DRAFT Level 3 Trailblazer Apprenticeship in Plastering (On-Programme)

(9079-03)

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On-Programme Unit Pack

At a glance

Subject area	Plastering
Age group approved	16+
Entry requirements	None
Assessment	Multiple-choice test Portfolio Practical and knowledge assignment Practical assignment Research assignment
Approvals	Not applicable
Support materials	Centre handbook
Registration and certification	Consult the Walled Garden/Online Catalogue for last dates

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Structure

To achieve the **Level 3 Trailblazer Apprenticeship in Plastering (On-Programme)** learners must be achieve

- Solid Pathway – Units 301 - 313
- Fibrous Pathway - Units 301-309, 314-317

Unit number	Unit title	GLH	Type
Mandatory			
301	Construction considerations for plastering work	16	Taught
302	Communicating and working in the construction industry	16	Taught
303	Communicating and providing customer service	36	Competency
304	Health and safety for plastering	16	Taught
305	Dry lining, metal furring (MF) ceilings and metal stud partitioning	67	Taught
306	Solid plastering for internal walls and surfaces	90	Taught
307	Running in-situ mouldings and producing and installing basic fibrous plasterwork	45	Taught
308	Applying and finishing internal solid plastering	36	Competency
309	Matching and reinstating plain plaster moulding sections	36	Competency
Solid pathway			
310	External solid rendering	90	Taught
311	Floor screed systems	20	Taught
312	Applying and finishing external rendering	36	Competency
313	Installing dry lining systems	36	Competency
Fibrous pathway			
314	Fibrous plastering in the workshop	85	Taught
315	Fibrous plastering on site	25	Taught
316	Producing plaster mouldings	36	Competency
317	Fixing pre-cast architectural mouldings	36	Competency

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Summary of proposed assessment methods

Unit number	Unit title	Assessment method
301	Construction considerations for plastering work	Multiple-choice test Research assignment
302	Communicating and working in the construction industry	Multiple-choice test
303	Communicating and providing customer service	Portfolio
304	Health and safety for plastering	Multiple-choice test
305	Dry lining, metal furring (MF) ceilings and metal stud partitioning	Practical assignment
306	Solid plastering for internal walls and surfaces	Practical assignment
307	Running in-situ mouldings and producing and installing basic fibrous plasterwork	Practical assignment
308	Applying and finishing internal solid plastering	Portfolio
309	Matching and reinstating plain plaster moulding sections	Portfolio
310	External solid rendering	Practical assignment
311	Floor screed systems	Practical assignment
312	Applying and finishing external rendering	Portfolio
313	Installing dry lining systems	Portfolio
314	Fibrous plastering in the workshop	Practical assignment
315	Fibrous plastering on site	Practical assignment
316	Producing plaster mouldings	Portfolio
317	Fixing pre-cast architectural mouldings	Portfolio

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Unit 301 Construction considerations for plastering work

Level:	3
GLH:	16
Unit type:	Taught / College based
Assessment type:	Multiple-choice test Research assignment

What is this unit about?

The purpose of this unit is for learners to understand the factors that have to be considered when plastering work takes place on a property. This includes the types of buildings and materials used, the required look and finish and implications such cost and availability of materials for the job.

Every plastering job is different - client requirements, available resources and site specific challenges mean that before work can take place careful planning and preparation has to take place. This unit also introduces learners to the environmental considerations that need to be made when planning plastering jobs to ensure the work is ethically and sustainably.

Learners should consider the following questions as a starting point to this unit:

- What do the different grading of listed buildings mean?
- How can plastering contribute to a buildings energy efficiency?
- Why are traditional plastering methods sometimes used in new buildings?
- What are the key considerations when selecting what materials to use on a job?

Learning outcomes

In this unit, learners will:

1. Know building types and sectors
2. Understand features of traditional and modern construction materials
3. Understand environmental and sustainability considerations for buildings

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Learning outcome:

1. Know building types and sectors

Topics
1.1 Types of building
1.2 Public and private sector buildings

Topic 1.1
Types of buildings and their features

- New builds – timber framed, metal framed, solid masonry, passive housing
- Renovation – conversions, extensions, alterations
- Restoration and heritage – listed buildings and their grading

Topic 1.2
Types and features of buildings from different sectors

- Public sector builds – schools, hospitals etc.
- Private sector builds – housing, shops, flats, office blocks etc.

Learning outcome:

2. Understand features of traditional and modern construction materials

Topics
2.1 Traditional construction materials
2.2 Modern construction materials
2.3 Considerations for selecting materials

Topic 2.1
Benefits, limitations and uses of traditional construction materials and their properties including

- Lime based mortar
- Lath and plaster
- Lime putty

Topic 2.2
Benefits, limitations and uses of modern construction materials and their properties including

- Cement based mortars
- Silicon based
- Pre mixed
- Lightweight plasters
- Casting plasters
- Sheet materials – for acoustic and fire insulation around steel work

Topic 2.3
Considerations when selecting material type:

- Strength
- Compatibility of materials
- Visual aesthetics and finish
- Material strength
- Cost considerations
- Moving, handling and storage considerations
- Geographical location of buildings
- Moisture – chemical damp proofing/tanking, effects of damage, facilities

Learning outcome:

3. Understand environmental and sustainability considerations for buildings

Topics
3.1 Environmental considerations
3.2 Sustainability considerations

Topic 3.1
Evaluate environmental considerations for buildings

- Water management - foul and surface water management
- Waste management – Recycling
- Material procurement - Carbon footprints
- Habitation considerations for wellbeing of occupants

Topic 3.2
Evaluating sustainability considerations for buildings including energy efficiency

- Ground source heat pumps
- U values
- Thermal insulation
- Glazing units

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and written research assignment.

Simulation guidance
- NA

Ways in which the unit links to maths
- Costing of materials
- Working out price per bag
- Calculations of square meterage

Ways in which the unit links to English
- Reviewing and interpreting written tenders
- Interpreting information required to be communicated to suppliers
- Completion of regulation forms and documentation

Suggestions for delivery format of content – lesson ideas
- Providing case studies of different types of building
- Research of government portal for planning permission
- Visits to trade shows – e.g. home build show

Links to other units
This unit underpins all practical skills within the college based taught units and links to the competence on-site units.

Mapping to existing units/NOS
Existing unit 7908-301.

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Unit 302 Communicating and working in the construction industry

Level:	3
GLH:	16
Unit type:	Taught / College based
Assessment type:	Multiple-choice test

What is this unit about?

The purpose of this unit is for learners to understand their role in the construction process and who the key stakeholders on plastering jobs are. Working as part of a team on a construction job is challenging and rewarding - ensuring there are clear and established communication procedures is key to achieving a successful result for a client. Understanding the roles of ourselves and others in the construction trade and how they affect each other will help make jobs run smoothly.

This unit also introduces learners to the planning and costing methods used on construction and plastering jobs, how to source and interpret the information needed to complete plastering jobs as well as ways of effectively communicating plans and resolving issues with others.

Learners should consider the following questions as a starting point to this unit:

- What sources of information are needed to plan effective plastering work?
- How are plastering works recorded on construction plans?
- Who are the key stakeholders in construction jobs?
- Where can a career in the plastering industry take you?

Learning outcomes

In this unit, learners will:

1. Understand roles, responsibilities and progression routes within the construction industry
2. Understand methods used to plan and cost construction projects
3. Understand effective communication for high quality customer service

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Learning outcome:

1. Understand roles, responsibilities and progression routes within the construction industry

Topics

1.1 Job roles in the construction industry
1.2 Responsibilities of job roles
1.3 Progression routes within the construction industry

Topic 1.1

Types of job roles within the construction industry:

- Client
- Architect
- Project manager
- Surveyors
- Structural engineer
- Craftsmen – qualified trades e.g. carpenter, plasterer
- Site foreman
- Building inspector
- Safety officer

Topic 1.2

Responsibilities of job roles including:

- Lines of reporting
- Level of accountability

Topic 1.3

Progression routes and opportunities within the industry following on from apprenticeship completion:

- University or further study
- Self-employment
- Specialisation e.g. heritage work, specialist contracting work

Learning outcome:

2. Understand methods used to plan and cost construction projects

Topics

2.1 Planning work activities and efficiencies
2.2 Drawings and documentation
2.3 Estimating costs and quantities

Topic 2.1

Compare key documents and considerations when planning activities effectively:

- Legal documentation - Planning permissions and building regulations
- Work schedule/Programme of work – including time frames
- Method statement – including material requirements
- Risk assessment
- Management of workforce

Topic 2.2
Interpret construction drawings and documentation:

- Read and interpret scale rule
- Symbols and abbreviations used on construction diagrams – block work, stud partitioning, dpm, dpc
- Bill of quantities
- Site layout plan
- Information displayed on specifications and detailed drawings – e.g. scale , architect, drawing number, version

Topic 2.3
Estimate costs and material requirements off construction plans/drawings:

- Labour costs and requirements
- Material costs
- Quantities required
- Plant hire charges
- Units of measurement – m^2, m^3

Learning outcome:

3. Understand effective communication for high quality customer service

Topics
3.1 Effective communication methods
3.2 High quality customer service

Topic 3.1
Advantages and disadvantages of different types of communication method:

- Verbal – speech, tone
- Non-verbal - body language, active listening
- Written
- Electronic – including email, messaging, social media
- Drawn

Methods of maximising effectiveness and considerations for reducing barriers to communication:

- Use of language – avoiding jargon
- Consideration of tone and volume
- Suiting style to situation/audience – altering where necessary

Other considerations when communicating

- Importance of good relationships with stakeholders (including other trades)
- Legal considerations and audit trails/records
- Methods of presentation information

Topic 3.2

Principles of high quality customer service:

- Establishing the needs of others - colleagues, customers and other trades
- Respect the working environment including customers' properties
- Considering impacts on other trades and the project
- Good timekeeping
- Professional image and appearance
- Use of appropriate language
- Integrity and transparency of work requirements

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Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and summative practical assessment.

Simulation guidance
- Drawings can be provided
- Oral questioning could be through role play

Ways in which the unit links to maths
- Costing and estimating of amounts
- Using units of measurement
- Calculating costings of materials

Ways in which the unit links to English
- Reviewing and interpreting written tenders
- Interpreting information required to be communicated to suppliers
- Completion of regulation forms and documentation

Suggestions for delivery format of content – lesson ideas
- Role play of client conversations
- Pricing from plans and producing written quotes
- Telephoning/contacting potential suppliers and clients

Links to other units
This unit links to the competence on-site unit 303.

Mapping to existing units/NOS
N/A

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Unit 303 Communicating and providing customer service

Level:	3
GLH:	36
Unit type:	Competency / Site based
NOS ref:	VR210
Assessment type:	Assignment including practical and knowledge (e.g. role play and short answer)

What is this unit about?

The purpose of this unit is for learners to demonstrate practically the skills and knowledge they have been taught in the 'Communicating and working in the construction industry' unit. This unit will be assessed in a real working environment and learners will have to complete different tasks a number of times in order to achieve.

The unit will provide the learner with the skills to plan plastering jobs, communicate their plans to others as well as providing customer service and support.

Learners should consider the following questions as a starting point to this unit:

- Where are the specific details and parameters of the job located?
- What information is required when completing a method of work?
- Who is responsible for signing off the completion of the job?
- How can equality and diversity be maintained when working?

Learning outcomes

In this unit, learners will:

1. Plan plastering jobs to meet job requirements
2. Communicate planned work requirements to clients and key stakeholders
3. Provide customer support when delivering plastering plans

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Learning outcome:

1. Plan plastering jobs to meet job requirements

Assessment criteria

1.1 Identify and reference relevant drawings and specifications
1.2 Reference and account for health and safety requirements including the completion of risk assessments
1.3 Calculate required amounts or materials from drawings and other **sources**
1.4 Calculate job costs correctly, using appropriate estimations where necessary
1.5 Produce co-ordinated **methods of work**
1.6 Produce quality control checklists to be used on completion of work

Range

Sources

- Specifications
- Plans
- Schedules
- Manufacturers requirements
- Methods of work
- Risk assessments

Methods of work

- Including the order of activities
- Appropriate timescales
- Taking account of other trades

Learning outcome:

2. Communicate planned work requirements to clients and key stakeholders

Assessment criteria

2.1 Communicate details of plans to appropriate **stakeholders** using a range of **methods**
2.2 Encourage questions and feedback using active listening and open questioning
2.3 Use drawings and sketches to communicate ideas and job details
2.4 Gain and confirm agreement to proceed with works
2.5 Record advice and feedback received from client and other trades people

Range

Stakeholders

- Foreman
- Other trades people
- Health and safety officer
- Site manager
- Client

Methods

- Open and closed questions
- Written methods (electronic and paper based)

Learning outcome:

3. Provide customer support when delivering plastering plans

Assessment criteria

3.1 Recognise the needs of clients and others who are working on the job
3.2 Work to ensure client property is protected and respected
3.3 Work respecting the **needs** of other tradespeople
3.4 Adhere to work timekeeping conventions as agreed with the foreman
3.5 Present themselves professionally with consideration of personal image and appearance
3.6 Communicate with others using **appropriate language**
3.7 Work following an organised and systematic approach
3.8 Complete jobs within given timescales, to agreed cost and specification
3.9 Complete work to the agreed and planned standard, reporting and escalating unforeseen problems where encountered
3.10 Finish work in accordance with the agreed quality control checklist

Range

Needs

- Working with consideration of equality and diversity towards others when on site

Appropriate language

- Adapting language to suit audience – using technical terminology with professional workers, avoiding jargon with clients
- Using professional language – not swearing or using slang

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Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by direct observation in the workplace and can supported by witness testimony.

Evidence requirements for the unit
Learners must communicate plans via written means – electronically or on paper on at least one occasion, and verbally on at least one occasion.

Learners must complete full quality control checklists on a minimum of two jobs.

NB - Plans for can be drafted and completed during taught hours.

Links to other units
This unit links to the taught based unit 302.

Mapping to existing units/NOS
NOS ref VR210.

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Unit 304 Health and safety for plastering

Level:	3
GLH:	16
Unit type:	Taught / College based
Assessment type:	Multiple-choice test Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand the principles of health and safety and identify how these can be applied in practice within plastering or construction related industries. Learners will be able to recognise common health and safety practices and processes which they will encounter within the workplace. Working in a construction environment is fast paced but presents many hazards and can be dangerous. Working in the industry requires essential health and safety knowledge in order to minimise harm to oneself and to improve attitudes and behaviour in the workplace.

This unit also introduces learners to specific legislation, codes of practice and ways of working that can contribute to safety and smooth running of a job. It also covers the specific health and safety considerations for plasterers and how the risks of the job can be minimised.

Learners should consider the following questions as a starting point to this unit:

- What is the difference between a hazard and a risk?
- How can working with tools and equipment be made safer?
- Where can details of current health and safety legislation be found?
- What are the specific safety considerations for working in plastering?

Learning outcomes

In this unit, learners will:

1. Understand health and safety regulations affecting plastering work
2. Understand how site procedures contribute to maintaining health and safety
3. Understand specific health and safety considerations relating to plastering work

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Learning outcome:

1. Understand health and safety regulations affecting plastering work

Topics

1.1 Health and safety legislation
1.2 Risk assessments

Topic 1.1

Learners must be aware of the different health and safety regulations that apply to the construction industry. The focus of this topic **isn't** about the practical application of carrying out health and safety but how these regulations affect all aspects of risk management. Employee and employer responsibilities under regulations and legislation:

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

Topic 1.2

Risk assessment processes and considerations

- Identification of hazards and risks – site signage and warning symbols
- Recording and reporting requirements
- legal requirement to carry out suitable and sufficient risk assessments
- responsibilities of the employer, self-employed and employee within the risk assessment process
- When expert advice and guidance may be required (e.g. lack of experience or knowledge).

Stages in the risk assessment process

- Identification of the hazards
- Identification of who might be harmed and how they might be harmed
- Evaluation of the risks and decide how the level of risk may be controlled
- Recording and implementation of the results, as well as communication to others who may be affected
- Reviewing risk assessments and suggesting when risk assessments should be reviewed

Learning outcome:

2. Understand how site procedures contribute to maintaining health and safety

Topics
2.1 Accidents and emergencies
2.2 Site procedures
2.3 General welfare on site

Topic 2.1

Employee and employer responsibilities under accident and emergency procedures:

- Types of emergencies
- Recording requirements
- Fire regulations
- First aid – levels of response and recording

Topic 2.2

Principles of site set up to maintain a safe and healthy environment including employee and employer responsibilities for:

- Training – Induction, toolbox talks
- Access and site layout
- Site access, security and personnel access – signing in and signing out
- Waste disposal – recycling, material separation
- Safeguarding – people (e.g. members of the public, children), the environment

Topic 2.3

Employee and employer responsibilities in the provision of general welfare requirements on site including:

- Toilets and washing facilities
- Rest areas – canteen, drying room
- Designated areas – smoking, parking, assembly points, site information, site sign in

Learning outcome:

3. Understand specific health and safety considerations relating to plastering work

Topics
3.1 Manual handling
3.2 Personal protective equipment
3.3 Hazardous working conditions
3.4 Working with hazardous substances
3.5 Using tools and equipment safety

Topic 3.1

Manual handling considerations when working on site:

- Lifting and transporting techniques
- Lifting aids – board trolley, pulleys, forklifts, loading bays, lifts, hoists

Topic 3.2

Types and uses of personal protective equipment including employee and employer responsibilities:

- Respirators / Dusk masks
- Glasses
- Knee pads
- Gloves
- High visibility clothing
- Hard hats
- Work boots

Topic 3.3

Considerations when working in potentially hazardous working conditions on site:

- Working at height – access equipment, limits of responsibility, checking scaffolding tags, assessing conditions
- Slips, trips and falls – following good housekeeping when working, not allowing a build-up of waste, clearing away equipment (trailing leads, pipes etc.)
- Awareness of surrounding area – other tradesmen and resources
- Noise exposure
- Environmental exposure – sun exposure, temperature considerations

Topic 3.4

Responsibilities and considerations when working with hazardous substances on site including:

- COSHH requirements
- Asbestos awareness – identification, reporting
- Safe disposal of waste
- Ventilation extraction systems

Topic 3.5

Considerations for working safely with tools and equipment on site including

- Testing - PAT testing requirements
- Storage
- Maintenance, repair and replacement – limits of responsibility
- Working procedures – voltages of electrical equipment

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice question paper.

Ways in which the unit links to maths
- Reviewing accident statistics and percentages
- Estimating weights and load amounts
- Operation of evers and pulleys used for manual handling

Ways in which the unit links to English
- Reading and understanding legislations
- Reading and understanding signage and evacuation plans
- Recording of accidents, form filling

Suggestions for delivery format of content – lesson ideas
- Research and comparisons of statistics
- Group work with role play risk assessments
- Filling out sample paperwork

Links to other units
This unit underpins all practical skills within the college based taught units and links to the competence on-site units.

Mapping to existing units/NOS
Existing unit 6708-201.

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Unit 305 Dry lining, metal furring (MF) ceilings and metal stud partitioning

Level:	3
GLH:	67
Unit type:	Taught / College based
Assessment type:	Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand the processes involved for installing dry lining and metal furring systems. This includes the tools and equipment used as well as the method of installation. Dry lining is a system of covering internal walls with plasterboard avoiding the requirement to apply wet plaster.

This unit also introduces learners to Metal furring systems, this is the system of attaching plasterboard to a non-structural metal frame. Both techniques are widely used in the construction industry and are key skills for any plasterer. The learner will practice their skills in the workshop preparing backgrounds, setting out and installing and finishing the systems.

Learners should consider the following questions as a starting point to this unit:

- What fixings and equipment are required for dry lining?
- How are backgrounds prepared and made stable before lining?
- What specialist plasters can be applied and why are they used?
- What taping and jointing tools are used when installing dry lining?

Learning outcomes

In this unit, learners will:

1. Understand tools and equipment required for installing dry lining, direct bond and MF systems
2. Install dry lining systems

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Learning outcome:

1. Understand tools and equipment required for installing dry lining, direct bond and metal systems

Topics

1.1 Tools and equipment
1.2 Fixings, components and materials

Topic 1.1

Tools and equipment used to prepare, set out and install dry lining, direct bond and MF systems:

- Setting out tools - e.g. laser levels, squares, string lines
- Installation tools – e.g. stud crimper, impact drivers
- Taping and jointing tools – e.g. mechanical and hand
- Direct bond tools – e.g. hawk, trowel, straight edge
- Access equipment – e.g. Low level scaffolding, bandstands

Topic 1.2

Types of fixings, components and materials used to prepare, set out and install dry lining, direct bond and MF systems:

- Fixings – screws, nailable anchors, plugs
- Components - hangers, fixing brackets, studs, channels
- Materials – adhesives, sheet material (e.g. acoustic, fire, moisture, thermal and standard plasterboard), insulation rolls (standard, acoustic), mastics/sealants

Learning outcome:

2. Install dry lining systems

Topics

2.1 Preparing backgrounds
2.2 Setting out
2.3 Installing and finishing systems

Topic 2.1

Preparing backgrounds prior to installing dry lining following standard working practice:

- Stable and suitable background
- Check for highpoints
- Control suction
- Applying specialist plasters – e.g. sound coat plus

Topic 2.2

Follow standard methods of setting out lining system:

- Set levels off datum points
- Check door and window openings and ceiling access points
- Account for electrical services and pipework
- Strike ceiling and wall lines for direct bond
- Square, level and plumb

Topic 2.3

Follow standard procedure and methods for installing and finishing systems:

- Working off datum lines
- Levelling of studs
- Setting out stud centres to meet required specifications/ manufacturer's recommendations
- Applying adhesive to meet manufacturer's recommendations and building regulations
- Installing square edge/tapered edge sheet materials to meet specific finish requirements
- Finishing system via:
  - Mechanical and hand taping, finishing and sealing
  - Applying plaster setting coats

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Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and summative practical assessment.

Simulation guidance
- Simulation in workshop is acceptable
- Skills be covered in more details in the workplace unit 313

Ways in which the unit links to maths
- Working with units of measurement
- Calculating areas, perimeters and weights
- Calibration of measuring tools and equipment

Ways in which the unit links to English
- Reading and following specifications
- Referring to and interpreting drawings when setting out
- Interpretation of manufactures requirements/specifications

Suggestions for delivery format of content – lesson ideas
- Workshop based demonstration and practical application sessions
- Review of dry lining example on site
- Research of manufactures systems and specifications

Links to other units
This unit links to the competence on-site unit 313.

Mapping to existing units/NOS
N/A

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Unit 306 Solid plastering for internal walls and surfaces

Level:	3
GLH:	90
Unit type:	Taught / College based
Assessment type:	Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand the knowledge and skills required for applying solid plastering to internal walls and surfaces. Solid plastering involves mixing and applying wet plaster to background surfaces which dries to a smooth hard surface before being painted or covered. This is the main type of plastering and can be found in most buildings and properties.

This unit introduces learners to knowledge of tools equipment and materials used as well as specific health and safety considerations. The unit covers the skills of applying plaster to solid backgrounds, fixing and finishing plasterboard to timber backgrounds and cutting and fixing angle beads in place.

Learners should consider the following questions as a starting point to this unit:

- What health and safety considerations are there when working with solid plaster?
- What are the main reasons for plastering walls and ceilings?
- How are solid plasters mixed to the correct consistency?
- What materials are used for angle beads?

Learning outcomes

In this unit, learners will:

1. Understand the uses of solid plastering
2. Understand equipment and processes for mixing an applying solid plaster
3. Apply plaster to solid backgrounds
4. Fix and finish plasterboard to timber backgrounds
5. Cut and fix angle beads
6. Understand plastering issues that would require remedial works
7. Reinstate damp affected masonry structures
8. Carry out alterations and minor repair works to masonry structures

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Learning outcome:

1. Understand the uses of solid plastering

Topics

1.1 Purpose of plastering walls and ceilings
1.2 Specific health and safety considerations

Topic 1.1

Reasons for plastering internal walls and ceilings including considerations of:

- Decorative purposes – to improve aesthetics
- To make walls and ceiling level/flat
- Insulation purposes – sound, heat, moisture

Topic 1.2

Specific health and safety considerations when using solid plaster:

- Mixing in well ventilated areas
- Using correct PPE – dust mask, goggles, gloves, using barrier creams
- Access equipment must be safety checked/ tagged

Learning outcome:

2. Understand equipment and processes for mixing an applying solid plaster

Topics

2.1 Types of backgrounds
2.2 Materials
2.3 Tools and equipment

Topic 2.1

Features of different types of backgrounds:

- Timber
- Block
- Brick
- Concrete
- Painted
- Plastered
- Stone
- Composite

Topic 2.2

The characteristics and purposes of materials used when mixing and applying solid plaster:

- Lightweight backing plaster
- Finishing plaster
- Lime

- Mortar
- Sand
- Cement
- Sheet material (e.g. acoustic, fire, moisture, thermal and standard plasterboard)

Topic 2.3
Features and uses of tools and equipment used when mixing and applying solid plaster:
- Fixings - screws
- Electrical tools – drill, impact driver
- Levelling and measuring tools –levels, squares etc.
- Plastering tools - trowels, hawks, straight edges etc.

Features and uses of tools and equipment used to prepare, set out and install plasterboard to timber backgrounds:
- Installation tools – e.g. impact driver, tape measure, knife, pad saw, chalk line
- Access equipment – e.g. Low level scaffolding

Learning outcome:

3. Applying plaster to solid backgrounds

Topics
3.1 Masonry backgrounds
3.2 Mixing plasters
3.3 Applying floating coats to masonry backgrounds
3.4 Applying setting coats to previously plastered walls and backing coats

Topic 3.1
Applying plaster to masonry backgrounds following standard procedure and with consideration of:
- Controlling suction to the background
- Selecting tools and equipment for use

Topic 3.2
Mixing plasters with consideration of
- Compatibility
- Mix ratios
- Consistency
- Reference to manufacturer's instructions

Topic 3.3
Applying floating coats to masonry following standard methods and process including:
- Forming screeds
- Floating walls, plumb and flat

- Producing uniform key

Topic 3.4
Applying setting coats to previously plastered walls including:
- Controlling suction throughout application
- Mixing plaster to correct consistency – referring to manufacturer's instructions
- Applying setting coats to a flat smooth finish

Learning outcome:

4. Fix and finish plasterboard to timber backgrounds

Topics
4.1 Fixing plasterboard to timber backgrounds/sheet materials
4.2 Applying setting coats to plasterboard

Topic 4.1
Fixing plasterboard to timber backgrounds/sheet materials:
- Selecting and using appropriate tools and equipment when fixing plasterboard
- Working according to specification (staggered joints, correct fixing centres)
- Allowing for the requirements of other services – sockets, pipes etc.

Topic 4.2
Applying setting coats to plasterboard:
- Mixing setting coats according to manufacturer's instructions
- Apply two coats to smooth, flat blemish free finish with clean brushed internal angles

Learning outcome:

5. Cut and fix angle beads

Topics
5.1 Types of beads
5.2 Cutting and fixing beads

Topic 5.1
Characteristics and uses of different types of beads:
- Types of beads– angle beads, stop beads, arch beads, thin coat beads
- Materials - Plastic, galvanised, stainless steel

Topic 5.2
Cutting and fixing angle beads:
- Cutting beads to dimension/size as specification
- Selecting and using measuring and cutting tools
- Fixing beads to different backings:
  - Masonry

- Plasterboard

Learning outcome:

6. Understand plastering issues that would require remedial works

Topics

6.1 Signs and causes of damp
6.2 Methods of damp treatment
6.3 Considerations when applying damp treatments

Topic 6.1

Assess and evaluate types, signs and possible causes of damp affected plaster work:

Types

- Rising damp
- Penetrating damp
- Condensation

Signs

- Mildew
- Mould growth
- Salts and efflorescence
- Algae growth
- Musty smell
- Water visible on wall surface

Causes

- Lack of air circulation
- No damp proof course (DPC)
- External ground level breaching floor level
- Plaster/render breached damp proof course
- Faulty guttering/rainwater system
- Defective render/exterior finish
- Incorrect plastering materials applied
- Single wall construction and blocked cavity wall
- Inadequate drainage

Topic 6.2

Compare features of damp treatment systems and when they would be used:

- Injection systems
- Tanking systems

- Dry rod system
- Sheeting/membrane system

Topic 6.3

Considerations when preparing backgrounds for damp proofing

- Mechanical and electrical services
- Doorframes and skirting
- Protecting furniture and unaffected areas
- Fixtures and fittings – e.g. fireplaces, kitchen units, bathroom furniture
- Drying times of plaster systems as specified in manufacturer's instructions

Learning outcome:

7. Reinstate damp affected masonry structures

Topics

7.1 Preparing background

7.2 Mixing and applying, making good

Topic 7.1

Preparing damp affected backgrounds for the application of new solid plaster following standard procedures:

- Hack away defective/damaged plaster work
- Remove and dispose of defective plaster work
- Assess and evaluate exposed surface – e.g. condition and appearance of background

Topic 7.2

Mixing, applying and making good plaster following the removal of damp affected masonry:

- Select backing and finishing plaster
- Mix backing and finishing plaster following manufactures specification
- Apply and finish solid plaster using tools and equipment

Learning outcome:

8. Carry out alterations and minor repair works to masonry structures

Topics

8.1 Repair work and making good

Topic 8.1

Carrying out repair work and making good to plaster work following standard solid plaster application processes:

- Electrical chases/boxes
- Corroded/damaged beads
- New openings – door/windows
- Patching holes/defects in plasterboard surfaces
- Fixing structural cracks

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Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and summative practical assessment.

Simulation guidance
- N/A

Ways in which the unit links to maths
- Calculating amounts, lengths and areas
- Mixing materials to correct ratios
- Cutting to size and dimension from information off plans

Ways in which the unit links to English
- Reading and following specifications
- Referring to and interpreting drawings
- Interpretation of manufactures instructions and mixing requirements

Suggestions for delivery format of content – lesson ideas
- Site visit to different types of construction projects
- Guest speakers including suppliers
- Workshop based demonstration and practical application sessions

Links to other units
This unit links to the competence on-site unit 308.

Mapping to existing units/NOS
NOS ref VR210.

DRAFT

Unit 307 Running in-situ mouldings and producing and installing basic fibrous plasterwork

Level:	3
GLH:	45
Unit type:	Taught / College based
Assessment type:	Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand the knowledge and skills required for applying fibrous plastering to internal walls and surfaces. Fibrous plastering uses plaster with is reinforced with fibre or hair to bind it together. This type of plastering is used for the creation of decorative moulds such as ceiling roses and cornices. This is interesting heritage work and can involve the restoration of damaged features bringing historical interest back to a property.

The unit covers the skills of constructing in situ-moulds, constructing reverse moulds, casting cornices and repairing existing cornices. In addition as part of the unit learners will cover the materials, equipment and fixings required for fibrous plaster application, their characteristics and uses.

Learners should consider the following questions as a starting point to this unit:

- Why are backgrounds checked and inspected for defects?
- What materials are used when running in-situ cornice moulds?
- How are profiles transferred to zinc templates when constructing running moulds?
- What is the difference between reverse moulds and panel moulds?

Learning outcomes

In this unit, learners will:

1. Construct, run and finish in-situ cornice moulds
2. Construct reverse moulds and run panel moulds
3. Cast and install cornices, repairing existing cornices

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Learning outcome:

1. Construct, run and finish in-situ cornice moulds

Topics

1.1 Materials for basic fibrous plastering work
1.2 Preparing and setting out backgrounds
1.3 Constructing running moulds to match existing
1.4 Running and finishing moulds
1.5 Running short breaks and stop ends and make good mitres

Topic 1.1

The characteristics and purposes of materials used when constructing, running and finishing in-situ cornice moulds:

- Sand (including different grades)
- Lime
- Reinforcements

Topic 1.2

Preparing and setting out backgrounds including:

- Inspecting for defects
- Checking stability and condition of background
- Applying screeds to internal backgrounds using traditional plasters and set up running rules

Topic 1.3

Constructing running moulds from given dimensions following standard process:

- Selecting and using tools
  - Measuring tools – tape measures
  - Fixing tools – drills, hammers
  - Cutting tools – jigsaw/band saw, scribe etc.
- Selecting and using materials and fixings
  - Timber
  - Zinc
  - Screws
  - Nails and pins
- Transferring profile to zinc template
- Cutting and filing to existing mould profiles
- Fixing template to timber stock and slipper

Topic 1.4

Running and finishing moulds following standard process:

- Setting out running rules and fixing bracketing
- Mixing and coring out
- Running finishing coat using lime putty and casting plasters

Topic 1.5

Running short breaks and stop ends and make good mitres:

- Preparing benches
- Fixing backboard and running rule

- Running short break
- Cutting, fixing and making good internal and external mitres

Learning outcome:

2. Construct running moulds and run off reverse moulds

Topics

2.1 Drawing profile from given dimensions
2.2 Constructing running moulds
2.3 Bench preparation
2.4 Running a reverse moulds

Topic 2.1

Drawing profile from given dimensions including the selection and use of appropriate drawing equipment.

Topic 2.2

Constructing reverse running moulds from drawn profiles:

- Selecting and using tools:
  - Measuring tools – tape measures
  - Fixing tools – drills, hammers
  - Cutting tools – jigsaw/band saw, scribe etc.
- Selecting and using materials and fixings:
  - Timber
  - Zinc
  - Screws
  - Nails and pins
- Transferring profile to zinc template
- Cutting and filing to given dimensions
- Fixing template to timber stock and slipper
- Fix brace making sure that mould is square
- Applying timber/plaster muffle to template

Topic 2.3

Preparing benches for running following standard process:

- Setting up running rule
- Greasing bench
- Coring out
- Running reverse

Topic 2.4

Running reverse moulds following standard process and method including:

- Selecting and using materials – grease, hessian, casting plaster, shellac, wax
- Mixing to manufacturers specifications
- Fixing anchorage nails
- Running core and providing adequate key
- Removing muffle
- 'Running off' running mould, ensuring free from blemishes
- Applying shellac/sealant and release agent to finished mould

Learning outcome:

3. Cast and install cornices and repairing existing cornices

Topics
3.1 Casting cornices
3.2 Installing cornices and forming internal and external mitres
3.3 Taking plaster squeezes

Topic 3.1

Casting cornices following standard process and methods:

- Selecting and using materials – casting plaster, canvas/hessian, timer laths
- Selecting and using equipment – buckets, bowels, splash brush
- Preparing the reverse mould
- Mixing casting plaster
- Applying firstings
- Applying seconds
- Applying reinforcements/bracketing
- Striking off
- Remove store and dry cornice

Topic 3.2

Installing cornices and forming internal and external mitres:

- Selecting and using materials and fixings - casting plaster, adhesive, screws/nails
- Selecting and using tools – tape measure, square, mitre box, saw, drill, hammer, knife
- Preparing background surface (form a key if required)
- Marking projection and depth, and striking chalk lines
- Measuring, marking and cutting cornice to required projection to form internal and external mitres
- Fixing cornice using adhesive and fixings
- Stopping in to all mitres, ceiling lines, wall lines and straight joints,

Topic 3.3

Taking plaster squeezes

- Select appropriate section of cornice to take squeeze
- Protect surrounding area
- Selecting and using materials – casting plaster, hessian/canvas, grease
- Selecting and using tools – small tool, joint rules
- Applying casting plaster and reinforcements
- Applying sufficient bracketing to keep squeeze in shape
- Remove squeeze

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question and summative practical assessment.

To allow opportunity for gather evidence for this type of work, this unit lends itself to teaching towards the end of the apprenticeship i.e. third year.

Simulation guidance
- N/A

Ways in which the unit links to maths
- Working out solid shapes from cross sections
- Calculating surface areas and volumes
- Setting out and reading datum points

Ways in which the unit links to English
- Referring to manufactures instructions
- Reading and interpreting job specifications
- Interpreting technical information and technical terminology

Suggestions for delivery format of content – lesson ideas
- Peer assessment and evaluation of own work
- Site visits to manufactures and specialist plastering companies carrying out interior restoration contracts
- Visiting guest product demonstrators/experts

Links to other units
This unit links to the competence on-site unit 309.

Mapping to existing units/NOS
NOS ref VR210.

DRAFT

Unit 308 Applying and finishing internal solid plastering

Level:	3
GLH:	36
Unit type:	Competency / Site based
NOS Ref:	VR76
Assessment type:	Portfolio

What is this unit about?

The purpose of this unit is for learners to demonstrate practically the skills and knowledge they have been taught in the 'Principles of solid plastering for internal walls and surfaces' unit.
This unit will be assessed in a real working environment and learners will have to complete different tasks a number of times in order to achieve.

The unit will provide the learner with the skills to apply two coats of plaster to plasterboard and previously plastered walls, apply backing and finishing plasters as well as applying beading to masonry and plasterboard.

Learners should consider the following questions as a starting point to this unit:

- How can a clean working environment be maintained when applying finishing plaster?
- When are reinforcing tapes used when applying plaster?
- What access equipment would be required for applying plaster?
- Where is information on the type of beading to use found?

Learning outcomes

In this unit, learners will:

1. Plan internal plastering works
2. Prepare backgrounds for solid plastering
3. Apply and finish solid plastering systems

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Learning outcome:

1. Plan internal plastering works

Assessment criteria

1.1 Identify required tools, equipment and materials for use in accordance with job specification

1.2 Calculate and evaluate quantities of materials required from **documents** and in line with available stock

1.3 Ensure access equipment conforms to health and safety requirements

1.4 Estimate job duration and timescales of **job stages** to meet deadlines taking into **consideration** key factors

1.5 Prepare work area ready for internal plastering works ensuring materials and equipment are sourced and organised logically

1.6 Communicate and confirm planned work schedule with **relevant personnel**

Range

Documents

- Manufacturers guidelines
- Job specification
- Construction drawings
- Tender documents
- Method statement

Job stages and considerations

- Labour resourcing
- Protection and preparation
- Follow on trades
- Costs, appearance
- Planning consent and listed status of building

Relevant personnel

- Client
- Site supervisor
- Employer

Learning outcome:

2. Prepare backgrounds for solid plastering

Assessment criteria

2.1 Assess and examine background to confirm requirements

2.2 Select tools and equipment required for job in line with specified **system** including personal protective equipment

2.2 Protect existing internal surfaces from potential damage

2.3 **Prepare surfaces** ready for the application of plaster
2.4 Work following health and safety legislation and according to risk assessment at all times
2.5 Maintain a clean working environment throughout
2.6 Minimise and dispose of waste and ensure recycling processes are followed

Range
System
- Restoration
- Modern
- Traditional

Preparing surfaces
Methods of forming a bond between applied plaster and background using mechanical methods
- Applying water to control suction
- Hacking background by hand/breaker
- Scutching/raking/scabbling/grinding background surface
- Fixing EML to backgrounds
- Fixing riven lathes to backgrounds

Methods of forming a bond between applied plaster and background using bonding methods
- Slurrying
- Stippling
- Splatterdashing (for restoration)
- Stabilising and sealing
- Grit adhesive
- PVA adhesive

Learning outcome:

3. Apply and finish solid plastering systems

Assessment criteria
3.1 **Set out** prior to application of internal plastering **system**
3.2 Mix plastering materials to required consistency, whilst minimising waste and in accordance with job specification
3.3 Apply **plasters** to **surfaces** following system requirements
3.4 Ensure setting and curing times are followed as per system requirements
3.5 **Finish** plain plaster surface in line with industry standards and job requirements
3.6 Work following health and safety legislation according to risk assessment at all times
3.7 Maintain a clean working environment throughout task
3.8 Minimise waste and ensure recycling protocols are followed

Range
System
- Restoration
- Modern

- Traditional

Setting out
- Restoration - Fixing timber straight edges/rules and fixing staff beads
- Modern/traditional - Setting out and fixing beads to openings, returns, piers, columns

Applying
- Pricking out/dubbing out
- Scratch/floating application
- Finish coat application

Plasters
- One coat method
- Two coat method
- Three coat method

Surfaces
- Plain walls – flat walls, window walls/walls with openings
- Complex walls – curved walls (convex/concave surfaces)
- Inclined surfaces – sloping ceilings

Finish
- Flat
- Smooth and blemish free
- Uniform
- Consistent

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Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by direct observation in the workplace and can supported by witness testimony.

Evidence requirements for the unit
Learners must carry out one-coat system applications (applies to skimming) at least five times covering both

- plasterboard to include scrimming of joints
- over skimming to include preparation.

Learners must carry out two/three coat system applications at least five times across at least one of the following types of background

- solid
- timber lath
- EML.

Learners are only required to apply one type of two/three coat system i.e. sand and cement **or** lime and sand **or** gypsum based plasters. However it would be beneficial to cover as many of the two/three coat systems as is possible in work based experience.

In total learners must apply solid plaster to an area totalling at least 60m^{2,} with at least one instance of 12m^{2}.

Learners must carry out minor repairs/remedial works to solid walls or plasterboard at least two times.

Learners must prepare openings and returns using metal trims/beads at to both masonry and plasterboard backgrounds. Learners must set out and apply beads at on at least five different occasions including to

- a window opening
- a pier
- a return
- an expansion.

Learners must be given the opportunity to apply plaster to all types of surface in addition to plain surfaces i.e. complex and inclined surfaces.

Links to other units
This unit links to the taught based unit 310.

Mapping to existing units/NOS
NOS ref VR76, Existing unit 7908-306.

DRAFT

Unit 309 Matching and reinstating plain plaster moulding sections

Level:	3
GLH:	36
Unit type:	Competency / Site based
NOS Ref:	VR80
Assessment type:	Portfolio

What is this unit about?

The purpose of this unit is for learners to demonstrate practically the skills and knowledge they have been taught in the 'Running in-situ mouldings and producing and installing basic fibrous plasterwork' unit. This unit will be assessed in a real working environment and learners will have to complete different tasks a number of times in order to achieve.

The unit will provide the learner with the opportunity to take squeezes and on plain plaster moulds in order to repair and finish basic fibrous plaster mouldings. Learners will construct in-situ running moulds and produce, fix and finish run casts.

Learners should consider the following questions as a starting point to this unit:

- What tools are used to cut and file moulding profiles?
- Why are release agents used when taking squeezes?
- What equipment is used to cut external mitres?
- How are walls prepared in advance of fixing run casts?

Learning outcomes

In this unit, learners will:

1. Produce squeezes
2. Construct in-situ running moulds and produce run casts
3. Fix and finish run casts

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Learning outcome:

1. Produce squeezes

Assessment criteria

1.1 Identify **suitable**, undamaged section of moulding for plaster squeeze
1.2 Select and apply **release agent** to even consistency
1.3 Mix plastering materials to required consistency
1.4 Apply plaster and reinforcement to moulding section
1.5 Remove squeeze once set in accordance with setting times

Range

Suitable

- Thickness of wall and ceiling line members
- Lack of damage to face
- Undercut within moulding

Release agent

- Tallow
- Petroleum jelly
- Acrylic waxes

Learning outcome:

2. Construct in-situ running moulds and produce run casts

Assessment criteria

2.1 Mark out and transfer squeezes to zinc
2.2 Cut and file profiles using suitable **c**
2.3 Construct running moulds ensuring robustness
2.4 Set up bench surfaces and back boards
2.5 Prepare surface and run finish, coring out where necessary
2.6 Remove casts, storing correctly

Range

Tools

- Hand tools
- Powered tools

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Learning outcome:

3. Fix and finish run casts

Assessment criteria

3.1 Check and prepare wall and ceiling areas ready for fixing casts
3.2 Set out projection and depth of plaster mouldings
3.3 Cut internal and external mitres using appropriate **tools** and equipment
3.4 Fix and finish, making good plaster moulding to specified dimensions
3.5 Work following health and safety legislation and according to risk assessment at all times
3.6 Maintain a clean working environment throughout
3.7 Minimise and dispose of waste and ensure recycling processes are followed

Range

Tools

- Fixing tools
- Hand tools
- Powered tools

DRAFT

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by direct observation in the workplace and can supported by witness testimony.

Evidence requirements for the unit
Where fibrous plastering work is not naturally occurring in a workplace environment, it is acceptable for a section of purchased plain plaster cornice to be fixed in suitable position in order for the apprentice to take a squeeze.

Alternatively employers could consider 'partnering up' in order to provide apprentices with opportunity to take a squeeze in a real working environment.

Learners must take squeezes on plain plaster cornice with a minimum depth and projection of 80mm.

Cast should be produced with a minimum length of 1m with two fixed stop ends, however if this is carried out on site it should be installed and made good in line with job specification.

Links to other units
This unit links to the taught based unit 310.

Mapping to existing units/NOS
NOS ref VR80, Existing unit 7908-305.

DRAFT

Unit 310 External solid rendering

Level:	3
GLH:	90
Unit type:	Taught / College based
Assessment type:	Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand the processes involved for external rendering with solid plaster. This includes types of rendering, materials and the tools, equipment and accessories used throughout the process. This unit builds on the knowledge and skills taught in the internal solid plastering unit. Working on external surfaces presents additional challenges and issues which this unit will enable learners to overcome.

This unit introduces learners to different systems of rendering including modern and traditional practices as well as restoration work and insulation rendering systems. Learners will practice their skills in the workshop preparing backgrounds, setting out and applying the different systems.

Learners should consider the following questions as a starting point to this unit:

- When are traditional external rendering systems used?
- What are the health and safety considerations for applying external rendering?
- How are external surfaces prepared in prior to rendering application?
- What documentation is used for planning external rendering work?

Learning outcomes

In this unit, learners will:

1. Understand external rendering systems
2. Prepare for application of external rendering systems
3. Apply external rendering systems

DRAFT

Learning outcome:

1. Understand external rendering systems

Topics

1.1 Types of external rendering
1.2 Plastering accessories, tools and equipment
1.3 Types of materials
1.4 Rendering specifications

Topic 1.1

Compare suitable types of external rendering systems and when they would be used:

- Restoration – lime rendering, match to existing
- Modern – pre-mixed/blended renders (polymer based), pre-mixed coloured renders, acrylic and silicon renders
- Traditional – sand and cement
- Insulated render systems – external wall installation (EWI)

Topic 1.2

Considerations for planning and applying different rendering systems:

- Accessories – beads, reinforcements, insulations products, fixing and adhesives, additives, cover strips, profiles, EML, timber lathes
- Mixing and application tools - hand tools, mechanical tools
- Equipment – buckets, mixing container, mixer, water butt, hosepipe
- Considerations – protection of surfaces, access equipment, storage and mixing, background surface preparation (Wash down, apply chemical wash, remove excessive mortar), remedial works (EWI)

Topic 1.3

Considerations for planning and applying different rendering materials:

- Restoration – hydraulic lime mortars, non-hydraulic lime mortars, lime putty, sands, aggregates
- Modern – polymers, silicones, pre-mixed/pre-blended cement and lime based renders, silicone and acrylic thin coat renders, aggregates
- Traditional – sand, cement, lime, aggregates
- Insulated render systems – insulation, appropriate render systems
- Common defects in external rendering – cracking, crumbling, insufficient curing, crazing, colour loss, ghosting/grinning

Topic 1.4

Sources of information required for planning and carrying out external rendering:

- Architects specification
- Manufacturers information
- Architectural drawings

Learning outcome:

2. Prepare for application of external rendering systems

Topics

2.1 Setting up working area
2.2 Assessing and examining background surface
2.3 Preparing background surfaces

Topic 2.1

Setting up work area in preparation for the application of render to external surfaces:

- Selecting tools and equipment in line with required system
- Preparing materials – mixing to ratio
- Preparing equipment – hop up and stand, spot board
- Assess working area for safety considerations

Topic 2.2

Checking and examining background surface prior to applying render systems with consideration of:

- Lineable, evenness/flatness, plumb and true
- Suction and condition of surface
- Appropriate key for adhesion

Topic 2.3

Prepare background surfaces prior to external rendering in line with chosen system:

- Washing down backgrounds
- Applying chemical solution where appropriate
- Removing excessive mortar 'snots'
- Applying chemical bonding/priming agent (e.g. Rendaid)
- Preparing by using mesh
- Dubbing out

Learning outcome:

3. Apply external rendering systems

Topics

3.1 Applying restoration to external rendering and mouldings
3.2 Applying modern external rendering
3.3 Applying traditional external rendering
3.4 Applying insulated render systems external rendering

Topic 3.1

Applying restoration for external rendering

- Applying pricking up coat and forming sufficient diagonal key
- Applying scratch coat to even thickness on plain and window walls with adequate key
- Forming window reveals, soffits and drips using timber rules
- Cleaning down edges and cutting in to form reveals
- Applying top coat flat and even, and consolidating with float to a plain finish

Running in-situ moulding work in sand and cement and lime mortars

- Constructing running mould including zinc template
- Setting out for running
- Applying core coat
- Applying finishing coat

Topic 3.2

Applying modern external rendering following standard process:

- Fixing beads to openings and DPC
- Applying base coats to even thickness on plain and window walls
- Applying top coat flat and even, and scraping finish using H bar and spike float
- Setting out and mark ashlar

Topic 3.3

Applying traditional external rendering following standard process one, two and three coat work:

- Fixing beads to openings and DPC
- Applying pricking up coats/dubbing out coats
- Applying scratch coat to even thickness and adequate key
- Applying top coat to given specification - Rough cast, Pebbledash, plain faced finish, Tyrolean
- Forming render features such as quoins and window bands

Topic 3.4

Applying insulated render systems external rendering following standard process:

- Fixing tracking profiles
- Fixing insulation
- Applying base coat and reinforcement
- Applying primer and silicone/acrylic thin coat render

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and summative practical assessment.

Simulation guidance
- Models can be used to simulate the use of chemical washes/fungicidal wash in outcome 2.3

Ways in which the unit links to maths
- Calculating ratios for mixing and setting out beads
- Calculating areas and amounts required
- Measuring and setting out dimensions for Ashlar block work

Ways in which the unit links to English
- Referring to manufactures instructions
- Reading and interpreting job specifications
- Interpreting technical information and technical terminology

Suggestions for delivery format of content – lesson ideas
- Online research of videos of fungicidal washing
- Research on manufactures rendering systems
- Internet research and presentations on heritage restoration projects

Links to other units
This unit links to the competence on-site unit 312.

Mapping to existing units/NOS
Existing unit 7908-304.

DRAFT

Unit 311 Floor screed systems

Level:	3
GLH:	20
Unit type:	Taught / College based
Assessment type:	Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand floor screed systems and the skills and process of their application. This includes the different types of screed system, their application and the tools and equipment required. Floor screeding is the process of mixing water, cement and aggregate, such as sharp sand, and pouring it to create a smooth, hardwearing floor surface. Laid screed can then be left bare or covered with underlay and decorative flooring such as carpet. Screeding can ensure the floor surface is level, sturdy and durable.

This unit introduces learners to the practical skills involved in preparing and applying common sand and cement screed systems including the application of screeds to a level finish as well as to an even gradient slope.

Learners should consider the following questions as a starting point to this unit:

- What are the benefits of floor screed systems?
- How can screeded floors be protected following application laid?
- How are screeds applied to an even slope finish?
- What are the common defects that can affect floor screeding?

Learning outcomes

In this unit, learners will:

1. Understand floor screed system materials and processes
2. Prepare for sand and cement screeds
3. Apply sand and cement screed systems

DRAFT

Learning outcome:

1. Understand floor screed system materials and processes

Topics

1.1 Methods and systems of floor finish
1.2 Considerations when laying screed system
1.3 Tools, equipment and materials for screed systems

Topic 1.1

Compare floor screed methods and systems including and when they would be used:

- Un-bonded
- Floating
- Fully bonded
- Partially bonded
- Monolithic
- Granolithic
- Liquid screed
- Self-levelling
- Polymer screed

Topic 1.2

Considerations for planning and laying screed systems:

- Health and safety
- Protection of finished floor
- Mixing requirements
- Curing and hardening times
- Access and storey level
- Heat retention/insulation and background surfaces – underfloor heating system
- Covering
- Common defects in screed systems – cracking, lifting, crumbling, insufficient curing

Topic 1.3

Considerations for selecting and using tools, equipment and materials for different screed systems:

- Tools – hand tools for ruling and levelling (box rule, spirit level, laser level)
- Equipment – screeding pumps, forced action mixer, power float
- Materials – traditional floor screed, modern floor screed, additives, reinforcements, plant batched materials

Learning outcome:

2. Prepare for sand and cement screeds

Topics

2.1 Preparing substrate and setting out

Topic 2.1

Preparing substrate and setting out for sand and cement screed system:

- Preparing floor surface or substrate
- Cleaning and brushing to remove latinence from concrete oversite
- Soaking oversite with water to remove suction
- Appling bonding agents/grout
- Setting out datum points and transferring levels and falls

Learning outcome:

3. Apply sand and cement screed systems

Topics

3.1 Laying screed to level

3.2 Laying screed to falls

Topic 3.1

Following established process for laying screed to level:

- Laying and levelling perimeter dots
- Forming perimeter screed
- Laying, compacting, consolidating and finishing floor screed
- Checking and ensuring floor is within tolerance, flat and level

Topic 3.2

Following established process for laying screed to falls:

- Laying and levelling perimeter dots to fall into drainage outlets
- Forming screeds to fall into drainage outlets
- Laying, compacting, consolidating and finishing floor screed
- Checking and ensuring floor is within tolerance, flat and running to a fall

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and summative practical assessment.

Simulation guidance
- Models and examples of liquid screed to demonstrate the knowledge
- Learners only need to practically lay sand and cement screed system

Ways in which the unit links to maths
- Working out gradients for falls
- Setting out and reading datum lines
- Calculating volumes and areas when planning

Ways in which the unit links to English
- Referring to manufactures instructions
- Reading and interpreting job specifications
- Interpreting information required to be communicated to others

Suggestions for delivery format of content – lesson ideas
- Demonstrations of different systems and manufactures
- Workshop based demonstration and practical application sessions
- Visits to suppliers

Links to other units
N/A

Mapping to existing units/NOS
N/A

DRAFT

Unit 312 Applying and finishing external rendering

Level:	3
GLH:	36
Unit type:	Competency / Site based
NOS Ref:	VR77
Assessment type:	Portfolio

What is this unit about?

The purpose of this unit is for learners to demonstrate practically the skills and knowledge they have been taught in the 'External solid rendering' unit. This unit will be assessed in a real working environment and learners will have to complete different tasks a number of times in order to achieve.

The unit will provide the learner with the opportunity to gain competence in the skills of planning external rendering work, preparing backgrounds for the application of render as well as the actual application and finishing of the render in line with the chosen application system.

Learners should consider the following questions as a starting point to this unit:

- What equipment is used when applying render to external surfaces?
- How can existing surfaces be protected from damage when applying render?
- What are mechanical methods of forming bonds between render and backgrounds?
- What are the differences in the application process when applying traditional render as opposed to modern render?

Learning outcomes

In this unit, learners will:

1. Plan external rendering jobs
2. Prepare backgrounds for rendering systems
3. Apply and finish external rendering systems

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Learning outcome:

1. Plan external rendering jobs

Assessment criteria

1.1 Identify required tools, equipment and materials for use in accordance with job specification

1.2 Calculate and evaluate quantities of materials required from **documents** and in line with available stock

1.3 Ensure access equipment conforms to health and safety requirements

1.4 Estimate job duration and timescales of **job stages** to meet deadlines taking into **consideration** key factors

1.5 Prepare work area ready for external rendering ensuring materials and equipment are sourced and organised logically

1.6 Communicate and confirm planned work schedule with **relevant personnel**

Range

Documents

- Manufacturers guidelines
- Job specification
- Elevation plans
- Tender documents
- Method statement

Job stages and considerations

- Labour resourcing
- Protection and preparation
- Follow on trades
- Weather considerations
- Costs
- Appearance
- Conservation area restrictions

Relevant personnel

- Client
- Site supervisor
- Employer

Learning outcome:

2. Prepare backgrounds for rendering systems

Assessment criteria

2.1 Assess and examine background to confirm requirements

2.2 Select tools and equipment required for job in line with specified **system** including personal protective equipment

2.2 Protect existing external surfaces from potential damage

2.3 **Prepare surfaces** ready for render **application method**
2.4 Work following health and safety legislation and according to risk assessment at all times
2.5 Maintain a clean working environment throughout
2.6 Minimise and dispose of waste and ensure recycling processes are followed

Range
System
- Restoration
- Modern
- Traditional
- Insulated render systems

Application method
- Preparing surfaces for forming a bond between applied render and background using mechanical methods
  - Applying water to control suction
  - Hacking background by hand/breaker
  - Scutching/raking/scabbling/grinding background surface
  - Fixing EML to backgrounds
  - Fixing riven lathes to backgrounds
- Preparing surfaces for forming a bond between applied render and background using bonding methods
  - Slurrying
  - Stippling
  - Splatterdashing (for restoration)
  - Stabilising and sealing

Learning outcome:

3. Apply and finish external rendering systems

Assessment criteria
3.1 **Set out** prior to application of external render **system**
3.2 Mix rendering materials to required consistency, whilst minimising waste and in accordance with job specification
3.3 Apply one, two and three coat rendering materials following system requirements
3.4 Ensure setting and curing times are followed as per system requirements
3.5 Finish render surface appearance in line with industry standards and job requirements
3.6 Work following health and safety legislation according to risk assessment at all times
3.7 Maintain a clean working environment throughout task
3.8 Minimise waste and ensure recycling protocols are followed

Range
System
- Restoration
- Modern
- Traditional
- Insulated render systems

Setting out

- Restoration - Fixing timber straight edges/battens
- Modern/traditional - Setting out and fixing beads
- Insulated render systems - Fixing track and profiles, insulation and beads

Applying

- Pricking out/dubbing out
- Scratch application
- Final application

Finishing

- Plain
- Textured

Quality of finish

- Plain - flat, smooth and blemish free, uniform, consistent
- Textured – even, consistent, no scarring, no bald patches, sags, minimal defects

DRAFT

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by direct observation in the workplace and can supported by witness testimony.

Evidence requirements for the unit
Learners must apply and finish rendering with at least one plain finish and one textured finish. Learners must use a minimum of two out of four rendering systems.

In total learners must apply external rendering on a minimum of three applications to an area totalling at least 60m^2.

Links to other units
This unit links to the taught based unit 310.

Mapping to existing units/NOS
NOS ref VR77, Existing unit 7908-304.

DRAFT

Unit 313 Installing dry lining systems

Level:	3
GLH:	36
Unit type:	Competency / Site based
NOS ref:	VR68, VR71
Assessment type:	Portfolio

What is this unit about?

The purpose of this unit is for learners to demonstrate practically the skills and knowledge they have been taught in the 'Dry lining, metal furring (MF) ceilings and metal stud partitioning' unit. This unit will be assessed in a real working environment and learners will have to complete different tasks a number of times in order to achieve.

The unit will provide the learner with the skills to install MF systems to ceilings, direct bond to masonry backgrounds and fix and finish plasterboard to timber stud partitions.

Learners should consider the following questions as a starting point to this unit:

- What access equipment will be required for installing ceiling trims?
- How are background surfaces prepared prior to lining?
- What risks and hazards might this type of work present?
- How can waste be minimized when installing dry lining systems?

Learning outcomes

In this unit, learners will:

1. Install metal furring systems
2. Fix and finish plasterboard to timber stud partitions
3. Direct bond to masonry backgrounds

DRAFT

Learning outcome:

1. Install metal furring systems

Assessment criteria

1.1 Calculate qualities of materials from **documents**
1.2 Identify fixings, components and materials for installing MF ceilings in accordance with job specifications
1.3 Mechanically install metal frame systems
1.4 Set levels off datum points
1.5 Ensure access equipment conforms to health and safety requirements
1.6 Install ceiling trims
1.7 Install hangers, fixing brackets, and tracks
1.8 Install insulation rolls / standard acoustic plasterboard / tiles
1.9 Check work is finished according to specification
1.10 Work following health and safety legislation according to risk assessment at all times
1.11 Maintain a clean working environment throughout task
1.12 Minimise waste and ensure recycling protocols are followed

Range
Documents

- Specification
- Work plan
- Manufactures instructions

Learning outcome:

2. Fix and finish plasterboard to timber stud partitions

Assessment criteria

2.1 Identify and prepare working areas prior to dry lining
2.2 Calculate qualities of materials required from **documents**
2.3 Identify fixings, components and materials for fixing and finishing in accordance with specifications
2.4 Mechanically install plasterboards to timber partitions
2.5 Apply fixings centres according to specification
2.6 Install square edge/tapered edge sheet materials to meet specific finish requirements
2.7 Check work is finished according to specification
2.8 Work following health and safety legislation according to risk assessment at all times
2.9 Maintain a clean working environment throughout task
2.10 Minimise waste and ensure recycling protocols are followed

Range
Documents

- Specification
- Work plan
- Manufactures instructions

DRAFT

Learning outcome:

3. Direct bond to masonry backgrounds

Assessment criteria

3.1 Calculate qualities of materials from **documents**

3.2 Identify materials for installing direct bond to masonry backgrounds in accordance with specifications

3.3 Prepare background surfaces

3.4 Ensure background is stable and suitable in line with job requirements

3.5 Check for highpoints

3.6 Control suction

3.7 Set out with consideration for electrical services and pipework

3.8 Square, level and plumb

3.9 Check work is finished according to specification

3.10 Work following health and safety legislation according to risk assessment at all times

3.11 Maintain a clean working environment throughout task

3.12 Minimise waste and ensure recycling protocols are followed

Range

Documents

- Specification
- Work plan
- Manufactures instructions

DRAFT

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by direct observation in the workplace and can supported by witness testimony.

Evidence requirements for the unit
Learners must complete the installation of metal furring systems on a minimum of three occasions.

Learners must fixing and finishing plasterboard a minimum of one occasion using mechanical and hand taping, finishing and sealing and a minimum of one occasion by applying two coats of finishing plaster.

Learners must complete direct bonding on a minimum of two occasions.

Links to other units
This unit links to the taught based unit 305.

Mapping to existing units/NOS
NOS ref VR68, VR71.

DRAFT

Unit 314 Fibrous plastering in the workshop

Level:	3
GLH:	85
Unit type:	Taught / College based
Assessment type:	Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand this skills and processes involved when working with fibrous plaster in the workshop in preparation for the installation of cast pieces on site. This includes the construction of different types of moulds, models and casts. Fibrous plastering is used to create intricate and decorative plaster work on a bench in the workshop. Once cast pieces are created they will be fixed to walls and ceiling on site.

This unit introduces learners to the requirements for working with fibrous plaster in the workshop including how tools and equipment are used for different processes. Learners will practice skills in constructing different types of moulds from different shapes, using different types of fibrous plaster.

Learners should consider the following questions as a starting point to this unit:

- What is the difference between a lath tank and a slosh tank?
- How are gig sticks used when constructing running moulds?
- What different types of pre-cast architectural mouldings are there?
- What are the benefits of using hand tools rather than powered tools when working with fibrous plaster?

Learning outcomes

In this unit, learners will:

1. Understand requirements for fibrous plastering in the workshop
2. Understand methods of constructing running moulds
3. Construct running moulds
4. Produce fibrous plaster models and casts

DRAFT

Learning outcome:

1. Understand requirements for fibrous plastering in the workshop

Topics

1.1 Workshop equipment for fibrous plastering
1.2 Workshop tools for fibrous plastering
1.3 Workshop materials for fibrous plastering

Topic 1.1

Identify and compare types of workshop equipment and their uses:

- Lath tank
- Slosh tank
- Clean water tank
- Plaster benches
- Hot melt compound machine
- Plaster boxes
- Box rules
- Extractors
- Canvas bin

Topic 1.2

Identify and compare benefits and uses of workshop tools:

- Hand tools – snips, files, joint rules, busks, small tools, scribes, callipers, measuring equipment
- Powered tools – jigsaw, chop saw, band saw

Topic 1.3

Identify and compare benefits and uses of workshop materials:

- Casting plasters
- Reinforcements – hessian, fibres, continuous filament mat, EML
- Rubbers – silicone, hot melts
- Sealers – shellac
- Additives – retarders, accelerators
- Release agents – Tallow, petroleum jelly, acrylic waxes
- Laths - 3mm, 5mm
- Fixings – screws, nails
- Chemicals – methylated spirits, acetones, gel coats, resins

Learning outcome:

2. Understand methods of constructing running moulds

Topics

2.1 Straight moulds
2.2 Curved and elliptical moulds
2.3 Diminished moulds

Topic 4.1

The importance of constructing running moulds that are robust and fit for purpose depending on the size of the run work including:

- Single slipper
- Double slipper
- Double stock
- Braced stock
- Braced slipper

Topic 4.2

Ways running moulds are constructed and run/spun to provide practical solutions when producing curved mould work on both curved and flat backgrounds.

- Types of gig stick - Hinged, pivot blocks, peg mould, peg mould and rail, half-slippered, gun trammels, major & minor axis, construction of trammel board.

Topic 4.3

Ways running moulds are constructed and run off, when producing diminished architectural mould work:

- Eccentric rule
- Triple hinged
- Double hinged
- Twisted

Learning outcome:

3. Construct running moulds

Topics

3.1 Constructing running moulds for straight work
3.2 Constructing running moulds for curved work
3.3 Constructing running moulds for diminished work
3.4 Methods of producing fibrous plaster mouldings

Topic 3.1

Constructing running moulds for straight work

- Drawing outline of moulding from 1:1 scale drawing
- Cutting and filing zinc template to drawing

- Constructing running moulds using components – brace, stock, slipper including muffle

Topic 3.2
Constructing running moulds for curved work

- Methods – gig stick, peg mould and rail, trammel and trammel board
- Drawing outlines of mouldings from 1:1 scale drawing
- Cutting and filing zinc templates to drawings
- Calculating and setting out dimensions to form radius from measurements
- Producing gig sticks to given radius and attaching to running moulds
- Constructing running moulds using different components – brace, stock, slipper including muffle

Topic 3.3
Constructing running moulds for diminished work

- Methods – hinged stop and hinged slippers, twisted moulds, to entasised rules
- Drawing outlines of mouldings from 1:1 scale drawing
- Cutting and filing zinc templates to drawings
- Constructing running moulds

Topic 3.4
Producing fibrous plaster mouldings using different methods:

- Methods - running, spinning, turning, pouring, casting
- Planning
- Preparing
- Mixing
- Producing
- Finishing
- Storing

Learning outcome:

4. Produce fibrous plaster models and moulds

Topics
4.1 Reproducing plaster models
4.2 Materials for reverse moulds
4.3 Types of reverse moulds
4.4 Types of pre-cast architectural mouldings
4.5 Considerations for casting architectural mouldings

Topic 4.1
Materials used for producing plaster models

- Casting plaster
- Vermiculite
- Hessian
- Retarders
- Sealants
- Coring materials

Following established process for reproducing plaster models:

- Constructing running moulds to include moulding grounds
- Casting enrichments from rubber mould
- Balancing enrichments from centre lines to ensure enrichment pick-ups
- Preparing the model for production of reverse mould

Topic 4.2

Materials for producing reverse moulds including:

- Fiberglass
- Rubber – hot melt, silicone
- Plaster
- Release agents
- Sealers
- Hardeners

Topic 4.3

Types of reverse moulds and their uses:

- Case moulds
- Insertion moulds
- Flood moulds
- Loose piece moulds

Topic 4.4

Types of pre-cast architectural mouldings features:

- Enriched cornices
- Arches
- Columns
- Pilasters
- Corbels
- Ceiling centre
- Beam case
- Barrel ceilings
- Vaulted ceiling

Topic 4.5

Benefits and limitations of types of materials and their uses with regard to internal and external fitting of architectural cast feature:

- Internal – Grades of casting plaster, reinforcements, Glass reinforced gypsum GRG, Glass reinforced concrete GRC, Glass reinforced polyester (GRP), Jesmonite, lime mortar, sand, cement
- External - reinforcements, Glass reinforced gypsum GRG, Glass reinforced concrete GRC, Glass reinforced polyester (GRP), Jesmonite

DRAFT

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and summative practical assessment.

Simulation guidance
- Learners must practically produce reverse moulds
  - Using at least two methods and two types of material
  - Cast using one material for external use and one material for internal use

Ways in which the unit links to maths
- Reviewing and working out the geometry of shapes
- Calculating ratios based on amounts required
- Calculating amounts, lengths and dimensions

Ways in which the unit links to English
- Referring to manufactures instructions
- Reading and interpreting job specifications
- Interpreting technical information and architectural terminology

Suggestions for delivery format of content – lesson ideas
- Guest speakers including suppliers
- Research on use of fibrous plastering systems in the industry
- Visits to fibrous plastering workshops

Links to other units
This unit links to the competence on-site unit 316.

Mapping to existing units/NOS
Existing units 7908-305, 306.

DRAFT

Unit 315 Fibrous plastering on site

Level:	3
GLH:	25
Unit type:	Taught / College based
Assessment type:	Practical assignment

What is this unit about?

The purpose of this unit is for learners to understand this skills and processes involved when working with fibrous plaster on site, rather than in the workshop. This includes the fixing and finishing, on site, of complex fibrous mouldings which have been cast off site in the fibrous plastering workshop. This type of work covers detailed and complex architectural mouldings and enrichments such as enriched cornices, arches, columns and ceiling centres.

This unit introduces learners to the skills of making restorations to existing on site mouldings by taking squeezes using different types of materials such as silicone and clay. This work ensures cast mouldings match original pieces and can be used for exact repair work.

Learners should consider the following questions as a starting point to this unit:

- What different types of pre-cast architectural mouldings are there?
- How would the type of building affect solid plastering on site?
- When working with fibrous plaster, why are squeezes taken?
- What are dowels used for when fixing mouldings via traditional methods?

Learning outcomes

In this unit, learners will:

1. Understand requirements for fixing pre-cast architectural mouldings to internal and external surfaces
2. Fix and finish pre-cast architectural mouldings
3. Replicate existing mouldings using squeezes

DRAFT

Learning outcome:

1. Understand requirements for fixing pre-cast architectural mouldings to internal and external surfaces

Topics

1.1 Types of pre-cast architectural mouldings

1.2 Considerations for fixing pre-cast architectural mouldings

1.3 Materials for fixing pre-cast architectural mouldings

1.4 Methods of fixing pre-cast architectural mouldings

Topic 1.1

Types of pre-cast architectural mouldings:

- Cornices
- Columns
- Arches
- Ceiling roses
- Pediments
- Panel moulding
- Corbels
- Lunette ceilings
- Barrel ceilings
- Enrichments
- Niches
- Coffered ceilings
- Lighting troughs
- Dome ceiling
- Keystone
- Pilaster
- Baluster

Topic 1.2

Considerations for fixing pre-cast architectural mouldings

- Adequate access equipment
- Type of buildings - traditional/modern
- Location of fixing points
- Position and location of mechanical and electrical services

Topic 1.3

Identify and evaluate the properties of materials used for fixing and finishing pre-cast architectural mouldings and when and where they would be applied, with consideration of background surface:

- Adhesives – external and internal
- Screws
- Dowels
- Wire
- Canvas
- Plaster
- Resins
- Additives
- Reinforcements

Topic 1.4
Identify and evaluate the methods, tools and equipment used for fixing pre-cast architectural mouldings and when and where they would be used, depending on location and type of cast;

- Wire and wad
- Bonding with adhesive – 'bedding up'
- Mechanical fixing
- Chemical fixing
- Traditional dowel fixing

Learning outcome:

2. Fix and finish pre-cast architectural mouldings

Topics
2.1 Setting out for fixing architectural mouldings
2.2 Fixing pre-cast architectural mouldings
2.3 Finishing pre-cast architectural mouldings

Topic 2.1
Setting out for fixing pre-cast architectural mouldings:

- Preparing background – internal, external
- Location of fixing points
- Setting out from given datum points
- Marking out background prior to fixing
- Cutting pre-cast architectural mouldings to size including mitres and enrichment balancing
- Measuring for setting out and fixing in line with architectural drawings

Topic 2.2
Fixing pre-cast architectural mouldings:

- Selecting appropriate method of fixing to suit background

- Fix and check position mould for accuracy:
    - Lining of joints and members
    - Positioning enrichments
    - Levelling and plumbing
    - Ensuring cleanliness of moulding face and surroundings

Topic 2.3
Finishing pre-cast architectural mouldings following fixing:
- Controlling suction
- Mixing materials
- Reinforcing joints
- Stopping in - to match existing, to mitres and joints

Learning outcome:

3. Replicate existing mouldings using squeezes

Topics
3.1 Types of mouldings
3.2 Methods and materials used for squeezes
3.3 Taking squeezes

Topic 3.1
Types of architectural mouldings
- Plain moulding sections
- Ornate to include identifying pattern repeats

Topic 3.2
Methods and materials for taking squeezes:
- Plaster squeeze
- Silicon squeeze
- Clay
- Cut and draw
- Section removal

Materials tools and equipment used when taking squeezes:
- Materials: silicone, catalyst, thixotropic, casting plaster, hessian, release agents, timber batten, zinc
- Tools: small tool, gauging trowel, paint brush, hand saw
- Equipment: scales, mixing vessels, mixing sticks

Topic 3.3
Taking plaster squeezes following standard processes:
- Select appropriate moulding section to take squeeze
- Protect surrounding area
- Select and use materials
- Select and use tools

- Take squeeze on moulding section
- Remove squeeze

DRAFT

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by multiple choice / short answer question paper and summative practical assessment.

Simulation guidance
- Pre-cast architectural mouldings can be scaled down model size – e.g. ceilings, niches
- Learners should fix moulding work to at least one external and one internal location
- External backgrounds can be simulated in the workshop.

Ways in which the unit links to maths
- Calculating amounts, lengths and dimensions for fixing mouldings
- Gauging ratios for mixing plasters/resins
- Working out solid shapes from cross sections

Ways in which the unit links to English
- Referring to manufactures instructions
- Reading and interpreting job specifications
- Interpreting technical information and architectural terminology

Suggestions for delivery format of content – lesson ideas
- Groups of learners working on fixing different types of mould work with presentations
- Peer review and assessment with self-evaluation
- Research of manufactures systems and specifications

Links to other units
This unit links to unit 314 fibrous plastering in the workshop and 307 running in situ mouldings. This unit links to the competence on-site unit 317 (and 316, 310).

Mapping to existing units/NOS
Existing units 7908-305, 306.

DRAFT

Unit 316 Producing plaster mouldings

Level:	3
GLH:	36
Unit type:	Competency / Site based
NOS ref:	VR74
Assessment type:	Portfolio

What is this unit about?

The purpose of this unit is for learners to demonstrate practically the skills and knowledge they have been taught in the 'Fibrous plastering in the workshop 'unit. This unit will be assessed in a real working environment and learners will have to complete different tasks a number of times in order to achieve.

The unit will provide the learner with the opportunity to create models and enrichments based on design requirements, produce reverse moulds from those models and then cast plaster mouldings from the reverse moulds.

Learners should consider the following questions as a starting point to this unit:

- What are zinc profiles used for when producing moulds?
- How is fibrous plaster applied to models before casting?
- What materials are required when producing plaster mouldings?
- Why are release agents applied to models before reverse moulds are cast?

Learning outcomes

In this unit, learners will:

1. Make master models and enrichments from given designs
2. Produce reverse moulds from models
3. Cast from reverse moulds

DRAFT

Learning outcome:

1. Make master models and enrichments from given designs

Assessment criteria

1.1 Identify required **tools**, equipment and materials for use in accordance with job specification

1.2 Calculate and evaluate quantities of materials required from **documents** and in line with available stock

1.3 Prepare work area ready for producing a master model ensuring materials and equipment are sourced and organised logically

1.4 Cut and file zinc profiles interpreting provided design

1.5 Assemble and fix components to construct running moulds

1.6 Produce flood moulds of enrichments

1.7 Use techniques to apply fibrous plaster to produce positive models for casting

Range

Tools

- Fixing tools
- Hand tools
- Powered tools

Learning outcome:

2. Produce reverse moulds from models

Assessment criteria

2.1 Identify required tools, equipment and materials for use in accordance with job specification

2.2 Calculate and evaluate quantities of materials required from **documents** and in line with available stock

2.3 **Prepare model surface** ready for producing reverse mould

2.4 **Prepare materials** required for producing the reverse mould

2.5 Use appropriate **method** to produce reverse mould from prepared models

2.6 Release and remove reverse mould from model with consideration of material curing/drying times

Range

Prepare model surface

- Applying sealers
- Applying release agents

Prepare materials

- Hot melt compound
- Silicone
- Plaster
- Fiberglass
- Fencing material

DRAFT

Method

- Casting with plaster
- Laminating with fiberglass
- Pouring with rubber

Learning outcome:

3. Cast from reverse moulds

Assessment criteria

3.1 Select methods to meet needs of job requirements
3.2 Select suitable **materials** for producing casts from reverse moulds
3.3 **Prepare reverse moulds** ready for casting
3.4 Use appropriate techniques to produce casts
3.5 Mix plaster to correct consistency
3.6 Apply plaster to correct thickness
3.7 Apply **reinforcements** with consideration of appropriate positioning
3.8 Strike off/rule off to desired shape
3.9 Work following health and safety legislation and according to risk assessment at all times
3.10 Maintain a clean working environment throughout
3.11 Minimise and dispose of waste and ensure recycling processes are followed

Range

Materials

- Internal – Grades of casting plaster, reinforcements, Glass reinforced gypsum GRG, Glass reinforced concrete GRC, Glass reinforced polyester (GRP), Jesmonite, lime mortar, sand, cement
- External - reinforcements, Glass reinforced gypsum GRG, Glass reinforced concrete GRC, Glass reinforced polyester (GRP), Jesmonite

Prepare reverse moulds

- Applying sealers
- Applying release agents

Reinforcements

- Fiberglass strands
- Hessian
- EML
- Timber laths
- Reinforcement bar
- Stainless steel dowels
- Continuous filament matt

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by direct observation in the workplace and can supported by witness testimony.

Evidence requirements for the unit
Learners must cover at least two methods of producing reverse moulds from master models i.e. casting, pouring or laminating.

Learners must produce at least two different types of casts using two different types of casting materials.

Learners must produce a reverse flood mould of an enrichment plate.

Links to other units
This unit links to the taught based unit 314.

Mapping to existing units/NOS
NOS ref VR74, Existing unit 306.

DRAFT

Unit 317 Fixing pre-cast architectural mouldings

Level:	3
GLH:	36
Unit type:	Competency / Site based
NOS ref:	VR82
Assessment type:	Portfolio

What is this unit about?

The purpose of this unit is for learners to demonstrate practically the skills and knowledge they have been taught in the 'Fibrous plastering on site' unit. This unit will be assessed in a real working environment and learners will have to complete different tasks a number of times in order to achieve.

The unit will provide the learner with the opportunity to fix pre-cast architectural mouldings to internal and external building surfaces on site. Learners will have to plan for the fixing of the moulds in advance, taking into consideration factors that will affect their work.

Learners should consider the following questions as a starting point to this unit:

- What different methods can be used to fix mouldings to backgrounds?
- Why is it important to prepare backgrounds prior to fixing mouldings?
- What are the differences between fixing mouldings to external versus internal walls?
- How are surfaces made good following the fixing of mouldings?

Learning outcomes

In this unit, learners will:

1. Plan for fixing pre-cast architectural mouldings
2. Fix pre-cast architectural mouldings

DRAFT

Learning outcome:

1. Plan for fixing pre-cast architectural mouldings

Assessment criteria

1.1 Interpret requirements from job specifications and **documents**

1.2 Identify required **tools**, equipment and materials for use in accordance with job specification

1.3 Ensure access equipment conforms to health and safety requirements

1.4 Estimate job duration and timescales of **job stages** to meet deadlines taking into consideration **key factors**

1.5 Prepare work area ready for fixing mouldings ensuring materials and equipment are sourced and stored correctly

1.6 Communicate and confirm planned work schedule with **relevant personnel**

Range

Documents

- Manufacturers information
- Job specification
- Elevation plans
- Method statement
- Reflected ceiling plans
- Detail drawings
- Key plans
- Section drawings

Tools

- Fixing tools
- Hand tools
- Powered tools

Job stages and key factors

- Labour resourcing
- Protection and preparation
- Follow on trades
- Weather considerations
  Costs
- Appearance
- Conservation area restrictions

Relevant personnel

- Client
- Site supervisor
- Employer

Learning outcome:

2. Fix pre-cast architectural mouldings

Assessment criteria

2.1 Check and prepare internal or external **backgrounds**
2.2 Locate fixing points on background surfaces
2.3 Set out mouldings using datum points interpreted from specifications
2.4 Mark out fixing positions of mouldings on background surfaces
2.5 Select appropriate **methods** and **materials** for fixing mouldings
2.6 Cut pre-cast architectural mouldings to given dimensions, including mitres and enrichment balancing
2.7 Fix pre-cast architectural mouldings to set dimensions and given tolerances ensuring excess adhesive is removed
2.8 **Finish** pre-cast architectural mouldings by making good surfaces
2.9 Work following health and safety legislation and according to risk assessment at all times
2.10 Maintain a clean working environment throughout
2.11 Minimise and dispose of waste and ensure recycling processes are followed

Range

Backgrounds

- Suitability
- Controlling suction
- Forming key
- Stabilising
- Fixing and adhesives

Methods

- Wire and wad
- Bonding with adhesive – 'bedding up'
- Mechanical fixing
- Chemical fixing
- Traditional dowel fixing

Materials

- Adhesives – external and internal
- Screws
- Dowels
- Wire
- Canvas
- Plaster
- Resins
- Additives
- Reinforcements

Finish

- Controlling suction

- Mixing materials
- Reinforcing joints
- Stopping in - to match existing, to mitres and joints

Guidance for delivery

Assessment suggestions for the unit
This unit will be assessed by direct observation in the workplace and can supported by witness testimony.

Evidence requirements for the unit
Learners must fix pre-cast architectural moulds to a minimum of four different surfaces, on four different occasions - at least two occasions must be external fittings and two occasions must be internal fittings.

Links to other units
This unit links to the taught based unit 315.

Mapping to existing units/NOS
NOS ref VR82, Existing unit 306.

DRAFT