Title:	**Construct Solid Walls**
Level:	2
Credit value:	17
GLH:	138
Unique Reference Number:	**T/651/2713**
Sector Subject Area:	5.2 Building and Construction
Aim:	The aim of this unit is to provide learners with the skills and knowledge to be able to interpret and follow the information required to complete the construction of solid walls including isolated and attached piers within tolerances in accordance with instructions.
Assessment Type:	Observed practical with underpinning knowledge questions.
Assessment Guidance:	Learners are assessed through the completion of an NOCN devised practical task and associated knowledge questions (written or verbal). The unit is internally assessed and externally quality assured. An NOCN assessment booklet has been produced and should be used to evidence all learning outcomes.

Learning outcomes
The learner will:

1. Be able to interpret the information required to construct solid walls including isolated and attached piers.

Delivery content:

The aim of this learning outcome is to provide learners with the skills and knowledge to interpret information necessary to be able to construct solid walls including isolated and attached piers.

The learner must:

- identify **documentation** and information required, to complete given tasks.
- identify different types of **drawings** and their purpose.
- interpret different types of drawings including **common scales**, symbols and hatchings used.
- read and apply measurements from the information correctly.
- identify and report any inaccuracies with the information in accordance with organisational procedures.
- describe the purpose of a datum point.

- **calculate** the area of the wall to be built.
- use manufacturers' information to appropriately use resources.

2. Be able to select tools, equipment and materials required to construct solid walls including isolated and attached piers.

Delivery content:

The aim of this learning outcome is to provide the learners with the skills and knowledge to identify and select the tools, equipment, materials required to construct solid walls including isolated and attached piers in accordance with manufacturers' guidance.

The learner must:

- select the **tools, equipment and materials** required from the information and confirm they are correct for the given tasks.
- report any discrepancies in accordance with organisational procedures.
- **carry out checks** on all resources selected to ensure they are fit for purpose and free from damage or defects.
- report and replace damaged or defective resources in accordance with organisational procedures and manufacturers' guidance.

3. Be able to prepare work area to construct solid walls including isolated and attached piers.

Delivery content:

The aim of this learning outcome is to provide the learners with the skills and knowledge to carry out preparations in order to construct solid walls including isolated and attached piers.

The learner must:

- interpret risk assessments to identify **hazards** and ensure relevant **personal protective equipment** and **collective protection equipment** are used correctly.
- inspect the work area to identify any additional hazards and ensure any present are mitigated.
- report issues and mitigating work carried out in accordance with organisational procedures.
- ensure the work area is clear, safe and ready for the tasks and surrounding areas are protected.
- carry out calculations to identify quantities of materials required for the given tasks.

- **prepare** the materials required, including **mixing mortar**.
- ensure all resources are set out, safely and logically to complete given tasks.

4. Be able to construct solid walls.

Delivery content:

The aim of this learning outcome is to provide learners with the skills and knowledge to construct solid walls in accordance with given tasks.

The learner must:

- identify the datum point and measure from it to set out the required works.
- establish corner positions, **set out** and check diagonals.
- set out and position single wall and corner type profiles.
- **construct** straight lengths, returns and junctions, and provide decorative **features**, using the specified **bonds** and include damp proofing materials in accordance with instructions.
- carry out all pointing/jointing in accordance with specifications.
- check accuracy of work and complete any **remedial works**.
- apply **protection** to protect works from damage and adverse weather.

5. Be able to construct isolated and attached piers.

Delivery content:

The aim of this learning outcome is to provide the learners with the skills and knowledge to construct isolated and attached piers.

The learner must:

- form various piers according to the given specification and with the correct **finish**.
- produce decorative features according to given specification.
- check accuracy of work and complete any remedial works.
- apply protection to protect **works** from damage and adverse weather.

6. Be able to complete works following the construction of solid walling and isolated and attached piers.

Delivery content:

The aim of this learning outcome is to provide the learners with the skills and knowledge to complete work.

The learner must:

- clean, inspect and **store** all tools, equipment and **excess materials** in accordance with manufacturers guidance.
- report any issues in accordance with organisational procedures.
- clean the work area and **dispose of all waste** in accordance with legislative requirements, manufacturers' guidance and organisational procedures.
- leave the work area in a safe and clean condition, using collective protective measures as appropriate.
- complete all final paperwork as required and file correctly.

Scope of Training

The Scope of Training identifies areas that must be covered during the delivery of this unit. This is the minimum that is expected but tutors are expected to include other areas, knowledge of which will benefit their learners, based on location, types of work available and from the tutors own professional experience.

Documentation	Current legislation relating to health and safety, including: • Health and Safety at Work Act • Reporting Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Control of Substances Hazardous to Health (COSHH) • Provision and Use of Work Equipment Regulations (PUWER) HSE guidance, including: • Manual Handling • Working at Height • Working in Confined Spaces Asbestos • Maintaining Electrical Equipment Safety • Fire Safety / Fire Extinguishers • Lone Working • Situational Awareness	Job specification Method statements Site inductions Toolbox talks Risk assessments Manufacturers' guidance Building regulations British Standards Warranty provider standards Rapid build technology Precast components Corner profiles Alternative frame and cladding systems Masonry support systems
Drawings	2D and 3D drawings BIM related models Site and location plans	Section details Block plans Site plans

	Assembly plans / detail drawings Extracting information from drawings	Orthographic and isometric projections	
Common scales	To include: 1:5, 1:10, 1:20, 1:50, 1:100 and 1:500		
Calculations	Linear measurements Area of brickworks	Number of courses Quantities of bricks	
Tools	Line pins Line blocks Lump hammer Bolster Laser level Brick jointer / jointing iron	Brick trowel Scutch hammer Pointing trowel Brick hammer Tape measure Scutch Chariot	Spirit level Line Corner block Boat/pocket level Chisel Brick clamps Builder's square
Equipment	Spot board Wheelbarrow **Power tools**	Mixing tub/bucket Shovel	Brush Sack barrow
Power tools (use and limitations)	Disc cutters	Mixers	Drills
Materials	Bricks Preformed basic arches Pier caps	Water Damp proofing materials Tiles (Rosemary)	Waste bags Mortar Copings Building sand
Carry out checks	Hand tools Power tools Materials	Including: pre-use checks, maintenance, sharpening techniques defect or fault escalation, storage techniques	
Hazards	Slips, trips and falls Working at height Confined spaces Cuts and abrasions Fire Manual handling Plant and equipment	Hazardous substances (including lead and asbestos) Electrical equipment and leads	Comply with risk assessments Control measures Method statements Safe systems of work When to report to a manager
Personal protective equipment	Steel toe-capped boots Gloves Goggles Hard hat	High-visibility clothing Respiratory protection equipment (RPE) Hearing protection	
Collective protective equipment	Signage Barriers Sheeting		
Prepare	Bricks Measure	Cut Using hand tools	
Mixing mortar	Cementitious materials Adhesives Grouts Resin Pre-mixed components Gauging Hand mixing	Plasticisers Plasters Bonding agents Colourings Ratios Silos Mechanical mixing	

Setting out techniques	Including openings and levels Using profiles		Using gauge rods and squares Brick walls with raking cut
Construct	Stretcher bond brick and block cavity wall		Brick wall with raking cut Fire stopping
Decorative features	Mortar colour Contrasting bricks Recess/projecting bricks Varying joint finishes Brick on edge Basket weave Banding	Soldier course Special bricks Tile creasing Oversailing Brick on edge Arches (rough segmental)	Oversailing course, Copings Cappings Pointed weather struck finish Simple corbels Dog toothing/dental course
Bonds	English English garden wall Flemish Flemish garden wall Header		Dry bonding Reverse bond Broken bond Stretcher
Remedial works	Construction defects		Repair methods
Protection	Signage Barriers		Plastic/hessian sheeting
Finish	Half round or tooled Weather struck Struck		Flush Recessed/Raked
Works	Complete Incomplete, work in progress		
Store excess materials	Stock rotation Date order		Recycle Reuse
Dispose of waste	Avoiding surface water contamination Safe disposal Impact on the environment		

Mapping to BRICKLAYER Apprenticeship Standard ST0095 (version 1.2)

Learning Outcome	Knowledge Statements	Skills Statements	Behaviour Statements
1. Be able to interpret the information required to construct solid walls including isolated and attached piers.	K1, K3, K6, K7, K10, K11, K12, K26	S1, S4, S5, S6, S18	
2. Be able to select tools, equipment and materials required to construct solid walls including isolated and attached piers.	K7, K8, K10, K13, K14, K26	S1, S4, S5, S6, S8, S9 S18	
3. Be able to prepare work area to construct solid walls including isolated and attached piers.	K1, K2, K3, K8, K10, K12, K13, K14, K20, K26	S1, S2, S5, S6, S7, S14, S18	B1
4. Be able to construct solid walls.	K1, K6, K7, K8, K10, K15, K16, K17, K18, K19, K20, K23, K24, K25, K30	S1, S4, S10, S12, S13, S14, S16, S17, S22	B3, B6

5. Be able to construct isolated and attached piers.	K1, K6, K7, K17, K18, K23, K25, K30	S1, S4, S12, S13, S17, S22	B3, B6
6. Be able to complete works following the construction of solid walling and isolated and attached piers.	K1, K4, K8, K13, K25, K26	S1, S3, S4, S7, S9, S17, S18	B2