualifications, for example occupational work supervision or site supervision at Levels 3 and 4 respectively.

### Industry support and recognition

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This qualification is supported by the Construction Industry Training Board (CITB) – the Sector Skills Council for construction and the built environment.

### Relationship with occupational standards

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This qualification is based on the National Occupational Standards (NOS) in Roadbuilding and Maintenance, which were set and designed by CITB.

## 4 Qualification structure

### Pearson Edexcel Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction)

Learners will need to meet the mandatory requirements outlined in the table below and one from 18 pathways, outlined in the following pages, before the qualification can be awarded.

Minimum number of units that must be achieved	3
Minimum number of units that must be achieved at Level 2 or above	2

Unit number	Group A – mandatory units for all pathways	Level	Guided Learning Hours
1	Conforming to General Health, Safety and Welfare in the Workplace	1	7
2	Conforming to Productive Working Practices in the Workplace	2	10

### Pathway 1 – Level 2 NVQ Diploma in Roadbuilding and Maintenance Manual – Manual Road Building – Slurry Surfacing (Manual)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	600
Guided Learning Hours for this pathway	200

Unit number	Group B – mandatory unit for Pathway 1	Level	Guided Learning Hours
3	Manually Applying Slurry Surfacing Materials in the Workplace	2	183

## Pathway 2- Level 2 NVQ Diploma in Roadbuilding and Maintenance – Manual Road Building – High Friction Surfacing – Cold Applied (Manual)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	600
Guided Learning Hours for this pathway	200

Unit number	Group C – mandatory unit for Pathway 2	Level	Guided Learning Hours
4	Manually Applying High Friction (Cold Applied) Surfacing Materials in the Workplace	2	183

## Pathway 3 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Manual Road Building – High Friction Surfacing – Hot Applied (Manual)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	600
Guided Learning Hours for this pathway	200

Unit number	Group D – mandatory unit for Pathway 3	Level	Guided Learning Hours
5	Manually Applying High Friction (Hot Applied) Surfacing Materials in the Workplace	2	183

## Pathway 4 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Manual Road Building – Crack and Joint Repair (Manual)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	600
Guided Learning Hours for this pathway	200

Unit number	Group E – mandatory unit for Pathway 4	Level	Guided Learning Hours
6	Manually Applying Crack and Joint Repair Surfacing Materials in the Workplace	2	183

## Pathway 5 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Manual Road Building – Thermal Repair (Manual)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	600
Guided Learning Hours for this pathway	200

Unit number	Group F – mandatory unit for Pathway 5	Level	Guided Learning Hours
7	Manually Applying Thermal Repair Surfacing Materials in the Workplace	2	183

## Pathway 6 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Manual Road Building – Resin Bonded or Resin Bound Surfacing (Manual)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	600
Guided Learning Hours for this pathway	200

Unit number	Group G – mandatory unit for Pathway 6	Level	Guided Learning Hours
8	Manually Applying Resin Bonded or Resin Bound Surfacing Materials in the Workplace	2	183

## Pathway 7 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Pavement Marking (Manual)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	1870
Guided Learning Hours for this pathway	1107

Unit number	Group H – mandatory unit for Pathway 7	Level	Guided Learning Hours
20	Applying and Removing Pavement Markings Manually in the Workplace	2	1090

## Pathway 8 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Road Maintenance – Pavement Marking (Road Studs)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group I – mandatory unit for Pathway 8	Level	Guided Learning Hours
19	Installing and removing permanent road studs in the workplace	2	163

## Pathway 9 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Plant – Flexible Paving (Machine)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group J – mandatory unit for Pathway 9	Level	Guided Learning Hours
9	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Flexible and Semi-flexible Paving Materials in the Workplace	2	163

## Pathway 10 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Plant – Rigid Paving (Machine)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group K – mandatory unit for Pathway 10	Level	Guided Learning Hours
10	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Rigid Paving in the Workplace	2	163

## Pathway 11 – Level 2 NVQ Diploma in Roadbuilding and Maintenance Plant – Slurry Microsurfacing (Machine)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group L – mandatory unit for Pathway 11	Level	Guided Learning Hours
11	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Slurry Microsurfacing in the Workplace	2	163

## Pathway 12 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Plant – Surface Dressing (Machine)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group M – mandatory unit for Pathway 12	Level	Guided Learning Hours
12	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Surface Dressing in the Workplace	2	163

## Pathway 13 – Level 2 NVQ Diploma in Roadbuilding and Maintenance Plant – High Friction Surfacing (Machine)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group N – mandatory unit for Pathway 13	Level	Guided Learning Hours
13	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying High Friction Surfacing in the Workplace	2	163

## Pathway 14 – Level 2 NVQ Diploma in Roadbuilding and Maintenance Plant – Planing (Machine)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group O – mandatory unit for Pathway 14	Level	Guided Learning Hours
14	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Planing or Milling Operations in the Workplace	2	163

## Pathway 15 – Level 2 NVQ Diploma in Roadbuilding and Maintenance Plant – Road Recycling (Machine)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group P – mandatory unit for Pathway 15	Level	Guided Learning Hours
15	Operating and Controlling Operations of Specialist Road Plant, Machinery or Equipment For In-situ Structural Road Recycling Operations in the Workplace	2	163

### Pathway 16 – Level 2 NVQ Diploma in Roadbuilding and Maintenance – Plant – Soil Stabilisation (Machine)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group Q – mandatory unit for Pathway 16	Level	Guided Learning Hours
16	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Soil Stabilisation in the Workplace	2	163

### Pathway 17 – Level 2 NVQ Diploma in Roadbuilding and Maintenance Plant – Surface Retexturing (Machine)

Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group R – mandatory unit for Pathway 17	Level	Guided Learning Hours
17	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Surface Retexturing in the Workplace	2	163

## Pathway 18 – Level 2 NVQ Diploma in Roadbuilding and Maintenance Plant – Pavement Marking (Machine)

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Number of units that must be achieved for this pathway, including the mandatory units from Group A	3
Total Qualification Time for this pathway	540
Guided Learning Hours for this pathway	180

Unit number	Group S – mandatory unit for Pathway 18	Level	Guided Learning Hours
18	Operating and Controlling Operations of Road Plant, Machinery or Equipment for Pavement Marking in the Workplace	2	163

## Unit endorsements for Level 2 NVQ Diploma in Roadbuilding and Maintenance (Construction)

Unit number	Endorsements
9	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• paver screwman</li> <li>• paver</li> <li>• roller</li> <li>• chipping machine</li> <li>• loader compressor</li> <li>• 180 degree excavator</li> <li>• spray tanker</li> <li>• geosynthetic installation equipment</li> <li>• spray injection.</li> </ul>
10	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• feed machine</li> <li>• paver screwman</li> <li>• paver</li> <li>• finishing beam or float</li> <li>• reinforcement placement equipment</li> <li>• spray</li> <li>• texturing and/or curing machine</li> <li>• horizontal travel slipform machine operator.</li> </ul>

Unit number	Endorsements
11	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• applicator steersman</li> <li>• applicator</li> <li>• slurry supply tanker</li> <li>• tipper grab</li> <li>• roller.</li> </ul>
12	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• spray tanker</li> <li>• self-propelled chipping machine</li> <li>• tailboard chipping machine</li> <li>• combined spray tanker and chipping machine</li> <li>• Spray bar</li> <li>• Tipper grab</li> <li>• Loading shovel</li> <li>• Roller.</li> </ul>
13	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• heating pot</li> <li>• tanker</li> <li>• spray bar</li> <li>• chipper machine.</li> </ul>

Unit number	Endorsements
14	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• wheeled planing and/or milling machine up to 1 metre</li> <li>• tracked planing and/or milling machine up to 1.5 metres</li> <li>• tracked planing and/or milling machine over 1.5 metres.</li> </ul>
15	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• pulveriser, recycling machine</li> <li>• combination in-situ recycling machine</li> <li>• bulk binder spreader machine</li> <li>• tanker truck</li> <li>• motor grader</li> <li>• roller.</li> </ul>
16	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• combination soil stabilisation machine</li> <li>• mixer machine</li> <li>• bulk binder spreader machine</li> <li>• tilling machine</li> <li>• self-propelled water bowser</li> <li>• towed water bowser</li> <li>• roller.</li> </ul>

Unit number	Endorsements
17	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• bush hammering machine</li> <li>• grooving machine</li> <li>• flailing machine</li> <li>• high pressure jetting machine</li> <li>• shot blasting machine</li> <li>• planing or milling machine</li> <li>• grinding machine.</li> </ul>
18	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• road building and maintenance plant.</li> </ul> <p>Plus <b>one</b> of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• applicator steersman</li> <li>• applicator</li> <li>• feeder vehicle.</li> </ul>
19	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• manual road building</li> </ul> <p>plus <b>two</b> of the following endorsements are required:</p> <ul style="list-style-type: none"> <li>• inset milled stud</li> <li>• inset drilled stud</li> <li>• fixed surface mounted studs</li> </ul> <p>stud maintenance.</p>
20	<p>The following endorsement is required (i.e. own area of work):</p> <ul style="list-style-type: none"> <li>• manual road building</li> </ul> <p>plus one of the following endorsements is required:</p> <ul style="list-style-type: none"> <li>• permanent markings</li> <li>• temporary markings.</li> </ul>

## 5 Programme delivery

Centres are free to offer these qualifications using any mode of delivery (for example full-time, part-time, evening only, distance learning) that meets learners' needs. So that they can develop and demonstrate the occupational competence required, learners must be in employment or working with a training provider on a programme.

Whichever mode of delivery is used, centres must make sure that learners have access to specified resources and to the sector specialists delivering and assessing the units. Centres must adhere to the Pearson policies that apply to the different modes of delivery. Our *Collaborative and Consortium Arrangements for the Delivery of Vocational Qualifications Policy* document is available on our website.

There are various approaches to delivering a successful competence-based qualification. The section below outlines elements of good practice that centres can adopt in relation to learner recruitment, preparation and support, training and assessment delivery, and employer engagement.

### Elements of good practice

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#### Learner recruitment, preparation and support

Good practice in relation to learner recruitment, preparation and support includes:

- giving potential learners initial advice and guidance, including work tasters, to give them an insight into the relevant industry and the learning programme
- using a range of appropriate and rigorous selection methods to ensure that learners are matched to the programme best suited to their needs
- carrying out a thorough induction for learners to ensure that they completely understand the programme and what is expected of them. The induction should include, for example, the requirements of the programme, an initial assessment of current competency levels, assessment of individual learning styles, identification of training needs, an individual learning plan, details of training delivery and the assessment process. It is good practice to involve employers in the induction process. This helps them to understand what will be taking place during the programme and enables them to start building a relationship with the centre to support the effective delivery of the programme
- keeping in regular contact with the learner to keep them engaged and motivated, and ensuring that there are open lines of communication between the learner, the assessor, the employer and teaching staff.

## Training and assessment delivery

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Good practice in relation to training and assessment delivery includes:

- offering flexible delivery and assessment to meet the needs of the employer and learner through the use of a range of approaches, for example virtual learning environments (VLEs), online lectures, video, printable online resources, virtual visits, webcams for distance training, e-portfolios
- planning opportunities for the development and practising of skills on the job. On-the-job training presents an excellent opportunity to develop the learner's routine expertise, resourcefulness, craft skills and business-like attitude. It is therefore important that there is intentional structuring of practice and guidance to supplement the learning and development provided through engagement in everyday work activities. Learners need to have structured time to learn and practise their skills separate from their everyday work activities. Teaching and learning methods, such as coaching, mentoring, shadowing, reflective practice, collaboration and consultation, could be used in this structured on-the-job learning
- developing an holistic approach to assessment by matching evidence to different assessment criteria, learning outcomes and units as appropriate, thereby reducing the assessment burden on learners and assessors. It is good practice to draw up an assessment plan that aligns the units with the learning process and the acquisition of knowledge and skills, and which indicates how and when the units will be assessed
- discussing and agreeing with learners and employers suitable times, dates and work areas where assessment will take place. Learners and employers should be given regular and relevant feedback on performance and progress.

## Employer engagement

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Good practice in relation to employer engagement includes:

- communicating with employers at the start of the programme to understand their business contexts and requirements so that the programme can be tailored to meet their needs
- working with employers to ensure that learners are allocated a mentor in the workplace to assist them in the day-to-day working environment and who can act as a contact for the assessor/tutor
- helping employers to better understand their role in the delivery of the programme. It is important that employers understand that learners must be given sufficient and relevant work in order to provide a culture of learning and to ensure that they are given every opportunity to participate in aspects of continuous professional development (CPD).

## 6 Centre resource requirements

As part of the approval process, centres must make sure that the resource requirements given below are in place before offering the qualification.

### General resource requirements

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- Centres must have the appropriate physical resources to support delivery and assessment of the qualification. For example, a workplace in line with industry standards or a Realistic Working Environment (RWE) (where permitted, as specified in the assessment strategy for the sector), equipment, IT, learning materials, teaching rooms.
- Where RWE is permitted, it must offer the same conditions as the normal, day-to-day working environment, with a similar range of demands, pressures and requirements for cost-effective working.
- Centres must meet any specific human and physical resource requirements outlined in the assessment strategy in *Annexe A*. Staff assessing learners must meet the occupational competence requirements within the overarching assessment strategy for the sector.
- There must be systems in place to ensure continuing professional development for staff delivering the qualification.
- Centres must have appropriate health and safety policies, procedures and practices in place for the delivery and assessment of the qualification.
- Centres must have in place robust internal verification systems and procedures to ensure the quality and authenticity of learners' work as well as the accuracy and consistency of assessment decisions between assessors operating at the centre. For information on the requirements for implementing assessment processes in centres, please refer to the document *General Guidance for Centres and Learners Pearson NVQ/SVQ and Competence-based Qualifications*. Additionally, centres offering the qualification as stand-alone should refer to the document *Centre Guide to Quality Assurance Pearson NVQ/SVQ and Competence-based Qualifications*. Centres offering the qualification within BTEC Apprenticeship frameworks should refer to the document *Quality Assurance Handbook, BTEC Apprenticeship*. All three documents are available on our website.
- Centres must deliver the qualification in accordance with current equality legislation. For further details on Pearson's commitment to the Equality Act 2010, please see *Section 7 Access and recruitment*. For full details on the Equality Act 2010, visit [www.legislation.gov.uk](http://www.legislation.gov.uk)

## 7 Access and recruitment

Our policy on access to our qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- they should be free from barriers that restrict access and progression
- there should be equal opportunities for all wishing to access the qualifications.

Centres must ensure that their learner recruitment process is conducted with integrity. This includes ensuring that applicants have appropriate information and advice about the qualification so that they can be sure that it meets their needs.

Centres should review applicants' prior qualifications and/or experience, considering whether this profile shows that they have the potential to achieve the qualification.

### **Prior knowledge, skills and understanding**

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No prior knowledge, understanding, skills or qualifications are required for learners to register for this qualification.

### **Access to qualifications for learners with disabilities or specific needs**

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Equality and fairness are central to our work. Pearson's *Equality and Diversity Policy* document requires all learners to have equal opportunity to access our qualifications and assessments and that our qualifications are awarded in a way that is fair to every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

For learners with disabilities and specific needs, the assessment of their potential to achieve the qualification must identify, where appropriate, the support that will be made available to them during delivery and assessment of the qualification. Please see the information regarding reasonable adjustments and special consideration in *Section 8 Assessment*.

## 8 Assessment

To achieve a pass for this qualification, the learner must achieve all the units required in the stated qualification structure.

### Language of assessment

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Assessments for the units in this qualification are in English only.

A learner taking the qualification may be assessed in British or Irish Sign Language where it is permitted for the purpose of reasonable adjustment.

Further information on the use of language in qualifications is available in our *Use of Languages in Qualifications Policy* document, available on our website at: [qualifications.pearson.com](http://qualifications.pearson.com)

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) *Access Arrangements and Reasonable Adjustments*. The document is available on our website.

### Internal assessment

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The units in this qualification are assessed through an internally- and externally quality-assured Portfolio of Evidence, made up of evidence gathered during the course of the learner's work.

Each unit has specified learning outcomes and assessment criteria. To pass each unit the learner must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- prove that the evidence is their own.

There must be workplace evidence against each learning outcome and assessment criterion. Where the workplace evidence does not cover the whole scope/range, knowledge evidence must be provided to cover the remaining items of scope/range for each relevant learning outcome and assessment criterion. Please refer to page 31 for further information on the assessment of knowledge and understanding.

The learner must have an assessment record that identifies the assessment criteria that have been met. The assessment record should be cross-referenced to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment. Suitable centre documentation should be used to form an assessment record.

It is important that the evidence provided to meet the assessment criteria for the unit and learning outcomes:

- valid** is relevant to the standards for which competence is claimed
- authentic** is produced by the learner
- current** is sufficiently recent to create confidence that the same skill, understanding or knowledge persists at the time of the claim
- reliable** indicates that the learner can consistently perform at this level
- sufficient** fully meets the requirements of the standards.

Learners can provide evidence of occupational competence from:

- **current practice** – where evidence is generated from a current job role
- a **programme of development** – where evidence comes from assessment opportunities built into a learning programme. The evidence provided must meet the assessment requirements for the qualification
- the **Recognition of Prior Learning (RPL)** – where a learner can demonstrate that they can meet a unit's assessment criteria through knowledge, understanding or skills they already possess without undertaking a course of development. They must submit sufficient, reliable, authentic and valid evidence for assessment. Evidence submitted that is based on RPL should give the centre confidence that the same level of skill, understanding and knowledge exists at the time of the claim as existed at the time the evidence was produced. RPL is acceptable for accrediting a unit, several units, or a whole qualification

Further guidance is available in our *Recognition of Prior Learning Policy and Process* document, available on our website.

- a combination of the above.

## Assessment requirements

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The assessment strategy for the qualification is included in *Annexe A*. It sets out the overarching assessment principles and the framework for assessing the units to ensure that the qualification remain valid and reliable. It has been developed by ConstructionSkills in partnership with employers, training providers, awarding organisations and the regulatory authorities.

## Types of evidence

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To achieve a unit, the learner must gather evidence that shows that they have met the required standard specified in the assessment criteria, Pearson's quality assurance arrangements (please see *Section 10 Quality assurance of centres*) and the requirements of the assessment strategy given in *Annexe A*.

In line with the assessment strategy, evidence for internally-assessed units can take a variety of forms as indicated below:

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- professional discussion (PD)
- authentic statements/witness testimony (WT)
- expert witness testimony (EWT)
- evidence of Recognition of Prior Learning (RPL).

Taken as a whole, the evidence must show that the candidate consistently meets all the learning outcomes and assessment criteria across the scope/range within each unit.

Learners can use the abbreviations in their portfolios for cross-referencing purposes.

Learners can also use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units.

It is not necessary for learners to have each assessment criterion assessed separately. They should be encouraged to reference evidence to the relevant assessment criteria. However, the evidence provided for each unit must clearly reference the unit assessed. Evidence must be available to the Assessor, the Internal Verifier and the Pearson Standards Verifier.

Any specific evidence requirements for a unit are given in the *Unit assessment requirements* section of the unit.

Further guidance on the requirements for centre quality assurance and internal verification processes is available on our website. Please see *Section 12 Further information and useful publications* for details.

## Assessment of knowledge and understanding

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Knowledge and understanding are key components of competent performance, but it is unlikely that performance evidence alone will provide sufficient evidence for knowledge-based learning outcomes and assessment criteria. Where the learner's knowledge and understanding is not apparent from performance evidence, it must be assessed through other valid methods and be supported by suitable evidence. The

evidence provided to meet these learning outcomes and assessment criteria must be in line with ConstructionSkills.

In line with ConstructionSkills assessment strategy, knowledge evidence may be established from questioning the candidate, or from industry recognised industry education and training programme assessment, or professional interview assessment, that has been matched to the requirements of the National Occupational Standards. Such assessments should also have their own independent external assessment, moderation or verification.

Any specific assessment requirements are stated in the *Unit assessment requirements* section of each unit in *Section 11 Units*.

## Appeals

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Centres must have a policy for dealing with appeals from learners. Appeals may relate to incorrect assessment decisions or unfairly conducted assessment. The first step in such a policy is a consideration of the evidence by a Lead Internal Verifier or other member of the programme team. The assessment plan should allow time for potential appeals after learners have been given assessment decisions.

Centres must document all learners' appeals and their resolutions. Further information on the appeals process can be found in our *Enquiries and Appeals about Pearson Vocational Qualifications Policy* document, available on our website.

## Dealing with malpractice

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Malpractice means acts that undermine the integrity and validity of assessment, the certification of qualifications and/or may damage the authority of those responsible for delivering the assessment and certification.

Pearson does not tolerate actions (or attempted actions) of malpractice by learners, centre staff or centres in connection with Pearson qualifications. Pearson may impose penalties and/or sanctions on learners, centre staff or centres where incidents (or attempted incidents) of malpractice have been proven.

Malpractice may arise or be suspected in relation to any unit or type of assessment within the qualification. For further details on malpractice and advice on preventing malpractice by learners, please see Pearson's *Centre Guidance: Dealing with Malpractice*, available on our website.

## Internal assessment

Centres are required to take steps to prevent malpractice and to investigate instances of suspected malpractice. Learners must be given information that explains what malpractice is for internal assessment and how suspected incidents will be dealt with by the centre. The *Centre Guidance: Dealing with Malpractice* document gives full information on the actions we expect you to take.

Pearson may conduct investigations if we believe that a centre is failing to conduct internal assessment according to our policies. The above document gives more information and examples, and details the penalties and sanctions that may be imposed.

In the interests of learners and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice.

## Learner malpractice

The head of centre is required to report incidents of suspected learner malpractice that occur during Pearson examinations. We ask centres to complete JCQ Form M1 ([www.jcq.org.uk/exams-office/malpractice](http://www.jcq.org.uk/exams-office/malpractice)) and email it with any accompanying documents (signed statements from the learner, invigilator, copies of evidence, etc.) to the Investigations Team at [pqsmalpractice@pearson.com](mailto:pqsmalpractice@pearson.com). The responsibility for determining appropriate sanctions or penalties to be imposed on learners lies with Pearson.

Learners must be informed at the earliest opportunity of the specific allegation and the centre's malpractice policy, including the right of appeal. Learners found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

## Teacher/centre malpractice

The head of centre is required to inform Pearson's Investigations Team of any incident of suspected malpractice by centre staff, before any investigation is undertaken. The head of centre is requested to inform the Investigations Team by submitting a JCQ M2(a) form (downloadable from [www.jcq.org.uk/exams-office/malpractice](http://www.jcq.org.uk/exams-office/malpractice)) with supporting documentation to [pqsmalpractice@pearson.com](mailto:pqsmalpractice@pearson.com). Where Pearson receives allegations of malpractice from other sources (for example Pearson staff, anonymous informants), the Investigations Team will conduct the investigation directly or may ask the head of centre to assist.

Incidents of maladministration (accidental errors in the delivery of Pearson qualifications that may affect the assessment of learners) should also be reported to the Investigations Team using the same method.

Heads of centres/principals/chief executive officers or their nominees are required to inform learners and centre staff suspected of malpractice of their responsibilities and rights, please see 6.15 of the Joint Council for Qualifications (JCQ) document *Suspected Malpractice in Examinations and Assessments Policies and Procedures*.

Pearson reserves the right in cases of suspected malpractice to withhold the issuing of results/certificates while an investigation is in progress. Depending on the outcome of the investigation, results and/or certificates may not be released or they may be withheld.

We reserve the right to withhold certification when undertaking investigations, audits and quality assurances processes. You will be notified within a reasonable period of time if this occurs.

## Sanctions and appeals

Where malpractice is proven, we may impose sanctions or penalties.

Where learner malpractice is evidenced, penalties may be imposed such as:

- mark reduction for affected external assessments
- disqualification from the qualification
- debarment from registration for Pearson qualifications for a period of time.

If we are concerned about your centre's quality procedures we may impose sanctions such as:

- working with you to create an improvement action plan
- requiring staff members to receive further training
- placing temporary blocks on your certificates
- placing temporary blocks on registration of learners
- debarring staff members or the centre from delivering Pearson qualifications
- suspending or withdrawing centre approval status.

The centre will be notified if any of these apply.

Pearson has established procedures for centres that are considering appeals against penalties and sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from the head of centre (on behalf of learners and/or members or staff) and from individual members (in respect of a decision taken against them personally). Further information on appeals can be found in our *Enquiries and Appeals about Pearson Vocational Qualifications Policy* document, available on our website. In the initial stage of any aspect of malpractice, please notify the Investigations Team via [pqsmalpractice@pearson.com](mailto:pqsmalpractice@pearson.com) who will inform you of the next steps.

## Reasonable adjustments to assessment

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Centres are able to make adjustments to assessments to take account of the needs of individual learners in line with the guidance given in the document *Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*. In most instances, adjustments can be achieved by following the guidance; for example allowing the use of assistive technology or adjusting the format of the evidence. We can advise you if you are uncertain as to whether an adjustment is fair and reasonable. Any reasonable adjustment must reflect the normal learning or working practice of a learner in a centre or working within the occupational area.

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements and Reasonable Adjustments*.

Both documents are on our website.

## Special consideration

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Centres must operate special consideration in line with the guidance given in the Pearson document *Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*. Special consideration may not be applicable in instances where:

- assessment requires the demonstration of practical competence
- criteria have to be met fully
- units/qualifications confer licence to practice.

Centres cannot apply their own special consideration; applications for special consideration must be made to Pearson and can be made only on a case-by-case basis. A separate application must be made for each learner and certification claims must not be made until the outcome of the application has been received.

Further information on special consideration can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements and Reasonable Adjustments*.

Both of the documents mentioned above are on our website.

## 9 Centre recognition and approval

### Centre recognition

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Centres that have not previously offered Pearson competence-based qualifications need to apply for and be granted centre recognition and approval as part of the process for approval to offer individual qualifications.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by a new qualification and the conditions for automatic approval are met.

Guidance on seeking approval to deliver Pearson vocational qualifications is available on our website.

### Approvals agreement

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All centres are required to enter into an approval agreement, which is a formal commitment by the head or principal of a centre, to meet all the requirements of the specification and any associated codes, conditions or regulations. Pearson will act to protect the integrity of the awarding of qualifications. If centres do not comply with the agreement, this could result in the suspension of certification or withdrawal of approval.

## 10 Quality assurance of centres

Quality assurance is at the heart of vocational qualifications. Centres are required to declare their commitment to ensuring quality and to giving learners appropriate opportunities that lead to valid and accurate assessment outcomes.

Centres must follow quality assurance requirements for standardisation of assessors and internal verifiers and the monitoring and recording of assessment processes. Pearson uses external quality assurance procedures to check that all centres are working to national standards. It gives us the opportunity to identify and provide support to safeguard certification and quality standards. It also allows us to recognise and support good practice.

Centres offering competence-based qualifications will receive at least **one** visit from our Standards Verifier, followed by ongoing support and development. This may result in more visits or remote support, as required to complete standards verification. The exact frequency and duration of Standards Verifier visits will reflect the centre's performance, taking account of the:

- number of assessment sites
- number and throughput of learners
- number and turnover of assessors
- number and turnover of internal verifiers.

In order for certification to be released, confirmation is required that the Occupational Standards for assessment and verification, and for the specific occupational sector are being met consistently.

For further details, please go to the document *General Guidance for Centres and Learners Pearson NVQ/SVQ and Competence-based Qualifications*.

Additionally, centres offering the qualification as stand-alone should refer to the document *Centre Guide to Quality Assurance Pearson NVQ/SVQ and Competence-based Qualifications*. Centres offering the qualification within BTEC Apprenticeship frameworks should refer to the document *Quality Assurance Handbook BTEC Apprenticeship*.

All three documents mentioned above are available on our website.

# 11 Units

## Unit format

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Each unit has the following sections.

### Unit number

The number is in a sequence in the specification. Where a specification has more than one qualification, numbers may not be sequential for an individual qualification.

### Unit title

This is the formal title of the unit and it will appear on the learner's certificate.

### Level

All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors defined by Ofqual, the qualifications regulator.

### Guided Learning Hours (GLH)

Guided Learning Hours (GLH) is the number of hours that a centre delivering the qualification needs to provide. Guided learning means activities, for example lectures, tutorials, online instruction, supervised study, that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners.

Pearson has consulted with users of the qualification and has assigned a number of hours to this activity for each unit.

### Unit summary

This summarises the purpose of the unit and the learning the unit offers.

## **Unit assessment requirements**

This outlines the requirements for the assessment of the unit. Learners must provide evidence according to each of the requirements stated in this section.

## **Learning outcomes**

The learning outcomes set out what a learner will know, understand or be able to do as the result of a process of learning.

## **Assessment criteria**

The assessment criteria specify the standard the learner is required to meet to achieve a learning outcome.

# Unit 1: Conforming to General Health, Safety and Welfare in the Workplace

**Level:** 1

**Unit type:** Mandatory

**Guided Learning Hours:** 7

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## Unit summary

This unit gives learners the skills, knowledge and understanding required to confirm competence in conforming to general health, safety and welfare in the workplace in the relevant sector of industry.

## Unit assessment requirements

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Comply with all workplace health, safety and welfare legislation requirements	1.1	Comply with information from workplace inductions and any health, safety and welfare briefings attended relevant to the occupational area			
		1.2	Use health and safety control equipment safely to carry out the activity in accordance with legislation and organisational requirements			
		1.3	Comply with statutory requirements, safety notices and warning notices displayed within the workplace and/or on equipment			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		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: <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>			
		1.5 State how the health and safety control equipment relevant to the work should be used in accordance with the given instructions			
		1.6 State which types of health, safety and welfare legislation, notices and warning signs are relevant to the occupational area and associated equipment			
		1.7 State why health, safety and welfare legislation, notices and warning signs are relevant to the occupational area			
		1.8 State how to comply with control measures that have been identified by risk assessments and safe systems of work			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Recognise hazards associated with the workplace that have not been previously controlled and report them in accordance with organisational procedures	2.1	Report any hazards created by changing circumstances within the workplace in accordance with organisational procedures			
		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			
		2.3	List the current Health and Safety Executive top ten safety risks			
		2.4	List the current Health and Safety Executive top five health risks			
		2.5	State how changing circumstances within the workplace could cause hazards			
		2.6	State the methods used for reporting changed circumstances, hazards and incidents in the workplace			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Comply with organisational policies and procedures to contribute to health, safety and welfare	3.1	Interpret and comply with given instructions to maintain safe systems of work and quality working practices			
		3.2	Contribute to discussions by offering/providing feedback relating to health, safety and welfare			
		3.3	Contribute to the maintenance of workplace welfare facilities in accordance with workplace welfare procedures			
		3.4	Safely store health and safety control equipment in accordance with given instructions			
		3.5	Dispose of waste and/or consumable items in accordance with legislation			
		3.6	State the organisational policies and procedures for health, safety and welfare in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.7	State the appropriate types of fire extinguishers relevant to the work			
		3.8	State how and when the different types of fire extinguishers are used in accordance with legislation and official guidance			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Work responsibly to contribute to workplace health, safety and welfare while carrying out work in the relevant occupational area	4.1	Demonstrate behaviour which shows personal responsibility for general workplace health, safety and welfare			
		4.2	State how personal behaviour demonstrates responsibility for general workplace health, safety and welfare in relation to: <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>			
		4.3	Give examples of how the behaviour and actions of individuals could affect others within the workplace			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Comply with and support all organisational security arrangements and approved procedures	5.1	Provide appropriate support for security arrangements in accordance with approved procedures: <ul style="list-style-type: none"> <li>• during the working day</li> <li>• on completion of the day's work</li> <li>• for unauthorised personnel (other operatives and the general public)</li> <li>• for theft</li> </ul>			
		5.2	State how security arrangements are implemented in relation to the workplace, the general public, site personnel and resources			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 2: Conforming to Productive Working Practices in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>10</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in conforming to productive working practices in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Communicate with others to establish productive work practices	1.1	Communicate in an appropriate manner with line management, colleagues and/or customers to ensure that work is carried out productively			
		1.2	Describe the different methods of communicating with line management, colleagues and customers			
		1.3	Describe how to use different methods of communication to ensure that the work carried out is productive			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Follow organisational procedures to plan the sequence of work	2.1	Interpret relevant information from organisational procedures in order to plan the sequence of work			
		2.2	Plan the sequence of work, using appropriate resources, in accordance with organisational procedures to ensure work is completed productively			
		2.3	Describe how organisational procedures are applied to ensure work is planned and carried out productively in relation to: <ul style="list-style-type: none"> <li>• using resources for own and others' work requirements</li> <li>• allocating appropriate work to employees</li> <li>• organising the work sequence</li> <li>• reducing carbon emissions</li> </ul>			
		2.4	Describe how to contribute to zero/low carbon work outcomes within the built environment			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain relevant records in accordance with organisational procedures	3.1	Complete relevant documentation according to the occupation as required by the organisation			
		3.2	Describe how to complete and maintain documentation in accordance with organisational procedures in relation to: <ul style="list-style-type: none"> <li>• job cards</li> <li>• worksheets</li> <li>• material/resource lists</li> <li>• time sheets</li> </ul>			
		3.3	Explain the reasons for ensuring documentation is completed clearly and within given timescales			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain good working relationships when conforming to productive working practices	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			
		4.2	Apply the principles of equality and diversity, and respect the needs of individuals when communicating and working with others			
		4.3	Describe how to maintain good working relationships in relation to: <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>			
		4.4	Describe why it is important to work effectively with line management, colleagues and customers			
		4.5	Describe how working relationships could have an effect on productive working			
		4.6	Describe how to apply the principles of equality and diversity when communicating and working with others			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 3: Manually Applying Slurry Surfacing Materials in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>183</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in manually applying slurry surfacing materials in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when manually applying slurry surfacing materials	1.1	Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when manually applying slurry surfacing materials	2.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when manually applying slurry surfacing materials	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			
		3.2	Demonstrate compliance with given information and relevant legislation when manually applying slurry surfacing materials in relation to the following: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Select the required quantity and quality of resources for the methods of work to manually apply slurry surfacing materials	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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>			
		4.3	Describe how to confirm that the resources and materials conform to the specification			
		4.4	Describe how the resources should be used correctly and how problems associated with the resources are reported			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.5	Explain why the organisational procedures have been developed and how they are used for the selection of required resources			
		4.6	Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when manually applying slurry surfacing materials	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			
6	Complete the work within the allocated time when manually applying slurry surfacing materials	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity targets and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to manually apply slurry surfacing materials to the required specification	7.1	Demonstrate the following work skills when manually applying slurry surfacing materials: <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>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment			
		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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	7.4	<p>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> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul style="list-style-type: none"> <li>• remove and dispose of arisings</li> <li>• communicate and co-ordinate progress on specialist treatment</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• use hand tools, power tools, pedestrian operated plant and equipment</li> <li>• work at height</li> <li>• use access equipment</li> </ul>			
	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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 4: Manually Applying High Friction (Cold Applied) Surfacing Materials in the Workplace**

**Level:** 2

**Unit type:** Mandatory

**Guided Learning Hours:** 183

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in manually applying high friction (cold applied) surfacing materials in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when manually applying high friction (cold applied) surfacing materials	1.1	Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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 material</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when manually applying high friction (cold applied) surfacing materials	2.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when manually applying high friction (cold applied) surfacing materials	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			
		3.2	Demonstrate compliance with given information and relevant legislation when manually applying high friction (cold applied) surfacing materials in relation to the following: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Select the required quantity and quality of resources for the methods of work to manually apply high friction (cold applied) surfacing materials	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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>			
		4.3	Describe how to confirm that the resources and materials conform to the specification			
		4.4	Describe how the resources should be used correctly and how problems associated with the resources are reported			
		4.5	Explain why the organisational procedures have been developed and how they are used for the selection of required resources			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.6	Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when manually applying high friction (cold applied) surfacing materials	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			
6	Complete the work within the allocated time when manually applying high friction (cold applied) surfacing materials	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity targets and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to manually apply high friction (cold applied) surfacing materials to the required specification	7.1	Demonstrate the following work skills when manually applying high friction (cold applied) surfacing materials: <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>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment			
		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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	7.4	<p>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> <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> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul style="list-style-type: none"> <li>• remove and dispose of arisings</li> <li>• communicate and co-ordinate progress on application of high friction (cold applied) surfacing materials</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• use hand tools, power tools, pedestrian operated plant and equipment</li> <li>• work at height</li> <li>• use access equipment</li> </ul>			
	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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 5: Manually Applying High Friction (Hot Applied) Surfacing Materials in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>183</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in manually applying high friction (hot applied) surfacing materials in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when manually applying high friction (hot applied) surfacing materials	1.1	Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when manually applying high friction (hot applied) surfacing materials	2.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when manually applying high friction (hot applied) surfacing materials	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			
		3.2	Demonstrate compliance with given information and relevant legislation when manually applying high friction (hot applied) surfacing materials in relation to the following: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Select the required quantity and quality of resources for the methods of work to manually apply high friction (hot applied) surfacing materials	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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>			
		4.3	Describe how to confirm that the resources and materials conform to the specification			
		4.4	Describe how the resources should be used correctly and how problems associated with the resources are reported			
		4.5	Explain why the organisational procedures have been developed and how they are used for the selection of required resources			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.6	Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when manually applying high friction (hot applied) surfacing materials	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			
6	Complete the work within the allocated time when manually applying high friction (hot applied) surfacing materials	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity targets and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to manually apply high friction (hot applied) surfacing materials to the required specification	7.1	Demonstrate the following work skills when manually applying high friction (hot applied) surfacing materials: <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>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment			
		7.3	Prepare for and manually apply high friction (hot applied) surfacing materials by heating and mixing materials, monitoring temperatures, laying and spreading the aggregate evenly and by providing protection for the curing process, to given working instructions			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
		<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> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>• remove and dispose of arisings</li> <li>• communicate and co-ordinate progress on application of high friction (hot applied) surfacing materials</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• use hand tools, power tools, pedestrian operated plant and equipment</li> <li>• work at height</li> <li>• use access equipment</li> </ul>			
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 6: Manually Applying Crack and Joint Repair Surfacing Materials in the Workplace**

**Level:** 2

**Unit type:** Mandatory

**Guided Learning Hours:** 183

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in manually applying crack and joint repair surfacing materials in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when manually applying crack and joint repair surfacing materials	1.1	Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when manually applying crack and joint repair surfacing materials	2.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when manually applying crack and joint repair surfacing materials	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			
		3.2	Demonstrate compliance with given information and relevant legislation when manually applying crack and joint repair surfacing materials in relation to the following: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Select the required quantity and quality of resources for the methods of work when manually applying crack and joint repair surfacing materials	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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>			
		4.3	Describe how to confirm that the resources and materials conform to the specification			
		4.4	Describe how the resources should be used correctly and how problems associated with the resources are reported			
		4.5	Explain why the organisational procedures have been developed and how they are used for the selection of required resources			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.6	Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when manually applying crack and joint repair surfacing materials	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			
6	Complete the work within the allocated time when manually applying crack and joint repair surfacing materials.	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity targets and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to manually apply crack and joint repair surfacing materials	7.1	Demonstrate the following work skills when manually applying crack and joint repair surfacing materials: <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>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment			
		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.			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	7.4	<p>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 crack and joint repair 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> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>• remove and dispose of arisings</li> <li>• communicate and co-ordinate progress on specialist treatment</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• use hand tools, power tools, pedestrian operated plant and equipment</li> <li>• work at height</li> <li>• use access equipment</li> </ul>			
		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			

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Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 7: Manually Applying Thermal Repair Surfacing Materials in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>183</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in manually applying thermal repair surfacing materials in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when manually applying thermal repair surfacing materials	1.1	Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when manually applying thermal repair surfacing materials	2.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when manually applying thermal repair surfacing materials	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			
		3.2	Demonstrate compliance with given information and relevant legislation when manually applying thermal repair surfacing materials in relation to the following: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Select the required quantity and quality of resources for the methods of work when manually applying thermal repair surfacing materials	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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>			
		4.3	Describe how to confirm that the resources and materials conform to the specification			
		4.4	Describe how the resources should be used correctly and how problems associated with the resources are reported			
		4.5	Explain why the organisational procedures have been developed and how they are used for the selection of required resources			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.6	Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when manually applying thermal repair surfacing materials	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			
6	Complete the work within the allocated time when manually applying thermal repair surfacing materials	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity targets and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances that will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to manually apply thermal repair surfacing materials to the required specification	7.1	Demonstrate the following work skills when manually applying thermal repair surfacing materials: <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>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment.			
		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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<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> <li>• prepare thermal repair surfacing materials, to include storing, handling and mixing</li> <li>• apply thermal repair surfacing 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 outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>• communicate and co-ordinate progress on treatment</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• use hand tools, power tools, pedestrian operated plant and equipment</li> <li>• work at height</li> <li>• use access equipment</li> </ul>			
		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			

Learner name: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_

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Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 8: Manually Applying Resin Bonded or Resin Bound Surfacing Materials in the Workplace**

**Level:** 2

**Unit type:** Mandatory

**Guided Learning Hours:** 183

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in manually applying resin bonded or resin bound surfacing materials in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when manually applying resin bonded or resin bound surfacing materials	1.1	Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments, and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when manually applying resin bonded or resin bound surfacing materials	2.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when manually applying resin bonded or resin bound surfacing materials	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			
		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: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Select the required quantity and quality of resources for the methods of work when manually applying resin bonded or resin bound surfacing materials	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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> <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>			
		4.3	Describe how to confirm that the resources and materials conform to the specification			
		4.4	Describe how the resources should be used correctly and how problems associated with the resources are reported			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.5	Explain why the organisational procedures have been developed and how they are used for the selection of required resources			
		4.6	Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when manually applying resin bonded or resin bound surfacing materials	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			
6	Complete the work within the allocated time when manually applying resin bonded or resin bound surfacing materials	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity targets and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to manually apply resin bonded or resin bound surfacing materials to the required specification	7.1	Demonstrate the following work skills when manually applying resin bonded or resin bound surfacing materials: <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>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment			
		7.3	Prepare the surface, mix and manually apply resin bonded or resin bound surfacing materials by at least <b>one</b> of the following methods, to given working instructions: <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>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	7.4	<p>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> <li>• protect and work around street furniture and ironwork</li> <li>• prepare resin bonded or resin bound surfacing materials, to include storing, handling and mixing</li> <li>• apply resin bonded or resin bound surfacing materials to prepared surfaces, to include heating, pouring, laying, squeegeeing, screeding, spreading and floating</li> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>• work with, around and in close proximity to plant and machinery</li> <li>• remove and dispose of arisings</li> <li>• communicate and co-ordinate progress</li> <li>• use hand tools, power tools, pedestrian operated plant and equipment</li> </ul>			
		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			

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Assessor signature: \_\_\_\_\_

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Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 9: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Flexible and Semi-flexible Paving Materials in the Workplace**

**Level:** 2

**Unit type:** Mandatory

**Guided Learning Hours:** 163

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for laying flexible and semi-flexible paving materials in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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 laying flexible and semi-flexible paving materials</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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: <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 outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	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: <ul style="list-style-type: none"> <li>• collective protective measures</li> <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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• flexible paving 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			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		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)			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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: <ul style="list-style-type: none"> <li>checking, setting up, adjusting, communicating, operating, controlling, securing, laying, compacting, marking, levelling and finishing</li> </ul>			
		8.2	Use and maintain hand tools, ancillary equipment and/or accessories			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
		<p>8.3 Prepare, operate or control operations of plant, machinery or equipment for at least <b>one</b> of the following to given working instructions:</p> <ul style="list-style-type: none"> <li>• paver screeman (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>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		8.4	Shut down and secure plant, machinery or equipment		
		8.5	<p>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 characteristics of flexible paving materials, e.g. hot rolled asphalt, stone mastic asphalt, mastic asphalt, asphalt concrete mixtures and geosynthetic material</li> <li>• identify the characteristics of semi-flexible paving materials, e.g. cement bound granular material (CGBM) and roller compacted concrete (RCC)</li> <li>• prepare and install mesh reinforcement membrane</li> <li>• prepare, set up and carry out pre-start and running checks of the plant, machinery and accessories</li> <li>• confirm and monitor temperature and workability of flexible and semi-flexible paving materials throughout the process</li> </ul>		

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
		<ul style="list-style-type: none"> <li>• recognise the causes of poor performance and factors that will affect the finished product</li> <li>• carry out and control operations according to your role and the required performance of plant, machinery or equipment</li> <li>• adjust the work in relation to prevailing weather conditions</li> <li>• work around street furniture and ironwork</li> <li>• recognise sampling, testing and quality control processes</li> <li>• recognise, monitor and control processes, e.g. treatment and preparation of joints, line, level, thickness, compaction and finishes</li> <li>• 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</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• shut down and secure plant, machinery or equipment</li> <li>• use hand tools, ancillary equipment and accessories</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 10: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Rigid Paving in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for laying rigid paving in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying rigid paving	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying rigid paving	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			
		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: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• rigid paving 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			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		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)			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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 rigid paving	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 target and timescale</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	8.1	Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying rigid paving: <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>			
		8.2	Use and maintain hand tools, ancillary equipment and/or accessories			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>8.3 Prepare, operate or control operations of plant, machinery or equipment for at least <b>one</b> of the following to given working instructions:</p> <ul style="list-style-type: none"> <li>• feed machine operator, (e.g. tipper truck, dump truck, 360-degree excavator, concrete truck mixer) placing and spreading materials evenly</li> <li>• paver screwman maintaining line and level</li> <li>• paver operator maintaining speed and consistency of concrete lay and spread</li> <li>• finishing beam or float operator maintaining surface finish</li> <li>• reinforcement placement equipment operator maintaining line, level and overlap</li> <li>• spray operator maintaining speed and coverage</li> <li>• texturing and/or curing machine operator maintaining speed</li> <li>• horizontal travel slipform machine operator maintaining consistent feed to the mould and speed of lay</li> </ul>			
	<p>8.4 Shut down and secure plant, machinery or equipment</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<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 workability of concrete mixes</li> <li>• prepare and install reinforcement</li> <li>• prepare, set up and carry out pre-start and running checks of the plant, machinery, equipment and accessories</li> <li>• check and monitor ambient conditions and adjust work in relation to prevailing weather conditions</li> <li>• receive, handle and extract samples for testing concrete</li> <li>• level, vibrate and compact concrete</li> <li>• screed concrete to finished level</li> <li>• protect concrete for the curing process</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
		<ul style="list-style-type: none"> <li>• carry out and control operations according to your role and the required performance of plant, machinery or equipment</li> <li>• 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</li> <li>• recognise, monitor and control processes, e.g. treatment and preparation of joints, line, level, thickness, compaction and finishes</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• record and report, machine operation factors, work progress and completions</li> <li>• shut down and secure plant, machinery and equipment</li> <li>• use hand tools, ancillary equipment and accessories</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

# **Unit 11: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Slurry Microsurfacing in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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## **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing in the workplace in the relevant sector of industry.

## **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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 microsurfacing</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing to be carried out	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		2.4	Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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 microsurfacing	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		3.4	Describe the types of fire extinguishers available when operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing materials and describe how and when they are used			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing	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 microsurfacing			
		4.2	Demonstrate compliance with given information and relevant legislation when operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing in relation to the following: <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>			
		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 microsurfacing, and the types, purpose and limitations of each type, the work situation and general work environment in relation to: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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 microsurfacing	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 microsurfacing 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>• slurry microsurfacing 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			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		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).			
		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 microsurfacing			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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 microsurfacing	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 slurry microsurfacing	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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
8	Comply with the given contract information to operate and control operations of road plant, machinery or equipment for laying slurry microsurfacing to the required specification	8.1	Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying slurry microsurfacing <ul style="list-style-type: none"> <li>checking, setting up, adjusting, aligning, communicating, operating and controlling</li> </ul>			
		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 <b>one</b> 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<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 workability of slurry microsurfacing 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 microsurfacing materials</li> <li>• screed slurry microsurfacing materials to finished level</li> <li>• protect and work around street furniture and ironwork</li> <li>• carry out and control operations according to your role and the required performance of plant, machinery and equipment</li> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>recognise the duties of the operatives, applicator steersman, applicator operator, slurry supply tanker operator, tipper grab operator and roller operator to ensure cohesive operations</li> <li>recognise, monitor and control processes, e.g. treatment and preparation of joints, line, level, thickness, embedment and finishes</li> <li>return infrastructure to operational status</li> <li>recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>record and report machine operation factors, work progress and completions</li> <li>shut down and secure plant, machinery and equipment</li> <li>use hand tools, ancillary equipment and accessories</li> </ul>			
		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 microsurfacing			
		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 microsurfacing			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 12: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying Surface Dressing in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for laying surface dressing in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying surface dressing	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying surface dressing	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			
		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: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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)			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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 surface dressing	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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	8.1	Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying surface dressing: <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>			
		8.2	Use and maintain hand tools, ancillary equipment and accessories			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		8.3 Prepare, operate or control operations of plant, machinery or equipment for at least <b>one</b> of the following to given working instructions: <ul style="list-style-type: none"> <li>• spray tanker operator maintaining speed, coverage and communicating with spray bar operator</li> <li>• self-propelled chipping machine operator maintaining speed and distribution</li> <li>• tailboard chipping machine operator maintaining speed and distribution</li> <li>• combined spray tanker and chipping machine operator maintaining speed, distribution and communicating with spray bar operator</li> <li>• spray bar operator maintaining level, distribution and communicating with spray tanker operator or combined spray tanker and chipping machine operator</li> <li>• tipper grab operator delivering materials to chipping machine</li> <li>• loading shovel operator supplying materials to the tipper</li> <li>• roller operator ensuring embedment and continuity of joints</li> </ul>			
		8.4 Shut down and secure plant, machinery or equipment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<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 components of surface dressing</li> <li>• prepare and mask street furniture</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 surface dressing materials</li> <li>• carry out and control operations according to your role and the required performance of plant, machinery and equipment</li> <li>• recognise, monitor and control processes, e.g. treatment and preparation of joints, line, level, rate of spread and finishes</li> <li>• work around street furniture and ironwork</li> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>• 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</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• record and report, machine operation factors, work progress and completions</li> <li>• shut down and secure plant, machinery and equipment</li> <li>• use hand tools, ancillary equipment and accessories</li> </ul>			
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 13: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Laying High Friction Surfacing in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing	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			
		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: <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>			
		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 and limitations of each type, the work situation and general work environment in relation to: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• high friction surfacing 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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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).			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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 timescales</li> <li>how times are estimated</li> <li>organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	8.1	Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for laying high friction surfacing <ul style="list-style-type: none"> <li>checking, setting up, adjusting, aligning, communicating, operating, controlling, securing, laying, spreading, marking, levelling and finishing</li> </ul>			
		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 <b>one</b> of the following to given working instructions: <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>			
		8.4	Shut down and secure plant, machinery or equipment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	8.5	<p>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> <li>• recognise the test criteria for high friction surfacing materials</li> <li>• carry out and control operations according to your role and the required performance of plant, machinery and equipment</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
		<ul style="list-style-type: none"> <li>• recognise the duties of the operatives; tanker operator, spray bar operator and chipper machine operator to ensure cohesive operations</li> <li>• recognise, monitor and control processes, e.g. treatment and preparation of joints, line, level, spread, thickness, and finishes</li> <li>• work around street furniture and ironwork</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• record and report, machine operation factors, work progress and completions</li> <li>• shut down and secure plant, machinery and equipment</li> <li>• use hand tools, ancillary equipment and accessories</li> </ul>			
	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			

Learner name: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 14: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Planing or Milling Operations in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit provides learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for planing or milling operations in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for planing or milling operations	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for planing or milling operations	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			
		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: <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>			
		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 and limitations of each type, the work situation and general work environment in relation to: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• 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			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		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)			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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 planing or milling operations	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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	8.1	Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for planing or milling operations: <ul style="list-style-type: none"> <li>checking, setting up, adjusting, aligning, communicating, operating, controlling, cutting abrading, levelling, finishing and securing</li> </ul>			
		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 <b>one</b> of the following to given working instructions: <ul style="list-style-type: none"> <li>wheeled planing and/or milling machine operator up to one metre maintaining speed, line, depth, level and communication with arisings collection vehicle</li> <li>tracked planing and/or milling machine up to 1.5 metres operator maintaining speed, line, depth, level and communication with arisings collection vehicle</li> <li>tracked planing and/or milling machine over 1.5 metres operator maintaining speed, line, depth, level and communication with arisings collection vehicle</li> </ul>			
		8.4	Shut down and secure plant, machinery or equipment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	8.5	<p>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 planning and milling 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>• prepare, set up and carry out pre-start and running checks of the plant, machinery, equipment and accessories</li> <li>• work around street furniture and ironwork</li> <li>• identify location marking of utility services</li> <li>• recognise the duties of other operatives, planning machine operator, milling machine operator and arisings collection vehicle operator to ensure cohesive operations</li> <li>• recognise, monitor and control processes, rate of removal, depth and finishes</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>record and report, machine operation factors, work progress and completions</li> <li>shut down and secure plant, machinery and equipment</li> <li>use hand tools, ancillary equipment and accessories</li> </ul>			
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 15: Operating and Controlling Operations of Specialist Road Plant, Machinery or Equipment for In-situ Structural Road Recycling Operations in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		1.4 Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		2.4	Describe how to organise resources prior to and during operating and controlling operations of specialist road plant, machinery or equipment for in-situ structural road recycling operations			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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: <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 outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
		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: <ul style="list-style-type: none"> <li>• collective protective measures</li> <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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• in-situ structural road recycling additions</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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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)			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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: <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>			
		8.2	Use and maintain hand tools, ancillary equipment and/or accessories			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	8.3 Prepare, operate or control operations of plant, machinery or equipment for at least <b>one</b> of the following to given working instructions: <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>			
	8.4 Shut down and secure plant, machinery or equipment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	8.5	<p>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 markings for ironwork and utilities</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>• carry out and control operations according to your role and the required performance of plant, machinery and equipment</li> <li>• 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</li> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>recognise, monitor and control processes, e.g. removal, mixing, compacting, laying, treatment and preparation of joints, line, level, spread, thickness and finishes:</li> <li>work around street furniture and ironwork</li> <li>identify trafficable times and protect site for curing</li> <li>clear gullies, relocate ironwork and reinstate verges</li> <li>return infrastructure to operational status</li> <li>recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>record and report, machine operation factors, work progress and completions</li> <li>shut down and secure plant, machinery and equipment</li> <li>use hand tools, ancillary equipment and accessories</li> </ul>			
		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			
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 16: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Soil Stabilisation in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for soil stabilisation in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for soil stabilisation	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for soil stabilisation to be carried out	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		2.4	Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for soil stabilisation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Know how to comply with relevant legislation and official guidance when operating and controlling operations of road plant, machinery or equipment for soil stabilisation	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for soil stabilisation	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			
		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: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• binding materials</li> <li>• sealing agents</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			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		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)			
		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 road plant, machinery or equipment for soil stabilisation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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 soil stabilisation	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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	8.1	Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for soil stabilisation: <ul style="list-style-type: none"> <li>checking, setting up, adjusting, aligning, communicating, operating, controlling, laying, spreading, compacting, levelling, smoothing, and finishing</li> </ul>			
		8.2	Use and maintain hand tools, ancillary equipment and/or accessories			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>8.3 Prepare, operate or control operations of plant, machinery or equipment for at least <b>one</b> of the following to given working instructions:</p> <ul style="list-style-type: none"> <li>• combination soil stabilisation machine operator maintaining depth, speed, line, level and consistent integration of binding materials</li> <li>• mixer machine operator mixing binding materials and supplying the spreader machine</li> <li>• bulk binder spreader machine operator ensuring even spread and distribution of binding materials</li> <li>• tilling machine operator maintaining depth, speed, line and level</li> <li>• self-propelled or towed water bowser machine operator maintaining speed and distribution</li> <li>• roller operator ensuring light compaction for sealing</li> </ul>			
	<p>8.4 Shut down and secure plant, machinery or equipment</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	8.5	<p>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 markings for utilities</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>• carry out and control operations according to your role and the required performance of plant, machinery and equipment</li> <li>• recognise the duties of other operators, combination soil stabilisation machine operator, mixing machine operator, bulk binder spreader operator, tilling machine operator, self-propelled and towed water bowser and roller operator to ensure cohesive operations</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul style="list-style-type: none"> <li>• recognise, monitor and control processes, including removal, mixing, spreading, tilling, compacting, maintaining line, level, spread, depth, and finishes</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• record and report, machine operation factors, work progress and completions</li> <li>• shut down and secure plant, machinery and equipment</li> <li>• use hand tools, ancillary equipment and accessories</li> </ul>			
	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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

# **Unit 17: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Surface Retexturing in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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## **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for surface retexturing in the workplace in the relevant sector of industry.

## **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for surface retexturing	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for surface retexturing to be carried out	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		2.4	Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for surface retexturing			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for surface retexturing	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			
		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: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• 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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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 plant, machinery or equipment for surface retexturing			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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			
		8.3	Prepare, operate or control operations of plant, machinery or equipment for at least <b>one</b> of the following to given working instructions, monitoring speed, time and surface quality: <ul style="list-style-type: none"> <li>bush hammering machine operator</li> <li>grooving machine operator</li> <li>flailing machine operator</li> <li>high pressure jetting machine operator</li> <li>shot blasting machine operator</li> <li>planing or milling machine operator</li> <li>grinding machine operator</li> </ul>			
		8.4	Shut down and secure plant, machinery or equipment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	8.5	<p>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 treatment 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>• prepare, mask and work around street furniture and ironworks</li> <li>• check and monitor ambient conditions and adjust work in relation to prevailing weather conditions</li> <li>• carry out and control operations according to your role and the required performance of plant, machinery and equipment</li> <li>• recognise, monitor and control processes, e.g. uniformity of finish and texture depth</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• record and report, machine operation factors, work progress and completions</li> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>shut down and secure plant, machinery and equipment</li> <li>use hand tools, ancillary equipment and accessories</li> </ul>			
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 18: Operating and Controlling Operations of Road Plant, Machinery or Equipment for Pavement Marking in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in operating and controlling operations of road plant, machinery or equipment for pavement marking in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to operating and controlling operations of road plant, machinery or equipment for pavement marking	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			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Organise with others the sequence of operating and controlling operations of road plant, machinery or equipment for pavement marking to be carried out	2.1	Organise the work according to given information or instructions			
		2.2	Describe how to communicate ideas between team members using discussions, sketches, electronic information and briefings			
		2.3	Organise and communicate with team members and other associated occupations			
		2.4	Describe how to organise resources prior to and during operating and controlling operations of road plant, machinery or equipment for pavement marking			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	3.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		3.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		3.3	Explain what the accident reporting procedures are and who is responsible for making reports			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain safe and healthy working practices when operating and controlling operations of road plant, machinery or equipment for pavement marking	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			
		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: <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>			
		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: <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 outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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			
		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>• pavement marking 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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		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)			
		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 plant, machinery or equipment for pavement marking			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	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 pavement marking	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 timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
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	8.1	Demonstrate the following work skills when operating and controlling operations of road plant, machinery or equipment for pavement marking: <ul style="list-style-type: none"> <li>checking, setting up, adjusting, aligning, communicating, operating, controlling, securing and laying</li> </ul>			
		8.2	Use and maintain hand tools, ancillary equipment and/or accessories			
		8.3	Prepare, operate or control operations of at least <b>one</b> of the following items of plant, machinery or equipment 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, flow, coverage, quantity and thickness of materials and communicating with steersman</li> <li>feeder vehicle operator supplying materials to the applicator</li> </ul>			
		8.4	Shut down and secure plant, machinery or equipment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
	8.5	<p>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>• ensure clean and dry surfaces for pavement marking application</li> <li>• identify types of pavement marking materials: spray, rib, extrusion, cold applied systems and wet visibility</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 conditions</li> <li>• recognise the test criteria for pavement marking materials</li> <li>• carry out and control operations according to your role and the required performance of plant, machinery and equipment</li> <li>• work around street furniture and ironwork</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date	
		<ul style="list-style-type: none"> <li>• recognise the duties of other operatives, applicator steersman, applicator operator and feeder vehicle operator to ensure cohesive operations</li> <li>• recognise, monitor and control processes, e.g. preparation, line, thickness and finishes</li> <li>• return infrastructure to operational status</li> <li>• recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>• record and report, machine operation factors, work progress and completions</li> <li>• shut down and secure plant, machinery and equipment</li> <li>• use hand tools, ancillary equipment and accessories</li> </ul>			
	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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 19: Installing and Removing Permanent Road Studs in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>163</b>

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### **Unit summary**

This unit provides learners with the skills, knowledge and understanding required to confirm competence in installing and removing permanent road studs in the workplace within the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when installing and removing permanent road studs	1.1	Interpret and extract relevant information from drawings, specifications, schedules, risk assessments, method statements, and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when installing and removing permanent road studs	2.1	Describe their responsibilities regarding potential accidents, health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when installing and removing permanent road studs	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			
		3.2	Demonstrate compliance with given information and relevant legislation when installing and removing permanent road studs in relation to the following: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Select the required quantity and quality of resources for the methods of work to install and remove permanent road studs	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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>			
		4.3	Describe how to confirm that the resources and materials conform to the specification			
		4.4	Describe how the resources should be used correctly and how problems associated with the resources are reported			
		4.5	Explain why the organisational procedures have been developed and how they are used for the selection of required resources			
		4.6	Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when installing and removing permanent road studs	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Complete the work within the allocated time when installing and removing permanent road studs	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity targets and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to install and remove permanent road studs to the required specification	7.1	Demonstrate the following work skills when installing and removing permanent road studs: <ul style="list-style-type: none"> <li>measuring, setting out, marking, positioning, fitting, fixing, securing and communicating</li> </ul>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment			
		7.3	Install, maintain and remove permanent road studs to given working instructions, relating to at least <b>two</b> of the following: <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>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<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> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>recognise and determine when specialist skills and knowledge are required and report accordingly</li> <li>use hand tools, power tools and equipment</li> </ul>			
	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			

Learner name: \_\_\_\_\_

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Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 20: Applying and Removing Pavement Markings Manually in the Workplace**

<b>Level:</b>	<b>2</b>
<b>Unit type:</b>	<b>Mandatory</b>
<b>Guided Learning Hours:</b>	<b>1090</b>

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### **Unit summary**

This unit gives learners the skills, knowledge and understanding required to confirm competence in applying and removing pavement markings manually in the workplace in the relevant sector of industry.

### **Unit assessment requirements**

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.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources when applying and removing pavement markings manually	1.1	Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements			
		1.3	Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: <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>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to comply with relevant legislation and official guidance when applying and removing pavement markings manually	2.1	Describe their responsibilities regarding potential accidents health hazards and the environment while working: <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>			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative			
		2.3	Explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Maintain safe and healthy working practices when applying and removing pavement markings manually	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			
		3.2	Demonstrate compliance with given information and relevant legislation when applying and removing pavement markings manually in relation to the following: <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>			
		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: <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 outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.4	Describe how the relevant health and safety control equipment should be used in accordance with the given working instructions			
		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			
4	Select the required quantity and quality of resources for the methods of work to apply and remove pavement markings manually	4.1	Select resources associated with own work in relation to materials, components, fixings, tools and equipment			
		4.2	Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: <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> <li>• hand tools, power tools, pedestrian operated plant and equipment</li> </ul>			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		4.3 Describe how to confirm that the resources and materials conform to the specification			
		4.4 Describe how the resources should be used correctly and how problems associated with the resources are reported			
		4.5 Explain why the organisational procedures have been developed and how they are used for the selection of required resources			
		4.6 Describe any potential hazards associated with the resources and methods of work			
		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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Minimise the risk of damage to the work and surrounding area when applying and removing pavement markings manually	5.1	Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures			
		5.2	Maintain a clear and tidy work space			
		5.3	Dispose of waste in accordance with current legislation			
		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			
		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			
6	Complete the work within the allocated time when applying and removing pavement markings manually	6.1	Demonstrate completion of the work within the allocated time			
		6.2	Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of productivity charts and timescales</li> <li>• how times are estimated</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Comply with the given contract information to apply and remove pavement markings manually to the required specification	7.1	Demonstrate the following work skills when applying and removing pavement markings manually: <ul style="list-style-type: none"> <li>measuring, setting out, marking, positioning, preparing and communicating</li> </ul>			
		7.2	Use and maintain hand tools, power tools and ancillary equipment			
		7.3	Apply pavement markings manually to given specifications and working instructions for <b>one</b> of the following: <ul style="list-style-type: none"> <li>permanent markings (thermoplastic applications, pre-formed and/or paint applications)</li> <li>temporary markings (temporary applications and temporary surface mounted studs)</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<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 pre-formed applications</li> <li>• install and remove temporary surface mounted studs</li> <li>• work around street furniture and ironwork</li> <li>• communicate and co-ordinate progress</li> <li>• work with, around and in close proximity to plant and machinery</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 outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul style="list-style-type: none"> <li>• use hand tools, power tools, pedestrian operated plant and ancillary equipment</li> <li>• work at height</li> <li>• use access equipment</li> </ul>			
		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			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## 12 Further information and useful publications

### Key publications

- *Access Arrangements and Reasonable Adjustments* (Joint Council for Qualifications (JCQ))
- *Centre Guidance: Dealing with Malpractice* (Pearson)
- *Centre Guide to Quality Assurance Pearson NVQ/SVQ and Competence-based Qualifications* (Pearson)
- *Collaborative and Consortium Arrangements for the Delivery of Vocational Qualifications Policy* (Pearson)
- *Enquiries and Appeals about Pearson Vocational Qualifications Policy* (Pearson)
- *Equality and Diversity Policy* (Pearson)
- *General Guidance for Centres and Learners Pearson NVQ/SVQ and Competence-based Qualifications* (Pearson)
- *Guide for Centres to Enrolling onto Qualifications* (Pearson)
- *Quality Assurance Handbook BTEC Apprenticeship* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *Suspected Malpractice in Examinations and Assessments Policies and Procedures* (Joint Council for Qualifications (JCQ))
- *Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units* (Pearson)
- *UK Information Manual* (Pearson)
- *Use of Languages in Qualifications Policy* (Pearson).

All of these publications are available on our website: [qualifications.pearson.com](http://qualifications.pearson.com)

Further information and publications on the delivery and quality assurance of SVQ/competence-based qualifications are available on our website.

To order publications, please go to the resources page of our website.

For books, software and online resources for UK schools and colleges, please go to: [www.pearsonschoolsandfecolleges.co.uk](http://www.pearsonschoolsandfecolleges.co.uk)

# 13 Professional development and training

## Professional development and training

Pearson supports customers with training related to our qualifications. This support is available through a choice of training options offered on our website.

The support we offer focuses on a range of issues, such as:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building in effective and efficient quality assurance systems.

The national programme of training we offer is on our website. You can request centre-based training through the website or you can contact one of our advisers in the Training from Pearson UK team via Customer Services to discuss your training needs.

## Training and support for the lifetime of the qualifications

**Training and networks:** our training programme ranges from free introductory events through sector-specific opportunities to detailed training on all aspects of delivery, assignments and assessment. We also host some regional network events to allow you to share your experiences, ideas and best practice with colleagues in your region.

**Regional support:** our team of Regional Quality Managers, based around the country, are responsible for providing quality assurance support and guidance to anyone managing and delivering NVQs/Competence-based qualifications. The Regional Quality Managers can support you at all stages of the standard verification process as well as in finding resolutions of actions and recommendations as required.

To get in touch with our dedicated support teams please visit our website at: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html).

**Online support:** find the answers to your questions in *Knowledge Base*, a searchable database of FAQs and useful videos that we have put together with the help of our subject advisors to support you in your role. Whether you are a teacher, administrator, Assessment Associate (AA) or training provider, you will find answers to your questions. If you are unable to find the information you need please send us your query and our qualification or administrative experts will get back to you.

## 14 Contact us

To get in touch with us, please visit our 'Contact us' pages for Pearson Work Based Learning customers:

<http://qualifications.pearson.com/en/support/support-for-you/work-based-learning/contact-us.html>

## Annexe A: Assessment strategy

### Consolidated Assessment Strategy for Construction and the Built Environment – Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)

#### Introduction

This assessment strategy<sup>1</sup> provides principles and guidance to awarding organisations so the assessment of units within qualifications denoted as NVQs in the Regulated Qualification Framework (RQF) and SVQs in the Scottish Credit and Qualification Framework (SCQF) is valid, effective and consistent, and has credibility across the Construction and Built Environment sector<sup>2</sup>. This is a consolidated ConstructionSkills Assessment Strategy covering construction and the built environment – craft, operative, supervisory, technical, managerial and professional NVQs and SVQs.

These principles are in addition to the requirements that awarding organisations must meet for the delivery of qualifications as required by the qualification regulators' documentation.

This consolidated assessment strategy provides the overarching principles as systems may vary from one awarding organisation to another. Awarding organisations must consistently put these principles into practice.

Appendix A provides guidance to help awarding organisations incorporate relevant parts of these principle requirements in their documentation.

Appendix B provides additional information on assessment guidance for awarding organisations relevant to specific NVQ or SVQ qualifications and units.

Appendix C provides guidance on the use of simulation; it is a SSC's responsibility to define the acceptability of evidence from simulation in the context of National Occupational Standards (NOS) and NVQs/SVQs. Simulation will only usually apply as a result of **one or more** of the listed constraints.

Appendix D provides guidance on Scottish Vocational Qualifications at SCQF Level 6 and related Industry Skills Tests.

Awarding organisations must make this Strategy and the appendices available to assessors, verifiers, candidates and assessment centres.

<sup>1</sup> Please note that there is now a separate Assessment Strategy for Construction and the Built Environment – Plant and Lifting Operations. This assessment strategy will also apply where plant or lifting units, sourced from the Plant Operations or Controlling Lifting Operations' suite of units, are used in other NVQs and SVQs.

<sup>2</sup> Please note that the Consolidated Assessment Strategy will also apply to existing learners currently registered to the Qualifications and Credit Framework (QCF) until they achieve their qualification.

## Principles

### 1. External quality control of assessment

1.1 Awarding organisations must use risk management for external quality control of assessment. They must evaluate all external verification reports and other data relating to assessment centres. Awarding organisations must address any risks relating to quality control, considering the sector assessment strategy requirements for:

- workplace evidence
- the use of simulation
- the occupational competence of assessors and verifiers.

1.2 The monitoring and standardisation of assessment decisions must be achieved by robust and strong internal and external verification systems that meet the requirements of the qualification regulators' documentation.

1.3 Awarding organisations must be members of the sector's Built Environment Awarding Body Forum. Members will be expected to provide feedback on National Occupational Standards (NOS), NVQs or SVQs, including aspects informing incremental change.

1.4 The Forum will, in respect of this strategy:

- build on the good relationships with awarding organisations
- provide opportunities to identify and address particular issues of external quality control
- contribute to improving quality and consistency
- support awarding organisations to monitor assessment centres' performance to identify areas and levels of risk
- provide information and statistics about take-up and completion, as well as trends and developments that can be used by ConstructionSkills and awarding organisations to identify any problem areas and agree remedial action
- discuss matters concerning quality assurance, as well as providing the opportunity to identify issues arising from implementation of NOS and related vocational qualifications
- inform the continuous improvement of NOS, and awards derived from them
- identify and share best practices to build a whole industry approach to pursue excellence in education and work-based learning and assessment process to achieve competence.

1.5 Awarding organisations and their partners, assessment centres, verifiers and assessors must maintain robust and transparent operational arrangements. They

must preserve independence in assessment, certification and quality assurance processes. Awarding organisations must ensure clear separation of their NVQ/SVQ assessment responsibilities from their industry, training, membership, certification, accreditation and commercial interests and resolve any conflicts of interest.

1.6 Where e-assessment is used, it must meet the requirements of the qualification regulators' documentation.

## **2 Aspects to be assessed through performance in the workplace**

2.1 Direct evidence produced through normal performance in the workplace is the primary source for meeting the requirements. This includes naturally occurring documentary evidence (hard copy and electronic), direct observation of activities and witness testimony as relevant. ConstructionSkills' National Working Groups will specify any exceptions to this position (see section 3).

2.2 Workplace evidence must be supported by the required evidence of knowledge and understanding. This evidence may be identified by:

- questioning the candidate
- recognised industry education and training programme assessment or professional interview assessment that has been matched to NOS requirements
- performance evidence.

2.3 A holistic approach towards the collection of evidence should be encouraged. The focus should be on assessing activities generated by the whole work experience rather than focusing on specific tasks. This would show how evidence requirements could be met across the qualification to make the most efficient use of evidence. Appendix A suggests standard evidence notes for awarding organisations.

## **3 How simulated working conditions may be used to assess competence**

3.1 Simulations (designed situations for producing artificially generated evidence) may only be used where candidates are prevented from gathering direct evidence from the workplace in the normal way because:

- there are hazards
- it is difficult to distinguish individual performance in team situations
- circumstances occur infrequently or long-term results are involved
- confidentiality is important
- there are organisational constraints.

3.2 Any instances where simulation is considered to be acceptable as an alternative (to direct workplace evidence) means of generating evidence, will be determined by the relevant ConstructionSkills National Working Group and stated in the unit. Appendix A suggests standard evidence notes for awarding organisations.

3.3 The ConstructionSkills National Working Group will determine and specify on the required realistic working environment and context to be adopted. This could include appropriate:

- tools, equipment and instruments
- materials
- types of contingencies
- standards and quality specifications
- real timescales
- quantities of work
- physical conditions
- relationships with people
- types of interaction
- communication methods and media
- information and data.

3.4 Where simulated evidence is stated as acceptable in the unit, the circumstances and requirements for the simulation needs to be confirmed by discussions between the candidate and the assessor, and which are then agreed by the internal and external verifiers.

3.5 Where other Standard Setting Bodies' units are imported into a ConstructionSkills suite, the evidence requirements of the originating body will be adopted and specified.

## **4 Occupational expertise requirements for assessors and verifiers**

4.1 Awarding organisations must ensure that **assessors**:

4.1.1 have sufficient, verifiable, relevant current industry experience, knowledge and understanding of the occupational working area at, or above, the level being assessed. This must be of sufficient depth to be effective and reliable when judging candidates' competence. Assessors' experience, knowledge and understanding could be verified by a combination of:

- curriculum vitae and employer endorsement or references
- possession of a relevant NVQ/SVQ, or vocationally related qualification
- corporate membership of a relevant professional institution
- interview

(The verification process must be recorded and available for audit)

4.1.2 have sufficient occupational expertise so they have up-to-date experience, knowledge and understanding of the particular aspects of work they are assessing. This could be verified by records of continuing professional development achievements

4.1.3 only assess in their acknowledged area of occupational competence

4.1.4 have a sound, in-depth knowledge of, and uphold the integrity of, the sector's NOS and the Assessment Strategy (this document)

4.1.5 are prepared to participate in activities for their continued professional development

4.1.6 hold, or are working towards, a qualification as listed within 'Assessing and Assuring Quality of Assessment':

- RQF/QCF Level 3 Award in Assessing Competence in the Work Environment
- RQF/QCF Level 3 Award in Assessing Vocationally Related Achievement
- RQF/QCF Level 3 Certificate in Assessing Vocationally Related Achievement
- RQF/QCF Level 3 Certificate in Assessing Vocational Achievement
- an appropriate Assessor qualification in the SCQF as identified by SQA Accreditation

or hold **one** of the following:

- A1 Assess candidates using a range of methods
- D32/33 Assess candidate performance, using differing sources of evidence

Holders of A1 and D32/33 must assess to the current National Occupational Standards (NOS) for Learning and Development.

In Scotland, approval for exemptions must be obtained from SQA Accreditation.

4.2 Awarding organisations must ensure that internal verifiers:

4.2.1 have sufficient, verifiable, relevant up-to-date experience, knowledge and understanding of the occupational working area at, or above, the level being verified. This must be of sufficient depth to be effective and reliable when verifying judgements about assessors' assessment processes and decisions. Internal verifiers' experience, knowledge and understanding could be verified by a combination of:

- curriculum vitae and employer endorsement or references
- possession of a relevant NVQ/SVQ, or vocationally related qualification
- corporate membership of a relevant professional institution
- interview

(The verification process must be recorded and available for audit)

4.2.2 have expertise so they have up-to-date experience, knowledge and understanding of the particular aspects of work they are verifying. This could be verified by records of continuing professional development achievements

4.2.3 have a sound, in-depth knowledge of, and uphold the integrity of, the sector's NOS and the Assessment Strategy (this document)

4.2.4 are prepared to participate in activities for their continued professional development

4.2.5 hold, or are working towards, a qualification as listed in 'Assessing and Assuring Quality of Assessment':

- RQF/QCF Level 4 Award in the Internal Quality Assurance of the Assessment Process and Practice
- RQF/QCF Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Process and Practice
- an appropriate Internal Verifier qualification in the SCQF as identified by SQA Accreditation

or hold **one** of the following:

- V1 Conduct internal quality assurance of the assessment process
- D34 Internally verify the assessment process

Holders of V1/D34 must quality assure to the current National Occupational Standards (NOS) for Learning and Development.

It is strongly recommended that within the role of Internal Quality Assurance **one** of the following qualifications is held.

- RQF/QCF Level 3 Award in Assessing Competence in the Work Environment
- RQF/QCF Level 3 Certificate in Assessing Vocational Achievement
- an appropriate Assessor qualification in the SCQF as identified by SQA Accreditation or **one** of the following:
  - A1 Assess candidates using a range of methods
  - D32/33 Assess candidate performance, using differing sources of evidence.

4.3 Awarding organisations must ensure that **external verifiers**:

4.3.1 have sufficient, verifiable, relevant experience, knowledge and a broad understanding of the occupational working area at, or above, the level being verified. This must be of sufficient depth to be effective and reliable when verifying judgements about internal verification and assessment processes and decisions. External verifiers' experience, knowledge and understanding could be verified by a combination of:

- curriculum vitae and employer endorsement or references
- possession of a relevant NVQ/SVQ, or vocationally related qualification
- corporate membership of a relevant professional institution
- interview

(The verification process must be recorded and available for audit)

4.3.2 have sufficient expertise so they have an up-to-date experience, knowledge and understanding of the particular aspects of work they are verifying. This could be verified by records of continuing professional development achievements

4.3.3 have a sound, in-depth knowledge of, and uphold the integrity of, the sector's NOS and the Assessment Strategy (this document)

4.3.4 are prepared to participate in activities for their continued professional development

4.3.5 hold, or are working towards, a qualification as listed in 'Assessing and Assuring Quality of Assessment':

- RQF/QCF Level 4 Award in the External Quality Assurance of the Assessment Process and Practice
- RQF/QCF Level 4 Certificate in Leading the External Quality Assurance of Assessment
- an appropriate External Verifier qualification in the SCQF as identified by SQA Accreditation

or hold **one** of the following:

- V2 Conduct external quality assurance of the assessment process
- D35 Externally verify the assessment process

Holders of V2/D35 must quality assure to the current National Occupational Standards (NOS) for Learning and Development.

It is strongly recommended that within the role of External Quality Assurance **one** of the following qualifications is held at Level 3 and Level 4.

Level 3:

- RQF/QCF Level 3 Award in Assessing Competence in the Work Environment
- RQF/QCF Level 3 Certificate in Assessing Vocational Achievement
- an appropriate Assessor qualification in the SCQF as identified by SQA Accreditation or **one** of the following:
  - A1 Assess candidates using a range of methods
  - D32/33 Assess candidate performance, using differing sources of evidence.

Level 4:

- RQF/QCF Level 4 Award in the Internal Quality Assurance of the Assessment Process and Practice
- RQF/QCF Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Process and Practice
- an appropriate Internal Verifier qualification in the SCQF as identified by SQA Accreditation
  - V1 Conduct internal quality assurance of the assessment process
  - D34 Internally verify the assessment process.

#### 4.4 Selection and appointment of **assessors and verifiers**.

All applicants should be advised that they may be interviewed. Applicants' CVs should be profiled against the activities and range of the NVQ/SVQ(s) they will assess/verify to check that the applicant has the relevant current experience, knowledge and understanding of the occupational working area:

- at, or above, the level they will be assessing
- of sufficient depth to credibly verify judgements and assessments
- to uphold the integrity of the NOS and this Consolidated Assessment Strategy. All assessors should have experience as well as, not in lieu of, qualifications.

Where there seem to be gaps in a potentially suitable applicant's experience and knowledge, the applicant should be interviewed. Successful applicants' CVs, profiling, reasons for not needing to interview and interview records should be available for audit.

## Appendix A

### ConstructionSkills' standard evidence notes for awarding organisations

These guidance notes have been produced to ensure consistency in interpreting the principles set out in sections 2 and 3 of the ConstructionSkills' Assessment Strategy. The notes should help awarding organisations incorporate relevant parts of the assessment strategy principles' requirements in their documentation for construction and built environment – craft, supervisory, technical, managerial and professional NVQs/SVQs. The following general standard notes are strongly recommended for adoption by awarding organisations in their assessment specification:

Standard note 1:

*"Taken as a whole, the evidence must show that the candidate consistently meets all the following performance criteria/learning outcomes and assessment criteria across the scope/range."*

Standard note 2:

*“There must be workplace evidence against each performance criterion/learning outcome and assessment criterion. Where the workplace evidence does not cover the whole scope/range, knowledge evidence must be provided to cover the remaining items of scope/range for each relevant performance criterion/learning outcome and assessment criterion.”*

Standard note 3:

*“Knowledge evidence may be established from questioning the candidate, or from industry recognised industry education and training programme assessment, or professional interview assessment, that has been matched to the requirements of the National Occupational Standards. Such assessments should also have their own independent external assessment, moderation or verification. A candidate’s knowledge and understanding can also be demonstrated through presented performance evidence.”*

Standard note 4: Either:

*“Simulations are not considered to be acceptable for producing this evidence.”*

OR

*“Simulations are considered to be an acceptable alternative for producing evidence for the following item(s) which is/are considered to be rare/infrequent, but key/critical to demonstrating competence. The following realistic working environment and context must be adopted for the simulation, with appropriate: tools, equipment and instruments; materials; types of contingencies; standards and quality specifications; real timescales; quantities of work; physical conditions; relationship with people; type of interaction; communication methods and media; information and data\*.” [\*include as appropriate]*

See also Annex C: ‘Guidance on the use of simulation’ which also includes guidance on the acceptable use and characteristics of simulation within N/SVQs during the current economic climate.

## Appendix B

### **Additional information on assessment guidance for awarding organisations relevant to specific NVQ or SVQ qualifications and units**

The information below should help awarding organisations incorporate relevant parts of the assessment strategy principles' requirements in their documentation for construction and built environment NVQs and SVQs. The following guidance is strongly recommended for adoption by awarding organisations in their assessment methodology.

#### **Additional Information on the Assessment of CITB NVQ Units only**

CITB NVQ Unit Ref: 641 – Assessment Criteria 2.3 and 2.4

2.3 – 'List the current Health and Safety Executive top ten safety risks' should be assessed as 'List the current common safety risks'.

2.4 - 'List the current Health and Safety Executive top five health risks' should be assessed as 'List the current common health risks'.

All CITB NVQ units – Assessment Criteria 1.4

1.4 – 'State why and when health and safety control equipment, identified by the principles of protection' should be assessed as 'State why and when health and safety control equipment, identified by the principles of prevention'.

#### **Thermal Insulation NVQ and SVQ units and qualifications**

Training Providers offering Thermal Insulation NVQ and SVQ units and qualifications:

- must ensure that their Thermal Insulation assessors are registered with the Thermal Insulation Contractor Association (TICA) and are Thermal Installation installers with at least 5 years verifiable, relevant, current industry experience, knowledge and understanding of the occupational area at, or above the level being assessed. This must be of sufficient depth to be effective and reliable when judging candidates' competence. Assessors' experience, knowledge and understanding could be verified by a combination of:
  - curriculum vitae and employer endorsement
  - references
  - possession of a relevant NVQ/SVQ, or vocationally related qualification
  - interview

(The verification process must be recorded and available for audit)

will provide opportunities to identify and address particular issues of external control, including the assessment of Thermal Insulation NVQ/SVQ qualifications and Apprenticeship Standards.

## Appendix C

### Guidance on the use of simulation

#### Introduction

National Occupational Standards (NOS) are developed by Sector Skills Councils (SSCs) and describe the level of occupational competence required of a particular job role. NOS are then used to build National and Scottish Vocational Qualifications (NVQs/SVQs) that are competence-based qualifications and demand assessment in a workplace environment.

Assessment of NVQs/SVQs through simulation is indicated where the achievement of valid and reliable assessment calls for evidence of performance under workplace conditions, but where it will be difficult to assess through normal working practice. This will usually apply as a result of **one or more** of the following constraints:

- activities which are inherently hazardous and where mistakes made in carrying them out would pose unacceptable risks to the candidate, other people, animals or property (e.g. electricity and gas sectors, fire service etc.)
- the costs incurred would be unacceptably high if mistakes were made during an activity and a candidate would therefore be required to 'prove' competence before progressing onto the actual work (e.g. handling rare or precious objects)
- situations where the qualities and outcomes of the candidate's behaviour are almost impossible to distinguish from those of their peers or colleagues, making authenticity uncertain (e.g. in some teamwork contexts)
- activities or situations which are sufficiently rare (e.g. where processes, such as a 'shut-down', may only occur on an annual basis)
- when the collection and/or review of evidence of workplace performance would intrude unacceptably on personal privacy or confidentiality, or would significantly alter the nature of an interaction or relationship (e.g. in some health care settings)
- a requirement to work with new techniques and/or work practices which may not be available in all workplaces.

Where permitted, simulation can take one or a combination of the two following forms:

- the candidate is presented with an activity to perform using equipment and/or in a location which replicates that found in the workplace
- the candidate is presented with a situation to which they must respond; taking and playing the role they would expect to play in the workplace.

It is a SSC's responsibility to define the acceptability of evidence from simulation in the context of National Occupational Standards (NOS) and National and Scottish Vocational Qualifications (NVQs/SVQs). The ConstructionSkills Consolidated Assessment Strategy provides this guidance.

## Guidance on the acceptable use and characteristics of simulation within NVQs/SVQs during the current economic climate

Due to the UK's economic recession over the past few years, ConstructionSkills had implemented flexibilities relating to simulation of NVQs/SVQs for displaced Apprentices and although there were small signs of a recovery in 2014 ConstructionSkills agreed to extend these flexibilities for a further twelve months.

Now that the construction industry has shown definite signs of growth, these flexibilities were withdrawn on 31st May 2015. However, in regard to Apprentices registered before the 1st January 2015, the flexibilities will remain in place until their completion date.

Therefore **only** for Apprentices who registered before the 1st January 2015 the following can apply:

In situations where a displaced or employed apprentice (this does not apply to full-time learners) will not be able to demonstrate evidence in the workplace within an acceptable time span, Awarding Bodies can arrange with their centres to apply the following principles.

- 1 Units cannot be assessed using simulation alone – there must be some supporting work-based evidence.
- 2 A centre's strategy for simulation must be examined and approved by the external verifier.
- 3 The location and environment of simulation must be agreed with the internal verifier prior to taking place, and must be checked by the internal verifier.
- 4 The **nature of the contingency** and the **physical environment must be realistic** and candidates should not be given any indication as to exactly what contingencies they may come across.
- 5 All simulations must be planned, developed and documented by the centre in a way that ensures the simulation correctly reflects what the unit seeks to assess, and all simulations must follow these documented plans.
- 6 There should be a range of simulation to cover the same aspect of the unit so that the risk of candidates successfully colluding is reduced.
- 7 All simulation must reflect the urgency with which the activity would normally be carried out and the normal time needed to complete it, including the usual complexity of factors affecting the activity.
- 8 All simulation should involve the same personnel as would normally be included (e.g. bricklayer, supervisor, labourer etc.) and also similar realistic facilities.
- 9 Any instances of insufficient work-based evidence must be supported by adequate supplementary evidence which might include questioning; interviews with professional discussion; work projects; case studies; special assignments; self-testimony.

ConstructionSkills would strongly recommend that centres explore strategies with the candidate's employers for obtaining work-based evidence before considering the use of simulation. Examples might include using Group Training Associations, thereby carrying out real jobs within the college/training centre and/or involvement with community projects.

Group Training Association (GTA) is the government term for a training group which also shares Apprentices. The GTA model is where a number of like-minded employers come together to create a separate business entity, which sources appropriate training and delivers Apprenticeships by providing work experience across the range of engaged businesses.

## Appendix D

### Guidance on Scottish Vocational Qualifications at SCQF Level 6 and related Industry Skills Tests

#### 1 Introduction

This Appendix refers only to the SVQs in the following craft areas at SCQF Level 6:

- Bricklaying
- Carpentry and Joinery
- Floorcovering
- Painting and Decorating
- Plastering
- Roofing Occupations
- Stonemasonry
- Wall and Floor Tiling
- Woodmachining

An Industry Skills Test Unit is included in the SVQ structures and involves the candidate attending a competence assessment in the final six months of the delivery of the SVQ. Successful achievement of this Skills Test/SVQ demonstrates that the learner has sufficient technical expertise, knowledge and skill to meet the expectations of employers in terms of Occupational Competence.

The Occupational Competence of learners must be assessed in accordance with industry requirements as prescribed in National Occupational Standards and Skills Testing Criteria available from CITB.

Learners should not be put forward for their Skills Test until they are deemed ready to be assessed as competent.

Simulation must take place for the Industry Skills Test Units. The activities that will be undertaken should demonstrate competence in these craft areas, as contained within each Skills Test Criteria.

#### 2 Industry Skills Test

The Industry Skills Test is the final part of the assessment process for the SVQ. Each craft occupation will have its own arrangements developed by the Awarding Organisation which will be compliant with the Skills Test Criteria.

Details of these assessments will be based on Industry recommendations and will be developed by the Awarding Organisation. Each Awarding Organisation shall ensure a nationally consistent approach to Skills Testing for the industry/occupation concerned.

### **3 Arrangements to be made between Skills Test Providers and Awarding Organisations**

3.1 The Skills Test is part of the assessment process/requirements for the qualification structures identified in this appendix. It is to be conducted at the end of the assessment process to confirm occupational competence.

3.2 Each industry will have its own requirements which are compatible to and reflect their particular necessities in terms of assessing occupational competence within the Skills Test Criteria. The arrangements will be agreed by Awarding Organisations and delivering centres accordingly.

3.3 The purpose of these arrangements is to define the roles and responsibilities of the Awarding Organisations and centres involved with facilitating, managing and administering the Skills Tests for each industry.

3.4 These arrangements only relate to the SVQs listed in this appendix of the assessment strategy or their revisions/replacements as determined by CITB.

### **4 Roles and responsibilities**

4.1 The Skills Test Criteria will be determined by CITB in partnership with industry employers and the Skills Test Specifications/Assessments will be determined by the Awarding Organisations.

4.2 The Skills Test venues and facilities will be provided by Awarding Organisations' approved centres and comply with the requirements identified in the Skills Test Criteria and Specifications developed by Awarding Organisations.

4.3 Awarding Organisation External Verifiers (EVs) will be responsible for quality assuring the Assessment Materials and Marking Guidance in accordance with the Awarding Organisation's compliance requirements. CITB will provide Awarding Organisations with a summary of the principles of the Skills Test marking regime and criteria as examples of best practice in terms of its integrity, robustness and consistency.

4.4 CITB will be responsible for the maintenance of the Skills Test Criteria.

## 5 Currency of these arrangements

It is expected that the currency of these arrangements will match with the accreditation period of the qualifications, or units therein as relevant. CITB, in partnership with the Awarding Organisations will review the arrangements bi-annually or as appropriate, subject to any revisions to the qualifications.

## 6 Occupational expertise requirements for Industry Skills Test Assessors and Industry Expert Witnesses

6.1 Awarding Organisations must ensure that assessors meet the occupational expertise requirements as detailed in Section 4.1 of the Assessment Strategy.

The Assessors role is to uphold the integrity and standards during the test and to make judgement and final assessment decisions after the test. Final assessment decisions should be accurately recorded for evidence (including photographic).

6.2 Skills Test Industry Expert Witnesses:

- must not employ any of the candidates involved in the Skills Test to ensure an independent observation
- must have sufficient, verifiable, relevant current industry experience, knowledge and understanding of the occupational working area being assessed. This must be of sufficient depth to be effective and reliable when observing the marking of the Skills Test. Expert Witnesses' experience, knowledge and understanding could be verified by **any** of the following:
  - curriculum vitae
  - references
  - possession of a relevant vocationally related qualification
  - corporate membership of a relevant professional institution
  - interview
- must only observe in their acknowledged area of occupational competence
- have a sound, in-depth knowledge of, and uphold the integrity of, the sector's NOS and this appendix
- are prepared to participate in training activities for their continued professional development.

6.4 Selection and appointment of Skills Test Industry Expert Witnesses.

All applicants should be advised that they may be interviewed. Applicants' CVs should be profiled against the activities and range of the occupational area they will observe, to check that the applicant has the relevant current experience, knowledge and understanding of the occupational working area. This should be of sufficient depth to credibly verify judgements and assessments to uphold the integrity of the NOS and this Consolidated Assessment Strategy.

Whilst Expert Witnesses cannot accredit the final award of the Skills Test, if they disagree with the assessment decision made by the Assessor, they can appeal directly to the Awarding Organisation.

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