



# **City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma) (7255-82)**

**Version 1.0 (April 2024)**

**Qualification Handbook**

## Qualification at a glance

<b>Subject area</b>	Building and construction
<b>City &amp; Guilds number</b>	7255
<b>Age group approved</b>	16-18, 19+
<b>Entry requirements</b>	N/A
<b>Assessment</b>	Multiple-choice tests, Practical assignment
<b>Grading</b>	Pass/Fail
<b>Approvals</b>	Full approval required
<b>Support materials</b>	Sample assessments (SAMs), Qualification handbook
<b>Registration and certification</b>	Consult the Walled Garden/Online Catalogue for last dates
<b>Occupational Standard(s)</b>	ST0096 Plasterer

<b>Title and level</b>	<b>City &amp; Guilds qualification number</b>	<b>Regulatory reference number</b>	<b>GLH</b>	<b>TQT</b>
City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma)	7255-82	610/4590/1	441	450

Version and date	Change detail	Section
1.0 April 2024	Initial version	All

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# 1 Introduction

## What is this qualification about?

Area	Description
Who is the qualification for?	This qualification is for those individuals who wish to gain the knowledge and skills required to commence a career within the Plastering sector.
What does the qualification cover?	<p>This qualification aligns to the knowledge skills and behaviours in the ST0096 Plasterer Occupational standard. Learners will gain the knowledge and skills required to commence a career as a plasterer, including technical knowledge and skills for solid plastering (internal plastering, external rendering) and dry lining.</p> <p>This qualification does <b>not</b> cover knowledge and skills in relation to fibrous plastering.</p>
What opportunities for progression are there?	Learners will have the opportunity to progress onto further study or an apprenticeship or secure an entry-level role as a plasterer in industry.
Why choose this qualification?	If you are interested in entering the construction industry and wish to commence a career as a Plasterer, this qualification will provide the fundamental knowledge and skills required to begin this journey.

## 2 Content coverage and mapping

### Occupational standards

This qualification has been developed to cover as many of the Knowledge, Skills and Behaviours (KSBs) in the relevant occupational standard as it may be reasonable to attain by undertaking a course of education or training. Where KSBs in a relevant occupation standard cannot be reasonably obtained within a course of education or training in an educational setting, City & Guilds seeks the validation from credible employers to ensure that the qualification is fit for purpose.

The knowledge and skills content within this qualification has been amplified to reflect the KSBs. High level mapping to the KSBs in the occupational standard can be found in the Qualification Structure section. Detailed mapping at unit level can be found in Annex 2 within this qualification handbook.

The table below shows the Occupational Standard the qualification aligns to:

Qualification	Occupational Standard title/Reference
City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma)	ST0096 Plasterer



### 3 Employer engagement

City & Guilds would like to take this opportunity to thank all the employers, trade associations, professional bodies, providers, subject matter experts and consultants who have dedicated time to review and validate this qualification. These stakeholders have been used throughout the development and validation of this qualification to ensure the qualification meets the requirements of the occupational standard and the needs of industry. Employer validation recognises the demand or likely demand for learners who have completed the Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma). This collaborative work is to ensure that a learner studying the Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma) has the best opportunities available to them as they progress through their career with a solid base as a starting point.

## 4 Qualification structure

### Structure

To achieve the City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma), learners must achieve all units. **All units are mandatory.**

City & Guilds unit number	Unit title	GLH
<b>Mandatory units:</b>		
101	Health & safety in a construction environment	21
201	Principles of welfare, health and safety in construction environments	30
202	Principles of working in the construction industry	50
230	Plastering core principles	55
231	Internal plastering	100
232	External rendering	100
233	Dry lining	85

**Note,** Unit 101 Health and safety in a construction environment is an imported unit that covers the health and safety knowledge that is required to gain a CSCS Green Card for access to construction sites in the UK.

The unit was developed in conjunction with CITB and CSCS UK Ltd and also exists as a standalone, single unit, City & Guilds qualification – Scheme and POS number 6072-51.

## Total Qualification Time (TQT)

Total qualification time (TQT) is the number of notional hours which represents an estimate of the total amount of time that could reasonably be expected for a learner to demonstrate the achievement of the level of attainment necessary for the award of a qualification.

TQT comprises of the following two elements:

- 1) the number of hours that an awarding organisation has assigned to a qualification for guided learning
- 2) an estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by – but, unlike guided learning, not under the immediate guidance or supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

Title and level	GLH	TQT
City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma)	441	450

## 5 Centre requirements

### Approval

#### Full approval

To offer this qualification, new centres will need to gain both centre and qualification approval. Please refer to the document **Centre Approval Process: Quality Assurance Standards** for further information.

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

## Resource requirements

### Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be occupationally competent or technically knowledgeable in the area(s) for which they are delivering training and/or have experience of providing training (this knowledge must be to the same level as the training being delivered)
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

### Continuing professional development (CPD)

Centres are expected to support their staff in ensuring that their knowledge remains current of the occupational area and of best practice in delivery, mentoring, training, assessment and quality assurance, and that it takes account of any national or legislative developments.

## 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 assessment.

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

Centres will have well-equipped workshops with a comprehensive range of plastering tools and equipment that meets current industry standards. All powered equipment should be well maintained and PAT certified. Centres will have special designated areas within their workshop (cubicles, bays or project areas) allowing candidates to practise the requirements of the units and to carry out the Practical Assignment.

Tools and equipment for plastering and rendering work available in the centre workshop should include,

- Equipment and resources used for protecting surfaces and correctly disposing of waste:
  - i. dust sheets
  - ii. polycarbonate sheet for mixing and work/floor areas
  - iii. timber sheet for protecting floor coverings.
  - iv. internal and external window and floor protectors (clear plastic carpet protector)
  - v. overshoe protectors
  - vi. masking tape for window and door edging including soffits and fascia boards
  - vii. tarpaulin and plastic sheeting to avoid spillage on floors, roofs, surfaces.
  - viii. modes of transportation of waste (buckets, wheelbarrows, skips, shoot, rubble bags/sacks)
  - ix. mechanical hoists
  - x. tele handler.

- Tools and equipment for preparing backgrounds (by stripping and hacking):
  - i. lump hammer and bolster
  - ii. nail bar
  - iii. scutch hammer
  - iv. lath hammer
  - v. scraper
  - vi. wire brush
  - vii. roller and tray
  - viii. brushes (stipple)
  - ix. paddle (slurry)
  - x. mechanical breaker
  - xi. grinder
  - xii. sweeping brush
  - xiii. shovel and wheelbarrow.
  
- Tools and equipment for mixing plastering and rendering materials:
  - i. drill and whisk
  - ii. transformer
  - iii. mechanical drum mixer
  - iv. 110 volt lead extension lead
  - v. wheelbarrow
  - vi. water buckets
  - vii. mixing buckets
  - viii. gauging buckets
  - ix. bucket trowel
  - x. gauging trowel
  - xi. shovel
  - xii. cleaning brush.
  
- Tools and equipment for applying plaster and render materials, ruling, aligning, consolidating, keying, cutting back, scraping surfaces for the application and producing a finish:
  - i. plastering trowel
  - ii. hawk/handboard
  - iii. spot board and stand
  - iv. gauging trowel
  - v. bucket trowel
  - vi. comb scratcher
  - vii. small tool
  - viii. darby
  - ix. straight edge/feature edge
  - x. polyurethane devil float

- xi. sponge float
- xii. spatula
- xiii. finishing blades
- xiv. internal corner trowel
- xv. margin trowel
- xvi. water buckets and splash brush
- xvii. access equipment.

- Tools for finishing external render surfaces:

- i. polyurethane plastic float (Plain face)
- ii. wet and dry dashing paddle/shovel
- iii. scraifier and i-bar (scrape texture)
- iv. polycarbonate float (thin coat texture)
- v. sponge float
- vi. tyrolean gun
- vii. spray hopper
- viii. spray machine.

- Tools and equipment for positioning and fixing standard and thin coat beads, corner beads, stop beads, and expansion beads:

- i. tape measure
- ii. snips
- iii. square
- iv. level
- v. laser level
- vi. chalk line
- vii. stapler
- viii. claw hammer
- ix. straight edge
- x. drill/screwdriver
- xi. hawk/handboard
- xii. plastering trowel
- xiii. splash brush.

- Tools and equipment for preparing and installing dry lining direct bond, mechanical fixing and tape and jointing surfaces including sanding and priming.

- i. cutting plasterboard:
  - tape measure
  - utility knife
  - rasp
  - straight edge
  - pad saw
  - jagged tooth saw

- T-square.
  
- ii. Installing and fixing plasterboard:
  - struts
  - service circle cutter
  - board lifter
  - square
  - level
  - laser level
  - chalk line
  - claw hammer
  - box rule
  - collated screwdriver
  - dry wall drill/screwdriver
  - hawk/handboard
  - drill and whisk
  - bucket trowel
  - plastering trowel
  - splash brush.
  
- iii. Taping and jointing tools and equipment:
  - snips
  - taping and jointing knives
  - internal corner tool
  - pole sander
  - electric sander and vacuum
  - paint tray and roller
  - self-feeding mechanical taping gun.



## Quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance. All external quality assurance processes reflect the minimum requirements for verified and moderated assessments, as detailed in the Centre Assessment Standards Scrutiny (CASS), section H2 of Ofqual's General Conditions. For more information on both CASS and City & Guilds Quality Assurance processes visit: the [What is CASS?](#) and [Quality Assurance Standards](#) documents on the City & Guilds website.

Standards and rigorous quality assurance are maintained by the use of:

- internal quality assurance
- City & Guilds external quality assurance.

In order to carry out the quality assurance role, internal quality assurers must:

- have appropriate teaching and vocational knowledge and expertise
- have experience in quality management/internal quality assurance
- hold or be working towards an appropriate teaching/training/assessing qualification
- be familiar with the occupation and technical content covered within the qualification.

External quality assurance for the qualification will be provided by City & Guilds EQA process. EQAs are appointed by City & Guilds to approve centres and to monitor the assessment and internal quality assurance carried out by centres. External quality assurance is carried out to ensure that assessment is valid and reliable, and that there is good assessment practice in centres.

The role of the EQA is to:

- provide advice and support to centre staff
- ensure the quality and consistency of assessments within and between centres by the use of systematic sampling
- provide feedback to centres and to City & Guilds.

## Learner entry requirements

City & Guilds does not set entry requirements for this qualification. However, centres must ensure that candidates have the potential and opportunity to gain the qualification successfully.

## 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 training needs
- support and guidance they may need when working towards their qualification
- any units they have already completed or credit they have accumulated which is relevant to the qualification
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the learner fully understands 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.

## Age restrictions

This qualification is approved for learners aged 16 or above.

## Access to assessment and special consideration

City & Guilds has considered the design of this qualification and its assessments in order to best support accessibility and inclusion for all learners. We understand however that individuals have diverse learning needs and may require reasonable adjustments to fully participate. Reasonable adjustments, such as additional time or alternative formats, may be provided to accommodate learners with disabilities and support fair access to assessment.

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.

The Equality Act 2010 requires City & Guilds to make reasonable adjustments where a disabled person would be at a substantial disadvantage in undertaking an assessment.

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>

## 6 Delivering the qualification

### Inclusion and diversity

City & Guilds is committed to improving inclusion and diversity within the way we work and how we deliver our purpose which is to help people and organisations develop the skills they need for growth.

More information and guidance to support centres in supporting inclusion and diversity through the delivery of City & Guilds qualifications can be found here:

[Inclusion and diversity | City & Guilds \(cityandguilds.com\)](https://www.cityandguilds.com)

### Sustainability

City & Guilds is committed to net zero. Our ambition is to reduce our carbon emissions by at least 50% before 2030, and develop environmentally responsible operations to achieve net zero by 2040 or sooner if we can. City & Guilds is committed to supporting qualifications that support our customers to consider sustainability and their environmental footprint.

More information and guidance to support centres in developing sustainable practices through the delivery of City & Guilds qualifications can be found here:

[Our Pathway to Net Zero | City & Guilds \(cityandguilds.com\)](https://www.cityandguilds.com)

### Support materials

The following resources are available for this qualification:

Description	How to access
Qualification handbook	<a href="https://www.cityandguilds.com">www.cityandguilds.com</a>
Sample assessments	<a href="https://www.cityandguilds.com">www.cityandguilds.com</a>

## 7 Assessment

### Summary of assessment methods

For City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma) candidates must successfully complete:

Assessment component	Assessment method	Description and conditions
101	Externally marked MCQ exam	<p>This assessment covers units 101.</p> <p>The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve.</p> <p>The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark multiple choice questions and will be sat under invigilated examination conditions.</p> <p>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 test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City &amp; Guilds website. Live assessment will be delivered by the City &amp; Guilds online platform e-volve.</p>
201	Externally marked MCQ exam	<p>This assessment covers units 201.</p> <p>The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve.</p> <p>The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark multiple choice questions and will be sat under invigilated examination conditions.</p> <p>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 test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City &amp; Guilds website. Live assessment will be delivered by the City &amp; Guilds online platform e-volve.</p>

202	Externally marked MCQ exam	<p>This assessment covers units 202.</p> <p>The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve.</p> <p>The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark multiple choice questions and will be sat under invigilated examination conditions.</p> <p>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 test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City &amp; Guilds website. Live assessment will be delivered by the City &amp; Guilds online platform e-volve.</p>
254	Externally marked MCQ exam	<p>This assessment covers units 230, 231, 232, 233.</p> <p>The multiple-choice assessment is externally set and externally marked and will be online only.</p> <p>The exam is designed to assess the candidate's depth and breadth of understanding across content in units 230, 231, 232 and 233 and should only be attempted following learner completion of these units. The questions will be multiple-choice and will be sat under invigilated examination conditions.</p> <p>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 test specification shows the coverage of the assessment across the qualification content.</p> <p>Sample assessment materials can be downloaded from the City &amp; Guilds website.</p> <p>Live assessment will be delivered by the City &amp; Guilds online platform e-volve.</p>

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Practical  
assignment

This assessment covers units 230, 231, 232 and 233.

The practical assignment is externally set, internally marked and externally verified.

The practical assignment is designed to assess the candidate's depth and breadth of knowledge, skills and understanding from across content in the qualification at the end of their period of learning and will be completed under supervised conditions.

Assignment material availability will be communicated through the publication of a key date schedule.

## Scheme of assessment overview

For City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma) candidates must successfully complete:

Assessment component	Method	Duration	Marks	Marking approach	Grading
101	On-demand e-volve online MCQ	1 hour 10 minutes	45	Externally set and externally marked	Pass/Fail
201	On-demand e-volve online MCQ	45 minutes	30	Externally set and externally marked	Pass/Fail
202	On-demand e-volve online MCQ	1 hour	40	Externally set and externally marked	Pass/Fail
254	On-demand e-volve online MCQ	1 hour 10 minutes	45	Externally set and externally marked	Pass/Fail
264	On-demand practical assignment	15 hours	N/A	Internally marked and externally verified	Pass/Fail

Candidates must pass **all** assessment components to achieve the qualification.



## Assessment specifications

The assessment specifications outlined in the tables below highlight at high level the way that the qualification content will be assessed within the different assessment components.

Test: 101		Duration: 1 hour 10 minutes	
Unit	Outcome	Number of marks	Percentage %
101	LO1: Know the principles of risk assessment for maintaining and improving health and safety at work	11	24
	LO2: Know the importance of safe manual handling in the workplace	8	18
	LO3: Know the importance of working safely at height in the workplace	9	20
	LO4: Know risks to health within a construction environment	12	27
	LO5: Know the importance of working around plant and equipment safely	5	11
Total		45	100%

**Permitted materials:** None

**Graded:** Pass/Fail

**Pass mark:** The Pass mark for this examination is set at 80% (36 marks)

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

Test: 201		Duration: 45 minutes	
Unit	Outcome	Number of marks	Percentage %
201	LO1: Know health and safety regulations, roles and responsibilities	4	13
	LO2: Understand accident and emergency reporting procedures and documentation	2	7
	LO3: Understand the management of workplace hazards and risks	5	17
	LO4: Know safe storage requirements for materials and equipment	1	3
	LO5: Understand access requirements and equipment when working at heights	2	7
	LO6: Understand safety considerations when working with electrical equipment	4	13
	LO7: Know Personal Protective Equipment (PPE) responsibilities	1	3
	LO8: Understand fire emergency procedures	3	10
	LO9: Understand factors that impact on physical and mental welfare maintenance and management	8	27
Total		30	100%

**Permitted materials:** None

**Graded:** Pass/Fail

**Pass mark:** The Pass mark for this examination is set at approx. 66% (20 marks)

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

<b>Test: 202</b>		<b>Duration: 1 hour</b>	
<b>Unit</b>	<b>Outcome</b>	<b>Number of marks</b>	<b>Percentage %</b>
202	LO1: Understand working practices in the construction industry	15	38
	LO2: Understand construction information	6	15
	LO3: Understand how to set up and secure construction work areas	2	5
	LO4: Know building substructure and superstructure components	8	20
	LO5: Understand personal development and working with others in the construction industry	6	15
	LO6: Know sustainability and emerging technology considerations affecting the construction industry	3	8
	<b>Total</b>	40	100% <sup>1</sup>

**Permitted materials:** None

**Graded:** Pass/Fail

**Pass mark:** The Pass mark for this examination is set at approx. 70% (28 marks)

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

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<sup>1</sup> Percentages in table rounded to whole numbers (presents as 101% in total due to roundings)  
City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining)  
(Diploma) (7255-82)

<b>Test: 254</b>		<b>Duration: 1 hour 10 minutes</b>	
<b>Unit</b>	<b>Outcome</b>	<b>Number of marks</b>	<b>Percentage %</b>
230	LO1 Understand how to plan and prepare for internal, dry lining and external plastering work	8	18
	LO2 Understand the types and purpose of equipment, tools and resources used for internal plastering, dry lining and external rendering systems	8	18
	LO3 Understand the selection, preparation and mixing of materials for internal and external plaster work	7	16
	LO4 Understand how to identify and prepare background surfaces to receive internal plaster, dry lining and external render systems	2	4
	LO5 Understand how to identify defects and carry out repairs to internal plastering, external rendering and dry lining surfaces	2	4
	LO6 Understand how to select the appropriate beads and fixings for the plastering work and the correct method of fitting beads	1	2
231	LO1 Understand how to install and apply internal plastering systems	4	9
232	LO1 Understand the process for applying and finishing external render surfaces	4	9
233	LO1 Understand the requirements for installing dry lining and finishing surfaces	7	16
	LO2 Understand how to undertake the tape and joint process to finish dry lining surfaces	2	4
<b>Total</b>		<b>45</b>	<b>100%</b>

**Permitted materials:** Calculator

**Graded:** Pass/Fail

**Pass mark:** The Pass mark for this examination is set at approx. 60% (27 marks)

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

The table below highlights at high level the way that the practical assessment is covered within the **7258-264 assessment**.

Units	Task
230, 231, 232, 233	Task 1 – Planning
230, 231, 233	Task 2 – Internal plastering and dry lining
230, 232	Task 3 – External rendering

**Permitted materials:** Permitted materials will be given to candidates by centres.

**Graded:** Pass/Fail

Candidates must gain a Pass in all tasks within the assignment to achieve a Pass overall for this component.

## Assessment objectives

The following assessment objectives are used within the **101 assessment**.  
The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 101
<b>AO1a</b> Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning.	45 marks - 100%
<b>AO1b</b> Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions.	0 marks - 0%
<b>AO2</b> Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding taking the understanding of generalities and applying them to specific situations.	0 marks - 0%

The following assessment objectives are used within the **201 assessment**.  
The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 201
<b>AO1a</b> Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning.	16 marks - 53%
<b>AO1b</b> Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions.	14 marks - 47%
<b>AO2</b> Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding taking the understanding of generalities and applying them to specific situations.	0 marks – 0%

The following assessment objectives are used within the **202 assessment**.  
 The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 202
<b>AO1a</b> Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning.	22 marks - 55%
<b>AO1b</b> Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions.	18 marks - 45%
<b>AO2</b> Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding taking the understanding of generalities and applying them to specific situations.	0 marks - 0%

The following assessment objectives are used within the **254 assessment**.  
 The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 254
<b>AO1a</b> Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning.	18 marks - 40%
<b>AO1b</b> Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions.	27 marks - 60%
<b>AO2</b> Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding taking the understanding of generalities and applying them to specific situations.	0 marks - 0%

## Availability of assessments

Assignment material availability will be communicated through the publication of a key date schedule. This schedule will include when assignment materials will be released to centres.

All assessments that are on e-volve are on demand and can be booked by the provider when the candidate is ready to be entered for the assessment.

## Retakes/resits

### Multiple choice test(s)

Candidates who have failed any of the online multiple choice test assessments within this qualification are permitted up to **four** retakes of the assessments before re-registration is required.

### Assignment(s)

Candidates who have failed 1 or more tasks in the assignment(s), will be advised to complete a further period of learning before then re-taking fully, all tasks, within a different version of the assessment. Candidates can retake a different version of the assignment up to maximum of **three** times before re-registration is required.

## Recognition of prior learning (RPL)

Recognition of prior learning means using a person's previous experience or qualifications which have already been achieved to contribute to a new qualification. RPL can be used to exempt learners from areas of learning previously achieved but does not exempt them from assessment.

RPL is allowed and is also sector-specific.



## 8 Units

### Structure of the units

These units each have the following:

- City & Guilds reference number
- title
- level
- guided learning hours (GLH)
- unit aim
- assessment method.

### Unit guidance for delivery

This qualification comprises of a number of **units**. A unit describes what is expected of a competent person in particular aspects of their job.

Each **unit** is divided into **learning outcomes** which describe in further detail the knowledge and skills that a candidate should possess.

For **unit 101** each **learning outcome** has a set of **assessment criteria** (knowledge that are simple and concise statements that indicates to a learner something specific they will be learning in relation to the learning outcome. It should provide clarity to a learner at a high level on what they should be expecting to learn or be able to do about a specific area of the learning outcome.

For **units 201, 202, 230, 231, 232 and 233** each **learning outcome** has a set of **topics** (knowledge or skills) that are simple and concise statements that indicates to a learner something specific they will be learning in relation to the learning outcome. It should provide clarity to a learner at a high level on what they should be expecting to learn or be able to do about a specific area of the learning outcome.

For **units 201, 202, 230, 231, 232 and 233** each **topic** has a **content element** (What needs to covered) the content sections define the 'depth and breadth' to which the teaching / learning must be delivered.

It is important for **all units** that these sections define all the essential content that must be covered for learners to achieve the learning outcome. It is the information in this section that learners will be assessed on.

### Transferable employability skills

The Institute for Apprenticeships has developed a transferable skills mapping framework which provides elaboration of generic, transferable employability skills that can be applied across all relevant occupational areas. This framework can be found [here](#).

City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (Solid Plastering and Dry Lining) (Diploma) (7255-82)

City & Guilds have considered which transferable employability skills within this framework are relevant to this qualification, and then mapped these skills to the relevant practical outcomes within the qualification content. A mapping grid that outlines how the skills are best reflected in the content is found in Appendix 1.

## Units

### Unit 101 Health and safety in a construction environment

<b>Unit level:</b>	Level 1
<b>Guided Learning Hours (GLH):</b>	21
<b>Unit aim:</b>	<p>This is a <b>theory only</b> unit.</p> <p>The purpose and aim of this unit is to provide the learner with the skills and knowledge required in health and safety in a construction environment.</p>
<b>Assessment method:</b>	Multiple choice question (MCQ) assessment
<b>Endorsed by:</b>	CITB
<b>Links to Occupational Standards:</b>	ST0095 (Bricklayer), ST0171 (Property Maintenance Operative), ST0295 (Painter and Decorator), ST0096 (Plasterer), ST0264 (Site Carpenter, Architectural Joiner)

#### Learning outcomes

1. Know the principles of risk assessment for maintaining and improving health and safety at work
2. Know the importance of safe manual handling in the workplace
3. Know the importance of working safely at height in the workplace
4. Know risks to health within a construction environment
5. Know the importance of working around plant and equipment safely

## Learning outcome 1

The learner will:

- 1 Know the principles of risk assessment for maintaining and improving health and safety at work

### Assessment criteria

The learner can:

- 1.1 State the purpose of risk assessments and method statements
- 1.2 State the legal requirements of risk assessments and method statements
- 1.3 State common causes of work-related:
  - fatalities
  - injuries
- 1.4 State the implications of not preventing accidents and ill health at work
- 1.5 State the meaning of the following in relation to health and safety at work:
  - accident
  - near miss
  - hazard
  - risk
  - competence
- 1.6 List typical hazards and potential risks associated with the following:
  - resources
  - equipment
  - obstructions
  - storage
  - services
  - wastes
  - work activities
- 1.7 State the importance of reporting accidents and near misses
- 1.8 State typical accident reporting procedures
- 1.9 State who is responsible for making accident reports
- 1.10 State the purpose of dynamic risk assessments

## Learning outcome 2

The learner will:

- 2 Know the importance of safe manual handling in the workplace

### Assessment criteria

The learner can:

- 2.1 State the reasons for ensuring safe manual handling in the workplace
- 2.2 State the potential injuries and ill health that may occur from incorrect manual handling

- 2.3 State the employee's responsibilities under current legislation and official guidance for:
- moving and storing materials
  - manual handling
  - mechanical lifting
- 2.4 State the procedures for safe lifting in accordance with official guidance
- 2.5 State the importance of using site safety equipment when handling materials and equipment
- 2.6 List aids available to assist manual handling in the workplace:
- pallet truck
  - forklift truck
  - lifting sling
  - roust-about
  - wheelbarrow
  - sack barrow
  - kerb/vacuum lifters
- 2.7 State how to apply safe work practices, follow procedures and report problems when carrying out safe manual handling in the workplace

### **Learning outcome 3**

The learner will:

- 3 Know the importance of working safely at height in the workplace

#### **Assessment criteria**

The learner can:

- 3.1 Define the term 'working at height'
- 3.2 State the employee's responsibilities under current legislation and official guidance whilst working at height
- 3.3 List hazards and potential risks associated with the following:
- dropping tools and debris
  - stability of ladders
  - overhead cables
  - fragile roofs
  - scaffolds
  - internal voids
  - equipment
  - the working area
  - other people
- 3.4 State how hazards and potential risks associated with working at height can be controlled
- 3.5 State the regulation that controls the use of suitable equipment for working at height

## Learning outcome 4

The learner will:

- 4 Know risks to health within a construction environment

### Assessment criteria

The learner can:

- 4.1 List the main groups of substances hazardous to health under current regulations
- 4.2 List common risks to health within a construction environment:
- hand Arm Vibration
  - noise
  - respiratory illness
  - dermatitis
  - musculoskeletal problems
  - falling from height
  - struck by moving plant machinery
- 4.3 State the types of hazards and potential risks that may occur in the workplace linked with the use of drugs and alcohol
- 4.4 State the importance of the correct storage of combustibles and chemicals on site
- 4.5 State the importance of personal hygiene within a construction environment
- 4.6 State the potential risks to the health of workers exposed to asbestos
- 4.7 State the types of asbestos waste
- 4.8 State the types of personal protective equipment (PPE) that may be used when dealing with hazardous materials

## Learning outcome 5

The learner will:

- 5 Know the importance of working around plant and equipment safely

### Assessment criteria

The learner can:

- 5.1 List ways in which moving plant, machinery or equipment can cause injuries
- 5.2 State the hazards/risks relating to the use of plant and equipment
- struck by moving machinery
  - striking cables and buried services
  - trapped by moving machinery
  - damage from flying debris
  - electric shocks
  - burns
  - noise

- tripping
  - injury during use and changing tooling
  - dust
- 5.3 State the importance of safeguards located near where plant, machinery and equipment are being used
- 5.4 State the importance of keeping a safe distance away from plant, machinery or equipment until clear contact is made with the operator
- 5.5 Outline how method statements can assist in ensuring the safety of workers where moving plant, machinery or equipment is in use
- 5.6 State the ways to eliminate or control risks relating to working around plant, machinery or equipment
- 5.7 Identify hazard warning signs and symbols used when operating, working with, around or in close proximity to plant, machinery or equipment.

# Unit 101 Health and safety in a construction environment

## Supporting information

### Evidence requirements

Assessment requirements:

Assessment criteria 1.6:

**One** hazard and potential risk must be listed for **each** of the following:

- resources
- equipment
- obstructions
- storage
- services
- wastes
- work activities.

Assessment criteria 2.6:

**Four** aids must be listed.

Assessment criteria 3.3:

**One** hazard and potential risk must be listed for **each** of the following:

- dropping tools and debris
- stability of ladders
- the working area
- overhead cables
- fragile roofs
- scaffolds
- internal voids
- equipment
- other people.

Assessment criteria 4.1

List **five** substance groups.

Assessment criteria 4.2:

**Five** risks to health must be listed.

Assessment criteria 4.7:

**Two** types of asbestos waste must be stated.



Assessment criteria 4.8:

**Three** types of personal protective equipment (PPE) must be stated.

Assessment criteria 5.2:

**Five** hazards and **five** potential risks must be stated.

## Unit guidance for delivery

<p><b>Opportunities for efficiencies in delivery across/between units:</b></p>	<p>Deliver alongside the level 2 'Health, safety, and welfare in construction environments' as there may be efficiencies.</p> <p>Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance.</p> <p>There may be some efficiencies with health and safety practice content before/in line with associated practical activities from the trade specific content areas.</p>
<p><b>Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:</b></p>	<p>Short formative assessments at the end of sessions/aligned to outcome</p> <p>Sample test exam prep session(s) to prepare for assessment</p>
<p><b>Opportunities for visits/engagement with local industry and employers:</b></p>	<p>Site visits linked to specific trade area</p> <p>Guest lectures/speakers from local employers explaining elements of health and safety and how these are addressed on site</p>
<p><b>Considerations for innovative methods of delivery:</b></p>	<p>Blended learning approach – online learning opportunities</p> <p>Learners research and investigation of local/national health and safety incidents that have made recent news, related to their chosen/specific trade area and explore their impacts (eg changes in legislation/practice, implications for employees, fines etc)</p>
<p><b>Ways of ensuring content is delivered in line with current, up to date industry practice:</b></p>	<p>Providers should check current legislation/guidance for amendments/changes prior to content delivery</p> <p>Staff CPD in line with current practice (eg CSCS card)</p>
<p><b>EDI or accessibility considerations:</b></p>	<p>Teaching for some specific areas may need adaptation eg PPE considerations based on religious grounds (eg headwear)</p>
<p><b>Digital initiative considerations:</b></p>	<p>Online VR tools to explore risks and hazards in workshop</p>
<p><b>Sustainability considerations:</b></p>	<p>Encouraging paperless working practices – printing materials only where necessary</p>
<p><b>Books:</b></p>	<p>HSE pamphlets available from HSE website</p>
<p><b>Websites:</b></p>	<p><a href="https://www.hse.gov.uk/">https://www.hse.gov.uk/</a>  <a href="https://www.nebosh.org.uk/home/">https://www.nebosh.org.uk/home/</a>  <a href="https://www.ioshmagazine.com/">https://www.ioshmagazine.com/</a></p>



## Unit 201 Principles of welfare, health and safety in construction environments

<b>Unit level:</b>	Level 2
<b>Guided Learning Hours (GLH):</b>	30
<b>Unit aim:</b>	<p>This is a <b>theory only</b> unit.</p> <p>The purpose of this unit is to provide learners with the knowledge required to enable them to carry out safe working practices in construction environments, including sourcing relevant safety information and using relevant safety procedures at work.</p> <p>This unit covers core cross-construction sector knowledge including awareness of key health and safety legislation and regulations and through completion of the unit learners will understand the roles and responsibilities of employers and employees in maintaining safe sites.</p> <p>The unit covers processes for hazard identification, risk assessments, accident reporting, emergency response and welfare provision. Learners will gain knowledge on safe working practices relating to working at height, electrical safety, manual handling, PPE and fire prevention.</p> <p>This unit provides foundational health and safety knowledge to operate safely in the sector.</p>
<b>Assessment method:</b>	Multiple choice question (MCQ) assessment
<b>Links to Occupational Standards:</b>	ST0095 (Bricklayer), ST0171 (Property Maintenance Operative), ST0295 (Painter and Decorator), ST0096 (Plasterer), ST0264 (Site Carpenter, Architectural Joiner)

### Learning outcomes

1. Know health and safety regulations, roles and responsibilities
2. Understand accident and emergency reporting procedures and documentation
3. Understand the management of workplace hazards and risks
4. Know safe storage requirements for materials and equipment
5. Understand access requirements and equipment when working at heights
6. Understand safety considerations when working with electrical equipment
7. Know personal protective equipment (PPE) responsibilities
8. Understand fire emergency procedures

9. Understand factors that impact on physical and mental welfare maintenance and management

## Learning outcome 1

Know health and safety regulations, roles and responsibilities

Topics	Content elements
1.1 Legislation and the roles of employers and employees	<p>1.1.1 Where information on health and safety legislation relevant to, and used in, the construction environment can be found and key employee considerations for each legislation</p> <p>a) Legislation:</p> <ol style="list-style-type: none"> <li>i. Health and Safety at Work Act (HASWA) <ul style="list-style-type: none"> <li>• follow workplace procedures and systems</li> <li>• follow slip, trip and fall prevention methods</li> <li>• use equipment and PPE properly</li> <li>• report any issues or risks.</li> </ul> </li> <li>ii. Reporting Injuries Diseases and Dangerous Occurrences Regulations (RIDDOR) <ul style="list-style-type: none"> <li>• report any work-related incidents</li> <li>• provide details for reporting purposes</li> <li>• comply with reporting procedures.</li> </ul> </li> <li>iii. Control of Substances Hazardous to Health (COSHH) <ul style="list-style-type: none"> <li>• follow instructions for safe use</li> <li>• use control measures properly</li> <li>• report exposure incidents.</li> </ul> </li> <li>iv. Construction, Design and Management (CDM) regulations <ul style="list-style-type: none"> <li>• take care of own health and safety</li> <li>• be aware of safety of others who may be affected by own actions</li> <li>• report potential safety issues to the employer.</li> </ul> </li> <li>v. Provision and Use of Work Equipment Regulations (PUWER) <ul style="list-style-type: none"> <li>• use equipment only if trained</li> <li>• report any faulty equipment</li> <li>• follow safety instructions provided.</li> </ul> </li> <li>vi. Manual Handling Operations Regulations (MHR) <ul style="list-style-type: none"> <li>• follow safe lifting techniques</li> <li>• use aids where provided</li> <li>• report unsafe loads or practices.</li> </ul> </li> <li>vii. Personal Protective Equipment (PPE) at Work Regulations <ul style="list-style-type: none"> <li>• use PPE correctly as instructed</li> <li>• help maintain PPE properly</li> </ul> </li> </ol>

## Topics

## Content elements

- report any defects or issues.
  - viii. Work at Height Regulations (WAHR)
    - use safety equipment provided
    - follow training and procedures
    - do not undertake unsafe practices.
  - ix. Control of Noise at Work Regulations (CNWR)
    - wear hearing protection when required
    - follow noise control procedures
    - report potential issues or over-exposure.
  - x. Control of Vibration at Work Regulations (CVWR)
    - take regular rest breaks from use of vibrating tools
    - report potential symptoms of vibration exposure
    - follow control measures implemented.
  - xi. Electricity at Work Regulations (EAWR)
    - visually check equipment before use
    - report any defects immediately
    - follow safe systems of work.
  - xii. Lifting Operations and Lifting Equipment Regulations (LOLER)
    - do not use equipment unless trained
    - follow safe lifting practices
    - report any defective equipment.
  - xiii. Confined Spaces Regulations
    - avoid entry into confined spaces whenever possible
    - if entry is unavoidable, follow a safe system of work
    - put in place adequate emergency arrangements before starting work in confined spaces.
  - xiv. Building Safety Act
    - comply with building regulations and fire safety orders
    - escalate/report significant fire and structural safety concerns.
  - xv. The Control of Lead at Work Regulations
    - use appropriate PPE
    - follow safe working practices.
  - b) Where information can be found:
    - i. government website – HSE website
    - ii. company handbook/induction materials
    - iii. local authority websites.
- 1.1.2 Employer and employee responsibilities under the Health and Safety at Work Act (HASWA)
- a) Employer responsibilities:
    - i. provision of safe working environment

Topics	Content elements
	<ul style="list-style-type: none"> <li>ii. provision of access to adequate staff training <ul style="list-style-type: none"> <li>• CSCS card</li> <li>• induction</li> <li>• toolbox talks</li> </ul> </li> <li>iii. provision of health and safety information</li> <li>iv. completion of risk assessments</li> <li>v. supervision</li> <li>vi. provision of PPE for employees</li> <li>vii. reporting of hazards, accidents and near misses</li> <li>viii. CDM regulations, construction phase plans</li> <li>ix. protecting/providing provision for employee welfare</li> <li>x. display of public liability insurance and health and safety law posters/information.</li> </ul> <p>b) Employee responsibilities:</p> <ul style="list-style-type: none"> <li>i. exercise a duty of care to themselves and to others</li> <li>ii. work in a safe manner</li> <li>iii. comply with employer instructions</li> <li>iv. work safely with other trades</li> <li>v. report hazards, accidents and near misses</li> <li>vi. follow organisational procedures.</li> </ul>
<p>1.2 Organisations involved in health and safety advice and guidance</p>	<p>1.2.1 The key role/purpose of organisations and bodies involved in providing relevant health and safety information and guidance</p> <p>a) Key role/purpose of organisations and bodies:</p> <ul style="list-style-type: none"> <li>i. Health and Safety Executive (HSE) <ul style="list-style-type: none"> <li>• government body responsible for health and safety regulation and enforcement</li> </ul> </li> <li>ii. Institute of Occupational Health and Safety <ul style="list-style-type: none"> <li>• professional body for occupational safety and health professionals</li> </ul> </li> <li>iii. British Safety Council <ul style="list-style-type: none"> <li>• charity providing health, safety and environmental advice</li> </ul> </li> <li>iv. Royal Society for the Prevention of Accidents (RoSPA) <ul style="list-style-type: none"> <li>• charity promoting safety in the workplace and in public spaces</li> </ul> </li> <li>v. local authorities <ul style="list-style-type: none"> <li>• enforce regulations locally and provide health and safety services</li> </ul> </li> <li>vi. Construction Industry Training Board (CITB) <ul style="list-style-type: none"> <li>• training, skills and standards body for the construction industry</li> </ul> </li> <li>vii. manufacturers (equipment and materials)</li> </ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>• provide expert advice on safe use of their specific products.</li> </ul> <p>1.2.2 Roles and responsibilities of the Health and Safety Executive (HSE) and their inspectors</p> <p>a) HSE roles and responsibilities:</p> <ol style="list-style-type: none"> <li>i. reduce accidents through education and advice</li> <li>ii. inspection</li> <li>iii. investigation eg site investigations</li> <li>iv. advice and enforcement.</li> </ol>
1.3 Communicating health and safety information in construction environments	<p>1.3.1 Reasons for/purpose of holding on-site safety inductions and toolbox talks</p> <p>a) Reasons for/purpose of on-site safety inductions:</p> <ol style="list-style-type: none"> <li>i. ensure employees understand site health and safety requirements in relation to <ul style="list-style-type: none"> <li>• methods of accident reporting</li> <li>• methods of fire reporting</li> <li>• location of assembly points</li> <li>• location of risk assessments</li> <li>• evacuation procedures</li> <li>• first aid procedures</li> </ul> </li> <li>ii. identify specific hazards associated with the site</li> <li>iii. ensure employees understand company policies and procedures and their roles in relation to them</li> <li>iv. ensure employees understand site layout</li> <li>v. maintain safe site access.</li> </ol> <p>b) Reasons for/purpose of toolbox talks:</p> <ol style="list-style-type: none"> <li>i. update on incidents and accidents</li> <li>ii. update on access routes and site layout</li> <li>iii. update on changes to company policies and procedures</li> <li>iv. update on manufacturers/suppliers' materials and plant movement.</li> </ol>



## Learning outcome 2

Understand accident and emergency reporting procedures and documentation

Topics	Content elements
2.1 Emergencies and major occurrences	<p>2.1.1 Major occurrences defined as emergencies that may occur in the construction workplaces and potential causes of emergencies that may occur in construction workplaces</p> <p>a) Emergencies:</p> <ol style="list-style-type: none"><li>i. fire</li><li>ii. security incident<ul style="list-style-type: none"><li>• unauthorised persons on site</li><li>• terrorism</li><li>• vandalism</li></ul></li><li>iii. gas leak</li><li>iv. explosion</li><li>v. collapse of scaffolding</li><li>vi. collapse of excavations</li><li>vii. vehicle strikes (moving plant and machinery)</li><li>viii. physical injury to personnel.</li></ol> <p>b) Potential causes:</p> <ol style="list-style-type: none"><li>i. fire<ul style="list-style-type: none"><li>• fuel spillage</li><li>• smoking on site</li><li>• burning of waste</li><li>• hot work</li></ul></li><li>ii. security incident<ul style="list-style-type: none"><li>• inefficient security measures in place</li></ul></li><li>iii. gas leak<ul style="list-style-type: none"><li>• poor storage of gas cylinders</li><li>• unprofessional practice</li><li>• unknown services/existing services in place</li></ul></li><li>iv. explosion<ul style="list-style-type: none"><li>• gas leak</li><li>• fuel spillage</li><li>• mixing of chemicals</li><li>• poor storage of hazardous materials</li></ul></li><li>v. collapse of scaffolding<ul style="list-style-type: none"><li>• adverse weather</li><li>• missing components</li><li>• unauthorised modifications</li><li>• overload of weight</li><li>• insufficient safety checks</li><li>• poor erection/quality of work</li></ul></li><li>vi. collapse of excavations</li></ol>

Topics	Content elements
	<ul style="list-style-type: none"> <li>• adverse weather</li> <li>• poor shoring</li> <li>• lack of barriers</li> <li>• plant operation proximity.</li> </ul>
2.2 Dealing with accidents and emergencies	<p>2.2.1 Authorised personnel involved in dealing with accident and emergency situations and their duties</p> <p>a) Authorised personnel:</p> <ol style="list-style-type: none"> <li>i. fire warden</li> <li>ii. first aider</li> <li>iii. supervisors/managers</li> <li>iv. safety officer</li> <li>v. emergency services</li> <li>vi. Health and Safety Executive (HSE).</li> </ol> <p>b) Duties of authorised personnel:</p> <ol style="list-style-type: none"> <li>i. fire warden <ul style="list-style-type: none"> <li>• ensure safe evacuation of personnel</li> <li>• fight fires if safe to do so</li> </ul> </li> <li>ii. first aider <ul style="list-style-type: none"> <li>• attend personal injury incidents</li> <li>• treat minor injuries</li> <li>• liaise with emergency service professionals</li> </ul> </li> <li>iii. supervisors/managers <ul style="list-style-type: none"> <li>• oversee safety procedures are taking place</li> <li>• complete documentation to comply with legislation</li> </ul> </li> <li>iv. safety officer <ul style="list-style-type: none"> <li>• initial responder</li> <li>• point of call/investigation</li> </ul> </li> <li>v. emergency services <ul style="list-style-type: none"> <li>• provide professional medical/rescue assistance</li> </ul> </li> <li>vi. Health and Safety Executive (HSE) <ul style="list-style-type: none"> <li>• carry out investigations into accident/emergency incidents.</li> </ul> </li> </ol> <p>2.2.2 Actions that must be taken upon discovery of an accident in a construction workplace environment and their logical sequence</p> <p>a) Accident not involving injury to persons:</p> <ol style="list-style-type: none"> <li>i. step 1 – assess seriousness of incident</li> <li>ii. step 2 – ensure the area is made safe</li> <li>iii. step 3 – alert other relevant persons – supervisors, employees</li> <li>iv. step 4 – assess whether emergency services are required</li> </ol>

## Topics

## Content elements

- v. step 5 – alert the emergency services in line with workplace protocols.
- b) Accident involving injury to persons:
  - i. step 1 – call for help/first aider
  - ii. step 2 – ensure the area is made safe
  - iii. step 3 – treat casualty (within limits of training and competency)
  - iv. step 4 – alert the emergency services if required in line with workplace procedures.
- c) Follow up actions:
  - i. completion of records
  - ii. contact HSE
  - iii. review workplace safety control measures and procedures.

### Learning outcome 3

Understand the management of workplace hazards and risks

Topics	Content elements
3.1 Control measures related to risk assessments	3.1.2 Control measures related to risk assessments and method statements <ul style="list-style-type: none"><li>a) Control measures:<ul style="list-style-type: none"><li>i. good housekeeping in the workplace</li><li>ii. training of employees</li><li>iii. signage and safety procedures.</li></ul></li><li>b) Potential outcome of hazards affecting individuals:<ul style="list-style-type: none"><li>i. injury</li><li>ii. long-term illness/disability</li><li>iii. loss of days worked due to injury/illness/prohibition notice</li><li>iv. death.</li></ul></li></ul>

Topics	Content elements
3.2 Housekeeping in construction environments	<p>3.2.1 Definition of good housekeeping and its importance and purpose in relation to health and safety in construction environments</p> <ol style="list-style-type: none"> <li>a) <b>Definition</b> ‘Good Housekeeping’ – the practice of maintaining a clean, organised and hazard-free work environment.</li> <li>b) Importance and purpose of good housekeeping in relation to health and safety: <ol style="list-style-type: none"> <li>i. maintain safety</li> <li>ii. reduce buildup of waste</li> <li>iii. keep access routes clear</li> <li>iv. safe storage of materials, tools and equipment</li> <li>v. reduce workplace/site congestion</li> <li>vi. enhances good working relationships and reduces stress.</li> </ol> </li> </ol> <p>3.2.2 Steps that can be taken to maintain good housekeeping in construction environments</p> <ol style="list-style-type: none"> <li>a) Steps/factors that contribute to good housekeeping: <ol style="list-style-type: none"> <li>i. cleanliness of working area</li> <li>ii. tidiness/robust storage systems, designated storage</li> <li>iii. use of skips and chutes</li> <li>iv. segregation of materials</li> <li>v. segregation of stored materials to avoid congestion of work area and access</li> <li>vi. clear access to fire escapes and fire extinguishers</li> <li>vii. waste and debris management</li> <li>viii. storage and maintenance of tools and equipment.</li> </ol> </li> </ol>
3.3 Signage and notices found in construction environments	<p>3.3.1 Categories of signs and safety notices used in construction workplaces and their key visual characteristics</p> <ol style="list-style-type: none"> <li>a) Categories of signs and safety notices: <ol style="list-style-type: none"> <li>i. prohibition <ul style="list-style-type: none"> <li>• something must not be done</li> </ul> </li> <li>ii. mandatory <ul style="list-style-type: none"> <li>• something must be done</li> </ul> </li> <li>iii. warning <ul style="list-style-type: none"> <li>• alerting to danger/hazard awareness</li> </ul> </li> <li>iv. safe condition <ul style="list-style-type: none"> <li>• indicating equipment is safe to use, or not</li> </ul> </li> <li>v. emergency <ul style="list-style-type: none"> <li>• indicating what to do in event of an emergency.</li> </ul> </li> </ol> </li> <li>b) Shape and colour of categories of safety sign and notice: <ol style="list-style-type: none"> <li>i. prohibition</li> </ol> </li> </ol>

Topics	Content elements
	<ul style="list-style-type: none"> <li>• circular</li> <li>• red band, white background</li> <li>• imagery of item in black</li> <li>• red diagonal cross</li> </ul> <p>ii. mandatory</p> <ul style="list-style-type: none"> <li>• circular</li> <li>• blue and white</li> </ul> <p>iii. warning</p> <ul style="list-style-type: none"> <li>• triangle</li> <li>• yellow and black</li> </ul> <p>iv. safe condition</p> <ul style="list-style-type: none"> <li>• rectangular</li> <li>• green and white</li> </ul> <p>v. emergency</p> <ul style="list-style-type: none"> <li>• rectangular</li> <li>• red and white.</li> </ul> <p>3.3.2 Responsibilities of employers and employees relating to signs and safety notices in construction workplaces</p> <p>a) Responsibilities of employers:</p> <ul style="list-style-type: none"> <li>i. ensuring signage is present, correct and up to date</li> <li>ii. checking and maintaining signage is visible</li> <li>iii. compliance with legislation and codes of conduct.</li> </ul> <p>b) Responsibilities of employees:</p> <ul style="list-style-type: none"> <li>i. read signage</li> <li>ii. adhere to signage</li> <li>iii. escalate issues to a supervisor.</li> </ul>

## Learning outcome 4

Know safe storage requirements for materials and equipment

Topics	Content elements
4.1 Safe storage of materials and equipment	<p>4.1.1 Considerations for the correct storage of materials and equipment</p> <p>a) Safe storage considerations:</p> <ul style="list-style-type: none"> <li>i. stored securely and safely</li> <li>ii. following workplace systems/protocols</li> <li>iii. ease of access and availability</li> <li>iv. kept clean and dry where relevant and possible</li> <li>v. location and designated area of storage.</li> </ul> <p>b) Importance of safe storage:</p> <ul style="list-style-type: none"> <li>i. prevent damage</li> </ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>ii. maintain working order</li> <li>iii. prevent loss/theft</li> <li>iv. restrict/limit access where appropriate.</li> </ul>

## Learning outcome 5

Understand access requirements and equipment when working at heights

Topics	Content elements
5.1 Health and safety consideration when working at height	<p>5.1.1 Responsibilities of employers and employees under current working at height regulations</p> <ul style="list-style-type: none"> <li>a) Responsibilities of employers: <ul style="list-style-type: none"> <li>i. undertake risk assessments</li> <li>ii. employ competent people for working at height</li> <li>iii. provide appropriate equipment</li> <li>iv. ensure sufficient inspection and recording of condition of access equipment as appropriate.</li> </ul> </li> <li>b) Responsibilities of employees: <ul style="list-style-type: none"> <li>i. carry out visual inspection before using any ladders scaffolding etc</li> <li>ii. do not alter or remove any parts of scaffold provided</li> <li>iii. use identified access to working height</li> <li>iv. report any safety issues to employer</li> <li>v. use equipment and PPE provided properly.</li> </ul> </li> </ul> <p>5.1.2 Types of access equipment used in construction workplace environments and safety considerations for their use</p> <ul style="list-style-type: none"> <li>a) Access equipment: <ul style="list-style-type: none"> <li>i. stepladders</li> <li>ii. ladders (pole, extension)</li> <li>iii. trestles</li> <li>iv. hop-ups</li> <li>v. scaffolding – mobile/static</li> <li>vi. podiums</li> <li>vii. stilts</li> <li>viii. mobile elevating working platforms (MEWPs).</li> </ul> </li> <li>b) Safety considerations for their use:</li> </ul>

**Topics****Content elements**

- i. erection by competent persons (where applicable)
- ii. inspect equipment before use
- iii. use equipment only if properly trained
- iv. follow manufacturer's instructions
- v. maintain three points of contact (where applicable)
- vi. do not overreach (sideways)
- vii. check ground condition before setting up – level, firm, stable
- viii. do not work in adverse weather conditions if unsafe
- ix. wear appropriate PPE
- x. use of equipment for intended purpose
- xi. comply with method statement.



## Learning outcome 6

Understand safety considerations when working with electrical equipment

Topics	Content elements
6.1 Dangers of working with electrical equipment	<p>6.1.1 Potential hazards and risks when using electrical equipment in construction workplace environments</p> <ul style="list-style-type: none"><li>a) Potential hazards:<ul style="list-style-type: none"><li>i. faulty equipment</li><li>ii. incorrect voltage</li><li>iii. weather and environment</li><li>iv. lack of training/incorrect use</li><li>v. hidden services</li><li>vi. overhead power lines</li><li>vii. dust inhalation.</li></ul></li><li>b) Potential risks:<ul style="list-style-type: none"><li>i. burns</li><li>ii. electrocution</li><li>iii. death</li><li>iv. fire.</li></ul></li></ul> <p>6.1.2 Precautions that should be taken to avoid risks to self and others when working with electrical equipment and why this is important</p> <ul style="list-style-type: none"><li>a) Precautions:<ul style="list-style-type: none"><li>i. checking tools and equipment before use<ul style="list-style-type: none"><li>• checking leads for signs of wear or damage</li><li>• checking plugs for labelling and signs of wear or damage</li></ul></li><li>ii. using cable hangers where possible</li><li>iii. ensuring there is a current PAT certificate</li><li>iv. escalating issues or concerns to a supervisor</li><li>v. ensuring training has been given before use</li><li>vi. use of dust suppression measures and use of PPE – electrical safety respiratory protective equipment (RPE)</li><li>vii. use of safety control equipment and PPE.</li></ul></li><li>b) Importance of taking precautions:<ul style="list-style-type: none"><li>i. keep self and other safe</li><li>ii. reduce risk of injury or death</li><li>iii. comply with legislation and workplace conduct.</li></ul></li></ul>

Topics	Content elements
6.2 Power sources and voltages for electrical equipment	<p>6.2.1 Power sources, voltages and voltage colour coding that are used for electrical equipment in construction workplace environments</p> <ul style="list-style-type: none"> <li>a) Power sources: <ul style="list-style-type: none"> <li>i. battery powered</li> <li>ii. mains powered</li> <li>iii. portable generator</li> <li>iv. renewable energy sources – solar/wind.</li> </ul> </li> <li>b) Voltages and associated colours: <ul style="list-style-type: none"> <li>i. no standard colour – 18/24/36 volts <ul style="list-style-type: none"> <li>• battery power for cordless tools</li> </ul> </li> <li>ii. yellow – 110/115 volts <ul style="list-style-type: none"> <li>• common workplace voltage for power tools and equipment</li> </ul> </li> <li>iii. blue – 230/240 volts <ul style="list-style-type: none"> <li>• standard domestic voltage for power tools and equipment</li> </ul> </li> <li>iv. red – 415 volts <ul style="list-style-type: none"> <li>• commercial/industrial machinery.</li> </ul> </li> </ul> </li> </ul>
6.3 Storage of electrical equipment	<p>6.3.1 Methods of safely storing and maintaining electrical equipment and the importance of this</p> <ul style="list-style-type: none"> <li>a) Methods of safe storage and maintenance: <ul style="list-style-type: none"> <li>i. components present including any safety guards</li> <li>ii. equipment cleaned</li> <li>iii. check for damage regularly/before and after use and report where relevant</li> <li>iv. stored in a clean, dry and secure location</li> <li>v. PAT tested.</li> </ul> </li> <li>b) Importance of safe storage/maintenance: <ul style="list-style-type: none"> <li>i. maintain safety of self and others</li> <li>ii. promote efficiency and safe working.</li> </ul> </li> </ul>

## Learning outcome 7

Know personal protective equipment (PPE) responsibilities

Topics	Content elements
7.1 Responsibilities in relation to PPE	<p>7.1.1 Responsibilities of employers and employees relating to PPE under current regulations</p> <ul style="list-style-type: none"><li>a) Responsibilities of employers:<ul style="list-style-type: none"><li>i. ensure suitable PPE is provided free of charge to employees who may be exposed to a risk to their health or safety while at work</li><li>ii. the maintenance, storage and replacement of any PPE they provide</li><li>iii. provide training and instruction on safe and correct use of PPE for relevant tasks.</li></ul></li><li>b) Responsibilities of employees:<ul style="list-style-type: none"><li>i. use PPE correctly following training and instruction from employer</li><li>ii. if PPE is lost or becomes damaged/defective, report to employer and do not use</li><li>iii. check and ensure PPE to be used is within date before use, and report to employer and do not use where out of date.</li></ul></li></ul>

## Learning outcome 8

Understand fire emergency procedures

Topics	Content elements
8.1 How fires start	<p>8.1.1 How fire is created/caused – Elements essential to the creation of fire and how they interact/depend on each other</p> <ul style="list-style-type: none"><li>a) Elements:<ul style="list-style-type: none"><li>i. oxygen</li><li>ii. fuel</li><li>iii. heat.</li></ul></li><li>b) Their interdependence/situational requirements:<ul style="list-style-type: none"><li>i. they must all be present</li><li>ii. they are interdependent – removal of one of the three elements will extinguish the fire</li><li>iii. may be referred to as the 'fire triangle'.</li></ul></li></ul>

Topics	Content elements
8.2 Fire prevention methods	<p>8.2.1 Methods of fire prevention, roles responsible for carrying them out and why this is important</p> <ul style="list-style-type: none"> <li>a) Methods of prevention: <ul style="list-style-type: none"> <li>i. up-to-date risk assessment</li> <li>ii. keep sources of ignition and flammable substances apart</li> <li>iii. ensure good housekeeping at all times – regular emptying of rubbish bins/skips</li> <li>iv. train workforce on their responsibilities in relation to fire prevention.</li> </ul> </li> <li>b) Roles responsible: <ul style="list-style-type: none"> <li>i. all personnel on site/in the workplace</li> <li>ii. appointed fire wardens</li> <li>iii. site manager.</li> </ul> </li> <li>c) Importance of fire prevention: <ul style="list-style-type: none"> <li>i. protection of lives/personal safety</li> <li>ii. preservation of property and equipment</li> <li>iii. reduce site downtime, keep job on track</li> <li>iv. compliance with regulation</li> <li>v. avoid legal implications</li> <li>vi. protect reputation/image</li> <li>vii. reduce environmental impacts.</li> </ul> </li> </ul>
8.3 Extinguishing fires	<p>8.3.1 Actions that must be taken on discovery of a fire and the sequence</p> <ul style="list-style-type: none"> <li>a) Actions: <ul style="list-style-type: none"> <li>i. step 1 – sound alarm</li> <li>ii. step 2 – assess risk and tackle fire if competent</li> <li>iii. step 3 – evacuate to fire assembly point</li> <li>iv. step 4 – call emergency services.</li> </ul> </li> </ul> <p>8.3.2 Types of fire extinguisher, their colours and uses</p> <ul style="list-style-type: none"> <li>a) Types and colours: <ul style="list-style-type: none"> <li>i. water <ul style="list-style-type: none"> <li>• red</li> </ul> </li> <li>ii. foam <ul style="list-style-type: none"> <li>• cream/off white</li> </ul> </li> <li>iii. CO2 <ul style="list-style-type: none"> <li>• black</li> </ul> </li> <li>iv. dry powder <ul style="list-style-type: none"> <li>• blue.</li> </ul> </li> </ul> </li> <li>b) Uses: <ul style="list-style-type: none"> <li>i. water <ul style="list-style-type: none"> <li>• Class A fires</li> </ul> </li> </ul> </li> </ul>

## Topics

## Content elements

- wood
- paper
- cloth
- some plastics
- never electrical, flammable liquid or gas
- ii. foam
  - Class A and B fires
    - wood
    - paper
    - cloth
    - some plastics
    - flammable liquids
- iii. CO2
  - Class B and C fires
    - flammable liquids
    - energised electrical equipment
- iv. dry powder
  - Class A, B and C fires
    - applicable for use on all types of fire.

### 8.3.3 Circumstances under which fire extinguishers can/should be used

#### a) Circumstances:

- i. use in cases where it will aid means of escape/preserve life
- ii. in other circumstances use only when trained and authorised to do so in case of emergency.

## Learning outcome 9

Understand factors that impact on physical and mental welfare maintenance and management

Topics	Content elements
9.1 Considerations in relation to construction workplace welfare	<p>9.1.1 Duty of care considerations in the workplace and why they are important</p> <ol style="list-style-type: none"><li>a) <b>Definition</b> 'Duty of care' – all employers are under a statutory duty to ensure the health, safety and welfare of their staff.</li><li>b) Duty of care considerations:<ol style="list-style-type: none"><li>i. physical well-being</li><li>ii. psychological well-being.</li></ol></li><li>c) Duty of care importance:<ol style="list-style-type: none"><li>i. safety of employees is maintained<ul style="list-style-type: none"><li>• protection from harm</li><li>• protection from abuse</li><li>• protection from injury</li></ul></li><li>ii. satisfaction and happiness of employees</li><li>iii. legal requirement – statutory requirement in law.</li></ol></li></ol> <p>9.1.2 Facilities for welfare that must be provided as part of workplace/site set up and their importance</p> <ol style="list-style-type: none"><li>a) Welfare facilities:<ol style="list-style-type: none"><li>i. toilets</li><li>ii. washing facilities – with hot and cold running water</li><li>iii. secure storage for personal items</li><li>iv. canteen</li><li>v. drinking water</li><li>vi. drying room.</li></ol></li><li>b) Importance/reasons for provision:<ol style="list-style-type: none"><li>i. legal requirement</li><li>ii. employee comfort and duty of care</li><li>iii. attraction and retention of employees</li><li>iv. company reputation.</li></ol></li></ol> <p>9.1.3 Potential causes and effects of excessive noise and employer/employee responsibilities in relation to minimising the impact</p> <ol style="list-style-type: none"><li>a) <b>Definition</b> 'Excessive noise' – can be gradual from exposure to loud noise over time or that caused by sudden, extreme loud noise.</li><li>b) Potential causes of excessive noise:<ol style="list-style-type: none"><li>i. machinery and equipment<ul style="list-style-type: none"><li>• excavators</li><li>• mixers</li></ul></li></ol></li></ol>

Topics	Content elements
	<ul style="list-style-type: none"> <li>• cranes</li> <li>ii. power tools <ul style="list-style-type: none"> <li>• drills</li> <li>• saws</li> <li>• grinders</li> </ul> </li> <li>iii. demolition activity</li> <li>iv. construction activity</li> <li>v. deliveries and transport of materials with machines</li> <li>vi. communication and radio systems.</li> <li>c) Potential effects of exposure to excessive noise: <ul style="list-style-type: none"> <li>i. deafness/hearing loss</li> <li>ii. tinnitus/ringing in the ears</li> <li>iii. disturbed sleep</li> <li>iv. stress</li> <li>v. communication issues on site/within workplace</li> <li>vi. loss or reduction of working hours.</li> </ul> </li> <li>d) Employee precautions: <ul style="list-style-type: none"> <li>i. wearing hearing protection (PPE) – ear defenders</li> <li>ii. adhering to workplace/site rules/training</li> <li>iii. being aware of own safety and that of others on site/in the workplace.</li> </ul> </li> <li>e) Employer requirements: <ul style="list-style-type: none"> <li>i. providing PPE and ensuring employees know how/when to use it</li> <li>ii. adherence with legislation</li> <li>iii. regular monitoring of sound levels</li> <li>iv. taking action when excess levels are evident</li> <li>v. ensuring risk assessments are in place and followed.</li> </ul> </li> </ul>
9.2 Personal physical welfare considerations in construction	<p>9.2.1 Practices and support available to stay physically well and healthy at work</p> <ul style="list-style-type: none"> <li>a) Personal practices that can support staying well/healthy while at work: <ul style="list-style-type: none"> <li>i. taking breaks regularly</li> <li>ii. staying hydrated</li> <li>iii. making smart snack/food choices</li> <li>iv. keeping workplace/station clean</li> <li>v. using good hygiene practices</li> <li>vi. minimising caffeine intake.</li> </ul> </li> <li>b) Factors that may support employees to stay well/healthy at work: <ul style="list-style-type: none"> <li>i. a productive working environment eg well lit</li> <li>ii. provision of an Employee Assistance Programme (EAP)</li> </ul> </li> </ul>

- iii. scheduling of regular rest/breaks away from point of work
- iv. encouragement of positive work/life balance
- v. frequent recognition of achievement/success
- vi. provision of social events/interactivity.

#### 9.2.2 The importance of maintaining own physical well-being and how to do this in everyday life

- a) Physical well-being importance:
  - i. stay healthy/physically well
  - ii. remain fit for task/work and day to day life.
- b) General physical well-being maintenance:
  - i. regular exercise
  - ii. get enough sleep
  - iii. eat healthy regular meals and stay hydrated
  - iv. knowing own physical capabilities and limits to avoid injury.

#### 9.2.3 Unacceptable/inappropriate behaviours at work and their likely negative impacts for employees and employers

- a) Unacceptable/inappropriate behaviours at work:
  - i. bullying/harassment
  - ii. consumption of alcohol
  - iii. use of illegal drugs
  - iv. not declaring to employer use of prescription medications that can impair judgement
  - v. discrimination of others based on perceived differences
  - vi. initiation ceremonies
  - vii. smoking/vaping outside of designated areas
  - viii. physical or verbal aggression towards others
  - ix. self-harm
  - x. isolation/deliberate exclusion and/or non-cooperation at work
  - xi. coercion, such as pressure to subscribe to a particular political or religious belief
  - xii. circulating or displaying offensive material.
- b) Potential negative impacts:
  - i. for an employee
    - isolation/loneliness
    - loss of employment
    - impact on mental health and social relationships
    - detrimental to personal reputation
  - ii. for an employer
    - loss in production
    - loss of experienced staff



Topics	Content elements
	<ul style="list-style-type: none"> <li>• loss of revenue</li> <li>• loss of future orders</li> <li>• creation of negative environment that can impact positive mental health and well-being of employees</li> <li>• legal action/implications</li> <li>• reputational damage.</li> </ul> <p>9.2.4 Sources/where to access support in cases of encountering/experiencing negative behavioural issues at work</p> <p>a) Sources of support:</p> <ol style="list-style-type: none"> <li>i. colleagues</li> <li>ii. management</li> <li>iii. human resources</li> <li>iv. trade union representative</li> <li>v. trade organisations</li> <li>vi. police.</li> </ol>
<p>9.3 Personal mental welfare considerations in construction</p>	<p>9.3.1 The importance of maintaining own mental well-being and how to do this</p> <p>a) Mental well-being importance:</p> <ol style="list-style-type: none"> <li>i. can perform at optimal level</li> <li>ii. promotes safety – reduces risks and mistakes</li> <li>iii. reduces absence</li> <li>iv. maintain good work and personal relationships</li> </ol> <p>b) Mental well-being maintenance:</p> <ol style="list-style-type: none"> <li>i. spending time with others/avoid isolation</li> <li>ii. remote communication with others</li> <li>iii. engaging in open, safe discourse about mental health in the workplace.</li> </ol> <p>9.3.2 Ways in which mental ill health can present and where individuals affected directly or indirectly can seek help</p> <p>a) Ways in which mental ill health can present:</p> <ol style="list-style-type: none"> <li>i. stress</li> <li>ii. anxiety</li> <li>iii. depression</li> <li>iv. suicidal feelings/tendencies</li> <li>v. other complex mental health issues</li> <li>vi. absence from work</li> <li>vii. changes in behaviour eg increased aggression</li> <li>viii. self-harm.</li> </ol> <p>b) Where to seek help:</p> <ol style="list-style-type: none"> <li>i. mental health first aider</li> </ol>

Topics	Content elements
	<ul style="list-style-type: none"> <li>ii. employer – raise awareness of issues and have the conversation</li> <li>iii. peers and colleagues – raise awareness of issues and have the conversation</li> <li>iv. medical professional/doctor – to get medical support as needed</li> <li>v. specific mental health organisations/charities</li> <li>vi. online support networks.</li> </ul> <p>9.3.3 Working methods that can promote good mental health as part of a duty of care and their importance</p> <ul style="list-style-type: none"> <li>a) <b>Definition</b> ‘Mental health’ – an individual’s emotional, psychological and social well-being.</li> <li>b) Methods that promote good mental health: <ul style="list-style-type: none"> <li>i. ‘buddy’ system – not working alone</li> <li>ii. access to support/information</li> <li>iii. recognising its importance and openly talking about issues</li> <li>iv. robust induction and onboarding processes</li> <li>v. avoiding alcohol and illegal substances</li> <li>vi. taking regular breaks.</li> </ul> </li> <li>c) Importance of mental health awareness: <ul style="list-style-type: none"> <li>i. employee well-being and duty of care</li> <li>ii. reduce employee stress and isolation</li> <li>iii. attraction and retention of employees</li> <li>iv. company/industry reputation.</li> </ul> </li> </ul>

## Unit guidance for delivery

<p><b>Opportunities for efficiencies in delivery across/between units:</b></p>	<p>Deliver alongside the Level 1 'Health and safety in a construction environment' and Level 2 'Principles of working in the construction industry' unit as there may be efficiencies.</p> <p>Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance.</p> <p>There may be some efficiencies with health and safety practice content before/in line with associated practical activities from the trade specific content areas.</p>
<p><b>Suggestions for formative assessment opportunities:</b></p>	<p>Short formative assessments at the end of sessions/aligned to outcome.</p> <p>Sample test exam prep session to prepare for assessment.</p>
<p><b>Opportunities for visits/engagement with local industry and employers:</b></p>	<p>Employer engagement opportunities for this unit should be incorporated in order to allow the learner to understand application of knowledge learnt in context. This could include site visits linked to specific trade area or having guest lectures/speakers from local employers explaining elements of health and safety and how these are addressed on site.</p>
<p><b>Considerations for innovative methods of delivery:</b></p>	<p>Providers should make the best use of available resources to provide learners with the opportunity to use a wide range of activities that could include lectures, discussions and self-study. A blended learning approach, with online learning opportunities, could be adopted for content delivery.</p> <p>Learners research and investigation of local/national health and safety incidents that have made recent news, related to their chosen/specific trade area and explore their impacts (eg changes in legislation/practice, implications for employees, fines etc).</p>
<p><b>Ways of ensuring content is delivered in line with current, up-to-date industry practice:</b></p>	<p>Providers should check current legislation/guidance for amendments/changes prior to content delivery.</p> <p>Staff CPD in line with current practice (eg CSCS card).</p>
<p><b>EDI or accessibility considerations:</b></p>	<p>Teaching for some specific areas may need adaptation eg electrical power colour cords, fire extinguisher colours, PPE considerations based on religious grounds (eg headwear).</p>
<p><b>Digital initiative considerations:</b></p>	<p>Online VR tools to explore risks and hazards in workshop.</p>
<p><b>Sustainability considerations:</b></p>	<p>Encouraging paperless working practices – printing materials only where necessary.</p>
<p><b>Books:</b></p>	<p>HSE pamphlets available from HSE website.</p>

**Websites:**

<https://www.hse.gov.uk/>

<https://www.nebosh.org.uk/home/>

<https://www.ioshmagazine.com/>

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## Unit 202 Principles of working in the construction industry

<b>Unit level:</b>	Level 2
<b>Guided Learning Hours (GLH):</b>	50
<b>Unit aim:</b>	<p>This is a <b>theory only</b> unit.</p> <p>The purpose of this unit is to introduce learners to the construction industry and to give a wider context to the trade area they are studying, as construction is a vital part of the economy and plays an important role in all our lives. Learners will discover that this sector can be very rewarding and that there are opportunities for career progression. This unit provides learners with an understanding of the principles of construction, building technology and terminology used. This unit also covers various pieces of legislation, including health and safety, planning and building control.</p> <p>This unit covers core cross-construction sector knowledge which will support learners to understand how their future role fits within the context of the construction industry. The unit covers a range of knowledge areas including consideration job roles, related sector areas/industries and how they work together and impact each other, as well as developing learner understanding of key shared concepts such as the importance of sustainability, personal development and equality, diversity and inclusion.</p>
<b>Assessment method:</b>	Multiple choice question (MCQ) assessment
<b>Links to Occupational Standards:</b>	ST0095 (Bricklayer), ST0171 (Property Maintenance Operative), ST0295 (Painter and Decorator), ST0096 (Plasterer), ST0264 (Site Carpenter, Architectural Joiner)

### Learning outcomes

1. Understand working practices in the construction industry
2. Understand construction information
3. Understand how to set up and secure construction work areas
4. Know building substructure and superstructure components
5. Understand personal development and working with others in the construction industry
6. Know sustainability and emerging technology considerations affecting the construction industry

## Learning outcome 1

Understand working practices in the construction industry

Topics	Content elements
1.1 Areas of work and personnel involved in construction work	<p>1.1.1 Types of building construction work that may be encountered when working in the industry and their key features</p> <p>a) Types of work:</p> <ol style="list-style-type: none"><li>i. new build</li><li>ii. renovation</li><li>iii. maintenance</li><li>iv. restoration/retrofit</li><li>v. domestic</li><li>vi. commercial</li><li>vii. industrial</li><li>viii. demolition.</li></ol> <p>b) Key features of different types of work:</p> <ol style="list-style-type: none"><li>i. relative cost implications</li><li>ii. regional variations</li><li>iii. relative controls and regulations in place</li><li>iv. speculative new build.</li></ol> <p>1.1.2 Organisations and bodies that contribute to, and are involved in the construction process and their main responsibilities</p> <p>a) Organisations and bodies:</p> <ol style="list-style-type: none"><li>i. building contractors</li><li>ii. manufacturers/suppliers</li><li>iii. local authorities</li><li>iv. legislative bodies</li><li>v. training organisations</li><li>vi. professional bodies.</li></ol> <p>b) Responsibilities of organisations and bodies:</p> <ol style="list-style-type: none"><li>i. building contractors<ul style="list-style-type: none"><li>• plan, manage, monitor and coordinate the entire construction phase conforming to Construction Design Management (CDM)</li><li>• taking account of the health and safety risks to everyone affected by the work including members of the public in planning and managing the measures needed to control them</li></ul></li><li>ii. manufacturers/suppliers<ul style="list-style-type: none"><li>• must comply with all relevant requirements under the Construction Products Regulation as retained in UK law</li></ul></li><li>iii. local authorities<ul style="list-style-type: none"><li>• prepare town and city plans and their associated basic development programmes to promote the improvement of various urban facilities, as well as area development and construction issue building consents</li><li>• inspect building work for which it has granted a building consent</li></ul></li><li>iv. legislative bodies</li></ol>

Topics	Content elements
	<ul style="list-style-type: none"> <li>• inspect and confirm that all activities and standard of work carried out meet the requirements of all regulatory bodies</li> <li>v. training organisations <ul style="list-style-type: none"> <li>• meet industry requirements for training and development</li> <li>• recommending standards</li> </ul> </li> <li>vi. professional bodies <ul style="list-style-type: none"> <li>• Continuing Professional Development (CPD)</li> <li>• provide recommendations for future legislation.</li> </ul> </li> </ul>
<p>1.2 Roles of construction colleagues, team members and career progression pathways</p>	<p>1.2.1 Professional, craft and operative roles in the building team and their key responsibilities</p> <p>a) Professional role responsibilities:</p> <p>i. architect</p> <ul style="list-style-type: none"> <li>• liaise with client and other relevant parties to design building, and ensure it is completed to standard</li> <li>• the client's representative on site/in the workplace</li> <li>• specify materials used for the project</li> <li>• on smaller projects advising on legal matters, including risks and disputes, monitor sub-contractors and stages of construction</li> </ul> <p>ii. quantity surveyor</p> <ul style="list-style-type: none"> <li>• work out quantities and costs of materials, time and labour for tender</li> <li>• negotiate contracts and work schedules</li> <li>• advise on legal matters, including risks and disputes</li> <li>• monitor sub-contractors and stages of construction</li> </ul> <p>iii. building surveyor</p> <ul style="list-style-type: none"> <li>• guide construction and development projects</li> <li>• provide professional advice on matters such as the structural integrity of a property or, its value, accessibility specifications and health and safety requirements</li> <li>• advise on energy efficiency and environmental impact of a property</li> </ul> <p>iv. structural engineer</p> <ul style="list-style-type: none"> <li>• ensure structures can withstand the stresses and pressures imposed through use and from the environment</li> <li>• calculate stability, strength and rigidity</li> <li>• advise on size, scale and suitability of materials used</li> </ul> <p>v. mechanical engineer</p> <ul style="list-style-type: none"> <li>• create solutions and solve problems, playing a central role in the design and implementation of moving parts in a range of industries</li> </ul> <p>vi. estimator</p> <ul style="list-style-type: none"> <li>• calculate how much construction projects will cost, taking into account labour, materials and equipment requirements</li> </ul>



## Topics

## Content elements

- negotiate with suppliers and gain quotes from sub-contractors
- use this information to compile detailed cost proposals for a client
- works closely with the quantity surveyor
- usually responsible for completing tenders
- vii. site manager
  - coordinate the total build of the project from start to finish including organising schedule of work, costings and budgets
  - plan the work and oversee the buying/hiring of plant and equipment
- viii. architectural technologist
  - work with architects to develop technical drawings, building models, material specifications
  - ensure designs meet regulations
- ix. BIM manager
  - oversee the building information modelling process
  - manage digital 3D model data, design collaboration and file sharing
- x. project manager
  - plan and oversee entire project lifecycle
  - manage budget, schedule, quality, safety, staffing, materials, subcontractors
- xi. site engineer/planner
  - develops site plans, logistics, access
  - order materials, plant, equipment
  - manage/inspect site operations and contractors
- xii. building services engineer
  - design and oversee installation of systems such as electrical, ventilation, plumbing, heating/cooling
  - confirm functionality and compliance.
- b) Craft role responsibilities:
  - i. carpenter/joiner
    - complete all first and second fix operations in buildings including roof trusses, floors, skirtings, doors staircases, partition walls, and door and window furniture
  - ii. bricklayer
    - lay bricks
    - pre-cut stone and concrete blocks in mortar
    - construct, extend and repair buildings, and other structures such as foundations, walls, chimneys or decorative masonry features
  - iii. plumber
    - install water, drainage and heating systems
    - cut, shape and join pipes and fittings
    - find and fix faults
    - service plumbing systems
  - iv. gas/heating engineer

## Topics

## Content elements

- carry out installation, servicing and maintenance of gas appliances and pipework systems
- v. electrician
  - install indoor and outdoor electrical control, wiring, and lighting systems
  - inspect and test electrical systems, including fuses, transformers and circuit breakers
- vi. plasterer/dry liner
  - apply wet finishes to walls and ceilings and external finish to walls
  - create ornamental features like ceiling roses, cornices and architraves
- vii. painter and decorator
  - apply paint, varnish, wallpaper and other finishes and special coatings to the walls, ceilings and other surfaces of buildings and structures
  - protect surfaces from weather damage, erosion mould and rust
  - make surfaces look attractive
- viii. wall and floor tiler
  - cut and place wall and floor tiles
- ix. roofer
  - covers roof with slates, tiles, sheets or cladding
  - apply waterproof membranes to flat roofs
  - fit plastic or lead flashing around chimneys seal roof joints
- x. renewable energy installer
  - install and maintain renewable energy systems like solar panels, heat pumps, wind turbines
  - follow plans to assemble, connect, test systems
- xi. floor layer
  - prepare and lay flooring materials including wood, laminate, vinyl and carpet
  - measure areas, lay underlay and adhesive, cuts materials, fit trims and edges.
- c) Operative role responsibilities:
  - i. general building operative/labourer
    - unload materials
    - prepare site/workplace areas
    - provide craft teams with materials
  - ii. ground worker
    - excavate trenches
    - prepare and lay drainage pipes
    - prepare and lay floors and sub strata for roads
  - iii. highways operative
    - work on roads and highways on paving, repair to surfaces, cleaning and traffic management
  - iv. plant operative
    - drive and operate construction plant (including excavators and dumpers)
  - v. scaffolder

- erect and dismantle temporary static metal scaffoldings on structures in construction areas to enable others to work at height and carry out their roles safely
- may set up a scaffolding inside or outside a building.

1.2.2 Key stages involved in a construction project, their logical sequence, and factors that may impact the sequencing

- a) Key stage and their logical sequence:
  - i. stage 1 – site investigation
  - ii. stage 2 – design and planning
  - iii. stage 3 – setting up site
  - iv. stage 4 – groundwork
  - v. stage 5 – substructure
  - vi. stage 6 – superstructure
  - vii. stage 7 – external works
  - viii. stage 8 – internal services and finishes
  - ix. stage 9 – testing, commissioning and handover.
- b) Factors that impact sequencing:
  - i. planning permission
  - ii. site conditions
  - iii. lack of/shortage of materials and or labour
  - iv. adverse weather
  - v. disputes
  - vi. regulatory changes
  - vii. accidents
  - viii. investigations.

1.2.3 Career opportunities and progression routes that exist in the construction industry and where to get information on them

- a) Career opportunities in hierarchy order:
  - i. craft
  - ii. supervisory
  - iii. managerial
  - iv. professional.
- b) Progression routes in sequence:
  - i. apprenticeship to level 2/3
  - ii. craft level 2/3 progress to supervisor
  - iii. further study to site manager or similar role
  - iv. higher education into a professional role.
- c) Where to access information:
  - i. employer
  - ii. college/university open days – progression within education
  - iii. local company websites
  - iv. trade organisation websites
  - v. CGLI website
  - vi. careers advisor.

1.2.4 The importance/benefits of maintaining Continuous Professional Development (CPD) and lifelong learning

Topics	Content elements
	<p>a) <b>Definition</b> ‘CPD’ – ongoing process of acquiring and enhancing knowledge, skills and competencies throughout own professional career. Involves engaging in activities and learning opportunities that help individuals stay up to date with industry trends, advancements and best practices.</p> <p>b) Benefits of maintaining CPD:</p> <ol style="list-style-type: none"> <li>i. keeping knowledge and skills up to date</li> <li>ii. professional standard of qualifications and registrations are maintained</li> <li>iii. credibility and confidence are built and enhanced</li> <li>iv. employment opportunities increased with possible increased remuneration.</li> </ol>
<p>1.3 Communication within construction team and wider (those outside the team)</p>	<p>1.3.1 Key personnel involved in day-to-day communications in construction workplace environments and the chain of reporting</p> <p>a) <b>Definition</b> ‘Chain of reporting’ – the line of authority and sequence of personnel that information or issues get communicated to within a workplace.</p> <p>b) Personnel and basic chain of reporting:</p> <ol style="list-style-type: none"> <li>i. operatives and craft personnel report to</li> <li>ii. supervisors report to</li> <li>iii. site managers’ report to</li> <li>iv. project manager reports to</li> <li>v. clients/end user/occupier</li> <li>vi. suppliers – may report to a combination of i – v depending on project.</li> </ol> <p>1.3.2 Additional parties’ roles involved in wider communication on construction projects and activities</p> <p>a) Additional parties:</p> <ol style="list-style-type: none"> <li>i. architects</li> <li>ii. quantity surveyor (QS)</li> <li>iii. safety officer</li> <li>iv. local authority planning</li> <li>v. local residents/neighbours to site/workplace area</li> <li>vi. building inspector (LABC or appointed)</li> <li>vii. environmental bodies</li> <li>viii. conservation officer</li> <li>ix. National House Building Council (NHBC).</li> </ol> <p>b) Additional parties’ roles in communication:</p> <ol style="list-style-type: none"> <li>i. architects <ul style="list-style-type: none"> <li>• communicate details of type and size of building/s to be completed</li> </ul> </li> <li>ii. quantity surveyor <ul style="list-style-type: none"> <li>• notify client when payments are due</li> </ul> </li> <li>iii. safety officer <ul style="list-style-type: none"> <li>• communicate workplace safety issues to all personnel</li> </ul> </li> <li>iv. local authorities planning</li> </ol>

- communicate breaches of planning permission to project manager and client
- v. local residents/neighbours to site/workplace area
  - voice and report consensus of opinion of residents over planned development
- vi. building inspector (LABC or appointed)
  - communicate to contractor and reporting to LA or relevant parties
- vii. environmental bodies
  - request access and communicates findings of investigations and monitoring to planning team
- viii. conservation officer
  - request access and communicates findings of investigations and monitoring to planning team
- ix. National House Building Council (NHBC)
  - communicate with architect, project manager and site manager on day-to-day site/workplace affairs in respect of new builds.

1.3.3 Forms of communication/ways in which communication may be used in construction workplace environments and their suitability related to information type

- a) Communication methods for types of information being communicated:
- i. written
    - text/wording
    - formal, detailed or complex information
    - should be clear, concise, accurate and well-structured
    - should follow the appropriate tone, style and format for intended audience
  - ii. verbal
    - voice/words
    - ideas, opinions, emotions or instructions in a direct and personal way
    - should be confident, engaging, respectful and persuasive
    - should use appropriate language, tone of voice, consider appropriate use of specialist terminology
  - iii. visual
    - graphical or pictorial information
    - capture attention and enhance understanding
    - should be simple, attractive, relevant and consistent
    - should use appropriate colours, shapes and symbols effectively.
- b) Types of written communications:
- i. agenda items and minutes of meetings
  - ii. e-mails
  - iii. texts
  - iv. written notices – signs and posters
  - v. variation orders/architect's instructions
  - vi. orders to suppliers/delivery notes

## Topics

## Content elements

- vii. manufacturer's instructions
- viii. specifications
- ix. leaflets.
- c) Types of verbal communications:
  - i. face-to-face
  - ii. radio
  - iii. mobile phone.
- d) Types of visual communications:
  - i. hand signals
  - ii. video calls/online meetings
  - iii. signage and notices
  - iv. drawings/plans.

1.3.4 Considerations for maintaining positive communication with colleagues and other parties when working in construction environments and the importance/benefits of doing so

- a) Positive written communication considerations:
  - i. creates a permanent record of evidence
  - ii. can be used as a legal document
  - iii. can be sent to many people at once/one time
  - iv. suitable for long and distant communication and repetitive standing orders
  - v. information presented as stated fact – no question as to the content/variation of message via delivery.
- b) Positive verbal communication considerations:
  - i. can aid in building rapport and trust
  - ii. establishes empathy with audience/others
  - iii. allows for quick/instant feedback once delivered
  - iv. reduces possible misunderstandings through opportunity for clarification 'in the moment'.
- c) Importance/benefits of maintaining positive communications:
  - i. ensure everyone is clear on tasks to be performed
  - ii. avoid misunderstanding
  - iii. maintain/promote safety
  - iv. build trust.

## Topics

## Content elements

### 1.4 The importance of good customer service

#### 1.4.1 Key elements and considerations that make up good customer service in construction activities:

- a) Key elements of good customer service:
- i. good communication
    - updated on project details
      - timelines
      - costs
      - changes
    - using their preferred communication method
    - listening to and addressing their concerns
  - ii. reliability/honesty
    - completing high quality work
    - working to schedule as promised
    - taking accountability if issues arise
  - iii. responsiveness
    - reaching out to customers promptly
    - having systems to respond to inquiries, requests, complaints quickly
  - iv. expertise
    - having qualified, knowledgeable staff
    - providing solutions tailored to their needs
  - v. courtesy
    - treating customers with respect and professionalism
    - being patient and helpful even when under pressure
    - making them feel valued
    - positive customer reviews and feedback.

#### 1.4.2 Importance of good customer service in construction from the perspective of employees, employers and customers

- a) Employee perspective:
- i. builds trust and rapport with customers
  - ii. creates positive work environment
  - iii. gives sense of pride in own work
  - iv. opportunity to showcase expertise
  - v. gain recognition and rewards.
- b) Employer perspective:
- i. attracts new customers and business – potential expansion and growth
  - ii. improves customer satisfaction and loyalty – and/or provide recommendations to others
  - iii. reduces complaints and improves reputation
  - iv. competitive advantage over other companies
  - v. increased productivity and profitability.
- c) Customer perspective:
- i. creates a positive experience
  - ii. makes them feel valued and respected
  - iii. issues are handled quickly and effectively
  - iv. needs and expectations are met
  - v. time saved through having trusted source of service.

Topics	Content elements
1.5 Quality assurance and quality control of construction work	<p>1.5.1 The purpose of quality assurance activities to construction activities and the impact they aim to have on quality of work, efficiencies of activity</p> <ul style="list-style-type: none"> <li>a) <b>Definition</b> ‘Quality assurance (QA)’ – checking work systematically to make sure it meets standards and requirements.</li> <li>b) <b>Definition</b> ‘Quality control (QC)’ – the process of checking outcomes from quality assurance are being achieved eg building control.</li> <li>c) QC methods used in construction: <ul style="list-style-type: none"> <li>i. inspections by others/supervisors</li> <li>ii. regular testing – including random sampling</li> <li>iii. documented processes/checklists</li> <li>iv. official audits.</li> </ul> </li> <li>d) Purpose and impact of QA and QC activities: <ul style="list-style-type: none"> <li>i. meet agreed quality standards of work</li> <li>ii. maintain consistency across activities/instances</li> <li>iii. check and ensure safety of procedures</li> <li>iv. help find problems in early stages before they cause bigger issues</li> <li>v. increase efficiency through monitoring and correcting issues along the way rather than at the end</li> <li>vi. making sure collective end result of job meets external requirements and factors.</li> </ul> </li> </ul>
1.6 Roles of construction trade/professional bodies and unions	<p>1.6.1 The role and purpose of trade and professional bodies within the construction sector and the services/benefits they can provide</p> <ul style="list-style-type: none"> <li>a) Role of trade and professional bodies: <ul style="list-style-type: none"> <li>i. provide support and help to tradespeople</li> <li>ii. represent and advocate in cases of issue</li> <li>iii. educate and provide training and CPD</li> <li>iv. source of information and guidance</li> <li>v. support networking within/across trade areas</li> <li>vi. act in advisory role to government</li> <li>vii. promote the industry and careers within it.</li> </ul> </li> </ul> <p>1.6.2 The role of unions within the construction sector and the services/benefits they can provide</p> <ul style="list-style-type: none"> <li>a) Role of unions: <ul style="list-style-type: none"> <li>i. negotiate agreements with employers on pay and conditions</li> <li>ii. discuss major changes to the workplace eg large scale redundancy</li> <li>iii. discuss members’ concerns with employers</li> <li>iv. accompany members in disciplinary and grievance meetings</li> <li>v. provide members with legal and financial advice</li> <li>vi. provide training and opportunities for CPD.</li> </ul> </li> </ul>



Topics	Content elements
<p>1.7 Competent person schemes and their importance</p>	<p>1.7.1 The role and purpose of competent person schemes in place for construction trades</p> <ul style="list-style-type: none"> <li>a) Role of competent person schemes: <ul style="list-style-type: none"> <li>i. provide evidence of training</li> <li>ii. provide evidence of assessment</li> <li>iii. provide evidence of competence/verification of skills</li> <li>iv. provide proof of identity of individual.</li> </ul> </li> <li>b) Purpose of competent person schemes: <ul style="list-style-type: none"> <li>i. upholds industry standards and best practice</li> <li>ii. reduces risks to workers and the public</li> <li>iii. provides assurance to clients/employers.</li> </ul> </li> </ul>
<p>1.8 Requirements for professional registration when working in the construction industry</p>	<p>1.8.1 Potential benefits of registration with relevant professional construction institutions</p> <ul style="list-style-type: none"> <li>a) Potential benefits of registration: <ul style="list-style-type: none"> <li>i. higher earning potential</li> <li>ii. improved career prospects and employability</li> <li>iii. enhanced status leading to higher self-esteem</li> <li>iv. international recognition of competence and commitment</li> <li>v. evidence of expertise</li> <li>vi. greater influence within own organisation and industry</li> <li>vii. continuous professional development (CPD)</li> <li>viii. legal indemnity cover</li> <li>ix. networking opportunities.</li> </ul> </li> </ul> <p>1.8.2 The role and purpose of professional institutions related to the construction industry</p> <ul style="list-style-type: none"> <li>a) Role and purpose: <ul style="list-style-type: none"> <li>i. work in the public interest and advance the public good in their respective fields</li> <li>ii. uphold standards of competence, conduct and ethics among members</li> <li>iii. award chartered status to qualified professionals who meet their criteria of knowledge and behaviour</li> <li>iv. provide learning programmes, research, resources, services and events for their members and stakeholders.</li> </ul> </li> </ul>

## Learning outcome 2

Understand construction information

Topics	Content elements
2.1 The purpose of controls on the construction process	<p>2.1.1 Controls and regulations that support the construction process, who they impact and where they can be accessed</p> <ol style="list-style-type: none"><li>a) Controls and regulation types:<ol style="list-style-type: none"><li>i. pre-planning permission</li><li>ii. planning permission/permitted development/national park authority</li><li>iii. building regulations</li><li>iv. health and safety law</li><li>v. quality and standards (British standards)</li><li>vi. environmental law/regulations</li><li>vii. listed buildings</li><li>viii. tree preservation orders</li><li>ix. English Heritage.</li></ol></li><li>b) Who is impacted by the controls and regulations:<ol style="list-style-type: none"><li>i. client/homeowner/end user</li><li>ii. design team<ul style="list-style-type: none"><li>• architect</li><li>• surveyor</li></ul></li><li>iii. managerial team<ul style="list-style-type: none"><li>• site manager</li><li>• site supervisor</li></ul></li><li>iv. tradespeople</li><li>v. manufactures/suppliers of equipment and materials</li><li>vi. the general public.</li></ol></li><li>c) Where details of the controls can be accessed:<ol style="list-style-type: none"><li>i. onsite/in workplace</li><li>ii. online eg on government/local authority websites</li><li>iii. local libraries</li><li>iv. in the code of conduct</li><li>v. in induction materials</li><li>vi. professional bodies</li><li>vii. building material suppliers.</li></ol></li></ol>
2.2 Types of information and technical drawings used in the construction industry	<p>2.2.1 Construction information used to manage, support and organise projects and roles responsible for their production and use</p> <ol style="list-style-type: none"><li>a) Key construction information used to manage, support and organise:<ol style="list-style-type: none"><li>i. site/workplace rules/code of conduct</li><li>ii. bill of quantities<ul style="list-style-type: none"><li>• to control list material quantities and costs</li></ul></li><li>iii. construction phase plan</li><li>iv. programme of works/Gantt charts</li><li>v. specifications</li><li>vi. drawings</li><li>vii. schedules<ul style="list-style-type: none"><li>• material/labour</li></ul></li><li>viii. building information modelling (BIM)</li></ol></li></ol>

- ix. risk assessment and method statement (RAMS).

### 2.2.2 Methods of drawing used for construction plans and blueprints and their advantages and disadvantages

- a) Methods and their advantages/disadvantages:
- i. rough sketch
    - quick
    - cheap
    - low detail
  - ii. hand
    - level of detail may vary
    - time consuming to produce if highly detailed
    - can be more expressive
    - more detailed than a rough sketch
  - iii. line drawing
    - precise
    - accurate
    - easily edited
    - scaled
    - usually more detailed and accurate than a hand drawing
  - iv. computer aided design (CAD)
    - precise
    - adaptable
    - detailed
    - easily sharable electronically
    - may be complex and expensive to produce
    - usually the most detailed and complex form method.

### 2.2.3 Types and styles of construction drawings

- a) Types of drawing:
- i. location
    - block
    - site
    - layout
  - ii. component detail
  - iii. assembly/detail drawings
  - iv. elevations and plans
    - floorplans
    - reflective plans.
- b) Styles of drawing
- i. orthographic
  - ii. isometric
  - iii. sectional
  - iv. perspective.

**2.2.4 Technical information included on construction plans, diagrams**

- a) Technical information:
- i. scale
  - ii. hatchings
  - iii. measurements
  - iv. dimensions
    - length
    - width
    - height
    - area
  - v. symbols
  - vi. services
    - water
    - gas
    - electricity
    - drainage
    - internet/phone
  - vii. architectural
  - viii. version control/date
  - ix. orientation.
- b) What information on plans is used for:
- i. calculation of materials costs/quantities
  - ii. setting out building in correct position
  - iii. identifying materials to be used and their location
  - iv. positioning and fixing of components
  - v. communicating hazards
  - vi. indicating specific common locations
  - vii. identifying services
  - viii. orientation of site when in real world
  - ix. communicating common shared set of information across trades/roles
  - x. ensuring currency and visibility of alterations/changes
  - xi. ownership and version details
  - xii. completed vision for project/building.

Topics	Content elements
2.3 Data protection	<p>2.3.1 Importance of data protection legislation and security of information in construction environments and methods workplaces may use to ensure data is kept secure</p> <ul style="list-style-type: none"> <li>a) Legislation: <ul style="list-style-type: none"> <li>i. Data Protection Act</li> <li>ii. General Data Protection Regulation (GDPR).</li> </ul> </li> <li>b) Importance: <ul style="list-style-type: none"> <li>i. ensures confidential information kept secure</li> <li>ii. uphold industry regulations</li> <li>iii. secures sensitive documents from theft and misuse <ul style="list-style-type: none"> <li>• staff information</li> <li>• client information</li> </ul> </li> <li>iv. prevents data breaches</li> <li>v. allows controlled record access.</li> </ul> </li> <li>c) Methods: <ul style="list-style-type: none"> <li>i. user permissions and authentication eg passwords</li> <li>ii. using secure file sharing procedures for transferring documents</li> <li>iii. safe and secure storage of documents</li> <li>iv. regularly backing up data offline</li> <li>v. following company policies.</li> </ul> </li> </ul>

## Learning outcome 3

Understand how to set up and secure construction work areas

Topics	Content elements
3.1 Construction workplace planning requirements	<p>3.1.1 Different areas of construction workplaces that must be included on logistics plans and their importance</p> <p>a) Areas:</p> <ol style="list-style-type: none"><li>i. environmental areas (ponds, plants, trees and wildlife)</li><li>ii. neighbouring properties</li><li>iii. site/workplace security</li><li>iv. service connections</li><li>v. access/egress and parking</li><li>vi. site office</li><li>vii. health, safety and welfare</li><li>viii. emergency assembly</li><li>ix. pedestrian routes/access</li><li>x. materials – delivery and storage<ul style="list-style-type: none"><li>• dry</li><li>• open</li><li>• hazardous</li></ul></li><li>xi. waste management/recycling</li><li>xii. plant</li><li>xiii. crane tower location.</li></ol> <p>b) Importance of having the areas marked on plans:</p> <ol style="list-style-type: none"><li>i. for efficient site/workplace movement and access (eg deliveries)</li><li>ii. to ensure boundary lines are maintained and reduce breaches</li><li>iii. to maintain and improve safety and security</li><li>iv. to clearly inform of location of facilities for all</li><li>v. to comply with legislation.</li></ol>

Topics	Content elements
3.2 Considerations in relation to construction workplace security	3.2.1 The importance of site/workplace security and the employee/employer responsibilities for ensuring it <ol style="list-style-type: none"> <li>a) Importance:               <ol style="list-style-type: none"> <li>i. to maintain safety</li> <li>ii. to identify and control access</li> <li>iii. to minimise financial loss eg loss/theft of plant, machinery and/or materials</li> <li>iv. to prevent unauthorised entry</li> <li>v. to identify and maintain safe access routes</li> <li>vi. to control access to plant and machinery and controlled substances.</li> </ol> </li> <li>b) Responsibilities of employee:               <ol style="list-style-type: none"> <li>i. return all materials and equipment after use</li> <li>ii. sign in/out as required</li> <li>iii. report any issues to employer/supervisor</li> <li>iv. follow company guidelines and safety signage.</li> </ol> </li> <li>c) Responsibilities of employer:               <ol style="list-style-type: none"> <li>i. provide security measures as required eg booking in sign in/out, security fencing, security guards/personnel</li> <li>ii. ensure security reporting procedures and guidance are in place.</li> </ol> </li> </ol>

## Learning outcome 4

Know building substructure and superstructure components

Topics	Content elements
4.1 Types and purposes of substructures	4.1.1 Types of foundations and their descriptions/features <ol style="list-style-type: none"> <li>a) Types and their descriptions:               <ol style="list-style-type: none"> <li>i. pad                   <ul style="list-style-type: none"> <li>• rectangular or circular pads</li> <li>• usually of concrete</li> <li>• used to support single point loads such as columns</li> </ul> </li> <li>ii. pile                   <ul style="list-style-type: none"> <li>• deep cylindrical foundation</li> <li>• bored below ground</li> <li>• transferring the building load to load bearing ground made up of concrete and steel reinforcement</li> </ul> </li> <li>iii. raft                   <ul style="list-style-type: none"> <li>• reinforced concrete slabs that cover an over site area</li> <li>• often the full footprint of the building</li> </ul> </li> <li>iv. strip                   <ul style="list-style-type: none"> <li>• shallow foundation</li> <li>• used to provide a continuous, level or sometimes stepped strip of support around the perimeter of a building</li> <li>• may also be positioned where there are internal load bearing walls.</li> </ul> </li> </ol> </li> </ol>

Topics	Content elements
	<p>4.1.2 Materials used in substructures</p> <p>a) Materials:</p> <ol style="list-style-type: none"> <li>i. brick</li> <li>ii. block</li> <li>iii. steel</li> <li>iv. concrete</li> <li>v. damp proof course (DPC)/damp proof membrane (DPM) and membranes</li> <li>vi. insulation</li> <li>vii. aggregate.</li> </ol>
<p>4.2 Sequence of first and second fix building</p>	<p>4.2.1 First and second building elements and logical sequence considerations relating to their installation</p> <p>a) First fix:</p> <ol style="list-style-type: none"> <li>i. step 1 – external envelope</li> <li>ii. step 2 – roof structure</li> <li>iii. step 3 – roof coverings</li> <li>iv. step 4 – floors</li> <li>v. step 5 – stairs</li> <li>vi. step 6 – partitions</li> <li>vii. step 7 – external door and window frames</li> <li>viii. step 8 – internal door lining</li> <li>ix. step 9 – services</li> <li>x. step 10 – plaster.</li> </ol> <p>b) Second fix (order may vary as activities may occur concurrently):</p> <ol style="list-style-type: none"> <li>i. internal doors and door furniture</li> <li>ii. architraves and skirting boards</li> <li>iii. kitchen units</li> <li>iv. electrical fittings</li> <li>v. sanitary ware</li> <li>vi. finishes</li> <li>vii. wall</li> <li>viii. floor</li> <li>ix. landscape.</li> </ol>



Topics	Content elements
4.3 Floor types and their associated materials	<p>4.3.1 Types of floors and factors impacting on when they are used</p> <ol style="list-style-type: none"> <li>a) Types of floors:               <ol style="list-style-type: none"> <li>i. solid                   <ul style="list-style-type: none"> <li>• concrete</li> <li>• sometimes reinforced and insulated</li> </ul> </li> <li>ii. suspended                   <ul style="list-style-type: none"> <li>• timber</li> <li>• can be concrete beam with block infill.</li> </ul> </li> </ol> </li> <li>b) Factors impacting floor type:               <ol style="list-style-type: none"> <li>i. loading                   <ul style="list-style-type: none"> <li>• strength</li> <li>• reinforcement</li> </ul> </li> <li>ii. moisture                   <ul style="list-style-type: none"> <li>• sub floor/ground underneath</li> </ul> </li> <li>iii. subsequent finish                   <ul style="list-style-type: none"> <li>• underfloor heating</li> <li>• liquid floor screed</li> <li>• tiles.</li> </ul> </li> </ol> </li> </ol> <p>4.3.2 Types of materials used for flooring</p> <ol style="list-style-type: none"> <li>a) Flooring materials:               <ol style="list-style-type: none"> <li>i. block/beam</li> <li>ii. concrete</li> <li>iii. timber</li> <li>iv. steel and concrete deck</li> <li>v. steel reinforcement</li> <li>vi. insulation</li> <li>vii. DPM.</li> </ol> </li> </ol>

Topics	Content elements
4.4 Wall types and their associated materials	<p>4.4.1 Types of walls and factors impacting on when they are used</p> <p>a) Types of walls:</p> <p>i. external</p> <ul style="list-style-type: none"> <li>• cavity</li> <li>• solid</li> <li>• steel frame</li> <li>• curtain</li> <li>• timber frame</li> <li>• concrete frame</li> </ul> <p>ii. internal</p> <ul style="list-style-type: none"> <li>• traditional (brick or block)</li> <li>• timber stud</li> <li>• metal stud and metal lining.</li> </ul> <p>b) Factors impacting wall type:</p> <p>i. loading</p> <p>ii. climate</p> <ul style="list-style-type: none"> <li>• location</li> </ul> <p>iii. finish</p> <ul style="list-style-type: none"> <li>• client/architect specification</li> <li>• conservation requirements.</li> </ul> <p>4.4.2 Types of materials used for walls</p> <p>a) Wall materials:</p> <p>i. brick</p> <p>ii. block</p> <p>iii. render</p> <p>iv. timber</p> <p>v. concrete</p> <p>vi. steel</p> <p>vii. cladding</p> <p>viii. insulation</p> <p>ix. DPC/structurally insulated panels (SIPs)</p> <p>x. ties and clips.</p>

Topics	Content elements
4.5 Roof types and their associated materials	<p>4.5.1 Types of roofs and their common materials and factors affecting their appropriateness/use</p> <ul style="list-style-type: none"> <li>a) Pitched roof types: <ul style="list-style-type: none"> <li>i. timber <ul style="list-style-type: none"> <li>• traditional hand cut</li> <li>• trussed</li> </ul> </li> <li>ii. metal <ul style="list-style-type: none"> <li>• framed</li> <li>• trussed.</li> </ul> </li> </ul> </li> <li>b) Flat roof types: <ul style="list-style-type: none"> <li>i. timber</li> <li>ii. metal</li> <li>iii. green.</li> </ul> </li> <li>c) Roofing materials: <ul style="list-style-type: none"> <li>i. timber</li> <li>ii. lead</li> <li>iii. slate</li> <li>iv. tile <ul style="list-style-type: none"> <li>• concrete</li> <li>• clay</li> <li>• composite</li> </ul> </li> <li>v. bitumen felt</li> <li>vi. sheet metal or timber</li> <li>vii. synthetic systems <ul style="list-style-type: none"> <li>• fiberglass</li> <li>• EDPM</li> </ul> </li> <li>viii. liquid resin</li> <li>ix. shingle <ul style="list-style-type: none"> <li>• clay</li> <li>• timber</li> <li>• bitumen felt.</li> </ul> </li> </ul> </li> </ul>

Topics	Content elements
4.6 Types of finishes	<p>4.6.1 Types of internal finishes and factors affecting their appropriateness for use</p> <ol style="list-style-type: none"> <li>a) Types of internal finishes: <ol style="list-style-type: none"> <li>i. paint systems</li> <li>ii. paper coverings</li> <li>iii. plaster</li> <li>iv. dry lined with tape and joint system</li> <li>v. tiling</li> <li>vi. cladding <ul style="list-style-type: none"> <li>• timber</li> <li>• plastic</li> <li>• composite.</li> </ul> </li> </ol> </li> <li>b) Factors affecting use: <ol style="list-style-type: none"> <li>i. base structure</li> <li>ii. customer requirements</li> <li>iii. cost</li> <li>iv. conservation restrictions.</li> </ol> </li> </ol> <p>4.6.2 Types of external finishes and factors affecting their appropriateness for use</p> <ol style="list-style-type: none"> <li>a) External finishes: <ol style="list-style-type: none"> <li>i. paint systems</li> <li>ii. rendering systems</li> <li>iii. coatings</li> <li>iv. external wall insulation (EWI)</li> <li>v. cladding <ul style="list-style-type: none"> <li>• timber</li> <li>• plastic</li> <li>• composite</li> <li>• slate</li> <li>• tile.</li> </ul> </li> </ol> </li> <li>b) Factors affecting use: <ol style="list-style-type: none"> <li>i. conservation requirements</li> <li>ii. building control</li> <li>iii. customer requirements</li> <li>iv. cost.</li> </ol> </li> </ol>

Topics	Content elements
4.7 Building services related to construction activities	<p>4.7.1 Types of services that are used to supply buildings, roles responsible for their servicing and maintenance and construction activities that rely on them</p> <ul style="list-style-type: none"> <li>a) Services: <ul style="list-style-type: none"> <li>i. electricity</li> <li>ii. gas</li> <li>iii. water</li> <li>iv. drainage <ul style="list-style-type: none"> <li>• surface</li> <li>• foul</li> </ul> </li> <li>v. communication networks <ul style="list-style-type: none"> <li>• television</li> <li>• internet</li> <li>• phone</li> <li>• 'smart' home services.</li> </ul> </li> </ul> </li> <li>b) Roles responsible for installation: <ul style="list-style-type: none"> <li>i. electricity <ul style="list-style-type: none"> <li>• electrician and/or national utility company</li> </ul> </li> <li>ii. gas <ul style="list-style-type: none"> <li>• gas engineer or plumber if additionally qualified in gas safety national utility company</li> </ul> </li> <li>iii. water <ul style="list-style-type: none"> <li>• plumber and/or national utility company (for connection to mains)</li> </ul> </li> <li>iv. drainage (surface, foul) <ul style="list-style-type: none"> <li>• local authority</li> <li>• ground worker/plumber</li> </ul> </li> <li>v. communication networks <ul style="list-style-type: none"> <li>• internet/telephone engineer.</li> </ul> </li> </ul> </li> </ul>

Topics	Content elements
4.8 Considerations for building materials used in construction activities	4.8.1 Factors affecting materials used in building structure and substructure elements <ul style="list-style-type: none"> <li>a) Elements:               <ul style="list-style-type: none"> <li>i. foundations</li> <li>ii. floors</li> <li>iii. walls</li> <li>iv. roofs.</li> </ul> </li> <li>b) Factors affecting material use:               <ul style="list-style-type: none"> <li>i. availability</li> <li>ii. bearing capacity</li> <li>iii. carbon footprint</li> <li>iv. client expectations/requirements</li> <li>v. conservation requirements (if relevant)</li> <li>vi. cost</li> <li>vii. design requirements</li> <li>viii. ground conditions</li> <li>ix. installation time</li> <li>x. longevity of material/performance over time</li> <li>xi. maintenance requirements</li> <li>xii. physical strength</li> <li>xiii. planning/regulation requirements</li> <li>xiv. purpose</li> <li>xv. sustainability</li> <li>xvi. transport, delivery and position</li> <li>xvii. handling weight.</li> </ul> </li> </ul>

## Learning outcome 5

Understand personal development and working with others in the construction industry

Topics	Content elements
5.1 Equality and protected characteristics	<p>5.1.1 The definition of equality and protected characteristics under current legislation and other potential additional barrier characteristics</p> <ul style="list-style-type: none"><li>a) <b>Definition</b> 'Equality' – a situation in which everyone is equal and has the same rights.</li><li>b) Protected characteristics:<ul style="list-style-type: none"><li>i. age</li><li>ii. disability</li><li>iii. gender reassignment/gender identity</li><li>iv. marriage and civil partnership</li><li>v. pregnancy and maternity</li><li>vi. race (including colour, nationality and ethnic or national origin)</li><li>vii. religion or belief</li><li>viii. sex</li><li>ix. sexual orientation.</li></ul></li><li>c) Additional barrier characteristics:<ul style="list-style-type: none"><li>i. employment history</li><li>ii. educational background/attainment</li><li>iii. socio-economic status</li><li>iv. criminal record</li><li>v. unconscious bias.</li></ul></li></ul>

Topics	Content elements
5.2 Considerations when valuing diversity and inclusion	<p>5.2.1 The principles of diversity and inclusion in the workplace</p> <ol style="list-style-type: none"> <li>a) <b>Definition</b> 'Diversity' – including or involving people with a range of different characteristics. Having a variety of individuals and points of view represented.</li> <li>b) <b>Definition</b> 'Inclusion' – providing equal access to opportunities and resources for those who might otherwise be excluded.</li> </ol> <p>5.2.2 Positive impacts of recognising and valuing diversity and inclusion in the workplace</p> <ol style="list-style-type: none"> <li>a) Positive impacts: <ol style="list-style-type: none"> <li>i. for the individual <ul style="list-style-type: none"> <li>• personal motivation/self-actualisation</li> <li>• feelings of value</li> <li>• well-being</li> <li>• job satisfaction and engagement</li> </ul> </li> <li>ii. for team dynamics <ul style="list-style-type: none"> <li>• effective interpersonal communication</li> <li>• positive teamwork</li> <li>• time saving</li> </ul> </li> <li>iii. for employers and businesses <ul style="list-style-type: none"> <li>• employee retention</li> <li>• meeting legislation requirements</li> <li>• staff progression</li> <li>• societal reputation</li> <li>• staff recruitment</li> <li>• increased productivity and performance</li> <li>• innovation, creativity and problem solving.</li> </ul> </li> </ol> </li> </ol>



Topics	Content elements
<p>5.3 Regulations, support and guidance relating to equality, diversity and inclusion (EDI)</p>	<p>5.3.1 Current regulations and legislation relating to EDI</p> <ol style="list-style-type: none"> <li>a) Regulations and legislation: <ol style="list-style-type: none"> <li>i. UK Equality Act</li> <li>ii. Human Rights Act.</li> </ol> </li> </ol> <p>5.3.2 The responsibility for awareness and action in relation to the UK Equality Act</p> <ol style="list-style-type: none"> <li>a) Responsibilities: <ol style="list-style-type: none"> <li>i. for the employee <ul style="list-style-type: none"> <li>• awareness of</li> <li>• adherence to</li> </ul> </li> <li>ii. for the employer: <ul style="list-style-type: none"> <li>• awareness of</li> <li>• adherence to</li> <li>• procedures in place to address identified issues</li> <li>• promoting awareness/training employees</li> <li>• point of contact (welfare officer).</li> </ul> </li> </ol> </li> </ol> <p>5.3.3 Sources of other information related to supporting and promoting EDI in the workplace</p> <ol style="list-style-type: none"> <li>a) Sources of information: <ol style="list-style-type: none"> <li>i. company charter/values</li> <li>ii. employee handbook</li> <li>iii. induction materials/programme</li> <li>iv. contractual documents/obligations</li> <li>v. external bodies and legislation</li> <li>vi. displays/signage and posters.</li> </ol> </li> </ol>
<p>5.4 Characteristics of employment and self-development</p>	<p>5.4.1 Key responsibilities of different employment types</p> <ol style="list-style-type: none"> <li>a) Employment types: <ol style="list-style-type: none"> <li>i. sole trader</li> <li>ii. sub-contractors</li> <li>iii. main developers</li> <li>iv. self-employed</li> </ol> </li> <li>b) Responsibilities: <ol style="list-style-type: none"> <li>i. tax</li> <li>ii. administration</li> <li>iii. planning</li> <li>iv. promotion</li> <li>v. insurance/liability</li> <li>vi. remuneration/wages</li> <li>vii. contracts</li> <li>viii. welfare.</li> </ol> </li> </ol> <p>5.4.2 Skills and characteristics which are beneficial to develop when working in construction roles and why these are important</p> <ol style="list-style-type: none"> <li>a) Skills:</li> </ol>

Topics	Content elements
	<ul style="list-style-type: none"> <li>i. organisational/planning</li> <li>ii. digital literacy</li> <li>iii. communication and collaboration</li> <li>iv. interpretation of information and directions</li> <li>v. practical trade skills (eg plastering, bricklaying etc).</li> </ul> <p>b) Personal traits/characteristics:</p> <ul style="list-style-type: none"> <li>i. responsibility</li> <li>ii. autonomy</li> <li>iii. self-motivation</li> <li>iv. discipline</li> <li>v. resilience.</li> </ul> <p>c) Importance:</p> <ul style="list-style-type: none"> <li>i. productivity to meet deadlines/requirements</li> <li>ii. quality of work/finish</li> <li>iii. meeting goals and targets</li> <li>iv. business/career growth and development</li> <li>v. personal mental welfare</li> <li>vi. financial stability.</li> </ul> <p>5.4.3 Patterns in employment and the potential impacts of rises and falls in demand</p> <p>a) Patterns:</p> <ul style="list-style-type: none"> <li>i. peaks and troughs in construction work</li> <li>ii. recruitment shortfall</li> <li>iii. skills shortage forecasts</li> <li>iv. financial climate</li> <li>v. future trend predictions/forecasts</li> <li>vi. vacancies – use of local labour market intelligence and the opportunities that are available.</li> </ul> <p>b) Impacts of fluctuations in demand:</p> <ul style="list-style-type: none"> <li>i. cash flow</li> <li>ii. availability of labour</li> <li>iii. financial incentives and opportunities.</li> </ul>

## Learning outcome 6

Know sustainability and emerging technology considerations affecting the construction industry

Topics	Content elements
6.1 Sustainability and emerging technologies	<p>6.1.1 Considerations and impacts of sustainability in relation to construction activities</p> <ul style="list-style-type: none"><li>a) <b>Definition</b> ‘Sustainability’ – constructing with renewable and recyclable resources while minimising waste and energy consumption to protect the natural environment materials.</li><li>b) Considerations:<ul style="list-style-type: none"><li>i. legislation</li><li>ii. technological advances</li><li>iii. education<ul style="list-style-type: none"><li>• eliminate bad practice</li><li>• encourage reporting</li></ul></li><li>iv. sourcing of local materials</li><li>v. using energy efficient plant and equipment<ul style="list-style-type: none"><li>• battery powered</li><li>• solar charging</li></ul></li><li>vi. changes to/or meeting historical practice</li><li>vii. availability of sustainable materials and equipment</li><li>viii. financial cost and available funding</li><li>ix. waste management practices<ul style="list-style-type: none"><li>• segregation of materials<ul style="list-style-type: none"><li>○ wood</li><li>○ plastic</li><li>○ cardboard</li><li>○ paper</li><li>○ plasterboard</li></ul></li><li>• limit environmental impact</li><li>• support recycling</li></ul></li><li>x. air flow in building design<ul style="list-style-type: none"><li>• acoustics</li><li>• airtightness</li><li>• ventilation.</li></ul></li></ul></li><li>c) Impacts/advantages of sustainability:<ul style="list-style-type: none"><li>i. benefits to the immediate locality<ul style="list-style-type: none"><li>• improved air quality</li><li>• noise reduction</li><li>• less waste</li></ul></li><li>ii. reduction in carbon footprint</li><li>iii. a cleaner healthier site/workplace</li><li>iv. personal fulfilment (‘doing your bit’)</li><li>v. company reputation.</li></ul></li><li>d) Potential drawbacks:<ul style="list-style-type: none"><li>i. increased costs</li><li>ii. reduced/limited availability</li></ul></li></ul>

- including ranges/sizes available
- iii. lack of experience/expertise for installation
- iv. potential limitations based on site location/climate
- v. infrastructure for recycling waste
- vi. subject to changing legislation and incentives
- vii. resistance to changing traditional methods.

6.1.2 Emerging and green technologies, resources and materials and activities that may be employed to maintain, increase or enhance the sustainability of building projects and factors that may affect their use

- a) Technologies and resources:
  - i. electric vehicles/machinery
  - ii. solar/photovoltaic panels
  - iii. wind turbines
  - iv. air, water and ground-source heat pumps
  - v. use of drones/unmanned aerial vehicles (UAVs) for area surveying
  - vi. 3D printing technologies
  - vii. augmented reality (AR)/virtual reality (VR)/simulated training environments
  - viii. building information modelling (BIM).
- b) Materials:
  - i. self-healing concrete
  - ii. insulation types and position
  - iii. liquid floor screeds
  - iv. thin joint systems
  - v. transparent aluminium.
- c) Practices:
  - i. sustainable production – modular/prefab housing
  - ii. recycling/reuse demolition materials for hardcore/architectural salvage
  - iii. carbon neutral building design/'passive' buildings
  - iv. rainwater harvesting and reuse
  - v. installation of EV charging points on site/in buildings
  - vi. installation of green energies as standard
  - vii. replace/reduce/reuse/repurpose/recycle
  - viii. increasing thermal performance of buildings.
- d) Factors affecting use of technologies and practices:
  - i. cost
  - ii. availability
  - iii. site/building location
  - iv. planning and design requirements
  - v. funding availability
  - vi. legislation
  - vii. local authority initiatives/restrictions.

## Unit guidance for delivery

<b>Opportunities for efficiencies in delivery across/between units:</b>	<p>Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies.</p> <p>Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance.</p>
<b>Suggestions for formative assessment opportunities:</b>	<p>Short formative assessments at the end of sessions/aligned to outcome.</p> <p>Sample test exam prep session to prepare for assessment.</p>
<b>Opportunities for visits/engagement with local industry and employers:</b>	<p>Employer engagement opportunities for this unit should be incorporated in order to allow the learner to understand application of knowledge learnt in context. This could include site visits linked to specific trade area or having guest lectures/speakers from local employers explaining elements of own role and working environments, career progression etc.</p>
<b>Considerations for innovative methods of delivery:</b>	<p>Providers should make the best use of available resources to provide learners with the opportunity to use a wide range of activities that could include lectures, discussions and self-study. A blended learning approach, with online learning opportunities, could be adopted for content delivery.</p> <p>1.6.1 learners could be encouraged to research a specific trade and professional bodies relevant to their chosen specialism/area of study eg CIBSE, trade organisation umbrella Build UK, FMB (Federation of Master Builders), NFB (National Federation of Builders) etc.</p> <p>1.8.2 learners could be encouraged to research a specific chartered institute relevant to their chosen specialism/area of study eg Chartered Institute of Building (CIOB), Royal Institute of British Architects (RIBA), The Royal Institution of Chartered Surveyors (RICS), Institution of Civil Engineers (ICE), Chartered Institution of Building Services Engineers (CIBSE) etc.</p>
<b>Ways of ensuring content is delivered in line with current, up-to-date industry practice:</b>	<p>Providers should check current legislation/guidance for amendments/changes prior to content delivery.</p> <p>Staff CPD in line with current practice (eg CSCS card).</p>
<b>EDI or accessibility considerations:</b>	None.
<b>Digital initiative considerations:</b>	None.
<b>Sustainability considerations:</b>	Encouraging paperless working practices – printing materials only where necessary.
<b>Books:</b>	N/A

**Websites:**

Local/national construction company websites (specific to learner trade area).

Professional body websites (specific to learner trade area).

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## Unit 230 Plastering Core Principles

<b>Unit level:</b>	Level 2
<b>Guided Learning Hours (GLH):</b>	55
<b>Unit aim:</b>	The aim of this unit is for learners to develop the knowledge and understanding of internal plastering, external rendering and dry lining tools, materials, resources and beads used to carry out the mixing, application and finishing of internal and external surfaces. Learners will develop the skills and techniques to effectively plan and prepare plastering activities, and to undertake plastering work safely.
<b>Assessment method:</b>	Multiple choice question (MCQ) assessment, practical assignment
<b>Links to Apprenticeship Standard:</b>	Plasterer ST0096 See also qualification content mapping to Occupational Standard (Appendix 1)

### Learning outcomes

1. Understand how to plan and prepare for internal, dry lining and external plastering work
2. Understand the types and purpose of equipment, tools and resources used for internal plastering, dry lining and external rendering systems
3. Understand the selection, preparation and mixing of materials for internal and external plaster work
4. Understand how to identify and prepare background surfaces to receive internal plaster, dry lining and external render systems
5. Understand how to identify defects and carry out repairs to internal plastering, external rendering and dry lining surfaces
6. Understand how to select the appropriate beads and fixings for the plastering work and the correct method of fitting beads
7. Plan and prepare to undertake internal, dry lining and external plastering work
8. Undertake internal, dry lining and external plastering work considering the work environment and health and safety

## Learning outcome 1

Understand how to plan and prepare for internal, dry lining and external plastering work

Topics	Content elements
1.1 Information sources and tools used to plan and prepare for plastering work	<p>1.1.1 Types, characteristics and purpose of drawings used in plastering work.</p> <p>a) Drawings:</p> <ol style="list-style-type: none"><li>i. Location drawings,</li><li>ii. layout drawings,</li><li>iii. reflective and elevation drawings,</li><li>iv. section drawings,</li><li>v. detail and component drawings</li></ol> <p>b) Characteristics of drawings:</p> <ol style="list-style-type: none"><li>i. location drawings: shows the overall site, position of building, access to building, services</li><li>ii. layout drawings: provides an overview of each room and shows dimensions and areas, used for calculations</li><li>iii. reflective and elevation drawings: shows the layout of ceilings to be plaster boarded, shows each face of the wall for internal or external plaster and render application, including position of beads</li><li>iv. section drawings: shows a vertical cut through of a building, the height of the building including components and materials</li></ol> <p>c) Purpose of using drawings:</p> <ol style="list-style-type: none"><li>i. to identify how to prepare work and mixing areas</li><li>ii. to identify how to prepare appropriate types of storage for deliveries of materials, tools and equipment</li><li>iii. to identify the types of tools and equipment needed for rendering and plastering work</li><li>iv. to provide dimensions to allow measurements and quantities to be calculated</li><li>v. to identify the position of internal standard and thin coat angle beads (angle, stop and movement)</li><li>vi. to identify the location of surface areas to be plastered (plain walls, walls with openings, ceilings, beams and external elevations and render feature)</li><li>vii. to identify the background surfaces (brick, block, concrete, stone, EML, timber, composite)</li></ol>



## Topics

## Content elements

- viii. to identify the location of external rendering beads and reinforcements (stainless steel and plastic), angle beads, stop beads, movement beads, bellcast beads
- ix. to identify the location of stress reinforcement areas and specialist trims, starter rails and profiles for EWI
- x. to identify external elevations surfaces, setting out of render features and designs
- xi. to identify dry wall backgrounds, fixing methods and position of dry wall dabs for direct bond installation of plasterboard.
- xii. to identify timber and metal studs centres, ceiling joist centres and fixing methods for installing mechanically fixed plasterboard.

### 1.1.2 Characteristics and purpose of specifications used in plastering work.

#### a) Specifications:

- i. states the specific bagged and loose plastering materials required to be selected for the internal and external work, avoiding warranty issues and variations
- ii. states the type of internal and external reinforcement, fibre glass matting, self-adhesive scrim, paper and reinforced tapes required for the plastering work.
- iii. states the types and size of beads and fixings to be used on a background for the plaster, render application and dry lining installation to receive subsequent backing and finishing coats.
- iv. provides information on mixing ratios and additives required for the plastering work.
- v. provides information on the quality of required aggregates (building sand, coarse sand, binders such as cement and lime) required for the plastering work.
- vi. states the types of bonding system to be used with the application (grit adhesive, SBR, PVA, slurry splatter dash)
- vii. identifies the specified manufacturer of plastering material required to be purchased for the plastering work.
- viii. states the standard of workmanship (tolerances, plumb and level) required for the plastering work.
- ix. states the type of internal plastering or external rendering system to be used for the plastering work (number of coats, scratch, backing, final or finish)

## Topics

## Content elements

- x. states the specified thickness for internal plaster and external render application for the plastering work.
- xi. states the specified colour and texture of external render finish required for the plastering work.
- xii. states the specified EWI and components, type, size and performance required for the plastering work.
- xiii. states the specified specialist trims and profiles to accommodate for modern thin coat render systems.
- xiv. states the specified type and size of standard or performance plasterboard for dry lining installation.
- xv. states the specified primers for sealing dry wall tape and jointed surfaces.

### 1.1.3 Characteristics and purpose of manufacturer's information used in plastering work.

#### a) Manufacturers information:

- i. provides guidelines for plaster, render application, drylining and tape and joint installation, use and finish to ensure quality of finished plastering internal and external surfaces
- ii. provides guidelines for mixing and volume and quality of water required to ensure quality of mixed materials
- iii. provides information on Health and Safety, suitable PPE, safe handling and COSHH to support safe working
- iv. provides guidelines for safe use of tools, equipment and materials to support safe working
- v. provides guidelines for correct disposal of waste to avoid pollution and to protect the natural environment
- vi. provides information on setting times to support with planning of plaster or render application work
- vii. states the plaster or render coverage per bag to support with calculation of materials required for plaster or render application work

### 1.1.4 Types, characteristics and purpose of planning works schedules used in plastering work.

#### a) Types and characteristics:

- i. labour: GANTT chart to identify the sequence of work
- ii. materials: internal and external plastering materials
- iii. worksheet/jobsheet: includes materials, labour and timeframes

- iv. timesheet: includes hours and days worked, and payments and wages
  
- b) Purpose of using a labour schedule:
  - i. provides client with agreed timescales for completing the plastering work
  - ii. provides information when each stage of the work starts and the expected completion date
  - iii. avoids crossover of construction trades
  
- c) Purpose of using a materials schedule:
  - i. planning delivery of materials and equipment for plastering work
  - ii. identifies where specific plastering materials will be used in terms of performance requirements
  - iii. ensures product shelf life and avoids materials waste and deterioration
  - iv. identifies fixing location for type of standard and performance plasterboard in line with building regulations.
  - v. identifies external render colour schemes.
  
- d) Purpose of using a worksheet/jobsheet:
  - i. identifies plastering work requirements and what needs to be completed within a specific time and supports with labour resource planning.
  
- e) Purpose of using a timesheet:
  - i. used to record completed plastering work which can also be used for planning future schedules and to support with future allocation of labour resource.

#### 1.1.5 Characteristics and purpose of method statements and risk assessments used in plastering work.

- a) Characteristics:
  - i. method statement: identifies the various types of tasks required for the plastering work and details how each stage will be carried out safely
  - ii. risk assessment: identifies risks and hazards and potential harm from the method of work

Topics	Content elements
	<p>b) Purpose of method statement:</p> <ul style="list-style-type: none"> <li>i. supports with the putting in place of work activities to reduce identified risks to support safe plastering work</li> </ul> <p>c) Purpose of risk assessment:</p> <ul style="list-style-type: none"> <li>i. ensures that all potential risks and hazards are identified for the plastering work to be carried out</li> <li>ii. identifies the correct PPE to be worn based on identified risks to protect operatives during plastering work</li> </ul> <p>1.1.6 Responsibility of users of the different information types.</p> <p>a) Users:</p> <ul style="list-style-type: none"> <li>i. client: details requirements to architect, end user of final product</li> <li>ii. architect: planning and designing a new building and making variations to existing buildings</li> <li>iii. main contractor: employing the workforce, carrying out the plastering work</li> <li>iv. local authority: responsible for planning, approval and quality control</li> <li>v. manufacturers: responsible for producing plaster and render products, components and materials</li> <li>vi. builders' merchants: responsible for stocking and selling their supplies</li> <li>vii. site manager: oversees the plastering work</li> <li>viii. supervisor: oversee and instruct operatives responsible for carrying out the plastering and rendering work</li> <li>ix. operative: responsible for completing plastering and rendering work to the required industry standard</li> </ul>
<p>1.2 Calculations used to plan for applying plastering work</p>	<p>1.2.1 Use of calculations during planning of plaster application and coverage for plain walls, ceilings, walls with openings, beams, piers, gable ends and plasterboard joints.</p> <p>a) Calculations:</p> <ul style="list-style-type: none"> <li>i. surface areas: length x breadth</li> <li>ii. Surface areas for apex: length x height divided by two</li> <li>iii. thickness (volume): length x breadth x depth</li> <li>iv. linear measurements: use of tape measure by length, plasterboard joints, external and internal corners including piers and returns</li> <li>v. ratios of materials: 6-1-1: sand, lime, cement, correct gauging of loose materials</li> <li>vi. allowance for waste (percentages between 5-10%)</li> <li>vii. costs</li> <li>viii. working out/estimating basic materials coverage, rounded up to whole numbers:</li> </ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>- traditional plaster</li> <li>- lightweight plaster</li> <li>- dry wall compounds</li> <li>- jointing compounds</li> <li>- fixings</li> <li>- plasterboard</li> <li>- external render</li> <li>- beads, reinforcement, tape, trims, track and profiles (linear)</li> </ul> <p>ix. labour and material cost including VAT</p>
<p>1.3 Planning for the protection of work areas when undertaking plastering work</p>	<p>1.3.1 Methods of protecting work areas when undertaking plastering work and the reasons why this is important.</p> <p>a) Methods:</p> <ul style="list-style-type: none"> <li>i. application of protection materials to surfaces and furnishings</li> <li>ii. planning of work to keep access routes clear and obstacle free</li> </ul> <p>b) Reasons:</p> <ul style="list-style-type: none"> <li>i. to protect work undertaken, and customer/client's properties and surrounding areas from damage</li> <li>ii. to maintain business reputation</li> <li>iii. to support co-operative work with other trades</li> </ul>

## Learning outcome 2

Understand the types and purpose of equipment, tools and resources used for internal plastering, dry lining and external rendering systems

<p>2.1 Equipment, tools and resources and uses in plastering work</p>	<p>2.1.1 Types and purpose of plastering equipment, tools and resources used in different stages of applying internal plastering, dry lining and external rendering work.</p> <p>a) Equipment and resources used for protecting surfaces and correctly disposing of waste:</p> <ul style="list-style-type: none"> <li>xi. dust sheets</li> <li>xii. polycarbonate sheet for mixing and work/floor areas</li> <li>xiii. timber sheet for protecting floor coverings.</li> <li>xiv. internal and external window and floor protectors (clear plastic carpet protector)</li> <li>xv. overshoe protectors</li> </ul>
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- xvi. masking tape for window and door edging including soffits and fascia boards
- xvii. tarpaulin and plastic sheeting to avoid spillage on floors, roofs, surfaces.
- xviii. transportation of waste (buckets, wheelbarrows, skips, shoot, rubble bags/sacks)
- xix. mechanical hoists
- xx. tele handler
- xxi. notices/signs
- xxii. cones
- xxiii. fencing
- xxiv. netting

b) Tools and equipment for preparing backgrounds (by stripping and hacking):

- xiv. lump hammer and bolster
- xv. nail bar
- xvi. scutch hammer
- xvii. lath hammer
- xviii. scraper
- xix. wire brush
- xx. roller and tray
- xxi. brushes (stipple)
- xxii. paddle (slurry)
- xxiii. mechanical breaker
- xxiv. grinder
- xxv. sweeping brush
- xxvi. shovel and wheelbarrow

c) Tools and equipment for mixing plastering and rendering materials:

- xiii. drill and whisk
- xiv. transformer
- xv. mechanical drum mixer
- xvi. 110 volt lead extension lead
- xvii. wheelbarrow
- xviii. water buckets
- xix. mixing buckets
- xx. gauging buckets
- xxi. bucket trowel
- xxii. gauging trowel
- xxiii. shovel
- xxiv. cleaning brush

d) Tools and equipment for applying plaster and render materials, ruling, aligning, consolidating, keying, cutting back, scraping surfaces for the application and producing a finish:

- xviii. plastering trowel
- xix. hawk/handboard
- xx. spot board and stand
- xxi. gauging trowel
- xxii. bucket trowel
- xxiii. comb scratcher
- xxiv. small tool
- xxv. darby
- xxvi. straight edge/feature edge
- xxvii. polyurethane devil float
- xxviii. sponge float
- xxix. spatula
- xxx. finishing blades
- xxxi. internal corner trowel
- xxxii. margin trowel
- xxxiii. water buckets and splash brush
- xxxiv. access equipment

e) Tools for finishing external render surfaces:

- ix. polyurethane plastic float (Plain face)
- x. wet and dry dashing paddle/shovel
- xi. scraifier and i-bar (scrape texture)
- xii. polycarbonate float (thin coat texture)
- xiii. sponge float
- xiv. tyrolean gun
- xv. spray hopper
- xvi. spray machine

f) Tools and equipment for positioning and fixing standard and thin coat beads, corner beads, stop beads, and expansion beads:

- xiv. tape measure
- xv. snips
- xvi. square
- xvii. level
- xviii. laser level
- xix. chalk line
- xx. stapler
- xxi. claw hammer
- xxii. straight edge
- xxiii. drill/screwdriver
- xxiv. hawk/handboard
- xxv. plastering trowel
- xxvi. splash brush

g) Tools and equipment for preparing and installing dry lining direct bond, mechanical fixing and tape and jointing surfaces including sanding and priming.

iv. cutting plasterboard:

- tape measure
- utility knife
- rasp
- straight edge
- pad saw
- jagged tooth saw
- T-square

v. Installing and fixing plasterboard:

- struts
- service circle cutter
- board lifter
- square
- level
- laser level
- chalk line
- claw hammer
- box rule
- collated screwdriver
- dry wall drill/screwdriver
- hawk/handboard
- drill and whisk
- bucket trowel
- plastering trowel
- splash brush

vi. Taping and jointing tools and equipment:

- snips
- taping and jointing knives
- internal corner tool
- pole sander
- electric sander and vacuum
- paint tray and roller
- self-feeding mechanical taping gun

2.2 Maintenance and use of equipment, tools and resources used in plastering work

2.2.1 Methods of use and maintenance of equipment, tools and resources used in plastering work and reasons why maintenance is important.

a) Maintenance and reasons for doing so:

- i. correct selection, pre-use checks and use of equipment, tools and resources to ensure the job is completed safely, to the correct standard and avoid defective workmanship



- ii. regular cleaning of equipment, tools and resources to avoid build up and causing defective tools and equipment
- iii. correct storage of equipment, tools and resources (bagged materials, loose materials, beads, fixings, additives)
- iv. testing for use and safety of equipment, tools and resources (PAT testing timeframes, cable frays, condition of body of tool, age and general vision of tool)
- v. isolation of faulty/defective equipment, tools and resources and escalation to avoid unsafe use/remove from circulation/ensure effective maintenance

### Learning outcome 3

Understand the selection, preparation and mixing of materials for internal and external plaster work

Topics	Content elements
3.1 Considerations when selecting mixing materials for use in internal and external plastering and rendering systems	<p>3.1.1 Types of traditional material and reasons for their selection</p> <p>a) Traditional aggregates:</p> <ul style="list-style-type: none"> <li>i. loose and bagged aggregate available in 25kg, 750kg bags and delivered loose by weight</li> <li>ii. building sand/coarse sand to bulk out the plastering material</li> <li>iii. rough cast granite: added to the mix to increase texture and strength, sizes vary between 6-12mm</li> <li>iv. dry dash granite: various colours available, types including pebble, stone, flint, sizes vary between 6-12mm</li> </ul> <p>b) Traditional binders:</p> <ul style="list-style-type: none"> <li>i. used to bind the aggregate and provide strength</li> <li>ii. hydraulic lime: has a chemical set however this is a slow setting process</li> <li>iii. hydrated lime: sets with carbonation</li> <li>iv. cement: has a chemical set and increased strength over lime</li> </ul> <p>c) Traditional reinforcements:</p> <ul style="list-style-type: none"> <li>i. animal hair (goat, horse): reinforces the plastering material and prevent cracking</li> </ul> <p>d) Traditional lime-based additives:</p>

- i. pozzolans (accelerator): added to the mix to increase the setting time
  - ii. colouring pigments: added to amend colour for decoration purposes
- e) Traditional cement-based additives:
- i. used for enhancing the performance of plasters
  - ii. waterproofer: to control suction and produce a water barrier to prevent egress of water and rising damp
  - iii. plasticiser: to improve workability during the application of backing coats
  - iv. SBR: chemical bonding and tanking agent, can be used as a slurry to increase adhesion and form tanking surfaces preventing egress of moisture
  - v. salt inhibitors: used to control efflorescence after chemical treatment to damp effected walls
  - vi. Accelerators and retarders: used to increase and decrease setting times
- f) Reasons for using traditional lime-based plasters:
- i. to meet English Heritage and conservation requirements
  - ii. to meet customer requirements (existing work)
  - iii. to meet planning and listed building consent (Grade 1, Grade 2, Grade 2\*)
  - iv. reduces condensation by allowing walls to allow moisture evaporation
- g) Reasons for using traditional cement-based plasters:
- i. in areas that require strength and reinforcing
  - ii. in areas that require tanking and water proofing

### 3.1.2 Types of modern material and reasons for their selection.

- a) Modern Gypsum binders:
- i. vermiculite: lightweight aggregate that increases the adhesion, constantina shape (irregular and sharp), can be applied on low suction backgrounds such as plasterboard and concrete
  - ii. perlite: rounded lightweight aggregate, relies on a good background key for adhesion, can be applied on breezeblock

- b) Modern lightweight plasters:
  - i. pre-blended backing plaster
  - ii. pre-blended finishing plaster
  - iii. dry wall adhesive
  
- c) Modern renders
  - i. pre-blended colour through render
  - ii. pre-mixed thin coat renders
  
- d) Modern reinforcements:
  - i. self-adhesive scrim
  - ii. paper and reinforced tapes
  - iii. fibre glass strands
  - iv. fibreglass mesh
  - v. expanded metal lath (EML)
  
- e) Types of modern additives:
  - i. plasticiser
  - ii. water proofer
  - iii. SBR
  - iv. salt inhibitor
  - v. accelerators
  - vi. retarders
  - vii. polymer
  
- f) Tape and jointing compounds
  - i. pre-blended chemical set jointing compounds
  - ii. pre-mixed aerated jointing compounds
  - iii. primer/sealer

### 3.1.3 Advantages of using modern plasters, renders and dry lining materials.

- a) Advantages:
  - i. compatible with different backgrounds (low, medium, high suction)
  - ii. internal lightweight plasters are lighter to use than traditional
  - iii. internal lightweight plasters have improved thermal performance than traditional.
  - iv. easier to source
  - v. can be mixed with a drill and whisk.
  - vi. can be hand or machine applied.

Topics	Content elements
	<ul style="list-style-type: none"> <li>vii. pre-blended and pre-mixed plasters and renders are manufactured by companies in batching plants, factory batched to the correct ratios and quantities and colour.</li> <li>viii. excellent IWI and EWI systems to meet thermal performance requirements.</li> <li>ix. external pre-blended renders are colour through with better adhesion properties.</li> <li>x. tape and jointing systems meeting commercial finish requirements.</li> <li>xi. performance plasterboard meet new building regulation requirements (sound proofing, fire protection, controlling moisture, increasing thermal performances etc)</li> <li>xii. provided with manufacturer's instructions for use.</li> </ul>
<p>3.2 Considerations when preparing to mix materials for use in internal and external plastering and rendering systems</p>	<p>3.2.1 Factors and influences when mixing materials to meet quality requirements.</p> <ul style="list-style-type: none"> <li>a) Mixing area considerations: <ul style="list-style-type: none"> <li>i. power</li> <li>ii. ventilation</li> <li>iii. storage</li> <li>iv. layout</li> <li>v. access</li> </ul> </li> <li>b) Factors that influence the quality of mixing materials: <ul style="list-style-type: none"> <li>i. water: clean and uncontaminated</li> <li>ii. ratios: amount of different materials (sand, cement, lime, additive)</li> <li>iii. correct amount of water content</li> <li>iv. gauging: buckets to ensure correct amounts of materials</li> <li>v. strength: correct gauging methods to determine strength of mix</li> <li>vi. consistency: unable to successfully apply mixed materials, under-mixed materials, over-mixed materials</li> <li>vii. shelf life: use within date on product packaging for quality of use, effective stock rotation, pre-order of specialist plaster, render and dry lining materials to lead times and to avoid product wastage</li> <li>viii. contamination: incorrect storage of materials e.g. damp, deuteriation, use of poorly maintained hand and power tools</li> </ul> </li> <li>c) Implications of poor mixing: <ul style="list-style-type: none"> <li>i. use of contaminated/dirty water: Plasters and compounds flash setting or longer setting times.</li> </ul> </li> </ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>ii. render products having longer setting time and colour inconsistency.</li> <li>iii. use of incorrect ratios: mixed materials too strong or too weak</li> <li>iv. use of incorrect measurements of quantities: mixed materials too strong or too weak</li> <li>v. use of materials with incorrect strength: too strong – crack. Too weak – crumble.</li> <li>vi. use of materials that are of incorrect consistency: too wet unable to apply correct consistency and thickness, too dry unable to adhere to background successfully.</li> <li>vii. use of expired materials: effect product warranty and product setting times</li> <li>viii. use of contaminated materials: debris in mixed materials effecting setting times and product application quality.</li> </ul>
<p>3.3 Considerations when mixing materials for internal and external plaster work</p>	<p>3.3.1 Types of mixing methods and their reason for use.</p> <ul style="list-style-type: none"> <li>a) Types: <ul style="list-style-type: none"> <li>i. hand mixing</li> <li>ii. mechanical mixing</li> </ul> </li> <li>b) Reasons for hand mixing: <ul style="list-style-type: none"> <li>i. mixing small amounts of materials for carrying out repairs</li> <li>ii. working in a remote location with a lack of services (lack of water, electricity, causing dusty environments and noise, transportation limitations)</li> <li>iii. working in a commercial and residential location (hotel, hospital, office, block of flats) that requires noise and dust limitations</li> <li>iv. mechanical equipment failure</li> </ul> </li> <li>c) Reasons for mechanical mixing: <ul style="list-style-type: none"> <li>i. increased speed of mixing materials, saving time</li> <li>ii. improved consistency of mixed materials</li> <li>iii. increased productivity of materials, labour and coverage</li> <li>iv. less labour intensive</li> <li>v. use of drill and whisk for pre-blended and premixed application materials to save time</li> <li>vi. use of mechanical drum mixer for loose materials to ensure consistency and accurate strength of mix</li> <li>vii. mixing large amounts of plaster and render materials to meet the application coverage</li> <li>viii. use of spray machine for speed and consistency of application and reduction of labour</li> </ul> </li> </ul>

## Learning outcome 4

Understand how to identify and prepare background surfaces to receive internal plaster, dry lining and external render systems

Topics	Content elements
4.1 Types of background surfaces and their characteristics	<p>4.1.1 Types, characteristics and reasons for using different background surfaces.</p> <p>a) Internal and external background surfaces and their characteristics:</p> <ol style="list-style-type: none"><li>i. breeze/Solid block: medium suction, adequate key</li><li>ii. lightweight aerated block: high suction, adequate key</li><li>iii. common concrete brick: low suction, no key</li><li>iv. clay brick: porous, medium to high suction</li><li>v. engineering brick: glazed dense surface, low suction, poor key</li><li>vi. concrete walls, lintels and padstones: hard surface, smooth and sometimes honeycomb, low suction, poor key</li><li>vii. stone face wall (suitable for lime based or cement based materials): hard, dense surface, no suction and poor key</li><li>viii. timber backgrounds (sheet, studs, joists): low suction</li><li>ix. composite walls: combination of different materials, low, medium to high suction.</li><li>x. plasterboard background: low suction</li><li>xi. cement board background: low suction</li><li>xii. solid existing plaster surfaces: low, medium to high suction</li><li>xiii. external wall Insulation: low suction</li></ol>
4.2 Types of background surfaces and their preparation methods	<p>4.2.1 Types of background surfaces and the different methods of preparation required.</p> <p>a) Background surfaces and how to prepare:</p> <ol style="list-style-type: none"><li>i. internal and external Breeze/Solid block: no preparation required however in humid conditions may need to apply water to the background</li><li>ii. internal lightweight aerated block: background needs to be controlled with a primer to control suction</li><li>iii. external lightweight solid block: no preparation required however in humid conditions may need to apply water to the background</li><li>iv. concrete common brick: background needs to be prepared with a bonding slurry adhesive (for cement based plasters and renders) or bonding grit adhesive (pre-blended gypsum backing floating coat), no preparation required for direct bonding plasterboard using adhesive</li><li>v. internal clay brick wall: background needs to be controlled with PVA or primer before application of backing floating coat</li></ol>

Topics	Content elements
	vi. external clay brick wall: background needs to be controlled with a primer and slurry before application of render
	vii. engineering brick: requires preparing with mechanically fixed EML to ensure adhesion of subsequent plaster or render application. Requires scabbling with needle gun for direct bond dry lining installation
	viii. internal and external concrete walls, lintels and padstones: requires preparing with a bonding slurry adhesive (cement based products) or grit adhesive for pre-blended gypsum backing floating coat. No preparation required for direct dry lining installation.
	ix. internal stone face wall (suitable for lime based or cement based materials): requires raking and dubbing out in preparation for subsequent plaster application.
	x. external stone face wall: requires preparing with slurry and dubbing out can be completed using traditional cement based and modern pre-blended renders. Requires preparing with a scratch coat for direct bond dry lining installation.
	xi. internal and external timber backgrounds: requires preparing with mechanically fixed EML to reinforce surface to ensure adhesion of subsequent plaster or render application. Plasterboard and cement board can be mechanically fixed.
	xii. internal and external composite walls: requires preparing with mechanically fixed expanded metal lath (EML) to reinforce surface to ensure adhesion of subsequent plaster and render application. Only suitable for direct bond dry lining when prepared with a scratch coat.
	xiii. plasterboard background: joints should be prepared with self adhesive scrim and corners and stops should be prepared with beads before plaster application or tape and jointing
	xiv. internal cement board background: prepared with a primer and bonding grit
	xv. external cement board background: no preparation required however can only be rendered using specified materials
	xvi. internal solid existing plaster surfaces: requires a primer and bonding grit adhesive
	xvii. external wall Insulation: applied with specified plasters incorporating mesh reinforcement

## Learning outcome 5

Understand how to identify defects and carry out repairs to internal plastering, external rendering and dry lining surfaces

Topics	Content elements
5.1 Plastering defects and methods of repair	<p data-bbox="675 215 1366 282">5.1.1 Causes of common defects in surfaces and the actions that should be taken to repair surfaces.</p> <p data-bbox="675 327 1302 360">a) Common defects and how they are identified:</p> <ul style="list-style-type: none"> <li data-bbox="707 367 1334 434">i. delamination of applied plaster, render and installed plasterboard.</li> <li data-bbox="707 441 1270 474">ii. crazing of plaster and render surfaces</li> <li data-bbox="692 481 1370 515">iii. hairline cracks on plaster and render surfaces</li> <li data-bbox="692 521 1241 589">iv. shrinkage cracks on plaster, jointing compounds and render surfaces</li> <li data-bbox="707 595 1227 629">v. structural cracking from movement</li> <li data-bbox="692 636 1171 669">vi. blemishes on internal surfaces</li> <li data-bbox="692 676 1262 710">vii. sagging of applied plaster and render</li> <li data-bbox="678 716 1342 750">viii. plaster, render, compound failure/crumbling</li> <li data-bbox="692 757 1358 790">ix. pattern staining and grinning of backgrounds</li> <li data-bbox="707 797 1217 831">x. mould growth on internal surfaces</li> <li data-bbox="692 837 1206 871">xi. fungi growth on external surfaces</li> <li data-bbox="692 878 1145 911">xii. rising damp on internal walls</li> <li data-bbox="678 918 1270 952">xiii. egress of damp from adverse weather</li> <li data-bbox="678 958 1265 1025">xiv. efflorescence on internal and external surfaces</li> <li data-bbox="692 1032 1098 1066">xv. rust penetrating surfaces</li> <li data-bbox="678 1072 1358 1140">xvi. uneven render texture (boldness in dry dash, ghosting in scrape finish)</li> <li data-bbox="678 1146 1305 1214">xvii. cold spots on direct bonded plasterboard surfaces.</li> <li data-bbox="678 1220 1193 1254">xviii. uneven tape and jointed surface</li> <li data-bbox="678 1261 1294 1294">xix. air trapped behind paper jointed surface</li> <li data-bbox="692 1301 1203 1335">xx. fixings popping plastered surface</li> <li data-bbox="692 1341 1090 1375">xxi. poor alignment of beads</li> <li data-bbox="678 1382 1015 1415">xxii. beads not cleaned</li> <li data-bbox="678 1422 1233 1456">xxiii. poor alignment of EWI components</li> <li data-bbox="678 1462 1249 1529">xxiv. incorrect fixings for plasterboard and insulation installation</li> <li data-bbox="678 1536 1126 1570">xxv. bowed plasterboard sheets</li> <li data-bbox="678 1576 1118 1610">xxvi. plasterboard core cracking</li> <li data-bbox="678 1617 1214 1650">xxvii. paper tape showing through joints</li> </ul> <p data-bbox="675 1695 1075 1729">b) Causes of common defects:</p> <ul style="list-style-type: none"> <li data-bbox="707 1736 1102 1769">i. poor key and preparation</li> <li data-bbox="707 1776 1374 1843">ii. materials not compatible with background and subsequent application</li> <li data-bbox="692 1850 1118 1883">iii. movement in backgrounds</li> <li data-bbox="692 1890 1043 1924">iv. varying suction rates</li> <li data-bbox="692 1930 1015 1964">v. defected materials</li> </ul>



- vi. contaminated materials
- vii. shrinkage
- viii. cold spots
- ix. rising damp
- x. adverse weather conditions (freezing conditions, rain, sun and wind).
- xi. poor workmanship
- xii. incorrect plaster or render selection
- xiii. poor storage of materials

c) Actions to repair:

- i. remove surface areas and make good repair
- ii. form suitable key
- iii. control suction
- iv. use suitable bonding agents
- v. ensure compatibility of product
- vi. do not apply strong on weak
- vii. check suitability of materials
- viii. ensure materials match specification
- ix. follow manufacturer's instructions
- x. reinforce backgrounds surfaces
- xi. reinforce materials
- xii. use correct additives
- xiii. use correct beads
- xiv. gauge materials, additives and water accurately
- xv. protect materials and surfaces from adverse weather conditions
- xvi. set out beads and components accurately
- xvii. use correct fixings and components for installation
- xviii. store on pallets

## Learning outcome 6

Understand how to select the appropriate beads and fixings for the plastering work and the correct method of fitting beads

### 6.1 Beads and fixings

#### 6.1.1 Types of internal and external beads.

a) Beads:

- i. galvanised
- ii. stainless steel
- iii. plastic
- iv. standard or thin coat
- v. angle
- vi. stop

- vii. movement
- viii. bellcast

#### 6.1.2 Considerations when selecting beads for plastering work.

##### a) Considerations:

- i. the type of background (brick, block, plasterboard, concrete)
- ii. thickness of bead to suit thickness of application and subsequent coats
- iii. beads meet specification requirements
- iv. beads fitted in correct location forming returns, stop ends, movement, drips above openings and DPC
- v. correct fixing process, dabs, adhesive, nailed, mechanical, stapled.
- vi. alignment with door and window frames
- vii. forming plumb and level arises
- viii. forming external decorative features
- ix. incorporated to combine different style finishes
- x. match with existing and surrounding surfaces
- xi. reinforcing corners

#### 6.1.3 Method of fitting and checking beads and fixings.

##### a) Method:

- i. selection process of appropriate beads and fixings
- ii. checking for alignment
- iii. cutting beads to correct dimension
- iv. beads are fixed plumb and level
- v. margins are correct dimensions
- vi. no steps where beads meet
- vii. beads should be kept clean

## Learning outcome 7

Plan and prepare to undertake internal, dry lining and external plastering work

### 7.1 Planning and preparation

#### 7.1.1 Reviews job requirements through

##### a) interpretation of diagrams/figures/specifications

#### 7.1.2 Plans and prepares for plastering activities through completion of

##### a) method statements

- i) reviews potential risks and safety concerns for self and others
- ii) identification of correct PPE

7.1.3 Identifies and selects correct materials, resources, tools/equipment and PPE to undertake plastering work.

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### **Learning outcome 8**

Undertake internal, dry lining and external plastering work considering the work environment and health and safety

8.1 Undertake plastering activities considering the work environment and health and safety

8.1.1 Undertake plastering activities with consideration of self, others and the work environment:

- a) meeting health and safety requirements for the user and those around them
  - b) maintaining good housekeeping and a clear and safe space for work
  - c) access requirements (including any work at height)
  - d) using and wearing appropriate PPE as required for each task
  - e) using and maintaining tools and equipment correctly, including correct pre-work checks, handling, storage and escalation of defective/faulty equipment
  - f) correct disposal of waste
  - g) correct lifting and handling techniques, including movement of materials manually and using lifting equipment
  - h) protection of work area and surroundings throughout plastering activities
-

## Supporting information

### Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	This is a knowledge only unit and although the majority of content could be delivered in a classroom environment, it is important that learners can relate this knowledge and understanding to real life working tasks and environments. Reference to this unit should be made when teaching the other practical units that make up this qualification.
Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:	In order for the learner to develop naturally, a number of classroom sessions should be undertaken to build confidence and improve the knowledge and understanding of the different topics to develop with productive feedback from the tutor in preparation for the multiple-choice examination. This will support the holistic approach of delivering and assessing the qualification.
Opportunities for visits/engagement with local industry and employers:	Employer engagement opportunities for this unit should also be incorporated in order to allow the learner to gain experience.
Considerations for innovative methods of delivery:	Tutors should make the best use of available resources to provide learners with the opportunity to use a wide range of activities that could include lectures, discussions, self-study, research opportunities, visits to exhibitions and practical training to stimulate, motivate and educate the learner.
Ways of ensuring content is delivered in line with current, up to date industry practice:	Employer guest lectures or real site visits should be encouraged to allow students to gain insight and/or practical application of knowledge and skills in a real environment.
EDI or accessibility considerations:	Tutors need to be aware of prior learning that has taken place and use this information to structure individualised learning where appropriate.
Digital initiative considerations:	Video tutorials, augmented reality, 3D printers, drones, building information technology.
Sustainability considerations:	Sustainability and the environmental impact of the materials used should be considered during teaching delivery. Learners should consider approaches to sustainability throughout the plastering process in order to minimise environmental impact. These would include recycling of materials where possible, minimising waste, reusing components for practical tasks where possible.

## Suggested learning resources

### Books

The City & Guilds Textbook: Plastering for Levels 1 and 2, Hodder Education

### Websites

[www.british-gypsum.com](http://www.british-gypsum.com)

[www.uk.webber](http://www.uk.webber)

[www.k-rend.co.uk](http://www.k-rend.co.uk)

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

[www.english-heritage.org.uk](http://www.english-heritage.org.uk)

[www.lime-green.co.uk](http://www.lime-green.co.uk)

[www.expamet.co.uk/product-category/angle-bead](http://www.expamet.co.uk/product-category/angle-bead)

[www.profilestore.co.uk/c/PVC-Bead/pvc-corner-bead](http://www.profilestore.co.uk/c/PVC-Bead/pvc-corner-bead)

## Unit 231 Internal plastering

<b>Unit level:</b>	Level 2
<b>Guided Learning Hours (GLH):</b>	100
<b>Unit aim:</b>	The aim of this unit is for learners to develop the knowledge, understanding, skills and techniques to prepare backgrounds and apply one, two and three coat internal plasterwork to form vertical and horizontal surfaces.
<b>Assessment method:</b>	Multiple choice question (MCQ) assessment, practical assignment
<b>Links to Apprenticeship Standard:</b>	Plasterer ST0096 See also qualification content mapping to Occupational Standard (Appendix 1)

### Learning outcomes

1. Understand how to install and apply internal plastering systems
2. Apply internal plasters

### Learning outcome 1

Understand how to install and apply internal plastering systems

Topics	Content elements
1.1 The methods and techniques of internal plaster application	<p>1.1.1 The different methods of internal plaster application and their purpose for use.</p> <p>a) Types of background surfaces to receive internal plaster:</p> <ol style="list-style-type: none"> <li>i. plain walls</li> <li>ii. walls with returns</li> <li>iii. walls with door casings</li> <li>iv. horizontal ceilings</li> <li>v. beams with soffits</li> </ol> <p>b) Application methods for internal plaster and their uses:</p> <ol style="list-style-type: none"> <li>i. dubbing out, scratch, float and finish used on:           <ul style="list-style-type: none"> <li>- stone backgrounds (crevices)</li> <li>- composite backgrounds</li> </ul> </li> <li>ii. pricking up, float and finish used on:</li> </ol>

- EML work
- timber lath (traditional lime-based plaster)
- iii. scratch coat, float and finish used on:
  - typical uneven backgrounds that require filling out
  - old clay brick backgrounds
- iv. floating coat and finish used on:
  - flat, brick and block backgrounds
- v. finishing coat (two pass) used on:
  - flat surfaces such as plasterboard and over-skimmed solid surfaces prepared with bonding grit

c) Process and uses of application technique and style for applying scratch coats:

- i. applied between 8-12mm thick
- ii. keyed with a comb scratcher
- iii. applied on backgrounds to fill out uneven surfaces in preparation for subsequent floating coats
- iv. applied on returns and piers to form hard angles using reverse rule method when forming accurate in line corners
- v. also used to control suction on backgrounds
- vi. used on backgrounds that have been treated with a chemical DPC
- vii. used on EML and timber lath and this process is known as pricking up
- viii. applied on irregular surfaces such as stone crevices in preparation for subsequent application and this process is known as dubbing out

d) Process and uses of application technique and style for floating coats:

- i. traditional dot and screed: traditional method of forming floated backing coats using dots and screeds to form plumb and level surfaces to receive finishing plaster.
  - time consuming method and incurs higher costs of labour
  - accurate method of application for plumbing and levelling plaster surfaces
- ii. box screed system: method of forming floated backing coats using perimeter screeds to form straight and in-line wall and ceiling surfaces to receive finishing plaster.
  - to ensure that walls are aligned diagonally, horizontally and vertically
  - development and quicker application method of producing floated plaster surfaces
- iii. free hand: method of forming floated backing coats using a straight edge or derby to rule wall and ceiling surfaces for alignment and to receive finishing plaster.

- Carried out because of industry demands and needs for meeting timeframes and the need to reduce costs
  - Not as accurate a method of plaster application and used by competent and experienced plasterers
  - iv. returns and reveals: should be set out to ensure surfaces are in line, square and correct margins of piers and window and door returns
  - v. floating coat key: formed on floating coats by consolidating the surface with a polyurethane devil float.
    - beads and doorframes should be cut back in preparation for subsequent finishing plaster.
    - devil floated surface should be scraped back with the edge of the trowel to remove excess nodules created from the devil floating process.
    - floating coats are applied between 8-12mm thick.
- e) Process of application technique and style for finishing coats:
- i. reinforce all joints with self-adhesive scrim
  - ii. fix thin coat beads to corners, stop ends and movement joints
  - iii. mix finishing plaster, apply first pass of plaster application and allow to pull in
  - iv. mix finishing plaster, apply second pass of plaster application and allow to pull in. Applied between 2-3mm thick dependent on flatness of background
  - v. trowel and polish surface in preparation for decoration
  - vi. check all angles and beads are finished in line and clean
  - vii. right-handed application process for finishing coats: work from top left to top right, bottom left to bottom right
  - viii. left-handed application process for finishing coats: work from top right to left, bottom right to left

1.2 Beads used in internal plaster application and how they are fixed

1.2.1 Fixing, plumbing and levelling various types of beads around openings, returns, soffits and beams and movement joints.

a) Types of beads and their uses:

- i. standard angle bead: two coat application, float and set plaster application
- ii. standard stop bead: forming a stop end on a horizontal or vertical stop end using a float and set plaster application
- iii. standard movement bead: used on areas of expansion to allow for movement, float and set plaster application
- iv. thin coat mini mesh angle bead/ thin coat dry wall angle bead: used on plasterboard surfaces, plasterboard



- external angles and can also be used on angles in preparation for overskim
  - v. thin coat stop bead: forming a stop end on a horizontal or vertical stop end in preparation for setting plaster application
  - vi. thin coat movement bead: used on areas of expansion to allow for movement, in preparation for setting plaster application
- b) Methods of fixing and reasons for use:
- i. plaster dabs: fixing and plumbing levelling standard angle beads around openings and returns, brick or block work backgrounds
  - ii. galvanised clout nails: traditional methods of fixing thin coat beads onto plasterboard returns and openings, used on timber studs and joists
  - iii. staples fixings: modern method of fixing thin coat beads onto plasterboard returns and openings, quicker method of fixing for time efficiency
  - iv. dry wall screws: fixes directly to timber or metal
  - v. Mechanically screwed: using a dry wall screwdriver for fixing
  - vi. self-fixed/adhesive: modern fixing method reduces the need of having to use fixings

## Learning outcome 2

Apply internal plasters

Topics	Content elements
2.1 Apply one, two and three coat plaster to prepared backgrounds	2.1.1 Apply one, two and three coat plaster to prepared backgrounds: <ul style="list-style-type: none"> <li>a) Prepare backgrounds:               <ul style="list-style-type: none"> <li>i. set up resources</li> <li>ii. check alignment of surface</li> <li>iii. assess key</li> <li>iv. control suction</li> </ul> </li> <li>b) Install beads:               <ul style="list-style-type: none"> <li>i. select appropriate type of beads (thin coat and standard)</li> <li>ii. measure and cut</li> <li>iii. fix and position (stapler, mechanical, dabs)</li> <li>iv. check for plumb and level</li> <li>v. check for square and correct margins</li> </ul> </li> </ul>

## Topics

## Content elements

- c) Mix plaster materials:
  - i. traditional lime sand base coats
  - ii. pre-blended base coats
  - iii. pre-blended finishing coats
  - iv. set up mixing area
  - v. measuring and gauging of plaster materials
  - vi. mix materials mechanically
  
- d) Apply one, two and three coat plasters on:
  - i. plain walls
  - ii. window walls with returns
  - iii. walls with piers
  - iv. ceilings
  - v. select application process
  - vi. apply floating backing coats to walls, returns and piers
  - vii. rule surface, consolidate with key and cut back
  - viii. apply finishing plaster (two pass)
  - ix. review work and check for any defects

# Supporting information

## Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Plastering application techniques and skills could be drawn together and delivered regardless of the type of plastering (internal, external, dry lining).
Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:	In order for the learner to develop naturally, a number of basic practical sessions should be undertaken to build confidence and improve skills and techniques with productive feedback from the tutor during and at the end of each session. Naturally occurring training activities used to apply plasters will facilitate the completion of this unit. This will support the holistic approach of delivering and assessing the qualification as well as stimulate a realistic experience for the learners.
Opportunities for visits/engagement with local industry and employers:	Employer engagement opportunities for this unit should also be incorporated in order to allow the learner to gain experience.
Considerations for innovative methods of delivery:	Tutors should make the best use of available resources to provide learners with the opportunity to use a wide range of activities that could include lectures, discussions, self-study, research opportunities, visits to exhibitions and practical training to stimulate, motivate and educate the learner.
Ways of ensuring content is delivered in line with current, up to date industry practice:	Employer guest lectures or real site visits should be encouraged to allow students to gain insight and or practical application of knowledge and skills in a real environment.  Health, safety and welfare issues are an important factor to consider during the delivery of this unit; therefore, strict safe working methods as outlined by legislation should be demonstrated and reinforced through close supervision of all activities. Risk assessments, method statements and COSHH assessments must be completed prior to any practical activities taking place. Additionally, it is advisable to relate the unit to both the private and commercial sectors in order to understand why different types of plastering systems are used in the industry today.
EDI or accessibility considerations:	Tutors need to be aware of prior learning that has taken place and use this information to structure individualised learning where appropriate.
Digital initiative considerations:	Video tutorials, augmented reality, 3D printers, drones, building information technology.
Sustainability considerations:	Sustainability and the environmental impact of the materials used should be considered during teaching delivery. Learners should consider approaches to sustainability throughout the plastering process in order to minimise environmental impact. These would include recycling of materials where possible, minimising waste, reusing components for practical tasks where possible.

## Suggested learning resources

### Books

The City & Guilds Textbook: Plastering for Levels 1 and 2, Hodder Education

### Websites

[www.british-gypsum.com](http://www.british-gypsum.com)

[www.english-heritage.org.uk](http://www.english-heritage.org.uk)

[www.lime-green.co.uk](http://www.lime-green.co.uk)

[www.expamet.co.uk/product-category/angle-bead](http://www.expamet.co.uk/product-category/angle-bead)

[www.profilestore.co.uk/c/PVC-Bead/pvc-corner-bead](http://www.profilestore.co.uk/c/PVC-Bead/pvc-corner-bead)

## Unit 232 External Rendering

<b>Unit level:</b>	Level 2
<b>Guided Learning Hours (GLH):</b>	100
<b>Unit aim:</b>	<p>The aim of this unit is for learners to have the knowledge, understanding and skills to successfully prepare backgrounds to receive traditional and modern external renders.</p> <p>The unit will provide learners with knowledge and understanding including skills and techniques to select and use tools, materials and equipment to prepare, apply and finish various render surfaces to walls and returns.</p>
<b>Assessment method:</b>	Multiple choice question (MCQ) assessment, practical assignment
<b>Links to Apprenticeship Standard:</b>	Plasterer ST0096 See also qualification content mapping to Occupational Standard (Appendix 1)

### Learning outcomes

1. Understand the process for applying and finishing external render surfaces
2. Apply external renders and finishes

### Learning outcome 1

Understand the process for applying and finishing external render surfaces

Topics	Content elements
1.1 The methods and techniques of external render application and finish	<p>1.1.1 Types and purpose of render application methods and render finishes</p> <p>a) Types of elevation surfaces to receive render:</p> <ol style="list-style-type: none"> <li>i. plain walls</li> <li>ii. walls with openings</li> <li>iii. gable end</li> </ol> <p>b) Application methods for external render and their uses:</p> <ol style="list-style-type: none"> <li>vi. dubbing out, scratch and finish used on: <ul style="list-style-type: none"> <li>- stone backgrounds (deep crevices)</li> <li>- composite backgrounds (severely uneven surfaces)</li> </ul> </li> <li>vii. pricking up, scratch and finish used on: <ul style="list-style-type: none"> <li>- EML work that is fixed onto masonry, composite and timber lath</li> </ul> </li> <li>viii. scratch coat and finish used on:</li> </ol>

## Topics

## Content elements

- even and flat surfaces (block and brick work) to produce a backing surface for the finish which can also include an additive to enhance the performance (e.g. water proofer)
- ix. one coat application:
  - modern renders which generally include a fibreglass mesh reinforcement incorporated between two passes of the one coat system (pre-blended and pre-mixed)
- c) Application process and their uses:
  - x. hand applied:
    - traditional method of applying renders to backgrounds forming various external finished surfaces (plain face finish using a polyurethane float, forming dry dash and wet dash surfaces using loose traditional materials)
  - xi. spray applied:
    - manufactured render, various colours and textures
    - reduces labour and costs
    - increases speed of productivity to meet deadlines
    - improved consistency of materials (colour, quality)
- d) Process and uses of application technique and style for applying scratch coats:
  - i. applied between 8-12mm thick
  - ii. keyed with a comb scratcher
  - iii. applied on backgrounds to fill out uneven surfaces in preparation for subsequent render finishing coats
  - iv. applied on returns and piers to form hard angles using reverse rule method when forming accurate in line corners
  - v. used to control suction on backgrounds
  - vi. used on backgrounds that incorporate bonding adhesives
  - vii. used on EML and timber lath and this process is known as pricking up
  - viii. applied on irregular surfaces such as stone crevices in preparation for subsequent render application and this process is known as dubbing out
- e) Process and uses of application technique and style for applying and producing render finishes:
  - i. traditional plain face finish:
    - generally applied onto a scratch coat between 8-12mm thick
    - ruled with a straight edge derby to form an in line and flat surface
    - consolidated with a polyurethane float to form a plain surface which can be lightly rubbed with a sponge to close in the surface
    - window and door returns, plinths, window bands and decorative quoins are generally finished as plain face

## Topics

## Content elements

- ii. pre-blended polymer modified float textured finish:
  - generally applied onto a block or brick background between 8-10mm thick
  - applied and ruled with a derby and closed in with a spatula
  - surface is finished by consolidating with a sponge float (this can also be used as a background for thin renders)
- iii. pre-blended scraped textured:
  - dependent on background can be applied between 10-15mm thick and should be applied proud of any beads
  - surface is ruled with a serrated straight edge and left to set
  - surface is scraped back with an i-bar and scarifier to form a textured finish in line and flush with beads
  - fibre glass matting and stress patches is incorporated within the system to reinforce the surface and reduce cracking
- iv. dry dash/pebble dash traditional or pre-blended:
  - a butter coat is applied to the background to the same thickness of the dry dash granite
  - butter coat should be applied as flat and even as possible
  - surface of butter coat should not dry prior to application of dry dash to avoid baldness
  - the dry dash is formed by applying granite with a paddle/shovel (harling trowel) using an upward motion to avoid sagging
- v. rough cast traditional or pre-blended:
  - mixture of sand, lime, cement and granite mixed into a slurry consistency
  - can be applied directly onto a scratch coat or butter coat using a paddle/shovel (harling trowel) to form a rough textured finish
- vi. tyrolean traditional or pre-blended:
  - applied direct onto a plain face surface using a Tyrolean gun
  - application should be carried out from top to bottom
  - technique is to apply face on including sideways on to fill out any missed areas to form a light textured finish
- vii. brush pattern:
  - applied onto a scratch coat between 8-10mm thick
  - surface of render should be textured by applying and rotating the brush face onto the surface
- viii. ashlar:
  - imitation block work produced by setting out block work dimensions on a plain face surface by cutting and carving horizontal and vertical joints in the finished surface
- ix. Pre-mixed and pre-blended thin-coat textured render:

Topics	Content elements
	<ul style="list-style-type: none"> <li>- applied onto a primed base coat generally around 1.5mm thick dependent on manufacturer</li> <li>- applied and scraped to the recommended thickness</li> <li>- consolidate the surface with a polycarbonate float to form the finish</li> <li>- can be sprayed with a hopper dependent on the type of finish required</li> </ul>
<p>1.2 Beads used in external render application and how they are fixed</p>	<p>1.2.1 Fixing, plumbing and levelling various types of beads around openings, returns, soffits and beams and movement joints.</p> <p>a) types of beads and components and their uses:</p> <ol style="list-style-type: none"> <li>i. plastic: mainly used and incorporated with modern render systems, various colours and thicknesses to suit various application systems, lower cost of manufacturing</li> <li>ii. stainless: mainly used for traditional application, does not rust however can be costly compared to galvanised beads</li> <li>iii. angle: used for forming corners such as window and door returns and external corners</li> <li>iv. stop: used for forming a stop end on a horizontal decorative panels or working up to other exterior finishes (facing brick, cladding)</li> <li>v. bell cast: used to form a drip over windows, doors, bridge DPC at plinths, and divide wall areas (e.g. apex of a gable end or separating two render finish surfaces that sit above and below each other)</li> <li>vi. movement: used on areas of expansion to allow for movement, in preparation for render application</li> <li>vii. trims: specialised component sometimes incorporating mesh and generally used with thin coat renders</li> <li>viii. profiles: incorporated with EWI render systems, used for a starter track for fixing installation and increased depth of insulation</li> <li>ix. fibreglass mesh: used and incorporated within modern render systems to reduce cracking, reinforces surface area and stress areas</li> <li>x. expanded metal lath (EML): sheet reinforcement used for strengthening and reinforcing weak and poorly keyed surfaces generally fixed mechanically to a background in preparation for render application</li> </ol> <p>b) Methods of fixing and reasons for use:</p> <ol style="list-style-type: none"> <li>i. render adhesive dabs: fixing and plumbing levelling standard angle beads around openings and returns, brick or block work and masonry backgrounds</li> <li>ii. nailed: traditional method of fixing beads</li> <li>iii. plastic plugs and pins: used on external wall insulation</li> <li>iv. screws and plugs: used on masonry backgrounds</li> </ol>



## Learning outcome 2

Apply external renders and finishes

Topics	Content elements
2.1 Prepare, install and apply external rendering systems	<p>2.1.1 Apply external render systems</p> <ul style="list-style-type: none"><li>a) Prepare backgrounds:<ul style="list-style-type: none"><li>i. set up resources</li><li>ii. check alignment of surface</li><li>iii. assess key</li><li>iv. control suction</li></ul></li> <li>b) Install beads:<ul style="list-style-type: none"><li>i. select appropriate beads (angle, stop, and bellcast)</li><li>ii. measure and cut</li><li>iii. fix and position</li><li>iv. check for plumb and level</li><li>v. check for equal margins</li></ul></li> <li>c) Mix render materials:<ul style="list-style-type: none"><li>i. traditional lime sand base and top coats</li><li>ii. pre-blended base and top coats</li><li>iii. pre-mixed base and top coats</li><li>iv. set up mixing area</li><li>v. mix materials mechanically</li></ul></li> <li>d) Apply renders on:<ul style="list-style-type: none"><li>i. plain walls</li><li>ii. walls with piers</li></ul></li> <li>e) Apply render finish surface using one or two coat system:<ul style="list-style-type: none"><li>i. plain</li><li>ii. scraped</li><li>iii. thin coat</li><li>iv. dry dash</li><li>v. tyrolean/spray</li></ul></li> <li>f) Review work and check for any defects</li></ul>

# Supporting information

## Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Plastering application techniques and skills could be drawn together and delivered regardless of the type of plastering (internal, external, dry lining).
Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:	In order for the learner to develop naturally, a number of basic practical sessions should be undertaken to build confidence and improve skills and techniques with productive feedback from the tutor during and at the end of each session. Naturally occurring training activities prepare, apply and finish external rendering finishes will facilitate the completion of this unit. This will support the holistic approach of delivering and assessing the qualification as well as stimulate a realistic experience for the learners.
Opportunities for visits/engagement with local industry and employers:	Employer engagement opportunities for this unit should also be incorporated in order to allow the learner to gain experience.
Considerations for innovative methods of delivery:	Tutors should make the best use of available resources to provide learners with the opportunity to use a wide range of activities that could include lectures, discussions, self-study, research opportunities, visits to exhibitions and practical training to stimulate, motivate and educate the learner.
Ways of ensuring content is delivered in line with current, up to date industry practice:	Employer guest lectures or real site visits should be encouraged to allow students to gain insight and or practical application of knowledge and skills in a real environment.  Health, safety and welfare issues are an important factor to consider during the delivery of this unit; therefore, strict safe working methods as outlined by legislation should be demonstrated and reinforced through close supervision of all activities. Risk assessments and COSHH assessments must be completed prior to any practical activities taking place. Additionally, it is advisable to relate the unit to both the private and commercial sectors in order to understand why different types of rendering systems are used in the industry today.
EDI or accessibility considerations:	Tutors need to be aware of prior learning that has taken place and use this information to structure individualised learning where appropriate.
Digital initiative considerations:	Video tutorials, augmented reality, 3D printers, drones, building information technology.
Sustainability considerations:	Sustainability and the environmental impact of the materials used should be considered during teaching delivery. Learners should consider approaches to sustainability throughout the plastering and rendering process in order to minimise environmental impact. These would include recycling of materials where possible, minimising waste, reusing components for practical tasks where possible. Using traditional materials in conservation areas

and the use of external wall insulation and renders to improve thermal performances of buildings.

## Suggested learning resources

### Books

The City & Guilds Textbook: Plastering for Levels 1 and 2, Hodder Education

### Websites

[www.uk.webber](http://www.uk.webber)

[www.k-rend.co.uk](http://www.k-rend.co.uk)

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

[www.english-heritage.org.uk](http://www.english-heritage.org.uk)

[www.lime-green.co.uk](http://www.lime-green.co.uk)

## Unit 233 Dry Lining

<b>Unit level:</b>	Level 2
<b>Guided Learning Hours (GLH):</b>	85
<b>Unit aim:</b>	<p>The aim of this unit is for learners to have the knowledge, understanding and skills to set out and install dry lining systems mechanically to timber and metal backgrounds and direct bond to masonry backgrounds in preparation for plaster and tape and joint finish.</p> <p>This unit provide an understanding and skills and techniques required of how to select and use tools and equipment for fixing and finishing of plasterboard and its finished surface.</p>
<b>Assessment method:</b>	Multiple choice question (MCQ) assessment, practical assignment
<b>Links to Apprenticeship Standard:</b>	Plasterer ST0096 See also qualification content mapping to Occupational Standard (Appendix 1)

### Learning outcomes

1. Understand the requirements for installing dry lining and finishing surfaces
2. Understand how to undertake the tape and joint process to finish dry lining surfaces
3. Install dry lining systems

### Learning outcome 1

Understand the requirements for installing dry lining and finishing surfaces

Topics	Content elements
1.1 Types of plasterboard used to fix to background surfaces	<p>1.1.1 Characteristics and uses of types of plasterboard used in the dry lining process and considerations for quality of work.</p> <p>a) Standard plasterboard, characteristics and uses:</p> <ol style="list-style-type: none"> <li>i. colour coded with ivory lining paper</li> <li>ii. square edge</li> <li>iii. tapered edge</li> <li>iv. suitable for plaster and tape and joint finish</li> <li>v. range of standard size plasterboards including:               <ul style="list-style-type: none"> <li>- 1.8m long x 0.9m x 9.5mm</li> </ul> </li> </ol>

## Topics

## Content elements

- 1.8m long x 0.9m x 12.5mm
  - 2.4m long x 1.2m x 9.5mm
  - 2.4m long x 1.2m x 12.5mm
- vi. provides 30 minutes fire resistance
- vii. can be fixed by direct bond or mechanical

b) Types of performance plasterboard, characteristics and uses that differentiate from standard plasterboard:

- i. fire-line:
- colour coded with pink lining paper
  - provides 60 minutes of fire resistance
  - can be double staggered to further increase its fire performance
  - suitable for plaster and tape and joint application
  - can be fixed by direct bond or mechanical
- ii. moisture resistant:
- used to control moisture in high humidity areas (bathrooms, kitchens)
  - colour coded with green lining paper
  - suitable for plaster application only if prepared with bonding grit
  - can be fixed by direct bond or mechanical
- iii. sound block:
- colour coded with blue lining paper
  - used to reduce noise transmittance between rooms
  - suitable for plaster and tape and joint application
- iv. vapour control:
- colour coded with ivory lining paper with foil laminated on one side of the sheet
  - used for controlling vapour in high moisture areas
  - used in loft conversions to maintain temperatures
  - can only be fixed mechanically
- v. thermaline:
- colour coded with ivory lining paper with insulation glued on one side of the sheet
  - used to increase thermal performance (u-value) and prevent cold spots on surfaces that can lead to high condensation levels and mould growth
  - can be fixed mechanically and direct bond however requires additional secondary fixing using nailable plugs
- vi. plank:
- 2.4m long x 0.6m x 15mm
  - 2.4m long x 0.6m x 19mm
  - colour coded with brown lining paper
  - tapered edge

Topics	Content elements
	<ul style="list-style-type: none"> <li>- suitable for tape and jointing application</li> </ul> <p>c) Reasons for selection and finish:</p> <ol style="list-style-type: none"> <li>i. meets customer requirements (private and public sector)</li> <li>ii. meets specification</li> <li>iii. meets industry standards</li> <li>iv. producing surface finishes that can be decorated</li> <li>v. meet building regulations (increasing thermal performance including secondary fixings, fire proofing, sound proofing, controlling moisture and high humidity levels)</li> <li>vi. meet NHBC standards</li> </ol>
<p>1.2 Fixings to support installation processes</p>	<p>1.2.1 Types of fixings for plasterboard and the requirements for use.</p> <p>a) Type of backgrounds:</p> <ol style="list-style-type: none"> <li>i. timber studs and joists</li> <li>ii. metal stud, wall and ceiling furring's</li> <li>iii. steel beams</li> <li>iv. solid masonry, block, brick and concrete</li> </ol> <p>b) Fixings and requirements for use:</p> <ol style="list-style-type: none"> <li>i. dry wall screws: <ul style="list-style-type: none"> <li>- timber: studs, joists and sheets</li> <li>- minimum length of screw for use on timber: 32mm for 9.5mm plasterboard thickness</li> <li>- minimum length of screw for use on timber: 38mm for 12.5mm plasterboard thickness</li> <li>- metal: Steel studs, furrings and linings</li> <li>- minimum length of screw for use on metal: 25mm for 9.5mm and 12.5mm plasterboard thickness</li> <li>- fixed with a dry wall drill that ensures correct penetration</li> <li>- when fixing to studs, fixings should be a maximum of 300mm apart</li> <li>- when fixing to ceilings, fixings should be a maximum of 230mm apart</li> </ul> </li> <li>ii. collated dry wall screws: <ul style="list-style-type: none"> <li>- timber: Studs, joists and sheets</li> <li>- minimum length of screw for use on timber: 32mm for 9.5mm plasterboard thickness</li> <li>- minimum length of screw for use on timber: 38mm for 12.5mm plasterboard thickness</li> <li>- metal: Steel studs, furrings and linings</li> <li>- minimum length of screw for use on metal: 25mm for 9.5mm and 12.5mm plasterboard thickness</li> <li>- used for speed of application</li> </ul> </li> </ol>

Topics	Content elements
	<ul style="list-style-type: none"> <li>- used in conjunction with a collated dry wall screwdriver</li> <li>- when fixing to studs, fixings should be a maximum of 300mm apart</li> <li>- when fixing to ceilings, fixings should be a maximum of 230mm apart</li> <li>iii. dry wall adhesive: <ul style="list-style-type: none"> <li>- fixed to masonry backgrounds such as block, brick, concrete and surfaces prepared with a scratch coat</li> <li>- pre-blended compound used for direct bond installation of plasterboard to background</li> <li>- applied at 600mm vertical centres</li> <li>- continuous dabs should be applied to perimeters to form seals including services</li> </ul> </li> <li>iv. nailable plugs: <ul style="list-style-type: none"> <li>- mechanical fixings used as a secondary fixing on direct bonded thermal laminated plasterboard</li> <li>- masonry backgrounds</li> </ul> </li> <li>v. foam adhesive: <ul style="list-style-type: none"> <li>- specialist fixing adhesive used to bond plasterboard to backgrounds such as steel beams and lintels</li> </ul> </li> </ul>
1.3 Mechanical installation process	<p>1.3.1 Mechanical installation process and reasons for each step in the process:</p> <p>a) staggered process:</p> <ul style="list-style-type: none"> <li>• full boards fixed in line across joists staggered on adjacent runs ensuring there is a 2mm gap between boards for plaster reinforcement</li> <li>• to avoid in line steps when fixing adjacent plasterboard runs, ceilings and walls</li> </ul> <p>i. single staggered: provides strength and reduces in line cracks</p> <p>ii. double staggered: provides additional strength and increased fire performance</p> <p>iii. horizontal staggered: for walls and ceiling surfaces to ensure correct alignment and position of boards</p> <p>iv. vertical staggered: generally for timber and metal studs to increase strength and avoid weakness, vertically staggered on opposite sides of the partition to increase strength</p> <p>b) setting out requirements and checks for mechanical installation, and the reasons for undertaking each:</p> <p>i. alignment of background:</p> <ul style="list-style-type: none"> <li>- to avoid unevenness which can affect follow on application of plasters</li> <li>- old timber backgrounds may need to be strengthened with additional timber studs and joists and de-nailed</li> </ul>

## Topics

## Content elements

- ii. distance between studs and joists:
  - studs and joists are fixed to accommodate the size of plasterboard
  - ceiling joists are set at 400mm apart
  - timber studs are set at 450mm or 600mm apart depending on thickness of plasterboard
  - distance between studs and joists dictates the thickness of plasterboard to be used
  - studs and joists fixed too far apart can cause uneven surfaces, weakness and wastage
- iii. marking and aligning fixing points
  - pre-marking of stud and joist position ensures an accurate fixing line during installation
- iv. cutting out service points
  - position of sockets and pipes that affect the installation
  - plasterboard required to be cut to accommodate services to avoid misalignment
- v. for tape and jointing:
  - joints are buttedfor application of finishing plaster:
  - joints are 2mm – 3mm apart
- vi. plasterboard ends are fixed to the centre of studs

### 1.4 Direct bond installation process

#### 1.4.1 Direct bond installation process and reasons for each step in the process.

##### a) Process:

- i. set out dimensions and snap lines on floors and ceilings to ensure fixing points and correct alignment of plasterboard surface
- ii. mark out width of plasterboard on background to determine the centres of the dry wall dabs
- iii. mark out window and door returns to ensure margins are correct and returns are square, plumb and level
- iv. when installing to window walls, plasterboards should be fixed in line with window reveals
- v. mark out right angles on floors to ensure attached piers are marked out and installed in line and square and all sides are correct margin and plumb

##### b) Setting out requirements and checks for direct bond installation, and the reasons for undertaking each:

- i. condition of substrate:
  - suitability to receive installation
  - increase performance of wall
- ii. alignment of background:
  - to check background for accuracy



Topics	Content elements
	<ul style="list-style-type: none"> <li>- identifies thickness of dabs to be applied</li> <li>- use of chalk lines and/or laser level when setting out long runs</li> <li>- use of square to form returns and piers</li> <li>iii. doorframes are correct depth to receive direct bond:               <ul style="list-style-type: none"> <li>- Thickness of dabs and board (12.5mm plasterboard and dabs): 25mm</li> </ul> </li> <li>iv. windowsills are correct depth to receive direct bond:               <ul style="list-style-type: none"> <li>- thickness of dabs and board (12.5mm plasterboard and dabs): 25mm</li> </ul> </li> <li>v. application of additional dabs, services, perimeter seals preventing cold spots:               <ul style="list-style-type: none"> <li>- additional fixings if required e.g. kitchen units.</li> </ul> </li> <li>vi. party walls are prepared with sound coat:               <ul style="list-style-type: none"> <li>- to avoid noise transmission</li> </ul> </li> <li>vii. for tape and jointing:               <ul style="list-style-type: none"> <li>- joints are butted</li> </ul> </li> <li>viii. for application of finishing plaster:               <ul style="list-style-type: none"> <li>- joints are 2mm – 3mm apart</li> </ul> </li> </ul>

## Learning outcome 2

Understand how to undertake the tape and joint process to finish dry lining surfaces

Topics	Content elements
2.1 The process of tape and jointing	<p>2.1.1 Materials used in the tape and jointing process and their purpose for use.</p> <ul style="list-style-type: none"> <li>a) Types of plasterboard surface areas:               <ul style="list-style-type: none"> <li>i. walls</li> <li>ii. ceilings</li> <li>iii. returns</li> </ul> </li> <li>b) Plasterboard jointing surfaces:               <ul style="list-style-type: none"> <li>i. straight tapered edge joints</li> <li>ii. internal angles</li> <li>iii. external angles</li> <li>iv. fixings</li> </ul> </li> <li>c) Types of taping and jointing materials and their uses:               <ul style="list-style-type: none"> <li>i. jointing compound:</li> </ul> </li> </ul>

## Topics

## Content elements

- chemical set: used for hand applied jointing
  - aerated: used for mechanically applied jointing
  - ii. perforated tape: incorporated with the jointing compound used on straight and internal joints to reinforce and finish the surface preventing cracks appearing
  - iii. self-adhesive scrim: used as an alternative to perforated tape
  - iv. reinforced corner tape: paper tape with steel reinforcement on both sides, incorporated with the jointing compound used on external angles to form the finished surface
  - v. dry wall beads: galvanised beads fixed on external corners to produce a reinforced corner fixed with staples or with jointing compound to form the finished surface
  - vi. sandpaper: various grit grades attached to a sanding block and pole or used with an orbital sanding power tool, used to remove excess jointing compound and form a smooth surface on joints and fixings in preparation for priming
  - vii. primer: liquid primer applied to plasterboard background to control vapour and seal surfaces prior to decoration, applied with brush or roller and pan
- d) Jointing process steps:
- i. selection of materials for taping and jointing
  - ii. prepare tape and reinforcements
  - iii. mix jointing compound
  - iv. apply compound to plasterboard joints and returns
  - v. apply paper tape or reinforcement
  - vi. apply subsequent jointing compound
  - vii. spot plasterboard fixings
  - viii. sand surface removing any unevenness in jointed and spotted areas
  - ix. apply primer to seal the background

## Learning outcome 3

Install dry lining systems

Topics	Content elements
3.1 Install dry lining systems and finish	<p>3.1.1 Install dry lining systems and finish</p> <ul style="list-style-type: none"><li>a) Prepare backgrounds:<ul style="list-style-type: none"><li>i. check alignment</li><li>ii. check centres</li></ul></li><li>b) Install and fix plasterboards with dry wall screws on:<ul style="list-style-type: none"><li>i. ceiling joists</li><li>ii. partitions, plain and with openings</li><li>iii. beams and returns</li></ul>with use of the following stages,<ul style="list-style-type: none"><li>iv. select resources</li><li>v. set out for installation</li><li>vi. measure and cut</li><li>vii. position and fix</li><li>viii. review work and check for any defects</li></ul></li><li>c) Install and fix plasterboard direct bond with adhesive on:<ul style="list-style-type: none"><li>i. plain walls</li><li>ii. window walls</li><li>iii. pier returns</li></ul>with use of the following stages,<ul style="list-style-type: none"><li>iv. select resources</li><li>v. set out for installation</li><li>vi. measure and cut</li><li>vii. review work and check for any defects</li></ul></li></ul>

## Supporting information

### Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Plastering application techniques and skills could be drawn together and delivered regardless of the type of plastering (internal, external, dry lining).
Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:	In order for the learner to develop naturally, a number of basic practical sessions should be undertaken to build confidence and improve skills and techniques with productive feedback from the tutor during and at the end of each session. Naturally occurring training activities used to install and fix plasterboard mechanically and direct bond to timber and masonry backgrounds, including finishing by applying tape and jointing system to plasterboard surfaces, will facilitate the completion of this unit. This will support the holistic approach of delivering and assessing the qualification as well as stimulate a realistic experience for the learners.
Opportunities for visits/engagement with local industry and employers:	Employer engagement opportunities for this unit should also be incorporated in order to allow the learner to gain experience.
Considerations for innovative methods of delivery:	Tutors should make the best use of available resources to provide learners with the opportunity to use a wide range of activities that could include lectures, discussions, self-study, research opportunities, visits to exhibitions and practical training to stimulate, motivate and educate the learner.
Ways of ensuring content is delivered in line with current, up to date industry practice:	Employer guest lectures or real site visits should be encouraged to allow students to gain insight and or practical application of knowledge and skills in a real environment.  Health, safety and welfare issues are an important factor to consider during the delivery of this unit; therefore, strict safe working methods as outlined by legislation should be demonstrated and reinforced through close supervision of all activities. Risk assessments, method statements and COSHH assessments must be completed prior to any practical activities taking place. Additionally, it is advisable to relate the unit to both the private and commercial sectors in order to understand why different types of wall boards and jointing compounds are used in the industry today.
EDI or accessibility considerations:	Tutors need to be aware of prior learning that has taken place and use this information to structure individualised learning where appropriate.
Digital initiative considerations:	Video tutorials, augmented reality, 3D printers, drones, building information technology.
Sustainability considerations:	Sustainability and the environmental impact of the materials used should be considered during teaching delivery. Learners should consider approaches to sustainability throughout the dry lining

process in order to minimise environmental impact. These would include recycling of materials where possible, minimising waste, reusing components for practical tasks where possible.

## **Suggested learning resources**

### **Books**

The City & Guilds Textbook: Plastering for Levels 1 and 2, Hodder Education

### **Websites**

[www.british-gypsum.com](http://www.british-gypsum.com)

[www.expamet.co.uk/product-category/angle-bead](http://www.expamet.co.uk/product-category/angle-bead)

[www.profilestore.co.uk/c/PVC-Bead/pvc-corner-bead](http://www.profilestore.co.uk/c/PVC-Bead/pvc-corner-bead)



# Appendix 1 Transferable employability skills



The following transferable employability skills underpin the content of this qualification. The grid below provides an overview of where the employability skills map to and are best demonstrated within the practical skills outcomes of the units.

Communication in the workplace	Unit, LO and Topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate <b>(CSW1)</b>	<b>230</b> (7.1)
Produces documents of different types that are appropriate (eg, in terms of length, style and language use) for the purpose and intended audience <b>(CSW2)</b>	<b>230</b> (7.1)
Uses available software appropriately to present written communication, including numerical information <b>(CSW4)</b>	<b>230</b> (7.1)
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication <b>(CSW5)</b>	<b>230</b> (7.1)
Workplace conduct	
Identifies and follows codes of conduct (e.g., for personal presentation, timekeeping) as appropriate to own role <b>(CW1)</b>	<b>230</b> (8.1) <b>231</b> (2.1), <b>232</b> (2.1), <b>233</b> (3.1)
Applies sufficient effort to enable them to complete tasks set to the standard required <b>(CW3)</b>	<b>231</b> (2.1), <b>232</b> (2.1), <b>233</b> (3.1)
Demonstrates initiative in carrying out own role <b>(CW4)</b>	<b>231</b> (2.1), <b>232</b> (2.1), <b>233</b> (3.1)
Outlines aspects of own conduct which meet expectations of a work setting <b>(CW5)</b>	<b>231</b> (2.1), <b>232</b> (2.1), <b>233</b> (3.1)
Problem Solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem <b>(PSW1)</b>	<b>230</b> (7.1)
Assesses a range of potential solutions, applying appropriate problem-solving strategies <b>(PSW2)</b>	<b>230</b> (7.1)
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem <b>(PSW4)</b>	<b>230</b> (7.1)
Time management skills	
Plans work: <ul style="list-style-type: none"> <li>• according to priority</li> <li>• taking into account length of time needed to complete tasks</li> <li>• in order to meet deadlines <b>(TMS1)</b></li> </ul>	<b>230</b> (7.1)
Works at an appropriate pace to carry out tasks in accordance with plan <b>(TMS2)</b>	<b>231</b> (2.1), <b>232</b> (2.1), <b>233</b> (3.1)

Adjusts approach in response to any change of circumstance (e.g., one task over running), as appropriate, to ensure remaining time is spent effectively **(TMS3)**

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**231** (2.1), **232** (2.1), **233** (3.1)



## Appendix 2                      Qualification content mapping to Occupational Standard

The table below contain the mapping of the occupational standard ST0096 Plasterer Knowledge, Skills and Behaviours (KSBs) to the City & Guilds Level 2 Extended Technical Occupational Entry in Plastering (7255-82).

**The KSB reference to each unit in this document is not exhaustive.**

Unit	Knowledge, Skills, and Behaviours (KSBs) reference
101 Health & safety in a construction environment	K1, K2
201 Principles of welfare, health and safety in construction environments	K1, K2, K6, K12, K13, K15, K17, K19
202 Principles of working in the construction industry	K3, K4, K5, K9, K10, K11, K12
230 Plastering Core Principles	K1, K6, K9, K14, K15, K16, K18, K19, K20, K21, K22, K23, K24, K25, K26, K27, K28, K29, K30, K31, K35, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, B1, B2, B3, B4, B5
231 Internal Plastering	K24, K25, K33, K34, S13, S14, S15, S16, S17, S18, S21, S25, B1, B2, B3, B4, B5
232 External Rendering	K26, K27, K28, K33, S13, S14, S15, S19, S20, S21, B1, B2, B3, B4, B5
233 Dry Lining	K29, K30, K31, K33, K34, S22, S23, S24, B1, B2, B3, B4, B5

## Appendix 3 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 [Centre document library](#) on [www.cityandguilds.com](http://www.cityandguilds.com) or click on the links below:

### Centre Handbook: Quality Assurance Standards

This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on:

- centre quality assurance criteria and monitoring activities
- administration and assessment systems
- centre-facing support teams at City & Guilds/ILM
- centre quality assurance roles and responsibilities.

The Centre Handbook should be used to ensure compliance with the terms and conditions of the centre contract.

### **Centre Handbook: Quality Assurance Standards**

This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre-assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre assessments.

### **Access arrangements: When and how applications need to be made to City & Guilds**

provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **Centre document library** also contains useful information on such things as:

- conducting examinations
- registering learners
- appeals and malpractice.

### **Useful contacts**

Please visit the **Contact us** section of the City & Guilds website.

## City & Guilds

For over 140 years, we have worked with people, organisations and economies to help them identify and develop the skills they need to thrive. We understand the life-changing link between skills development, social mobility, prosperity and success. Everything we do is focused on developing and delivering high-quality training, qualifications, assessments and credentials that lead to jobs and meet the changing needs of industry.

We partner with our customers to deliver work-based learning programmes that build competency to support better prospects for people, organisations and wider society. We create flexible learning pathways that support lifelong employability because we believe that people deserve the opportunity to (re)train and (re)learn again and again – gaining new skills at every stage of life, regardless of where they start.

The City & Guilds community of brands includes Gen2, ILM, Intertrain, Trade Skills 4U, Kineo and The Oxford Group.

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