Unit 209: Mark out from setting out details for routine products

# Delivery guide

Unit information

This unit is about setting out details prior to marking out components for manufacturing routine joinery products.

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

* How do I use the resources available most efficiently?
* What methods are used to mark out the strings of a staircase?
* How do I ensure that door stiles are marked out as a pair?

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 safely and efficiently to the required specification

Suggested resources

* BS 459:1988. *Specification for Matchboarded wooden door leaves for external use.*
* BS 585-1:1989. *Wood stairs – Part 1: Specification for stairs with closed risers for domestic use, including straight and winder flights and quarter or half landings.*
* BS 585-2:1989. *Wood stairs – Part 2: Specification for performance requirements for domestic stairs constructed of wood-based materials.*
* BS 644:2012. *Timber windows and doorsets. Fully finished factory-assembled windows and doorsets of various types – Specification.*
* BS EN 942:2007. *Timber in joinery – General requirements.*
* BS EN ISO 19650-1:2018. *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM). Information management using building information modelling. Part 1: Concepts and principles*.
* BS EN ISO 19650-2:2018 & Revised NA. *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM). Information management using building information modelling. Part 2: Delivery phase of the assets.*
* BS EN ISO 9001:2000. *Quality management systems. Requirements*.

Suggested resources (continued)

Websites

* [Cadw (gov.wales) | Homepage](https://cadw.gov.wales/)
* [BWF | Homepage](https://www.bwf.org.uk/)

Legislation

* Approved Codes of Practice (ACOPs)
* [GOV.UK (www.gov.uk) | Building regulations approval](https://www.gov.uk/building-regulations-approval)
* [GOV.UK (www.gov.uk) | The Personal Protective Equipment at Work Regulations 1992](https://www.legislation.gov.uk/uksi/1992/2966/contents/made#:~:text=The%20Personal%20Protective%20Equipment%20at%20Work%20Regulations%201992,9%20Information%2C%20instruction%20and%20training%20More%20items...%20)
* [GOV.UK (www.gov.uk) | The Manual Handling Operations Regulations 1992](https://www.legislation.gov.uk/uksi/1992/2793/made)
* [GOV.UK (www.gov.uk) | The Control of Noise at Work Regulations 2005](https://www.legislation.gov.uk/uksi/2005/1643/made)
* [HSE | Health and safety in the woodworking industry](https://www.hse.gov.uk/woodworking/index.htm)
* [HSE | Health and Safety at Work Act 1974 explained](https://www.hse-network.com/health-and-safety-at-work-act-1974-explained)
* [HSE | Construction Design and Management Regulations 2015](https://www.hse.gov.uk/construction/cdm/2015/index.htm)
* [HSE | PUWER](https://www.hse.gov.uk/work-equipment-machinery/puwer.htm)
* [HSE | RIDDOR](https://www.hse.gov.uk/riddor/)
* [HSE | COSHH](https://www.hse.gov.uk/coshh/)
* [HSE | LOLER](https://www.hse.gov.uk/work-equipment-machinery/loler.htm)

Suggested resources (continued)

Textbooks

* Jones, S., Redfern, S., Fearn, C. (2019) *The City & Guilds Textbook: Site Carpentry and Architectural Joinery for the Level 2 Apprenticeship (6571), Level 2 Technical Certificate (7906) & Level 2 Diploma (6706)*. London: Hodder Education.

ISBN 978-1-5104-5813-0

* Burdfield, M., Jones, S., Redfern, S., Fearn, C. (2020) *The City & Guilds Textbook: Site Carpentry & Architectural Joinery for the Level 3 Apprenticeship (6571), Level 3 Advanced Technical Diploma (7906) & Level 3 Diploma*. London: Hodder Education.

ISBN 978-1-5104-5815-4

| **Learning outcomes** | **Criteria** | **Delivery guidance** |
| --- | --- | --- |
| 1. Understand resource selection | * 1. Characteristics of the resources | * Learners to understand the characteristics (features) and suitability (final use) of resources when selecting them for marking out details for routine products. * Learners to know how to assess the quality of the resources, including grading of timber for a particular use when appearance, strength and durability is important. * Learners to be able to identify a range of manufactured boards available (types of fibreboard, ply, solid core boards, fire resistant boards). * Learners to be able to identify a range of timbers, including: * European redwoods and whitewoods * Douglas fir * European oak * American red and white oak * ash * sapele * idigbo * Iroko * maple * acetylated/heat treated softwoods * plywood * fibreboard. * Learners to be able to identify a range of ironmongery, including: * hinges (butt, loose pin, rising, concealed, storm proof, friction, T, friction back flaps) * locks (rim, mortice, sash mortice, Suffolk latches, drawer and cupboard locks) * casement fasteners and stays, pivot centres * pulley wheels, fitch fasteners, sash lifts. * Learners to know which glazing rebates are suitable to accept glass (single, double, treble and secondary). * Learners to know how to identify defects and when to remove them during the selection process for the production of shaped work. Defects include: * knots * twist * bowing * cupping * sloping grain * heart, cup, star and thunder shakes * case hardening * end checks * waney edge. |
| * 1. Use of resources | * Learners to know: * the suitability of resources listed in 1.1 to meet the specification of the finished joinery product * how to determine suitability of the construction method or use of correct jointing * how and when to report problems with resources when producing routine products (defects, moisture content, incorrect type, not meeting specification or cutting list). |
| * 1. Organisational procedures to select resources | * Learners to know the process for selecting materials using technical information sources including drawings, cutting sheets, specifications, schedules and manufacturers’ information when setting out details for routine products. |
| * 1. Hazards | * Learners to know the hazards and risks associated with resources used when marking out within a workshop environment. * Leaners to understand the importance of: * manual handling (carrying, pushing, assessing weight, manual assistance where required, strains, musculoskeletal disorders) * using eye protection (safety glasses, face shields, blindness) * using ear protection (ear plugs, ear defenders, deafness, tinnitus). |
| 1. Meet the contract specification | * 1. Methods of work | * Learners to know how to apply marking references (face and edge), taking into account defects present within the timber. * Learners to know how to mark out joinery products as ‘one off’ or batch items. |
| * 1. Tools and equipment | * Learners to know how to adjust, set and maintain marking and testing tools and how to produce setting out rods and templates (stair). * Learners to know how to mark out from setting out rods with the use of marking and measuring tools, including: * steel rules * tape measure * try square * combination square * box square * Vernier callipers * sliding bevels * marking gauge * mortice gauge * cutting gauge * trammel. |
| 1. Comply with the given contract information to carry out the work safely and efficiently to the required specification | * 1. Demonstrate work skills to measure and mark out joinery components using setting out details | * Learners to know how to mark out: * match boarded, panelled and glazed doors * traditional casement (single- and double-glazed) windows * dwarf, dado and full height panelling incorporating sunk, beaded and raised panels * unit and fitment carcass construction to include drawers * internal and external jointing details for cladding * straight flights of stairs, closed string and open riser. * Learners to know how to safely adjust, set and maintain marking and testing tools and produce setting out rods and templates (stair). * Learners to know how to select, safely handle, stack and store resources using correct manual handling techniques. |
| * 1. Use and maintain marking and testing tools (setting out rods or templates), to mark out routine products to given working instructions for at least two items from the following: * doors * windows with opening lights * units and/or fitments (panelling or cladding) * staircases (straight) |