

# **Level 3 Advanced Technical Diploma in Painting and Decorating (450)**

**(7907-30)**

Version 1.5 May 2019

**Qualification Handbook**

## Qualification at a glance

<b>Industry area</b>	Construction
<b>City &amp; Guilds qualification number</b>	7907-30
<b>Age group</b>	16-19 (Key Stage 5), 19+
<b>Entry requirements</b>	Centres must ensure that any pre-requisites stated in the <i>What is this qualification about?</i> section are met.
<b>Assessment</b>	To gain this qualification, candidates must successfully achieve the following assessments: <ul style="list-style-type: none"> <li>• one externally set, externally moderated assignment</li> <li>• one externally set, externally marked exam, sat under examination conditions.</li> </ul>
<b>Additional requirements to gain this qualification</b>	Employer involvement in the delivery and/or assessment of this qualification is essential for all candidates and will be externally quality assured.
<b>Grading</b>	This qualification is graded Pass/Merit/Distinction/Distinction* For more information on grading, please see Section 7: Grading.
<b>Approvals</b>	These qualifications require full centre and qualification approval.
<b>Support materials</b>	Sample assessments Guidance for delivery Guidance on use of marking grids
<b>Registration and certification</b>	Registration and certification of this qualification is through the Walled Garden, and is subject to end dates.
<b>External quality assurance</b>	This qualification is externally quality assured by City & Guilds, and its internally marked assignments are subject to external moderation. There is no direct claim status available for this qualification.

Title and level	Size (GLH)	TQT	City & Guilds qualification number	Ofqual accreditation number
Level 3 Advanced Technical Diploma in Painting and Decorating (450)	450	720	7907-30	601/7420/1

Version and date	Change detail	Section	
1.1 May 2016	Small typographical errors	Throughout	
	TQT added for qualifications	1. Introduction	
	Assessment component titles amended		
	Employer involvement guidance updated throughout	4. Employer involvement	
	Summary of assessment methods and conditions	5. Assessment	
	Moderation and standardisation of assessment updated throughout	6. Moderation and standardisation of assessment	
	Awarding individual assessments	7. Grading	
	Awarding grades and reporting results		
1.2 May 2017	Enquiries about results	8. Administration	
	Re-sits and shelf-life of assessment results		
	Malpractice		
	Access arrangements and special consideration		
	Addition of the examination paper based module number		1. Introduction – Assessment requirements and employer involvement
			5. Assessment
			5. Assessment – exam Specification
			7. Grading – Awarding grades and reporting results
1.3 September 2017	Removal of AO 6-8 from Synoptic Assignments	5. Assessment – Assessment Objectives	
	Revised Exam Specification and AO weightings	5. Assessment – Exam Specification	
	Addition of Provisional Grade Boundaries for the Synoptic Assignment	7. Grading	
	Branding Changes	City and Guilds Logo	
1.3 September 2017	Assignment AO weightings corrected.	5. Assessment – Assessment Objectives	
1.4 November 2017	Exam AO weightings corrected	5. Assessment – Exam Specification	

1.5 May 2019

---

Wording changed regarding retakes

5. Assessment –  
Summary of  
assessment methods  
and conditions

8. Administration –  
Re-sits and shelf-life of  
assessment results

# Contents

<b>1</b>	<b>Introduction</b>	<b>7</b>
	What is this qualification about?	7
	Qualification structure	9
	Total qualification time (TQT)	9
	Assessment requirements and employer involvement	9
<b>2</b>	<b>Centre requirements</b>	<b>11</b>
	Approval	11
	Resource requirements	11
	Learner entry requirements	11
<b>3</b>	<b>Delivering technical qualifications</b>	<b>12</b>
	Initial assessment and induction	12
	Employer involvement	12
	Support materials	12
<b>4</b>	<b>Employer involvement</b>	<b>13</b>
	Qualification approval	13
	Monitoring and reporting learner engagement	13
	Types of involvement	14
	Types of evidence	14
	Quality assurance process	15
	Sufficiency of involvement for each learner	15
	Live involvement	15
	Timing	15
<b>5</b>	<b>Assessment</b>	<b>16</b>
	Summary of assessment methods and conditions	16
	What is synoptic assessment?	17
	How the assignment is synoptic for this qualification	17
	External exam for stretch, challenge and integration	17
	Assessment objectives	18
	Exam specification	19
<b>6</b>	<b>Moderation and standardisation of assessment</b>	<b>21</b>
	Supervision and authentication of internally assessed work	21
	Internal standardisation	21
	Provision for reworking evidence after submission for marking by the tutor	21
	Internal appeal	22
	Moderation	22
	Post-moderation procedures	22
	Centres retaining evidence	22
<b>7</b>	<b>Grading</b>	<b>23</b>
	Awarding individual assessments	23
	Grade descriptors	23

	Awarding grades and reporting results	24
<b>8</b>	<b>Administration</b>	<b>26</b>
	External quality assurance	26
	Enquiries about results	26
	Re-sits and shelf-life of assessment results	27
	Factors affecting individual learners	27
	Malpractice	27
	Access arrangements and special consideration	27
<b>Unit 301</b>	<b>Principles of organising, planning and pricing construction work</b>	<b>29</b>
<b>Unit 302</b>	<b>Erecting and dismantling access equipment and working platforms</b>	<b>37</b>
<b>Unit 303</b>	<b>Applying hangings to walls and ceilings</b>	<b>41</b>
<b>Unit 304</b>	<b>Producing specialist finishes for painted decorative work</b>	<b>48</b>
<b>Unit 305</b>	<b>Installing specialist architectural finishes for decorative work</b>	<b>55</b>
<b>Unit 306</b>	<b>Applying water-borne paint systems using airless equipment</b>	<b>60</b>
<b>Unit 307</b>	<b>Applying water-borne paint systems using high volume low pressure spray equipment</b>	<b>65</b>
<b>Appendix 1</b>	<b>Sources of general information</b>	<b>71</b>

# 1 Introduction

## What is this qualification about?

The following purpose is for the **Level 3 Advanced Technical Diploma in Painting and Decorating (450) (601/7420/1)**

Area	Description
OVERVIEW	
Who is this qualification for?	<p>This qualification is aimed at you if you are looking to work in the construction industry specifically as an advanced craftsperson in painting and decorating. It will provide you with a range of specialist technical practical skills and knowledge, which will equip you to seek employment or further training in painting and decorating.</p> <p>While there are no formal entry requirements, a Level 2 Diploma in Painting and Decorating, or equivalent industry experience is recommended.</p> <p>This qualification is suitable for anyone over the age of 16 years.</p>
What does this qualification cover?	<p>This one year full time qualification helps you to gain a wide range of specialist skills in painting and decorating so you can work as an advanced craft painter and decorator.</p> <p>You will take seven compulsory units in:</p> <ul style="list-style-type: none"><li>• Principles of organising, planning and pricing construction work</li><li>• Erecting and dismantling access equipment and working platforms</li><li>• Applying hangings to walls and ceilings</li><li>• Producing specialist finishes for painted decorative work</li><li>• Installing specialist architectural finishes for decorative work</li><li>• Applying water-borne paint systems using airless equipment</li><li>• Applying water-borne paint systems using high volume low pressure spray equipment.</li></ul> <p>The units are designed so that you learn all the practical skills involved, as well as getting an overview of how to organise and price work. As most of the work in this area means that you have to work at heights, learning how to use equipment and working platforms safely, along with erecting and dismantling them, is essential.</p>

---

Centres and providers where you do your training, work with local employers who will contribute to the knowledge and delivery of your training. Employers will provide demonstrations and talks on the industry and where possible work placements will also be provided by the employers.

---

#### WHAT COULD THIS QUALIFICATION LEAD TO?

---

Will the qualification lead to employment, and if so, in which job role and at what level?

This qualification prepares you with the knowledge and practical skills required to become an advanced craftsperson in painting and decorating. This means you will be able to complete specialist, complex tasks and also work in a supervisory capacity in your chosen trade.

If you complete this qualification you will have an advantage over those who have not done it when seeking employment, either on commercial or domestic premises. You may also become self-employed working as a painter and decorator working on domestic repair and refurbishment projects.

---

Why choose this qualification over similar qualifications?

This particular qualification is intended and designed specifically for you if you are not currently employed in the construction industry, but wish to embark on a career as an advanced craft painter and decorator.

---

Will the qualification lead to further learning?

It can lead to a construction apprenticeship programme or a Level 3 NVQ Diploma in Decorative Finishing – Painting and Decorating (Construction). On completion of the apprenticeship you will be competent as an advanced craft painter and decorator.

If you wish to progress to become a supervisor working on site, you may wish to study any of the following qualifications:

- Level 4 NVQ Diploma in Construction Site Supervision (Construction)
- Level 6 NVQ Diploma in Construction Site Management (Construction)

---

#### WHO SUPPORTS THIS QUALIFICATION?

---

Employer/Higher Education Institutions

This qualification is supported by the Federation of Master Builders.

---



## Qualification structure

For the **Level 3 Advanced Technical Diploma in Painting and Decorating (450)** the teaching programme must cover the content detailed in the structure below:

Unit number	Unit title	GLH
<b>Mandatory</b>		
301	Principles of organising, planning and pricing construction work	90
302	Erecting and dismantling access equipment and working platforms	30
303	Applying hangings to walls and ceilings	90
304	Producing specialist finishes for painted decorative work	60
305	Installing specialist architectural finishes for decorative work	60
306	Applying water-borne paint systems using airless equipment	60
307	Applying water-borne paint systems using high volume low pressure spray equipment	60

## Total qualification time (TQT)

Total Qualification Time (TQT) is the total amount of time, in hours, expected to be spent by a Learner to achieve a qualification. It includes both guided learning hours (which are listed separately) and hours spent in preparation, study and assessment.

Title and level	GLH	TQT
Level 3 Advanced Technical Diploma in Painting and Decorating	450	720

## Assessment requirements and employer involvement

To achieve the **Level 3 Advanced Technical Diploma in Painting and Decorating (450)** candidates must successfully complete **all** the mandatory assessment components.

### Level 3 Advanced Technical Diploma in Painting and Decorating (450)

Component number	Title
<b>Mandatory</b>	
001 or 501	Level 3 Painting and Decorating - Theory exam (1)*
002	Level 3 Painting and Decorating - Synoptic assignment (1)*

In addition, candidates **must** achieve the mandatory employer involvement requirement for this qualification **before** they can be awarded a qualification grade. For more information, please see guidance in *Section 4: Employer involvement*.

## Employer involvement

Component number	Title
<b>Mandatory</b>	
830	Employer involvement

*\*Number of mandatory assessments per assessment type*

## 2 Centre requirements

### Approval

New centres will need to gain centre approval. Existing centres who wish to offer this qualification must go through City & Guilds' **full** Qualification Approval Process. There is no fast track approval for this qualification. Please refer to the City & Guilds website for further information on the approval process: [www.cityandguilds.com](http://www.cityandguilds.com)

### Resource requirements

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

### Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following requirements:

- be technically competent in the areas in which they are delivering
- be able to deliver across the breadth and depth of the content of the qualification being taught
- have recent relevant teaching and assessment experience in the specific area they will be teaching, or be working towards this
- demonstrate continuing CPD.

### Physical resources

Centres must be able to demonstrate that they have access to the equipment and technical resources required to deliver this qualification and its assessments.

Centres will have well equipped workshops with a comprehensive range of hand and portable power tools that meet current industry standards. All powered equipment should be well maintained and PAT certified. Centres will have special designated areas within painting and decorating workshop (cubicles or project areas) allowing candidates to practice the requirements of the units and carry out the Practical Assignments.

### Internal Quality Assurance

Internal quality assurance is key to ensuring accuracy and consistency of tutors and markers. Internal Quality Assurers (IQAs) monitor the work of all tutors involved with a qualification to ensure they are applying standards consistently throughout assessment activities. IQAs must have, and maintain, an appropriate level of technical competence and be qualified to make both marking and quality assurance decisions through a teaching qualification or recent, relevant experience.

### Learner entry requirements

Centres must ensure that all learners have the opportunity to gain the qualification through appropriate study and training, and that any prerequisites stated in the *What is this qualification about?* section are met when registering on this qualification.

### Age restrictions

This qualification is approved for learners aged 16 – 19, 19+.

### 3 Delivering technical qualifications

#### Initial assessment and induction

An initial assessment of each learner should be made before the start of their programme to identify:

- if the learner has any specific learning or training needs,
- support and guidance they may need when working towards their qualification,
- the appropriate type and level of qualification.

We recommend that centres provide an introduction so that learners fully understand the requirements of the qualification, their responsibilities as a learner, and the responsibilities of the centre. This information can be recorded on a learning contract.

#### Employer involvement

Employer involvement is essential to maximise the value of each learner's experience. Centres are required to involve employers in the delivery of technical qualifications at Key Stage 5 and/or their assessment, for every learner. This must be in place or planned before delivery programmes begin in order to gain qualification approval. See *Section 4: Employer involvement* for more detail.

#### Support materials

The following resources are available for this qualification:

Description	How to access
Sample assessments	
Guidance for delivery	Available 2016 on the qualification pages on the City & Guilds website: <a href="http://www.cityandguilds.com">www.cityandguilds.com</a>
Guidance on use of marking grids	

---

## 4 Employer involvement

Employer involvement is a formal component of Key Stage 5 Technical qualifications. It does not contribute to the overall qualification grading, but is a mandatory requirement that all learners must meet. As such it is subject to external quality assurance by City & Guilds.

Department for Education (DfE) requirements state:

*Employer involvement in the delivery and/or assessment of technical qualifications provides a clear 'line of sight' to work, enriches learning, raises the credibility of the qualification in the eyes of employers, parents and students and furthers collaboration between the learning and skills sector and industry.*

*[Technical qualifications] must:*

- *require all students to undertake meaningful activity involving employers during their study; and*
- *be governed by quality assurance procedures run by the awarding organisation to confirm that education providers have secured employer involvement for every student.*

Extract from: **Vocational qualifications for 16 to 19 year olds, 2017 and 2018 performance tables: technical guidance for awarding organisations, paragraphs 89-90**

City & Guilds will provide support, guidance and quality assurance of employer involvement.

### Qualification approval

To be approved to offer City & Guilds technicals, centres must provide an Employer Involvement planner and tracker showing how every learner will be able to experience meaningful employer involvement, and from where sufficient and suitable employer representatives are expected to be sourced.

Centres must include in their planner a sufficient range of activities throughout the learning programme that provide a range of employer interactions for learners. Centres must also describe how they will make contingencies for learners who may miss events through absence. Centres must also plan contingencies for learners who may be absent for employer involvement activities, so that they are not disadvantaged.

As part of the approval process, City & Guilds will review this planner and tracker. Centres which cannot show sufficient commitment from employers and/or a credible planner and tracker will be given an action for improvement with a realistic timescale for completion. **Approval will not be given** if employer involvement cannot be assured either at the start of the qualification, or through an appropriate plan of action to address this requirement before the learner is certificated.

### Monitoring and reporting learner engagement

Employer involvement is a formal component of this qualification and is subject to quality assurance monitoring. Centres must record evidence that demonstrates that each learner has been involved in meaningful employer based activities against the mandatory content before claiming the *employer involvement* component for learners.

Centres must record the range and type of employer involvement each learner has experienced and submit confirmation that all learners have met the requirements to City & Guilds. If a centre cannot provide evidence that learners have met the requirements to achieve the component, then the learner will not be able to achieve the overall Technical Qualification.

## Types of involvement

Centres should note that to be eligible, employer involvement activities **must** relate to one or more elements of the mandatory content of this qualification.

As the aim of employer involvement is to enrich learning and to give learners a taste of the expectations of employers in the industry area they are studying, centres are encouraged to work creatively with local employers.

Employers can identify the areas of skills and knowledge in their particular industry that they would wish to see emphasised for learners who may apply to work with them in the future. Centres and employers can then establish the type of input, and which employer representative might be able to best support these aims.

To be of most benefit this must add to, rather than replace the centre's programme of learning.

Some examples of meaningful employer involvement are listed below. Employer involvement not related to the mandatory element of the qualification, although valuable in other ways, does not count towards this element of the qualification.

The DfE has provided the following examples of what does and does not count as meaningful employer involvement, as follows<sup>1,2</sup>:

### **The following activities meet the requirement for meaningful employer involvement:**

- *students undertake structured work-experience or work-placements that develop skills and knowledge relevant to the qualification<sup>3</sup>;*
- *students undertake project(s), exercises(s) and/or assessments/examination(s) set with input from industry practitioner(s);*
- *students take one or more units delivered or co-delivered by an industry practitioner(s). This could take the form of master classes or guest lectures;*
- *industry practitioners operate as 'expert witnesses' that contribute to the assessment of a student's work or practice, operating within a specified assessment framework. This may be a specific project(s), exercise(s) or examination(s), or all assessments for a qualification.*

*In all cases participating industry practitioners and employers must be relevant to the industry sector or occupation/occupational group to which the qualification relates.*

### **The following activities, whilst valuable, do not meet the requirement for meaningful employer involvement:**

- *employers' or industry practitioners' input to the initial design and content of a qualification;*
- *employers hosting visits, providing premises, facilities or equipment;*
- *employers or industry practitioners providing talks or contributing to delivery on employability, general careers advice, CV writing, interview training etc;*
- *student attendance at career fairs, events or other networking opportunities;*
- *simulated or provider-based working environments eg hairdressing salons, florists, restaurants, travel agents, small manufacturing units, car servicing facilities;*
- *employers providing students with job references.*

## Types of evidence

For each employer involvement activity, centres are required to provide evidence of which learners undertook it, e.g. a candidate attendance register. The types of additional evidence required to

---

<sup>1</sup> As extracted from: Vocational qualifications for 16 to 19 year olds

2017 and 2018 performance tables: technical guidance for awarding organisations

<sup>2</sup>This list has been informed by a call for examples of good practice in employer involvement in the delivery and assessment of technical qualifications - **Employer involvement in the delivery and assessment of vocational qualifications**

<sup>3</sup> **DfE work experience guidance**

support a claim for this component will vary depending on the nature of the involvement. Eg for a guest lecture it is expected that a synopsis of the lecture and register would be taken which each learner and the guest speaker will have signed; expert witnesses will be identified and will have signed the relevant assessment paperwork for each learner they have been involved in assessing; evidence of contribution from employers to the development of locally set or adapted assignments.

### **Quality assurance process**

As the employer involvement component is a requirement for achieving the KS5 Technical qualifications, it is subject to external quality assurance by City & Guilds at the approval stage and when centres wish to claim certification for learners.

Evidence will be validated by City & Guilds before learners can achieve the employer Involvement component. Where employer involvement is not judged to be sufficient, certificates cannot be claimed for learners.

### **Sufficiency of involvement for each learner**

It is expected that the centre will plan a range of activities that provide sufficient opportunities for each learner to interact directly with a range of individuals employed in the related industry. Centres must also provide contingencies for learners who may be absent for part of their teaching, so they are not disadvantaged. Any absence that results in a learner missing arranged activities must be documented. Where learners are unable to undertake all employer involvement activities due to temporary illness, temporary injury or other indisposition, centres should contact City & Guilds for further guidance.

### **Live involvement**

Learners will gain most benefit from direct interaction with employers and/or their staff; however the use of technology (eg the use of live webinars) is encouraged to maximise the range of interactions. Where learners are able to interact in real time with employers, including through the use of technology, this will be classed as 'live involvement'.

It is considered good practice to record learning activities, where possible, to allow learners to revisit their experience and to provide a contingency for absent learners. This is not classed as live involvement however, and any involvement of this type for a learner must be identified as contingency.

### **Timing**

A learner who has not met the minimum requirements cannot be awarded the component, and will therefore not achieve the qualification. It is therefore important, that centres give consideration to scheduling employer involvement activities, and that enough time is allotted throughout delivery and assessment of the qualification to ensure that requirements are fully met.

## 5 Assessment

### Summary of assessment methods and conditions

Component numbers	Assessment method	Description and conditions
001/501	Externally marked exam	<p>The exam is <b>externally set and externally marked</b> and can be taken either online through City &amp; Guilds' computer-based testing platform, (001) or as a paper based exam (501).</p> <p>The exam is designed to assess the candidate's depth and breadth of understanding across content in the qualification at the end of the period of learning, using a range of question types and will be sat under invigilated examination conditions. See JCQ requirements for details: <a href="http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations">http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations</a></p> <p>The exam specification shows the coverage of the exam across the qualification content.</p> <p>Candidates who fail the exam at the first sitting will have a maximum of two opportunities to retake. If the candidate fails the exam three times then they will fail the qualification. (Note: the third and final retake opportunity applies to Level 3 only.) For exam dates, please refer to the Assessment and Examination timetable.</p>
002	Synoptic assignment	<p>The synoptic assignment is <b>externally set, internally marked and externally moderated</b>. The assignment requires candidates to identify and use effectively in an integrated way an appropriate selection of skills, techniques, concepts, theories, and knowledge from across the content area. Candidates will be judged against the assessment objectives.</p> <p>Assignments will be released to centres as per dates indicated in the Assessment and Examination timetable published on our website.</p> <p>Centres will be required to maintain the security of all live assessment materials. Assignments will be password protected and released to centres through a secure method.</p> <p>There will be one opportunity within each academic year to sit the assignment. Candidates who fail the assignment will have one re-sit opportunity. The re-sit opportunity will be in the next academic year, and will be the assignment set for that academic year once released to centres. If the re-sit is failed, the candidate will fail the qualification.</p> <p>Please note that for externally set assignments City &amp; Guilds provides guidance and support to centres on the marking and moderation process.</p>



## **What is synoptic assessment?**

Technical qualifications are based around the development of a toolkit of knowledge, understanding and skills that an individual needs in order to have the capability to work in a particular industry or occupational area. Individuals in all technical areas are expected to be able to apply their knowledge, understanding and skills in decision making to solve problems and achieve given outcomes independently and confidently.

City & Guilds technical qualifications require candidates to draw together their learning from across the qualification to solve problems or achieve specific outcomes by explicitly assessing this through the synoptic assignment component.

In this externally set, internally marked and externally moderated assessment the focus is on bringing together, selecting and applying learning from across the qualification rather than demonstrating achievement against units or subsets of the qualification content. The candidate will be given an appropriately levelled, substantial, occupationally relevant problem to solve or outcome to achieve. For example this might be in the form of a briefing from a client, leaving the candidate with the scope to select and carry out the processes required to achieve the client's wishes, as they would in the workplace.

Candidates will be marked against assessment objectives (AOs) such as their breadth and accuracy of knowledge, understanding of concepts, and the quality of their technical skills as well as their ability to use what they have learned in an integrated way to achieve a considered and high quality outcome.

## **How the assignment is synoptic for this qualification**

The typical assignment brief could be to decorate a room in a period style eg Victorian.

This will require the candidate to prepare surfaces, apply decorative effects, measure, mark out and apply wall coverings and install architectural features. They will need to draw on their skills and knowledge from across the qualification when preparing to carry out the work, selecting the correct tools and equipment, selecting and using appropriate access equipment and following health and safety requirements. They will also ensure environmental regulations are complied with.

## **External exam for stretch, challenge and integration**

The external assessment will draw from across the mandatory content of the qualification, using a range of shorter questions to confirm breadth of knowledge and understanding. Extended response questions are included, giving candidates the opportunity to demonstrate higher level understanding and integration through discussion, analysis and evaluation, and ensuring the assessment can differentiate between 'just able' and higher achieving candidates.

## Assessment objectives

The assessments for this qualification are set against a set of assessment objectives (AOs) which are used across all City & Guilds Technicals to promote consistency among qualifications of a similar purpose. They are designed to allow judgement of the candidate to be made across a number of different categories of performance.

Each assessment for the qualification has been allocated a set number of marks against these AOs based on weightings recommended by stakeholders of the qualification. This mark allocation remains the same for all versions of the assessments, ensuring consistency across assessment versions and over time.

The following table explains all AOs in detail, including weightings for the synoptic assignments. In some cases, due to the nature of a qualification's content, it is not appropriate to award marks for some AOs. Where this is the case these have been marked as N/A. Weightings for exams (AOs 1, 2 and 4 only) can be found with the exam specification.

Assessment objective	Level 3 Advanced Technical Diploma in Painting and Decorating (450) Typical expected evidence of knowledge, understanding and skills	Approximate weighting (Assignment)
<b>AO1</b> Recalls knowledge from across the breadth of the qualification.	Types, arrangements and terminology used in the various aspects of decorating work, methods of work, marking out and practical techniques, Health and Safety legislation, risk management, architectural components, decorating materials and methods, determining lengths and angles, positioning and fixing, finishing's, tool identification, inspection of tools, equipment, safety aids and features.	10%
<b>AO2</b> Demonstrates understanding of concepts, theories and processes from across the breadth of the qualification.	Types, arrangements and terminology used in the various aspects of decorating work, methods of work, marking out and practical techniques, Health and Safety legislation, risk management, architectural components, decorating materials and methods, determining lengths and angles, positioning, centring and fixing, finishing's, tool identification, inspection of tools, equipment, safety aids and features, concepts of marbling designs/colours.	15%
<b>AO3</b> Demonstrates technical skills from across the breadth of the qualification.	Planning, interpreting information, measuring skills, accuracy, cleanliness, working safely, levelling and plumbing skills, safe and correct use of tools and equipment, practical techniques, positioning and fixing.	35%
<b>AO4</b> Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	Applying knowledge and understanding to the tasks. Materials and techniques used appropriately, correct sequence of operations carried out. Safe and clean working practices demonstrated. Task planned, prepared and completed.	20%

**A05** Demonstrates perseverance in achieving high standards and attention to detail while showing an understanding of wider impact of their actions.

Accuracy of measuring, setting out, plumb, level, trimming, finishing. Systematic approach to work and cleanliness

20%

### Exam specification

Assessment Objective weightings per exam.

Assessment Objective	Exam 001/501 weighting (approx. %)
AO1 Recalls knowledge from across the breadth of the qualification.	37
AO2 Demonstrates understanding of concepts, theories and processes from across the breadth of the qualification.	46
AO4 Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	17

The way the exam covers the content of the qualification is laid out in the table below:

**Assessment type:** Examiner marked, written exam\*

**Assessment conditions:** Invigilated examination conditions\*

**Grading:** D/M/P/X

<b>Exam 001/501</b>		<b>Duration: 2 hours 15 minutes</b>	
<b>Unit number</b>	<b>Unit title</b>	<b>Number of marks</b>	<b>%</b>
301	Principles of organising, planning and pricing construction work	18	26
302	Erecting and dismantling access equipment and working platforms	7	10
304	Producing specialist finishes for painted decorative work	17	24
306	Applying water-borne paint systems using airless equipment	16	23
N/A	Integration across the units	12	17
<b>Total</b>		<b>70</b>	<b>100</b>

\*These exams are sat under invigilated examination conditions, as defined by the JCQ:  
<http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations>.

Entry for exams can be made through the City & Guilds Walled Garden.

## 6 Moderation and standardisation of assessment

City & Guilds' externally set assignments for technical qualifications are designed to draw from across the qualifications' content, and to contribute a significant proportion towards the learner's final qualification grade. They are subject to a rigorous external quality assurance process known as external moderation. This process is detailed outlined below. For more detailed information, please refer to 'Marking and moderation - Technicals centre guidance' available to download on the City & Guilds website.

It is vital that centres familiarise themselves with this process, and how it impacts on their delivery plan within the academic year.

### **Supervision and authentication of internally assessed work**

The Head of Centre is responsible for ensuring that internally assessed work is conducted in accordance with City & Guilds' requirements.

City & Guilds requires both tutors and candidates to sign declarations of authenticity. If the tutor is unable to sign the authentication statement for a particular candidate, then the candidate's work cannot be accepted for assessment.

### **Internal standardisation**

For internally marked work<sup>4</sup> the centre is required to conduct internal standardisation to ensure that all work at the centre has been marked to the same standard. It is the Internal Quality Assurer's (IQA's) responsibility to ensure that standardisation has taken place, and that The training includes the use of reference and archive materials such as work from previous years as appropriate.

### **Provision for reworking evidence after submission for marking by the tutor**

It is expected that in many cases a candidate who is struggling with a specific piece of work may themselves choose to restart and rectify the situation during their normal allocated time, and before it gets to the stage of it being handed in for final marking by the tutor.

In exceptional circumstances however, where a candidate has completed the assignment in the required timescales, and has handed it in for marking by the tutor but is judged to have significantly underperformed, may be allowed to rework or supplement their original evidence for remarking prior to submission for moderation. For this to be allowed, the centre must be confident that the candidate will be able to improve their performance without additional feedback from their tutor and within the required timescales i.e. the candidate has shown they can perform sufficiently better previously in formative assessments.

The reworked and/or supplemented original evidence must be remarked by the tutor in advance of the original moderation deadline and the moderator informed of any candidates who have been allowed to resubmit evidence.

The process must be managed through the IQA. The justification for allowing a resubmission should be recorded and made available on request. The use of this provision will be monitored by City & Guilds.

---

<sup>4</sup> For any internally assessed optional unit assignments, the same process must be followed where assessors must standardise their interpretation of the assessment and grading criteria.

## Internal appeal

Centres must have an internal process in place for candidates to appeal the marking of internally marked components, ie the synoptic assignment and any optional unit assignments. This must take place before the submission of marks for moderation. The internal process must include candidates being informed of the marks (or grades) the centre has given for internally assessed components, as they will need these to make the decision about whether or not to appeal.

Centres cannot appeal the outcome of moderation for individual candidates, only the moderation process itself. A request for a review of the moderation process should be made to **appeals@cityandguilds.com**.

## Moderation

Moderation is the process where external markers are standardised to a national standard in order to review centre marking of internally marked assessments. These markers are referred to as 'moderators'. Moderators will mark a representative sample of candidates' work from every centre. Their marks act as a benchmark to inform City & Guilds whether centre marking is in line with City & Guilds' standard.

Where moderation shows that the centre is applying the marking criteria correctly, centre marks for the whole cohort will be accepted.

Where moderation shows that the centre is either consistently too lenient or consistently too harsh in comparison to the national standard, an appropriate adjustment will be made to the marks of the whole cohort, retaining the centre's rank ordering.

Where centre application of the marking criteria is inconsistent, an appropriate adjustment for the whole cohort may not be possible on the basis of the sample of candidate work. In these instances a complete remark of the candidate work may be necessary. This may be carried out by the centre based on feedback provided by the moderator, or carried out by the moderator directly.

Moderation applies to all internally marked assignments. Following standardisation and marking, the centre submits all marks and candidate work to City & Guilds via the moderation platform. The deadline for submission of evidence will be available on Walled Garden. See the *Marking and moderation - Technicals Centre Guidance* document for full details of the requirements and process.

In most cases candidate work will be submitted directly to the moderator for moderation. This includes written work, photographic and pictorial evidence, or video and audio evidence. For some qualifications there will be a requirement for moderators to visit centres to observe practical assessments being undertaken. This will be for qualifications where the assessment of essential learner skills can only be demonstrated through live observation. The purpose of these visits is to ensure that the centre is assessing the practical skills to the required standards, and to provide the moderators with additional evidence to be used during moderation. These visits will be planned in advance with the centre for all relevant qualifications.

## Post-moderation procedures

Once the moderation process has been completed, the confirmed marks for the cohort are provided to the centre along with feedback from the moderator on the standard of marking at the centre, highlighting areas of good practice, and potential areas for improvement. This will inform future marking and internal standardisation activities.

City & Guilds will then carry out awarding, the process by which grade boundaries are set with reference to the candidate evidence available on the platform.

## Centres retaining evidence

Centres must retain assessment records for each candidate for a minimum of three years. To help prevent plagiarism or unfair advantage in future versions, candidate work may not be returned to candidates. Samples may however be retained by the centre as examples for future standardisation of marking.

## 7 Grading

### Awarding individual assessments

Individual assessments will be graded, by City & Guilds, as pass/merit/distinction where relevant. The grade boundaries for pass and distinction for each assessment will be set through a process of professional judgement by technical experts. Merit will usually be set at the midpoint between pass and distinction. The grade descriptors for pass and distinction, and other relevant information (eg archived samples of candidate work and statistical evidence) will be used to determine the mark at which candidate performance in the assessment best aligns with the grade descriptor in the context of the qualification's purpose. Boundaries will be set for each version of each assessment to take into account relative difficulty.

Please note that as the Merit grade will usually be set at the arithmetical midpoint between pass and distinction, there are no descriptors for the Merit grade for the qualification overall.

### Grade descriptors

#### To achieve a pass, a candidate will be able to

- Demonstrate the knowledge and understanding required to work in the occupational area, its principles, practices and legislation.
- Describe some of the main factors impacting on the occupation to show good understanding of how work tasks are shaped by the broader social, environmental and business environment it operates within.
- Use the technical industry specific terminology used in the industry accurately.
- Demonstrate the application of relevant theory and understanding to solve non-routine problems.
- Interpret a brief for complex work related tasks, identifying the key aspects, and showing a secure understanding of the application of concepts to specific work related tasks.
- Carry out planning which shows an ability to identify and analyse the relevant information in the brief and use knowledge and understanding from across the qualification (including complex technical information) to interpret what a fit for purpose outcome would be and develop a plausible plan to achieve it.
- Achieve an outcome which successfully meets the key requirements of the brief.
- Identify and reflect on the most obvious measures of success for the task and evaluate how successful they have been in meeting the intentions of the plan.
- Work safely throughout, independently carrying out tasks and procedures, and having some confidence in attempting the more complex tasks.

#### To achieve a distinction, a candidate will be able to

- Demonstrate the excellent knowledge and understanding required to work to a high level in the occupational area, its principles, practices and legislation.
- Analyse the impact of different factors on the occupation to show deep understanding of how work tasks are shaped by the broader social, environmental, and business environment it operates within.
- Demonstrate the application of relevant theory and understanding to provide efficient and effective solutions to complex and non-routine problems.
- Analyse the brief in detail, showing confident understanding of concepts and themes from across the qualification content, bringing these together to develop a clear and stretching plan, that would credibly achieve an outcome that is highly fit for purpose.
- Achieve an outcome which shows an attention to detail in its planning, development and completion, so that it completely meets or exceeds the expectations of the brief to a high standard.

- Carry out an evaluation in a systematic way, focussing on relevant quality points, identifying areas of development/ improvement as well as assessing the fitness for purpose of the outcome.

### Awarding grades and reporting results

The overall qualification grade will be calculated based on aggregation of the candidate's achievement in each of the assessments for the mandatory units, taking into account the assessments' weighting. The **Level 3 Advanced Technical Diploma in Painting and Decorating** will be reported on a four grade scale: Pass, Merit, Distinction, Distinction\*.

All assessments **must** be achieved at a minimum of Pass for the qualification to be awarded. Candidates who fail to reach the minimum standard for grade Pass for an assessment(s) will not have a qualification grade awarded and will not receive a qualification certificate.

The approximate pass grade boundary for the synoptic assignment in this qualification is:

Synoptic Assignment	Pass Mark (%)
002	45

Please note that each synoptic assignment is subject to an awarding process before final grade boundaries are confirmed.

The contribution of assessments towards the overall qualification grade is as follows:

Assessment method	Grade scale	% contribution
Synoptic Assignment (002)	D/M/P/X	60%
Exam (001/501)	D/M/P/X	40%

Both synoptic assignments and exams are awarded (see 'Awarding individual assessments', at the start of Section 7, above), and candidates' grades converted to points. The minimum points available for each assessment grade is listed in the table below. A range of points between the Pass, Merit and Distinction boundaries will be accessible to candidates. For example a candidate that achieves a middle to high Pass in an assessment will receive between 8 and 10 points, a candidate that achieves a low to middle Merit in an assessment will receive between 12 and 14 points. The points above the minimum for the grade for each assessment are calculated based on the candidate's score in that assessment.

	Pass	Merit	Distinction
Assignment: 60%	6	12	18
Exam: 40%	6	12	18

The candidate's points for each assessment are multiplied by the % contribution of the assessment and then aggregated. The minimum points required for each qualification grade are as follows:

Qualification Grade	Minimum Points
---------------------	----------------



Distinction*	20.5
Distinction	17
Merit	11
Pass	6

Candidates achieving Distinction\* will be the highest achieving of the Distinction candidates.

## 8 Administration

Approved centres must have effective quality assurance systems to ensure valid and reliable delivery and assessment of qualifications. Quality assurance includes initial centre registration by City & Guilds and the centre's own internal procedures for monitoring quality assurance procedures.

Consistent quality assurance requires City & Guilds and its associated centres to work together closely; our Quality Assurance Model encompasses both internal quality assurance (activities and processes undertaken within centres) and external quality assurance (activities and processes undertaken by City & Guilds).

For this qualification, standards and rigorous quality assurance are maintained by the use of:

- internal quality assurance
- City & Guilds external moderation.

In order to carry out the quality assurance role, Internal Quality Assurers (IQAs) must have and maintain an appropriate level of technical competence and have recent relevant assessment experience. For more information on the requirements, refer to *Section 2: Centre requirements* in this handbook.

To meet the quality assurance criteria for this qualification, the centre must ensure that the following procedures are followed:

- suitable training of staff involved in the assessment of the qualification to ensure they understand the process of marking and standardisation
- completion by the person responsible for internal standardisation of the Centre Declaration Sheet to confirm that internal standardisation has taken place
- the completion by candidates and supervisors/tutors of the record form for each candidate's work.

### External quality assurance

City & Guilds will undertake external moderation activities to ensure that the quality assurance criteria for this qualification are being met. Centres must ensure that they co-operate with City & Guilds staff and representatives when undertaking these activities.

City & Guilds requires the Head of Centre to

- facilitate any inspection of the centre which is undertaken on behalf of City & Guilds
- make arrangements to receive, check and keep assessment material secure at all times,
- maintain the security of City & Guilds confidential material from receipt to the time when it is no longer confidential and
- keep completed assignment work and examination scripts secure from the time they are collected from the candidates to their dispatch to City & Guilds.

### Enquiries about results

The services available for enquiries about results include a review of marking for exam results and review of moderation for internally marked assessments.

For further details on enquiries and appeals process and for copies of the application forms, please visit the **appeals page** of the City & Guilds website at **[www.cityandguilds.com](http://www.cityandguilds.com)**.

## Re-sits and shelf-life of assessment results

Re-sits and shelf-life of assessment results Candidates who have failed an exam or wish to re-take it in an attempt to improve their grade, can do so **twice**. The best result will count towards the final qualification. See guidance on individual assessment types in Section 5.

## Factors affecting individual learners

If work is lost, City & Guilds should be notified immediately of the date of the loss, how it occurred, and who was responsible for the loss. Centres should use the JCQ form, JCQ/LCW, to inform City & Guilds Customer Services of the circumstances.

Learners who move from one centre to another during the course may require individual attention. Possible courses of action depend on the stage at which the move takes place. Centres should contact City & Guilds at the earliest possible stage for advice about appropriate arrangements in individual cases.

## Malpractice

Please refer to the City & Guilds guidance notes *Managing cases of suspected malpractice in examinations and assessments*. This document sets out the procedures to be followed in identifying and reporting malpractice by candidates and/or centre staff and the actions which City & Guilds may subsequently take. The document includes examples of candidate and centre malpractice and explains the responsibilities of centre staff to report actual or suspected malpractice. Centres can access this document on the City & Guilds website.

Examples of candidate malpractice are detailed below (please note that this is not an exhaustive list):

- falsification of assessment evidence or results documentation
- plagiarism of any nature
- collusion with others
- copying from another candidate (including the use of ICT to aid copying), or allowing work to be copied
- deliberate destruction of another's work
- false declaration of authenticity in relation to assessments
- impersonation.

These actions constitute malpractice, for which a penalty (eg disqualification from the assessment) will be applied.

Where suspected malpractice is identified by a centre after the candidate has signed the declaration of authentication, the Head of Centre must submit full details of the case to City & Guilds at the earliest opportunity. Please refer to the form in the document *Managing cases of suspected malpractice in examinations and assessments*.

## Access arrangements and special consideration

Access arrangements are adjustments that allow candidates with disabilities, special educational needs and temporary injuries to access the assessment and demonstrate their skills and knowledge without changing the demands of the assessment. These arrangements must be made before assessment takes place.

It is the responsibility of the centre to ensure at the start of a programme of learning that candidates will be able to access the requirements of the qualification.

Please refer to the *JCQ access arrangements and reasonable adjustments* and *Access arrangements - when and how applications need to be made to City & Guilds* for more information. Both are available on the City & Guilds website: <http://www.cityandguilds.com/delivering-our-qualifications/centre-development/centre-document-library/policies-and-procedures/access-arrangements-reasonable-adjustments>

### **Special consideration**

We can give special consideration to candidates who have had a temporary illness, injury or indisposition at the time of the examination. Where we do this, it is given after the examination.

Applications for either access arrangements or special consideration should be submitted to City & Guilds by the Examinations Officer at the centre. For more information please consult the current version of the JCQ document, *A guide to the special consideration process*. This document is available on the City & Guilds website: <http://www.cityandguilds.com/delivering-our-qualifications/centre-development/centre-document-library/policies-and-procedures/access-arrangements-reasonable-adjustments>

## Unit 301 Principles of organising, planning and pricing construction work

<b>UAN:</b>	J/507/3230
<b>Level:</b>	3
<b>GLH:</b>	90

### What is this unit about?

The purpose of this unit is to introduce the learner to the wider construction industry, to give a broader context to the trade they are studying. The construction industry is a vital part of the economy and plays an important role in all our lives. It affects where we live, where we study, where we work, how we travel and how we spend our leisure time. This unit provides learners with an understanding of the way the building process is managed.

Development of a safe, secure and sustainable built environment is essential. Nowadays, this development must take place without harming the natural environment. Care for the environment and the use of sustainable technology is implicit in the content of this unit. The unit will enable learners to gain an overview of the way a construction site is run, completed and occupied efficiently, safely and with a minimal impact to the environment. This is tightly controlled by regulations and a team of inspectors who ensure these regulations are carried out. Additionally, any construction project will have its own management structure to ensure the construction project runs smoothly. This involves communicating efficiently, and there are many ways of ensuring information is passed from person to person using traditional and modern electronic means.

No prior knowledge of the built environment sector is required but learners should possess basic numeracy and literacy skills in order to understand the content properly.

### Learning outcomes

In this unit, learners will

1. understand the way the construction industry is regulated
2. understand energy efficiency and sustainable materials for construction
3. understand how to estimate quantities and price work for construction
4. understand how to plan work activities for construction
5. understand how to communicate effectively in the workplace
6. understand and use drawings and associated software.

## Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

**Learning outcome 1:** Understand the way the construction industry is regulated

**Topic 1.1:** Health and safety regulations

**Topic 1.2:** Planning permission and building control

### Topic 1.1

Learners must be aware of the different health and safety regulations that apply to the construction industry. The focus of this topic **isn't** about the practical application of carrying out health and safety but how these regulations affect all aspects of risk management from the initial design phase through to its eventual demolition.

#### Regulations

- Health and Safety at Work Act
- Reporting Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Control of Substances Hazardous to Health (COSHH)
- Construction (Design and Management) (CDM) regulations
- Provision and Use of Work Equipment Regulations (PUWER)
- Manual Handling Operations Regulations
- Personal Protective Equipment (PPE) at Work Regulations
- Work at Height Regulations
- Control of Noise at Work Regulations
- Control of Vibration at Work Regulations
- Electricity at Work Regulations
- Lifting Operations and Lifting Equipment Regulations (LOLER)

### Topic 1.2

Learners must be aware that construction is tightly controlled by Building and Planning Regulations and how these affect the building process. The learner will have an overview of the building regulations and the area they refer to. An in-depth knowledge of the content of the building regulations is **not** a requirement at this stage.

The learner will be aware of the planning process and how this affects the construction industry. An in-depth knowledge of planning is **not** required, but they should be aware of permitted development, outline and detailed planning permission, and listed building consent.

**Learning outcome 2:** Understand energy efficiency and sustainable materials for construction

**Topic 2.1:** Sustainable development

**Topic 2.2:** Thermally insulated materials

**Topic 2.3:** Construction methods for insulation

**Topic 2.4:** Energy saving measures

### **Topic 2.1**

Learners will need to have a basic understanding of current guidance on sustainable building.

- Code for sustainable homes – Building Research Establishment Environmental Assessment Methodology (BREEAM)
- Voluntary standards eg Passive house
- Building regulations

### **Topic 2.2**

Learners must develop an understanding of the properties of thermally insulating materials and be able to compare them in relation to cost, environmental impact and performance (eg U-values).

Materials such as Polyisocyanurate (PIR), expanded polystyrene (EP) fibre glass, sheep wool, mineral wool, double/triple/secondary glazed units, multi-foil insulation, phenolic insulation board

### **Topic 2.3**

Learners must develop an understanding on the uses of insulation, where they are placed and how buildings are designed to incorporate insulation (within new and existing buildings).

- Correct selection of insulating materials
- Positioning of insulation

### **Topic 2.4**

Learners will need to have a basic understanding of methods for reducing energy use and the environmental impact of a building.

- Renewable energy sources (eg solar, photovoltaic, ground or air source, wind turbines)
- Design features such as air tightness, lighting, water harvesting
- Local and sustainable materials
- Energy Performance Certificates (EPCs)

**Learning outcome 3:** Understand how to estimate quantities and price work for construction

**Topic 3.1:** Tendering process

**Topic 3.2:** Calculate quantities of building materials

**Topic 3.3:** Prepare a quote

### **Topic 3.1**

Learners must understand the process of tendering for work. The learner should be able to explain the difference between quoting and estimating. Learners should also understand the types of tenders

- open
- closed.

As part of the tendering process, learners should have an understanding of penalty clauses and retention payments.

### **Topic 3.2**

Learners must understand the process of calculating quantities of materials for building work. The processes should include

- specifications/drawings
- preparing a material list using a schedule
- bill of quantities
- calculations (percentages for waste, linear, area and volume)
- selection of suppliers (preferred, nominated, locally sourced).

### **Topic 3.3**

Learners will be able to prepare a quote for a given building project including

- labour
- materials
- overheads
- plant and equipment
- profits
- VAT.



**Learning outcome 4:** Understand how to plan work activities for construction

**Topic 4.1:** Planning construction works

**Topic 4.2:** Statutory safety documentation

#### **Topic 4.1**

Learners must develop an understanding of the reasons and methods for planning construction work activities. The learner must understand why the planning of work activities is vital to efficient use of materials, cost and completing within the contracted time.

- Planning methods to include: bar charts (Gantt chart) and critical path analysis
- Timing of labour, plant and material requirements

Learners must understand how to produce a programme of works in relation to planning a small building project.

#### **Topic 4.2**

Learners must understand the reasons for completing a risk assessment and a method statement and be able to apply them to a work activity. At this level they should be able to guide others through the completion of a risk assessment.

Learners must understand the purpose of a permit to work.

**Learning outcome 5:** Understand how to communicate effectively in the workplace

**Topic 5.1:** Written and oral communication

#### **Topic 5.1**

Learners must develop an understanding of the different methods used to convey information between members of the building team. These may be verbal, on paper or electronic. The nature of communication is rapidly changing and an emphasis must be placed upon keeping up to date with such developments. Learners will be able to

- produce a written communication for a client
- prepare a toolbox talk
- coordinate a work activity
- prepare an agenda for a meeting.

**Learning outcome 6:** Understand and use drawings and associated software

**Topic 6.1:** Manual drafting

**Topic 6.2:** Computer Aided Design (CAD)

**Topic 6.3:** Building Information Modelling (BIM)

### **Topic 6.1**

Learners must develop a range of the skills required to produce appropriate construction drawings. This will include drawing practice to develop specific skills and the application of these skills to produce a range of drawings in accordance with British Standards and other standard conventions.

Learners will have an awareness of the use of orthographic and isometric projections. Learners will be able to produce a drawing to scale using appropriate symbols and hatchings and elevations and plans.

### **Topic 6.2**

Learners should be aware of the range of computer drawing software packages available, and the hardware required to run them. They do not need an in-depth working knowledge of each system, but they do need to know that there is a range of options, and that these vary considerable in complexity and cost.

Learners will be able to compare advantages and disadvantages of Computer Aided Design (CAD) programs to traditional drawing methods.

It would be an advantage for learners to develop CAD software skills however this will not be assessed.

### **Topic 6.3**

Learners need to be aware of Building Information Modelling (BIM) and how it is used in the built environment today. BIM is not a software package, a computer-generated 3D model of a building, or even a method of simulation, communication or sharing data. It is a collaborative integrated approach to building design, construction and management through the whole lifecycle. Learners should know the advantages of BIM and how it is used on projects. This should consider

- 3D Modelling
- change management
- building simulation
- data management
- building operation.

Learners should be aware of requirements for the integration of BIM being driven by the government. They also need to be aware of the different software packages used and how these integrate with each other and the different stages of the process.

## Guidance for delivery

This unit should be one of the first units delivered in this qualification because it informs much of the content of the other units. Tutors delivering this unit have opportunities to use a wide range of techniques. Lectures, discussions, seminar presentations, site visits, research using the internet and/or library resources and the use of personal and/or industrial experience will all be valuable. Delivery should stimulate, motivate and educate the learner. Structured site visits will prove enjoyable and useful, as would guest speakers drawn from local employers, trade unions and professional associations. Such guest speakers will bring up-to-date experience of working in today's built environment sector.

The unit has a broad content, covering how the construction industry is regulated in both safety, quality and environmental areas, how work is tendered for, estimated and priced, how work is planned and how communications take place.

Teaching and learning strategies must help learners to develop a clear and simple understanding of how the construction industry functions. This can be done by examining the industry from a variety of perspectives, breaking the knowledge down into bite-sized pieces and then asking the learners to work out how they fit together to form a united whole. This should be based on real-life case studies.

Health, safety and welfare issues are paramount and should be strictly reinforced through close supervision of all activities and risk assessments must be undertaken prior to any visits to sites, or any other places of interest.

## Employer engagement

Employer engagement is an excellent way to maximise the learners' experience. A partnership approach should be adopted wherever possible, using employers with whom the centre has links to provide work experience placements. Employers could also contribute to learners' progress by acting as guest speakers.

Useful support for links with industry is given below:

- National Education and Business Partnership Network – **[www.nebpn.org](http://www.nebpn.org)**
- Work Experience/Workplace Learning Frameworks – Centre for Education and Industry (CEI University of Warwick) - **[www.warwick.ac.uk/wie/ce](http://www.warwick.ac.uk/wie/ce)**
- Construction Industry Joint Council - Working rule agreement for the construction Industry UK **[www.builders.org.uk/resources/nfb/000/322/301/May\\_2013\\_WRA\\_Final\\_Version.pdf](http://www.builders.org.uk/resources/nfb/000/322/301/May_2013_WRA_Final_Version.pdf)**
- Born to build - **[www.borntobuild.org.uk](http://www.borntobuild.org.uk)**
- The UK Contractors Group - **[www.ukcg.org.uk/representing-industry/open-doors-weekend](http://www.ukcg.org.uk/representing-industry/open-doors-weekend)**

## Suggested learning resources

### Books

Construction Technology Published by: Heinemann, 2011 ISBN: 0-435-04682-9	Greeno R, Chudley R, Topliss S, Hurst M
Sustainable Practices in the Built Environment Published by: Butterworth-Heinemann, 2001 ISBN: 0-750-65153-9	Langston C A
Introduction to Building Published by: Pearson, 1997 ISBN: 0-582-30200-5	Osbourn D, Greeno R
Construction and the Built Environment: Level 2 Higher Diploma Published by: Heinemann, 2008 ISBN: 0-435-49991-2	Manley S, Charters M, Francis C, Topliss S, Doyle M
Level 3 Diploma in Bricklaying Published by: City and Guilds ISBN-13: 978-0851933030	Beattie, J; Tucker, T; Burdfield, M & Fearn, C
Level 3 Diploma in Site Carpentry & Bench Joinery Published by: City and Guilds ISBN: 978-0-85193-304-7	Burdfield, M; Redfern, S. Fearn, C

### Journals

- Building Construction News
- Architects' Journal - AJ
- Building Design
- Housebuilder
- Property Week
- New Civil Engineer
- CIBSE Journal

### Websites

Construction Industry Training Board	<a href="http://www.citb.co.uk">www.citb.co.uk</a>
Construction Industry Research and Information Association	<a href="http://www.ciria.co.uk">www.ciria.co.uk</a>
The Health and Safety Executive	<a href="http://www.hse.gov.uk">www.hse.gov.uk</a>
National House Building Council	<a href="http://www.nhbc.co.uk">www.nhbc.co.uk</a>
Chartered Institute of Building	<a href="http://www.ciob.org.uk">www.ciob.org.uk</a>
Green Building	<a href="http://www.greenbuilding.co.uk">www.greenbuilding.co.uk</a>
BREEAM	<a href="http://www.breeam.org">www.breeam.org</a>
Building Research Establishment Group	<a href="http://www.bre.co.uk">www.bre.co.uk</a>
Passivhaus (Passive House)	<a href="http://www.passivhaus.org.uk">www.passivhaus.org.uk</a>

## Unit 302 Erecting and dismantling access equipment and working platforms

<b>UAN:</b>	M/507/3254
<b>Level:</b>	2
<b>GLH:</b>	30

### What is this unit about?

The purpose of this unit is to provide the learner with the skills and knowledge required to erect and dismantle access equipment and working platforms.

Using access equipment is an integral part of the construction industry and is continually required during work operations, the implications when working at height are considerable so health and safety must be stringent.

Working at height is the biggest cause of fatalities in the construction industry, so safe methods of work must always be observed before, during and after any job which requires you to do so.

Understanding and being able to use access equipment safely will provide the construction worker with the knowledge and capability to ensure not only their safety, but also the safety of their fellow workers and members of the public.

### Learning outcomes

In this unit, learners will

1. check and prepare access equipment and working platforms
2. erect, access, dismantle and store access equipment and working platforms.

## Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

**Learning outcome 1:** Check and prepare access equipment and working platforms

**Topic 1.1:** Select access equipment and working platforms

**Topic 1.2:** Inspect and identify suitability of access equipment

### Topic 1.1

Learners must be able to identify components and select the appropriate access equipment and working platforms for different types of internal and external work.

#### Considerations

Ground conditions, height, weight (SWL), type, duration of work, weather conditions, internal/external locations, access and egress

#### Access equipment and working platforms

Ladders, stepladders, proprietary towers, trestle platforms, stepladders/platform steps proprietary staging and podiums, scaffold boards, mobile elevated working platforms (MEWP) independent scaffold, putlog scaffold

#### Access equipment components

Scaffold tags, stiles, rungs, tie rods, ropes, treads, hinges, swingbacks, locking bars, non-slip inserts, scaffold boards, platform staging, boards, scaffold board, diagonal brace, raker, guard rails, toeboards, intermediate rail, brick guards, sole board

#### Tubes

Standard, ledgers, transoms, braces, rails, putlog

#### Fittings

Coupler, swivel coupler, base plate, sleeve coupler, joint pin

### Topic 1.2

Learners must be able to identify hazards and understand the reasons for carrying out inspections and inspection time spans. The learner must also carry out visual checks on access equipment.

#### Hazards

Falls from heights, slips, trips, cuts and abrasions, faulty equipment, equipment collapse

#### Inspection time periods

Pre-erection, post erection handing over post-accident and incident, inclement weather

#### Regulation dimensions

Intermediate rail location, guard rail location, toe boards, maximum working heights (internal and external), platform widths, safe working load (SWL), base to height ratios, minimum and maximum board overhang, scaffold access (ladder projection)

**Learning outcome 2:** Erect, access, dismantle and store access equipment and working platforms

**Topic 2.1:** Erect access equipment and working platforms

**Topic 2.2:** Dismantle and store access equipment components

### **Topic 2.1**

Learners must understand and be able to erect access equipment and working platforms using correct manual handling techniques and in the correct sequence to ensure it is safe for use. Correct Personal Protective Equipment (PPE) must be used.

#### **PPE**

Hard hats, gloves, eye protection, steel toe capped boots, overalls, high visibility jacket/vest, fixed length and fall arrest

#### **Access equipment and working platforms**

Extension ladders, proprietary towers, trestle platforms, stepladders and platform steps, proprietary staging and podiums, scaffold boards

### **Topic 2.2**

Learners must understand and be able to dismantle and store access equipment (from topic 2.1) in accordance with organisational procedures to meet the current environmental and health and safety regulations.

#### **Environmental and health and safety regulations**

Work at Height Regulations (2005)

### **Guidance for delivery**

This unit should be delivered prior to the other units as working safely at height is relevant throughout this qualification. If learners have already been assessed on this unit at level 2 then the learning will be recognised but they will still have to complete the synoptic assessments.

Access equipment, at any height, if not used correctly can be hazardous, safety must always be emphasised at every opportunity when delivering this unit.

Staff delivering this unit will have the opportunity to use a wide range of techniques, lectures, guest speakers, and industry experts. The use of DVD's and online video footage will also help enhance its delivery.

### **Employer engagement**

Employer engagement is an excellent opportunity to maximise not only the learners' experience, but it can also help build and develop relationships with the local business community. This can provide many positive outcomes both for the employer and the learner, helping develop employability skills, providing access to a wider range of resources and experiences, directly showing the relevance of access equipment and its applications in today's work situations to the learner.

Building strong links between employers may open up work experience placements, where learners can transfer their theoretical knowledge and practical skills of access equipment and working platforms into real work situations, helping them realise the relevance of what they have learnt and

how it applies in today's decorating industry, improving their employability skills and getting them 'work ready' for when they leave education.

The practice of using employers or their employees as guest speakers can also have a positive impact on the delivery of this unit, enriching the learning and bringing relevant work knowledge and experiences to the learner.

Useful support for links with industry is given below:

- National Education and Business Partnership Network – **www.nebpn.org**
- Work Experience/Workplace Learning Frameworks – Centre for Education and Industry (CEI University of Warwick) - **www.warwick.ac.uk/wie/ce**
- Construction Industry Joint Council - Working rule agreement for the construction Industry UK **www.builders.org.uk/resources/nfb/000/322/301/May\_2013\_WRA\_Final\_Version.pdf**
- Born to build - **www.borntobuild.org.uk**
- The UK Contractors Group - **www.ukcg.org.uk/representing-industry/open-doors-weekend**

## Suggested learning resources

### Books

Level 2 Diploma in Painting and Decorating  
Published by: City & Guilds 2014  
ISBN-10: 0851932967  
ISBN-13: 978-0851932965

Cook, A, Fearn, C, Walter, S, Yarde, B,  
Burdfield, M

Painting and Decorating 6th Edition  
Published by: Wiley-Blackwell, 2011)  
ISBN-10: 1444335014  
ISBN-13: 978-1444335019

Butterfield, D, Fulcher, A, Rhodes, B, Stewart,  
B; Tickle, D; & Windsor, J

### Journals and magazines

Painting and decorating news (this can be a magazine or an enhanced App)

### Websites

[www.hse.gov.uk](http://www.hse.gov.uk)

[www.pasma.co.uk](http://www.pasma.co.uk)



## Unit 303 Applying hangings to walls and ceilings

<b>UAN:</b>	F/507/3257
<b>Level:</b>	3
<b>GLH:</b>	90

### What is this unit about?

The purpose of this unit is to provide the learner with the skills and knowledge required to apply hangings to walls and ceilings.

The decorating sector is continuously progressing with new products, but it also has many traditional aspects which will never date.

Hanging wallcoverings is a craft which requires knowledge, patience and of course skill. This unit will continually push the boundaries of those learners that want to excel in the decorating industry and can lead to endless possibilities.

### Learning outcomes

In this unit, learners will

1. understand methods used in wallpaper production
2. understand how to select and prepare adhesives
3. plan and apply wallcoverings to ceilings, walls and complex surfaces.

## Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

**Learning outcome 1:** Understand methods used in wallcovering production

**Topic 1.1:** Wallcovering production

**Topic 1.2:** Wallcovering types and application

**Topic 1.3:** International performance symbols

### Topic 1.1

Learners must understand the production and printing methods used in the manufacture and printing stages of wallcoverings.

#### Production methods

Wet embossing, laminating, dry embossing, heat expansion, particles onto wet adhesive

#### Printing methods

Block, screen, machine, wet, dry, embossing

### Topic 1.2

Learners must understand and identify pattern and paper types, characteristics and appropriate locations.

#### Pattern types

Set/straight match, drop/offset match, random/free match

#### Paper types

Pulps, relief, washable, vinyl, duplex, simplex, supadurables, hand-print

#### Wall coverings

Wide width vinyls (fabric-backed vinyl, paper-backed vinyl), glass fibre, foil damp, photo murals, metallic, flock, hessian, warps/weftless, lincrusta, paper-backed fabrics

### Topic 1.3

Learners must be able to understand and identify international performance symbols relating to a full range of wallcoverings.

#### International performance symbols

Co-ordinated fabric available, design/distance repeat, direction of hanging, free match, good light fastness, moderate light fastness, offset match, overlap and double cut, paste-the-wall, peelable, ready pasted, reverse alternate lengths, scrubbable, spongeable, straight match, strippable, super-washable, washable

**Learning outcome 2:** Understand how to select and prepare adhesives

**Topic 2.1:** Advantages and disadvantages of adhesives

**Topic 2.2:** Consistency of adhesives

### Topic 2.1

Learners must understand which adhesives are suitable and explain the advantages and disadvantages of adhesives.

#### Adhesives

Cellulose paste, starch ethers, starch paste, PVA, ready-mixed (heavy weight), proprietary (easy strip, light, medium, heavy), overlap, lincrusta glue, foil damp

#### Advantages and disadvantages

Ease of application, adhesive properties, marking/staining, mould inhibitor

### Topic 2.2

Learners must understand the factors that may affect the consistency of adhesives and how defects can occur due to incorrect consistency.

#### Factors

Incorrect preparation, paper type, paper weight, room/air temperature, surface

#### Defects

Blisters, delamination, stretching, tearing, lack of adhesion

**Learning outcome 3:** Plan and apply wallcoverings to ceilings, walls and complex surfaces

**Topic 3.1:** Planning and setting out

**Topic 3.2:** Pasting methods

**Topic 3.3:** Applying wallcoverings

**Topic 3.4:** Defects and their prevention

**Topic 3.5:** Storing specialist wallcoverings and adhesives

**Topic 3.6:** Environmental and health and safety regulations

### Topic 3.1

Learners must consider different factors when planning and be able to use the appropriate methods when setting out.

#### Surfaces

Ceilings, walls, staircases, sloping ceiling/dormer window, free-standing column/pillar, ceiling of above average span, alcove/niche/ arch, starting point, finishing point, centring, doors, window reveals, features/obstacles, borders.

#### Pattern types

Bold patterns, fine print, chintz

## **Girthing and area methods**

Standard widths, non-standard widths

### **Position**

Horizontal, vertical

### **Factors**

Pattern type (bold with prominent repeat, small or indefinite pattern), pattern match (set/straight, offset/drop), batches, wastage, shading/colour

### **Marking lines**

Initial piece on wall/ceiling, after internal/external angle, over and around reveals position, horizontal, spirit level, laser level, plumb bob

### **Considerations**

Access required, light source, room dimensions, economy, solvent-painted wall, excessive making good, pattern balance

## **Topic 3.2**

Learners must be able apply a range of adhesives appropriate to the wall covering. Learners must understand the faults that can occur due to incorrect selection or application.

### **Pasting methods**

Pasting machine, brush, roller, ready pasted, types of fold

### **Faults**

Dry edges, blistering, delaminating, paste staining, polishing, sheen patches, staining

## **Topic 3.3**

Learners must be able to apply wallcoverings to a range of complex surfaces maintaining cleanliness throughout.

### **Wallcoverings**

Lining (two qualities), embossed, blown vinyl, standard (washable, vinyl), ready-pasted, borders, wide width vinyl, lincrusta (selvedge), paper-backed fabric

### **Decorative specialist wallcoverings**

Learners must be able to apply one from the following

flock, warps/weftless, handprint, supadurables, hessian, metallics, glass fibre, photo mural.

### **Paper hanging tools**

Tape measure, folding ruler, plumb bob, spirit level, paperhanging shears, sponges, paperhanging brush, trimming knives, caulker, pencil, spatulas, paste brush, buckets, metal straight edge and trimming knife, chalk and line, troughs, paste table, cotton gloves, specialist rollers, casing wheels

### **Considerations**

Practical hanging and trimming of patterned (set/straight match, drop match) papers applied to a range of areas taking into account the following:

sockets/switches/ceiling rose, window reveals, cutting methods (star cut and half star cut, mitres), sloping ceiling/dormer window, alcove/niche.

**Areas**

Ceilings, walls, staircases/stairwells, arch, free-standing column/pillar

**Topic 3.4**

Learners must be able identify, understand the characteristics and causes of defects that can occur in the application of wall coverings.

**Defects**

Creasing, inaccurate angle cutting, loss of emboss, mould growth, overlapping, poor matching, shading, tearing, springing joints, surface marking/staining

**Topic 3.5**

Learners must be able to understand and store wall coverings and pastes correctly.

**Factors**

Physical: racks, horizontal, selvedge, wrapping and dust

Atmospheric: temperature, dampness and direct sunlight

**Topic 3.6**

Learners must understand and follow the current requirements of health and safety and environmental regulations.

**Health and safety and environmental regulations**

Health and Safety at Work Act, Control of Substances Hazardous to Health (COSHH), Work at Heights Regulations

**Health and safety and environmental considerations**

Volatile Organic Compounds, (VOCs), disposal of waste, cuts and abrasions, dermatitis, dust inhalation, burns, electrical safety, risk assessment, Personal Protective Equipment (PPE)

## Guidance for delivery

Staff delivering this unit will have the opportunity to use a wide range of techniques, lectures, guest speakers, and industry experts. The use of DVD's and online video footage will also help enhance its delivery.

Tutors are able to enhance the learning experience by demonstrating in the classroom environment with the specialist tools, equipment and materials the learners will be using in the workshop areas.

Assignments are also a good way for students to research the variety of specialist wallcoverings, pastes and application methods they will be using to complete this highly skilled unit.

Application of wallcoverings can be a hazardous if health and safety is not observed throughout, as well as working at height there is a range of hazardous adhesives used in this unit.

## Employer engagement

Employer engagement is an excellent opportunity to maximise not only the learners' experience, but it can help build and develop relationships with the local business community. This can provide many positive outcomes both for the employer and the learner, helping develop employability skills, providing access to a wider range of resources and experiences, directly showing the relevance of applying wallcoverings and their applications in today's work situations to the learner.

Building strong links between employers may open up work experience placements, where learners can transfer their theoretical knowledge and practical skills of applying wallcoverings into real work situations, helping them realise the relevance of what they have learnt, and how it applies in today's decorating industry, improving their employability skills and getting them 'work ready' for when they leave education.

The practice of using employers or their employees as guest speakers can also have a positive impact on the delivery of this unit, enriching the learning and bringing relevant work knowledge and experiences to the learner.

Useful support for links with industry is given below:

- National Education and Business Partnership Network – **[www.nebpn.org](http://www.nebpn.org)**
- Work Experience/Workplace Learning Frameworks – Centre for Education and Industry (CEI University of Warwick) - **[www.warwick.ac.uk/wie/ce](http://www.warwick.ac.uk/wie/ce)**
- Construction Industry Joint Council - Working rule agreement for the construction Industry UK **[www.builders.org.uk/resources/nfb/000/322/301/May\\_2013\\_WRA\\_Final\\_Version.pdf](http://www.builders.org.uk/resources/nfb/000/322/301/May_2013_WRA_Final_Version.pdf)**
- Born to build - **[www.borntobuild.org.uk](http://www.borntobuild.org.uk)**
- The UK Contractors Group - **[www.ukcgroup.org.uk/representing-industry/open-doors-weekend](http://www.ukcgroup.org.uk/representing-industry/open-doors-weekend)**

## Suggested learning resources

### Books

Level 2 Diploma in Painting and Decorating  
Published by: City & Guilds 2014  
ISBN-10: 0851932967  
ISBN-13: 978-0851932965

Cook, A, Fearn, C, Walter, S, Yarde, B,  
Burdfield, M

Painting and Decorating 6th Edition  
Published by: Wiley-Blackwell, 2011)  
ISBN-10: 1444335014  
ISBN-13: 978-1444335019

Butterfield, D, Fulcher, A, Rhodes, B, Stewart,  
B; Tickle, D; & Windsor, J

Design and Construction  
Published by Butterworth-Heinemann, 2002  
ISBN: 0-750-65149-0

Best, A; de Valence, B; & Langstone, C

### Websites

Wallpaper Installer  
Royal Institute of British Architects

[www.wallpaperinstaller.com/wallpaper\\_symbols.html](http://www.wallpaperinstaller.com/wallpaper_symbols.html)  
[www.architecture.com](http://www.architecture.com)

## Unit 304 Producing specialist finishes for painted decorative work

<b>UAN:</b>	J/507/3258
<b>Level:</b>	3
<b>GLH:</b>	60

### What is this unit about?

The purpose of this unit is to provide the learners with the skills and knowledge required for producing specialist finishes for painted decorative work.

The decorating industry is continuously progressing with new products and methods but also has many traditional aspects that will never date.

Specialist finishes such as marbling, wood graining and gilding are not only traditional but very skilled. These skills will stretch a learner's ability to the maximum as well as giving them stature to become a traditional tradesperson working on high class work throughout the country.

Decorators with these skills will be able to increase their employability status within the decoration/design industry. As well as home, private, furniture finishes and the opportunity to work in heritage (stately homes, historic building etc) this work can be very satisfying and lucrative to produce. The ability to attain these skills at this level is often seen in the artistic vane which can lead on to design degrees with the completion of level 3.

### Learning outcomes

In this unit, learners will

1. prepare and apply multi-plate stencils
2. replicate different types of wood using graining methods
3. replicate marble
4. apply metal leaf.



## Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

**Learning outcome 1:** Prepare and apply multi-plate stencils

**Topic 1.1:** Stencil types and plate materials

**Topic 1.2:** Stencil production and planning

**Topic 1.3:** Applying stencils

### Topic 1.1

Learners must be able to differentiate between single and multiple plate stencils.

#### Stencil types

Positive, negative, multi-plate

#### Plate materials

Treated paper, treated card, proprietary stencil card, acetate sheet

### Topic 1.2

Learners must be able to select and use the correct equipment and plate materials to plan, size and produce a range of stencils.

#### Cutting surfaces

Glass plate, proprietary cutting mat

#### Enlarging and reducing methods

Accurate measurement, grid, illuminated projection, photocopy, print

#### Tools and equipment

Ruler/tape measure, pencil, chalk and line, stencil knife/craft knife, hot knife

#### Transferring methods

Trace, pounce, photocopy – onto the stencil plate materials of paper and proprietary stencil card and acetate.

#### Planning considerations

Location of doors, Windows, corners, access requirements, room dimensions, stencil size, number of repeats/connections spacing, order of application.

#### Lines

Chalk: centre/horizontal/vertical, registration marks

#### Factors to consider

Cleanliness, hand position, knife angle, direction of cutting, blade sharpness, thickness of ties, repair of broken ties, size and sequence of pattern (small areas and vertical lines first), free movement of stencil plate, margin widths.

### Topic 1.3

Learners must be able to apply stencils with sharp outlines without application faults to create linear work. They must maintain and store equipment and dispose of waste in conjunction with current Health and Safety Regulations.

### **Securing methods**

Proprietary spray, adhesive tape (masking, low-tack)

### **Tools and equipment**

Ruler/tape measure, chalk and line, palette, stencil brushes.

### **Application faults**

Creep, smudging, paint lifting, uneven colour, bitterness, undue texture, uneven weight of colour over repeats, buckled/curled stencil plate

**Learning outcome 2:** Replicate different types of wood using graining methods

**Topic 2.1:** Preparation of surfaces and ground coats

**Topic 2.2:** Tools, equipment and brushes

**Topic 2.3:** Prepare and apply graining materials

## **Topic 2.1**

Learners must be able to produce quality finish ground coats for decorative work, select and apply colourant to replicate graining type and be aware of advantages and disadvantages of using oil and acrylic based glazes.

### **Surfaces/structural components**

Previously painted timber, previously painted plaster or plasterboard, previously painted metal, panelled doors, windows, dado rails, narrow linear runs (i.e. architraves and skirtings), small wall panels.

### **Abrasives**

Silicon carbide, glass paper, aluminium oxide

### **Preparation processes**

Wet abrading, dry abrading, making good, spot priming, ground coat application

### **Oil-borne scumbles**

Solvent borne glaze, oil colourant, oil graining colour/medium solvent borne proprietary scumble, binders (fullers earth /whiting, stale beer, vinegar) , varnish, white spirit, linseed oil, driers, glycerine

### **Water-borne scumbles**

Acrylic glaze, acrylic colourants, dry pigments, fullers earth/whiting stale beer, vinegar, varnish, glycerine, retarding agents

### **Colourant**

Artist's oil, acrylics, gouache, powder pigment, universal strainers

## **Topic 2.2**

Learners must be able to identify, select, use and store brushes, tools and equipment for the production of grain.

### **Tools and equipment for preparation of ground coats**

Rollers, rubbing blocks, buckets, sponges, dusting brush, paint brushes (natural bristle and synthetic filament), tack rags, stirrers, paint strainers, kettles.

### **Tools and equipment for replication of wood types**

Metal/rubber/card combs, check/tick roller, natural sponges, lint-free rag, palette knives, palettes, kettles, plastic pots.

### **Brushes for replication of wood types**

'Rubbing in' brushes, mixing brushes, fitches, flogging brush, drag, softeners (hog's hair, badger), sable pencils and writers, varnish brushes, mottle, cutter, overgrainers

## **Topic 2.3**

Learners must be able to prepare and apply graining materials to replicate various wood types.

### **Graining types**

Straight grain, oak, mahogany, pine, figure work graining – oak and mahogany.

### **Processes**

Rubbing in, flogging, combing, softening, overgraining, mottling, wiping out heartwood, painting in heartwood, combing with painting in

## **Learning outcome 3: Replicate marble**

**Topic 3.1:** Preparation of surfaces and ground coats

**Topic 3.2:** Tools, equipment and brushes

**Topic 3.3:** Prepare and apply marbling materials

## **Topic 3.1**

Learners must be able to produce quality finish ground coats for decorative work, select and apply colourant to replicate marble type and be aware of advantages and disadvantages of using oil and acrylic based glazes.

### **Factors**

No visible coating defects, colour, medium, finish (eggshell, mid-sheen).

### **Replica marble**

Carrera, sienna, vert de mer, black and gold, rouge royale, st anne, breche violet.

### **Marbling materials**

Solvent-borne glaze and water-borne glaze, oil colourant and acrylic colourant, varnish (water-borne and solvent-borne), white spirit, linseed oil, driers, crayons.

## **Topic 3.2**

Learners must be able to identify, select, use and store brushes, tools and equipment for the production of marble.

## **Brushes**

Rubbing in, softeners (hog's hair, badger), sable pencils/writer, fitches

## **Tools**

Feathers (i.e. goose-wing), natural sponges, lint-free rag

## **Equipment**

Palette knives, palettes, kettle's, plastic pots, dippers, chalk and line

## **Topic 3.3**

Learners must be able to prepare and apply marbling materials to replicate marble types.

## **Processes**

Oil-in and rubbing in, veining, softening, glazing, cissing and opening out, wiping out, distressing ground colour

**Learning outcome 4:** Apply metal leaf

**Topic 4.1:** Preparation of surfaces and ground coats

**Topic 4.2:** Tools, equipment and brushes

**Topic 4.3:** Prepare and apply metal leaf

## **Topic 4.1**

Learners must be able to understand the factors important for surface suitability in preparation for the application of metal leaf.

## **Factors**

Smooth, defect free, clean, hard, dry, painted, varnished, glass, porosity

## **Topic 4.2**

Learners must be able to identify, select, use and store brushes, tools and equipment for the application of metal leaf.

## **Tools**

Gilders mops, gilders tip, gilders cushion, gilders knife, pounce bags, burnishers, sable brushes

## **Topic 4.3**

Learners must be able to prepare and apply metal leaf, remove barrier coats and burnish to meet the required finish.

## **Mordants**

Glair, gelatine, gold size

## **Barrier coat materials**

Egg glair (egg white, warm water), french chalk

## **Processes**

Tack time testing, metal leaf application, skewing, faulting, burnishing, cleaning off, backing up

## Defects

Lack of adhesion, shrivelling, flaking, tarnishing

### Guidance for delivery

Staff delivering this unit will have the opportunity to use a wide range of techniques, lectures, guest speakers, and industry experts. The use of DVD's and online video footage will also help enhance its delivery.

Tutors are able to enhance the learning experience by demonstrating in the classroom environment with the specialist tools, equipment and materials the learners will be using in the workshop areas.

Assignments are also a good way for students to research the variety of specialist finishes, and application methods they will be using to complete this highly skilled unit.

Health and Safety must be observed throughout. The application of specialist finishes can be hazardous, the learner could be using solvents which could also cause harm and pose a potential fire hazard (spontaneous combustion).

### Employer engagement

Employer engagement is an excellent opportunity to maximise not only the learners' experience, but it can help build and develop relationships with the local business community. This can provide many positive outcomes both for the employer and the learner, helping develop employability skills, providing access to a wider range of resources and experiences, directly showing the relevance of using specialist finishes and their applications in today's work situations to the learner.

Building strong links between employers may open up work experience placements, where learners can transfer their theoretical knowledge and practical skills of specialist finishes into real work situations, helping them realise the relevance of what they have learnt, and how it applies in today's decorating industry, improving their employability skills and getting them 'work ready' for when they leave education.

The practice of using employers or their employees as guest speakers can also have a positive impact on the delivery of this unit, enriching the learning and bringing relevant work knowledge and experiences to the learner.

Useful support for links with industry is given below:

- National Education and Business Partnership Network – **[www.nebpn.org](http://www.nebpn.org)**
- Work Experience/Workplace Learning Frameworks – Centre for Education and Industry (CEI University of Warwick) - **[www.warwick.ac.uk/wie/ce](http://www.warwick.ac.uk/wie/ce)**
- Construction Industry Joint Council - Working rule agreement for the construction Industry UK **[www.builders.org.uk/resources/nfb/000/322/301/May\\_2013\\_WRA\\_Final\\_Version.pdf](http://www.builders.org.uk/resources/nfb/000/322/301/May_2013_WRA_Final_Version.pdf)**
- Born to build - **[www.borntobuild.org.uk](http://www.borntobuild.org.uk)**
- The UK Contractors Group - **[www.ukcgroup.org.uk/representing-industry/open-doors-weekend](http://www.ukcgroup.org.uk/representing-industry/open-doors-weekend)**

## Suggested learning resources

### Books

- |  |   |
|--|---|
| Level 2 Diploma in Painting and Decorating<br>Published by: City & Guilds 2014<br>ISBN-10: 0851932967<br>ISBN-13: 978-0851932965 | Cook, A, Fearn, C, Walter, S, Yarde, B,<br>Burdfield, M                       |
| Painting and Decorating 6th Edition<br>Published by: Wiley-Blackwell, 2011<br>ISBN-10: 1444335014<br>ISBN-13: 978-1444335019     | Butterfield, D, Fulcher, A, Rhodes, B, Stewart,<br>B; Tickle, D; & Windsor, J |
| Parry's Graining & Marbling (John Wiley & Sons<br>1995)<br>ISBN-10: 0632034165<br>ISBN-13: 978-063203416                         | Parry, J, Rhodes, B Windsor, J -  |
| Practical Gilding<br>Published by: Archetype Publishing Ltd<br>ISBN-10: 1873132832<br>ISBN-13: 978-1873132838                    | Mactaggart, P, Mactaggart, A  |

### Journals and magazines

Painting and decorating news (this can be a magazine or an enhanced App)

### Websites

Handover Brushes Paints and Sundaries  
[http://www.handover.co.uk/Product\\_Departments\\_Graining\\_Marbling\\_and\\_Broken\\_Colour\\_Tools-Graining\\_and\\_Marbling\\_Tools/c1\\_346\\_347/index.html](http://www.handover.co.uk/Product_Departments_Graining_Marbling_and_Broken_Colour_Tools-Graining_and_Marbling_Tools/c1_346_347/index.html)

## Unit 305 Installing specialist architectural finishes for decorative work

<b>UAN:</b>	F/507/3260
<b>Level:</b>	3
<b>GLH:</b>	60

### What is this unit about?

The purpose of this unit is to provide the learner with the skills and knowledge required to install specialist architectural finishes for decorative work.

The modern decorator requires a variety of skills to compete in today's competitive decorating industry. Adding coving and centrepieces to a room can transform and enhance it from the basic to the impressive, adding focal points and in-turn, providing the decorator with more decorative surfaces to showcase their skills.

The ability to install and replace coving and centrepieces will provide the decorator with an invaluable skill to add to their already varied repertoire.

### Learning outcomes

In this unit, learners will

1. set out and install centre-pieces
2. set out and install coving and cornices.

## Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

**Learning outcome 1:** Set out and install centre-pieces

**Topic 1.1:** Designs and materials

**Topic 1.2:** Adhesives and fixings

**Topic 1.3:** Setting out and installing

### Topic 1.1

Learners must understand the different designs, components and materials used in applying centre-pieces.

#### Materials

Polyurethane foam centre-pieces, PVA, gypsum plaster centre-pieces

#### Designs

Edwardian, victorian, plain

### Topic 1.2

Learners must be able to identify different adhesives and fixings and understand their suitability when securing centre-pieces.

#### Adhesives

Ready mixed, powder based

#### Suitable fixings (permanent and temporary)

Galvanised nails, wall plugs, brass screws

#### Considerations when selecting fixings

Humidity of room, surface conditions (porosity, friable), weight of centre piece

### Topic 1.3

Learners must understand and be able to apply the procedures and health and safety requirements when setting out and fixing of centre-pieces. Learners should be able to explain and demonstrate the correct sequence of work.

#### Health and safety

Control of Substances Hazardous to Health (COSHH), Volatile Organic Compounds (VOCs), Disposal of waste, Working at Height Regulations, cuts and abrasions, dust inhalation, electrical safety work, Personal Protective Equipment (PPE).

#### Considerations when installing

Proportions of room related to circumference of centre-piece, labour requirements

#### Tools and equipment

Tape measure, pencil, drill, saw, filling knife, caulk gun, hammer, chalk line, screwdriver, stirring stick/bumper, mixing paddle, buckets, sponges, brushes

#### Access equipment



**Learning outcome 2:** Set out and install coving and cornices

**Topic 2.1:** Designs and materials

**Topic 2.2:** Adhesives and fixings,

**Topic 2.3:** Installing coving and cornices

**Topic 2.1**

Learners must understand and consider the appropriate uses of different designs, components and materials of coving and cornices.

**Materials**

Polyurethane foam, high density duropolymer, lightweight polystyrene, gypsum plaster

**Designs**

Matching designs, design/size appropriate to surroundings

**Topic 2.2**

Learners must understand the different adhesives and fixings used when securing coving and cornices.

**Adhesives**

Ready mixed, powder based

**Suitable fixings**

Galvanised nails, wall plugs, brass screws

**Considerations when selecting fixings**

Humidity of room, surface conditions (porosity, friable), weight of coving/cornice

**Topic 2.3**

Learners must understand and apply the procedures and health and safety requirements for setting out and fixing of coving/cornices. Learners should be able to explain and demonstrate the correct sequence of work.

**Health and safety regulations**

Control of Substances Hazardous to Health (COSHH), Volatile Organic Compounds (VOCs), Disposal of waste, Working at Height Regulations, Cuts and abrasions, Dust inhalation, Electrical safety work, Personal Protective Equipment (PPE).

**Tools and equipment**

Trimming knife, tape measure, mitre block, templates, pencil, chalk line, spirit level, drill, caulk gun, saw, hammer, screwdriver, stirring stick/bumper, filing knife, mixing paddle, buckets, sponges, brushes

**Access equipment**

Step ladders, platform steps, trestle platforms, podiums, proprietary towers, hop ups, scaffold boards

**Considerations**

Internal/external mitres, length of coving (labour requirements), even pattern distribution, centre around features, calculate joint locations, making good, isolation of electrical fittings

## Guidance for delivery

Staff delivering this unit will have the opportunity to use a wide range of techniques, lectures, guest speakers and industry experts. The use of DVD's and online footage will also help to enhance its delivery.

Assignments are a good way for the students to research Topic 2.1 looking at the various styles and types of coving/cornices and their applications.

Samples of all the various types of centre-pieces, coving and cornices are advised to be used in teaching of this unit to help the learner recognise the types, patterns and demonstrate the considerations needed when using the appropriate materials.

Setting out and positioning of registration marks on centre-pieces can be initially demonstrated and taught using paper cut outs of centrepieces and re-positioned on A3 paper.

Installing coving/cornices and centre-pieces can be hazardous if procedures are not followed correctly. Health and Safety and electrical awareness must be emphasised at every opportunity when delivering this unit.

## Employer engagement

Employer engagement is an excellent opportunity to maximise not only the learners' experience, but it can help build and develop relationships with the local business community. This can provide many positive outcomes both for the employer and the learner, helping develop employability skills, providing access to a wider range of resources and experiences, directly showing the relevance of specialist architectural finishes and their applications in today's work situations, to the learner.

Building strong links between employers may open up work experience placements, where learners can transfer their theoretical knowledge and practical skills of specialist architectural finishes, into real work situations, helping them realise the relevance of what they have learnt, and how it applies in today's decorating industry, improving their employability skills and getting them 'work ready' for when they leave education.

The practice of using employers or their employees as guest speakers can also have a positive impact on the delivery of this unit, enriching the learning and bringing relevant work knowledge and experiences to the learner.

Useful support for links with industry is given below:

- National Education and Business Partnership Network – **[www.nebpn.org](http://www.nebpn.org)**
- Work Experience/Workplace Learning Frameworks – Centre for Education and Industry (CEI University of Warwick) - **[www.warwick.ac.uk/wie/ce](http://www.warwick.ac.uk/wie/ce)**
- Construction Industry Joint Council - Working rule agreement for the construction Industry UK **[www.builders.org.uk/resources/nfb/000/322/301/May\\_2013\\_WRA\\_Final\\_Version.pdf](http://www.builders.org.uk/resources/nfb/000/322/301/May_2013_WRA_Final_Version.pdf)**
- Born to build - **[www.borntobuild.org.uk](http://www.borntobuild.org.uk)**
- The UK Contractors Group - **[www.ukcg.org.uk/representing-industry/open-doors-weekend](http://www.ukcg.org.uk/representing-industry/open-doors-weekend)**

## Suggested learning resources

### Books

Painting and Decorating 6th Edition  
Published by: Wiley-Blackwell, 2011)  
ISBN-10: 1444335014  
ISBN-13: 978-1444335019

Butterfield, D, Fulcher, A, Rhodes, B, Stewart,  
B; Tickle, D; & Windsor, J

### Websites

UK Plaster (Installation videos)  
Copley (Manufacturer)  
Health & Safety Executive

[www.ukplaster.com](http://www.ukplaster.com)  
[www.copleydecor.co.uk](http://www.copleydecor.co.uk)  
[www.hse.gov.uk](http://www.hse.gov.uk)

## Unit 306 Applying water-borne paint systems using airless equipment

<b>UAN:</b>	J/507/3261
<b>Level:</b>	3
<b>GLH:</b>	60

### What is this unit about?

The purpose of this unit is to provide the learner with the skills and knowledge required to apply water-borne paint systems using airless spray equipment.

The decorating sector is continually progressing with innovative new products striving for a better and quicker application and finish. airless spraying enables the decorator to provide a uniform smooth quality finish 4 times faster than using just a brush and roller with a saving of 50-75% of their painting time. Even though airless spray produces little overspray, it can deliver the coating at up to 3000psi, so preparation, protection and safe use of the equipment are an important and integral part of this unit.

Understanding and being able to use an airless spray setup safely will provide the decorator with a very desirable additional skill to enable themselves to be current and competitive in today's construction industry.

No prior knowledge of airless spaying is required for this unit but the learner should possess basic numeracy and literacy skills in order to understand the content.

### Learning outcomes

In this unit, learners will

1. perform preparation and protection of work areas
2. demonstrate safe use of a functioning airless spray unit with water-borne coatings
3. understand how to rectify faults and defects in equipment and applied coatings
4. perform cleaning, maintenance and storage of airless spray equipment and materials.

## Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

**Learning outcome 1:** Perform preparation and protection of work areas

**Topic 1.1:** Preparing domestic and commercial work area

**Topic 1.2:** Local Exhaust Ventilation (LEV) and natural ventilation for work area

### Topic 1.1

Learners must understand the different components of domestic and commercial properties and the requirement for appropriate protection or removal of the following components.

#### Components

Door and window furniture, wall-mounted fixtures and fittings, air quality within the work area, room furniture, floor coverings, workstations, lighting, machinery, public access to premises, debris, overspray

Learners must identify, understand their characteristics, specify the advantages and disadvantages and correctly use the appropriate masking materials

#### Masking materials and equipment

Masking paper, masking machine, masking shield, dust sheets (lightweight, protective backing, heavy duty), self-adhesive masking paper, drop sheets, polythene sheets, tarpaulin.

### Topic 1.2

Learners must understand and comply with the regulations and the requirements regarding:

Local Exhaust Ventilation (LEV) and the use of natural ventilation, both internal and external. Air quality within the work area, climate/weather, temperature, ventilation, Health and Safety at Work Act (HASAWA), Control of substances hazardous to Health (COSHH), Personal Protective Equipment (PPE), Respiratory Protective Equipment (RPE)

**Learning outcome 2:** Demonstrate safe use of a functioning airless spray unit with water-borne coatings

**Topic 2.1:** Parts and functions of an airless spray set up

**Topic 2.2:** Preparation of materials

**Topic 2.3:** Produce a working airless spray unit

**Topic 2.4:** Apply coatings using an airless unit

### Topic 2.1

Learners must identify and state the function of the various parts of an airless spray set up.

Fluid pumps (electrically driven or pneumatically driven), pump filters, hoses, gravity feed hopper and filter, suction feed tube and filter, fluid line, whip-end (where applicable), spray gun, gun in-line filter, trigger locking device, trigger guard, fluid tips, tip safety guard, pole guns (extended reach tools), swivel head fluid tip, roller frame and sleeve.

## Topic 2.2

Learners must understand the importance of, and demonstrate, the correct preparation of materials to be sprayed and the consequences of not preparing the material correctly.

Viscometer, ford cup, ratio stick, wet film thickness (WFT) gauge, dry film thickness (DFT) gauge, tip blockages, contamination, incorrect viscosity

## Topic 2.3

Learners must be able to select the correct spray parts and assemble them in order to create a working airless spray set up, ready to apply water borne coatings.

## Topic 2.4

Learners must demonstrate the correct and safe application of water borne coatings using an airless spray system to a variety of surfaces. Learners must be able to test and adjust the spray system to achieve the best result.

Application techniques, distance adjustment, speed of movement, parallel movement, triggering, litres per minute, arcing, overlapping, spray distance, internal corners, external corners, stripe coating, pipework

## Health and safety

Personal Protective Equipment (PPE), Respiratory Protective Equipment (RPE), inhalation (of overspray), eye irritation, paint injection

**Learning outcome 3:** Understand how to rectify faults and defects in equipment and applied coatings

**Topic 3.1:** Equipment faults

**Topic 3.2:** Application faults

## Topic 3.1

Learners must identify and understand the characteristics, causes and remedies of equipment faults that can occur in an airless spray setup.

### Equipment faults

Electrical failure, dirty/blocked fluid tip, loose, damaged or worn fluid needle packing, loose, damaged or worn fluid tip or needle, incorrect set-up (fluid tip), fluttering, defective spray patterns, fluid leakage, kinked hoses, spluttering

## Topic 3.2

Learners must identify and understand the characteristics, causes and remedies that can occur when using an airless spray setup.

Runs, sags, dry spray, banding, overspray, orange peel, pitting

**Learning outcome 4:** Perform cleaning, maintenance and storage of airless spray equipment and materials

**Topic 4.1:** Cleaning and storage of components and equipment.

**Topic 4.2:** Safe disposal of materials.

### Topic 4.1

Learners must understand the importance of, and demonstrate safe shutdown procedures, in preparation for cleaning and storage.

- Shutdown, dismantle, clean, replace, reassemble, adjust the system, paint injection

Learners must understand the importance of keeping the spray components and equipment clean and lubricated prior to storage.

- Equipment replacement costs, flushing, cleaning and lubrication of components (listed in 2.1)

### Topic 4.2

Learners must understand the importance of, and demonstrate the safe emptying and disposal of material in accordance with the relevant legislation.

### Legislation

COSHH, HASAWA, Environmental Protection Agency (EPA)

### Guidance for delivery

Staff delivering this unit will have the opportunity to use a wide range of techniques, lectures, guest speakers, and industry experts. The use of DVD's and online video footage will also help enhance its delivery.

Tutors are advised to use the airless spray equipment listed within their teaching sessions as much as possible, to help the learner to recognise the parts and purposes of the equipment which they will be using.

Assignments are also a good way for the students to research where airless spraying is most appropriate, compared with other application methods and also for learning outcome 1, for research into preparation and protection of various work areas.

Using airless spray equipment can be hazardous if not used correctly, safety must always be emphasised at every opportunity when delivering this unit.

## Employer engagement

Employer engagement is an excellent opportunity to maximise not only the learners' experience, but it can help build and develop relationships with the local business community. This can provide many positive outcomes both for the employer and the learner, helping develop employability skills, providing access to a wider range of resources and experiences, directly showing the relevance of airless spraying and its applications in today's work situations to the learner.

Building strong links between employers may open up work experience placements, where learners can transfer their theoretical knowledge and practical skills of airless spraying into real work situations, helping them realise the relevance of what they have learnt and its applications in today's decorating industry, improving their employability skills and getting them 'work ready' for when they leave education.

The practice of using employers or their employees as guest speakers can also have a positive impact on the delivery of this unit, enriching the learning and bringing relevant work knowledge and experiences to the learner.

Useful support for links with industry is given below:

- National Education and Business Partnership Network – **[www.nebpn.org](http://www.nebpn.org)**
- Work Experience/Workplace Learning Frameworks – Centre for Education and Industry (CEI University of Warwick) - **[www.warwick.ac.uk/wie/ce](http://www.warwick.ac.uk/wie/ce)**
- Construction Industry Joint Council - Working rule agreement for the construction Industry UK **[www.builders.org.uk/resources/nfb/000/322/301/May\\_2013\\_WRA\\_Final\\_Version.pdf](http://www.builders.org.uk/resources/nfb/000/322/301/May_2013_WRA_Final_Version.pdf)**
- Born to build - **[www.borntobuild.org.uk](http://www.borntobuild.org.uk)**
- The UK Contractors Group - **[www.ukcg.org.uk/representing-industry/open-doors-weekend](http://www.ukcg.org.uk/representing-industry/open-doors-weekend)**

## Suggested learning resources

### Books

Painting and Decorating 6th Edition  
Published by: Wiley-Blackwell, 2011)  
ISBN-10: 1444335014  
ISBN-13: 978-1444335019

Butterfield, D, Fulcher, A, Rhodes, B, Stewart, B; Tickle, D; & Windsor, J

### Websites

Graco – Airless Spray Techniques pdf.

[http://wwwd.graco.com/Distributors/DLibrary.nsf/Files/CT\\_Airless\\_Spray\\_Tech\\_300071/\\$file/CT\\_Airless\\_Spray\\_Tech\\_300071.pdf](http://wwwd.graco.com/Distributors/DLibrary.nsf/Files/CT_Airless_Spray_Tech_300071/$file/CT_Airless_Spray_Tech_300071.pdf)

Health & Safety Executive

[www.hse.gov.uk](http://www.hse.gov.uk)



## Unit 307 Applying water-borne paint systems using high volume low pressure spray equipment

<b>UAN:</b>	R/507/3263
<b>Level:</b>	3
<b>GLH:</b>	60

### What is this unit about?

The purpose of this unit is to provide the learner with the skills and knowledge required to apply water-borne paint systems using High Volume Low Pressure (HVLP) spray equipment.

The modern decorator requires many skills to accomplish the best finish possible. One such skill is being able to spray paint. To achieve that brush free finish and applying coatings quickly and evenly, used to require a lot of bulky equipment. Today a small HVLP spray unit can achieve the same results. When applying a brush free finish to door or glossing an old cast iron radiator, using an HVLP spray set up can save time and money, and without compromising on the finish.

No prior knowledge of HVLP spraying is required for this unit, but the learner should possess basic numeracy and literacy skills in order to understand the content.

### Learning outcomes

In this unit, learners will

1. perform preparation and protection of adjacent surfaces, furniture and fittings
2. demonstrate the safe use of a functioning HVLP spray system
3. understand how to rectify faults and defects in HVLP spray equipment and applied coatings
4. perform cleaning, maintenance and storage of HVLP spray equipment and materials.

## Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

**Learning outcome 1:** Perform preparation and protection of adjacent surfaces, furniture and fittings

**Topic 1.1:** Preparing the work area

**Topic 1.2:** Masking tapes

**Topic 1.3:** Protective sheeting

### Topic 1.1

Learners must understand the many factors to consider when preparing and protecting the work area in readiness for using an HVLP spray set up.

Health and safety considerations, overspray, door and window furniture, all-mounted fixtures and fittings, room furniture, floor coverings, workstations, lighting, machinery, furniture, debris

#### Environmental factors

Public access to premises, climate/weather, temperature, air quality within the work area

### Topic 1.2

Learners must identify, understand the characteristics, apply and remove a variety of masking tapes in relation to components in topic 1.1.

Exterior, interior, low tack, crepe, 7-day

### Topic 1.3

Learners must use, identify, understand the characteristics, applications, maintenance and storage of a variety of protective sheeting in relation to components in topic 1.1

Dust sheets (lightweight, protective backing, heavy duty), polythene sheets (loose, adhesive), masking paper, masking machines, masking shield, tarpaulin, drop sheets.

**Learning outcome 2:** Demonstrate the safe use of a functioning HVLP spray system

**Topic 2.1:** Advantages and disadvantages

**Topic 2.2:** Function and assembly of the HVLP spray gun equipment

**Topic 2.3:** Preparation of paint materials

**Topic 2.4:** Set up HVLP equipment and apply surface coatings

### **Topic 2.1**

Learners must identify and understand the advantages and disadvantages of various HVLP spray systems when used in different situations.

HVLP spray systems, gravity feed, suction feed, pressure feed

#### **Advantages/disadvantages**

Cost, application

### **Topic 2.2**

Learners must identify and understand the function and assembly of HVLP components and equipment.

#### **Spray gun components**

Spray gun body, air inlet connector, air valve, trigger, air baffle, air cap, fluid needle, fluid tip, fluid needle packing, spreader control valve (where appropriate), fluid needle adjuster.

#### **Spray unit components**

Pressure pot, container, lid, clamps, seal, air inlet valve, pressure regulator, pressure gauge, safety valve, fluid delivery tube, fluid outlet valve (where applicable), spray guns, air hoses, compressor, pressure pot, transformer

### **Topic 2.3**

Learners must understand and demonstrate the correct preparation of the material to be sprayed and understand the consequences of not preparing the material correctly.

#### **Equipment**

Viscometer, ford cup, ratio stick

#### **Preparations**

Thinning, straining, stirring, decanting

#### **Consequences**

Contamination, incorrect viscosity

### **Topic 2.4**

Learners must set-up a HVLP system correctly and safely and apply surface coatings to a variety of surfaces.

### Application techniques

Distance adjustment, speed of movement, triggering, arcing, overlapping, spray distance, internal/external corners, stripe coating, pipework, wet film thickness (WFT) gauge, dry film thickness (DFT) gauge

### Health and Safety regulations and considerations

Health and Safety at Work Act, COSHH regulations, LEV regulations, inhalation (of overspray), eye irritation, Personal Protective Equipment (PPE), Respiratory Protective Equipment (RPE)

**Learning outcome 3** Understand how to rectify faults and defects in HVLP spray equipment and applied coatings

**Topic 3.1:** Equipment faults

**Topic 3.2:** Application faults

#### Topic 3.1

Learners must identify and understand the characteristics, causes and remedies of equipment faults that can occur in a HVLP spray setup.

##### Equipment faults

Electrical failure, dirty air cap, needle packing, loose, damaged or worn fluid tip, loose, damaged or worn fluid needle, incorrect set-up (fluid tip), fluttering, defective spray patterns, fluid leakage, kinked hoses, spluttering

#### Topic 3.2

Learners must identify and understand the characteristics, causes and remedies of application faults that can occur when using a HVLP spray setup.

##### Application faults

Runs, sags, dry spray, banding, overspray, orange peel, pitting

**Learning outcome 4:** Perform cleaning, maintenance and storage of HVLP spray equipment and materials

**Topic 4.1:** Cleaning and storage of components and equipment

**Topic 4.2:** Safe disposal of materials

#### Topic 4.1

Learners must understand the importance of, and demonstrate, safe shutdown procedures, in preparation for cleaning and storage.

- Shut down procedures, release pressure, safety valve

Learners must understand the importance of, and demonstrate, cleaning HVLP spray components and equipment and lubricating prior to storage.

- Remove and empty container, flush out container with appropriate thinner, recharge with

appropriate thinner, reconnect and restart system, spray through gun to flush, disassemble components, clean and dry components, lubricate where required, reassemble, store, coil hoses

## Topic 4.2

Learners must understand the importance of, and demonstrate the safe emptying and disposal of material in accordance with current legislation.

### Legislation

COSHH, HASAWA, Environmental Protection Agency (EPA)

### Guidance for delivery

Staff delivering this unit will have the opportunity to use a wide range of techniques, lectures, guest speakers and industry experts. The use of DVD's and online footage will also help to enhance its delivery.

Tutors are advised to use the HVLP spray equipment listed within their teaching sessions as much as possible, to help the learner to recognise the parts and purposes of the equipment to which they will be using.

Assignments are a good way for the students to research faults and rectifications in learning outcome 3 as they may be difficult to replicate.

Using HVLP spray equipment can be hazardous if not used correctly, PPE and safety must be emphasised at every opportunity when delivering this unit.

### Employer engagement

Employer engagement is an excellent opportunity to maximise not only the learners' experience, but it can help build and develop relationships with the local business community. This can provide many positive outcomes both for the employer and the learner, helping develop employability skills, providing access to a wider range of resources and experiences, directly showing the relevance of HVLP spraying and its applications in today's work situations to the learner.

Building strong links between employers may open up work experience placements, where learners can transfer their theoretical knowledge and practical skills of HVLP spraying into real work situations, helping them realise the relevance of what they have learnt and its application in today's decorating industry, improving their employability skills and getting them 'work ready' for when they leave education.

The practice of using employers or their employees as guest speakers can also have a positive impact on the delivery of this unit, enriching the learning and bringing relevant work knowledge and experiences to the learner.

Useful support for links with industry is given below:

- National Education and Business Partnership Network – [www.nebpn.org](http://www.nebpn.org)
- Work Experience/Workplace Learning Frameworks – Centre for Education and Industry (CEI University of Warwick) - [www.warwick.ac.uk/wie/ce](http://www.warwick.ac.uk/wie/ce)
- Construction Industry Joint Council - Working rule agreement for the construction Industry UK [www.builders.org.uk/resources/nfb/000/322/301/May\\_2013\\_WRA\\_Final\\_Version.pdf](http://www.builders.org.uk/resources/nfb/000/322/301/May_2013_WRA_Final_Version.pdf)
- Born to build - [www.borntobuild.org.uk](http://www.borntobuild.org.uk)
- The UK Contractors Group - [www.ukcg.org.uk/representing-industry/open-doors-weekend](http://www.ukcg.org.uk/representing-industry/open-doors-weekend)

## Suggested learning resources

### Books

Painting and Decorating 6th Edition  
Published by: Wiley-Blackwell, 2011)  
ISBN-10: 1444335014  
ISBN-13: 978-1444335019

Butterfield, D, Fulcher, A, Rhodes, B, Stewart,  
B; Tickle, D; & Windsor, J

Design and Construction  
Published by: Butterworth-Heinemann, 2002  
ISBN: 0-750-65149-0

Best, A; de Valence, B; & Langstone, C

### Websites

DeVilbiss (manufacturer)  
Graco (Manufacturer)  
Health & Safety Executive

[www.devilbiss.com](http://www.devilbiss.com)  
[www.graco.com](http://www.graco.com)  
[www.hse.gov.uk](http://www.hse.gov.uk)

## Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on [www.cityandguilds.com](http://www.cityandguilds.com).

### ***City & Guilds Centre Manual***

This document provides guidance for organisations wishing to become City & Guilds approved centres, as well as information for approved centres delivering City & Guilds qualifications. It covers the centre and qualification approval process as well as providing guidance on delivery, assessment and quality assurance for approved centres.

It also details the City & Guilds requirements for ongoing centre and qualification approval, and provides examples of best practice for centres. Specifically, the document includes sections on:

- the centre and qualification approval process
- assessment, internal quality assurance and examination roles at the centre
- registration and certification of candidates
- non-compliance and malpractice
- complaints and appeals
- equal opportunities
- data protection
- management systems
- maintaining records
- internal quality assurance
- external quality assurance.

### ***Our Quality Assurance Requirements***

This document explains the requirements for the delivery, assessment and awarding of our qualifications. All centres working with City & Guilds must adopt and implement these requirements across all of their qualification provision. Specifically, this document:

- specifies the quality assurance and control requirements that apply to all centres
- sets out the basis for securing high standards, for all our qualifications and/or assessments
- details the impact on centres of non-compliance

The **centre homepage** section of the City & Guilds website also contains useful information on **Walled Garden**: how to register and certificate candidates on line

**Events**: dates and information on the latest Centre events

**Online assessment**: how to register for e-assessments.

## Useful contacts

### UK learners

General qualification information

**E: [learnersupport@cityandguilds.com](mailto:learnersupport@cityandguilds.com)**

---

### International learners

General qualification information

**E: [intcg@cityandguilds.com](mailto:intcg@cityandguilds.com)**

---

### Centres

Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results

**E: [centresupport@cityandguilds.com](mailto:centresupport@cityandguilds.com)**

---

### Single subject qualifications

Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change

**E: [singlesubjects@cityandguilds.com](mailto:singlesubjects@cityandguilds.com)**

---

### International awards

Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports

**E: [intops@cityandguilds.com](mailto:intops@cityandguilds.com)**

---

### Walled Garden

Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems

**E: [walledgarden@cityandguilds.com](mailto:walledgarden@cityandguilds.com)**

---

### Employer

Employer solutions, Mapping, Accreditation, Development Skills, Consultancy

T: +44 (0)121 503 8993

**E: [business@cityandguilds.com](mailto:business@cityandguilds.com)**

Every effort has been made to ensure that the information contained in this publication is true and correct at the time of going to press. However, City & Guilds' products and services are subject to continuous development and improvement and the right is reserved to change products and services from time to time. City & Guilds cannot accept liability for loss or damage arising from the use of information in this publication.

If you have a complaint, or any suggestions for improvement about any of the services that we provide, email: **[feedbackandcomplaints@cityandguilds.com](mailto:feedbackandcomplaints@cityandguilds.com)**



## About City & Guilds

As the UK's leading vocational education organisation, City & Guilds is leading the talent revolution by inspiring people to unlock their potential and develop their skills. City & Guilds is recognised and respected by employers across the world as a sign of quality and exceptional training.

## City & Guilds Group

The City & Guilds Group operates from three major hubs: London (servicing Europe, the Caribbean and Americas), Johannesburg (servicing Africa), and Singapore (servicing Asia, Australia and New Zealand). The Group also includes the Institute of Leadership & Management (management and leadership qualifications), City & Guilds Licence to Practice (land-based qualifications) and Learning Assistant (an online e-portfolio).

## Copyright

The content of this document is, unless otherwise indicated, © The City and Guilds of London Institute and may not be copied, reproduced or distributed without prior written consent. However, approved City & Guilds centres and candidates studying for City & Guilds qualifications may photocopy this document free of charge and/or include a PDF version of it on centre intranets on the following conditions:

centre staff may copy the material only for the purpose of teaching candidates working towards a City & Guilds qualification, or for internal administration purposes

candidates may copy the material only for their own use when working towards a City & Guilds qualification

The Standard Copying Conditions (see the City & Guilds website) also apply.

## City & Guilds

1 Giltspur Street

London EC1A 9DD

[www.cityandguilds.com](http://www.cityandguilds.com)