Unit 206: Erect masonry structures

# Delivery guide

Unit information

This unit is about erecting brickwork and blockwork and/or structures of local materials and styles.

On completion of this unit, learners will:

* understand resource selection
* understand working to a contract specification
* be able to comply with the given contract information to carry out the work safely and efficiently to the required specification

Learners may be introduced to this unit by asking themselves questions such as:

* What is quarter bond?
* How do I set out a right-angled corner?
* How do I find out the gauge of the mortar I will use?

Learning outcomes

1. Understand resource selection
2. Understand working to a contract specification
3. Comply with the given contract information to carry out the work efficiently to the required specification

Suggested resources

Textbook

Jones, M. (2019) *The City & Guilds Textbook: Bricklaying for the Level 2 Technical Certificate & Level 3 Advanced Technical Diploma (7905), Level 2 & 3 Diploma (6705) and Level 2 Apprenticeship (9077).* London: Hodder Education.

ISBN 978-1-5104-5814-7

| **Learning outcomes** | **Criteria** | **Delivery guidance** |
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| 1. Understand resource selection | * 1. Characteristics of the resources | * Learners to understand the types of resources that are used in construction, including: * types of bricks (frogged, perforated, commons, concrete, engineering, specials) * blocks (solid, hollow, lightweight, insulation) * stone (igneous, metamorphic, sedimentary, reconstructed) * cement * lime * sand (aggregates) * additives (plasticiser, waterproofer) * wall ties, wall connectors, wall components, cavity closers, fixing wheels, vents * damp-proof course (DPC), damp-proof membranes (DPM) * insulation materials (partial fill, full fill, post applied, injection). * Learners to be able to select the correct materials for the required task to meet requirements and specification. * Learners to know how to assess the correct condition of materials and resources and to be able to identify defects. * Learners to know the correct methods of storing materials to ensure that they are maintained and fit for purpose. Defects and quality will include rot, twists, rust, ensuring water is potable, sand/aggregate free from contamination. |
| * 1. Use of resources | * Learners to be able to: * select the correct suitable resources for a range of applications, including mixing mortar to gauge, building solid walls and cavity walls * identify damaged resources and know the methods to be used to rectify/report any defects. |
| * 1. Organisational procedures to select resources | * Learner to be able to: * select the appropriate resources using information sources, including Manufacturers’ Technical Information (MTI), drawings, schedules, specifications * identify damage to materials and know the methods to use to report/rectify damage. |
| * 1. Hazards | * Learners to understand the hazards that are associated with resources and methods of work. * Learners to understand the hazards with moving materials, mixing materials, applying materials, storing materials and working at height. * Learners to know how to follow guidance from Risk Assessment Method Statements (RAMS). * Learners will know how to select, use and store personal protective equipment (PPE) correctly. * Learners to know how to follow health and safety legislation. * Learners to know the correct methods to use to report accidents and near misses. * Learners to be aware of the hazards associated with the resources and work methods. |
| 1. Understand working to a contract specification | * 1. Methods of work | * Learners to understand the importance of completing work to the required standard and within set timelines. * Learners to understand the effects of work not being completed within the given time frame or to the correct standard and the problems that this can cause to other trades. |
| * 1. Tools and equipment | * Learners to know how to select the correct tools and equipment for the work and to carry out pre-checks on equipment to ensure that it is fit for purpose. * Learners to know how to gauge, mix and measure materials to set specifications. * Learners to be able to measure and cut a range of materials, including brick, block, concrete, DPC, DPM, trays, lintels, reinforcement. * Learners to know how to use hand tools, power tools and any other equipment to carry out the work. * Learners to know how to access, store and maintain the equipment. * Tools to include trowels, hammers (lump hammer, brick hammer, comb hammer), corner blocks, lines and pins, bolster, levels, pocket level, gauge rod. * Equipment to include mixers, buckets, shovels, optical square and optical level, disc cutters, profile boards. |
| 1. Comply with the given contract information to carry out the work efficiently to the required specification | * 1. Demonstration of work skills to measure, mark-out, lay, position, plumb, level and secure | * Learners to be able to demonstrate work skills, including measuring, marking out, laying, positioning, securing. * Materials to include bricks, blocks, stone, mortar and associated materials. * Learners to know the correct procedure to carry out the work safely to given information from schedules, drawings, specifications and MTI. |
| * 1. Use and maintain hand and power tools, mixing plant and equipment to erect masonry in brick and block and/or local materials to given working instructions for the following; * cavity wall structures * solid wall structures * form and bridge openings * joint finishes * cills * capping and copings | * Learners to be able to: * mix mortars to gauge consistency by hand and by mechanical mixer * build solid walls up to one brick in English, Flemish, English garden wall, Flemish garden wall * set dimensions to drawings and specifications to the required standards * build cavity walls using bricks, blocks, insulation blocks, local materials, stone * install components, including wall ties, insulation DPC, DPM, cavity closers, straps, cills, lintels, trays, frames, as per specification and drawings * finish joints to specification, including flush, half round, struck, recessed * position and bed cappings and copings to walls and piers. * Materials to include bricks, blocks, insulation blocks, hollow blocks, natural stone, reconstructed stone. * Components to include lintels (steel and concrete), insulation (full fill and partial fill), wall ties and clips, DPC/DPM, trays, closures, window and door frames, service boxes, wall finishes, concrete copings and cappings. * Learners to be able to use correct manual handling techniques and demonstrate active responsibility for health, safety and welfare. |