Unit 236: Install underlay, battens, and roofing components

# Delivery guide

Unit information

This unit is about interpreting information, adopting safe, healthy, and environmentally responsible work practices, selecting, and using materials, components, tools, and equipment and preparing and installing battens, underlay, counter-battens, undercloaks, eaves ventilation systems, underlay support trays and fire breaks for new and/or re-roof work.

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

* Why is it important to ventilate a roof space?
* Where would a warm roof be insulated?
* What does vapour permeable mean?

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

British Standards

* BS 5534:2014+A2:2018 *Slating and tiling for pitched roofs and vertical cladding – Code of Practice.*
* BS 8000-6:2013 *Workmanship on building sites – Code of Practice for slating and tiling of roofs and claddings.*
* BS 8000-0:2014 *Workmanship on construction sites: Introduction and general principles.*

Websites

* [Roof Tile Association Roof Tile Association](https://rooftileassociation.co.uk/) | Home
* [National Federation of Roofing Contractors (NFRC) | Technical Bulletins](https://www.nfrc.co.uk/knowledge-hub/NFRC-publications)

Textbooks

* Health and Safety Executive (5th edition) HSG33 *Health and safety in roof work* (2020) Norwich: The Stationery Office.

ISBN 978-0-71766-722-2

* Building Regulations Conservation of Fuel and Power: *Approved Document L1B: conservation of fuel and power in existing dwellings*, 2010 edition. Newcastle Upon Tyne: RIBA Bookshops.

ISBN 978-1-85946-744-2

Building Regulations Conservation of Fuel and Power: *Approved Document L2B: conservation of fuel and power in existing buildings other than dwellings*, 2010 edition. Newcastle Upon Tyne: RIBA Bookshops. ISBN 978-1-85946-746-6

| **Learning outcomes** | **Criteria** | **Delivery guidance** |
| --- | --- | --- |
| 1. Understand resource selection | * 1. Characteristics of the resources | * Learners to know: * the differences between non-breather (HR), vapour permeable (LR) and air permeable types of underlay * the sizes and standards relating to battens and counter battens * the types of undercloak used at bedded verges * the sizes and types of UV-stable support trays / 5U felts at eaves * the sizes and types of eaves ventilation systems * the sizes and types of rigid and quilt insulation used in fire-breaks * the sizes and types of fixing used to install background materials * the sizes and types of Glass Reinforced Plastic (GRP) valley liners and their limitations * the common defects such as splits, cracks, knots (timber), misshaped materials and general damage caused by poor manual handling/transport * how to repair materials, such as using tapes for small tears and punctures in underlay. |
| * 1. Use of resources | * Learners to know: * how to select appropriate quantities from given information * the purpose of the resources and how they are used on the roof * how to ensure that resources cover the following range: general areas, eaves, abutments, openings (roof lights/windows), dry and/or wet fix verges, ridges, hips and valleys * how to identify and report defective materials or shortages and how to correctly transport, handle, store and protect materials. |
| * 1. Organisational procedures to select resources | * Learners to demonstrate knowledge and understanding of drawings, specifications, Manufacturers’ Technical Information (MTI), job cards and other working instructions from the employer. * Learners to know how to use the internal storage systems when selecting materials from their own yard or compound. * Learners to demonstrate knowledge and understanding of site compounds when selecting materials on-site. * Learners to know to use delivery notes when materials are sent directly to the site. * Learners to know to use plant and tool hire shops when specialist equipment is required. * Learners to know to use a range of resources, including underlay, battens and components in relation to types, quantity, quality and sizes. |
| * 1. Hazards | * Learners to understand Risk Assessment Method Statements (RAMS) relating to: * working at height * potential accidents associated with installing the materials and components, particularly when installing underlay and battens (e.g. is there fall arrest/protection in place?) * safe manual handling when moving, loading and unloading materials * safe use of hand tools when hammering and cutting * safe use of hazardous materials when dealing with lead or solvents. |
| 1. Understand working to a contract specification | * 1. Methods of work | * Learners to know what checks need to be made to ensure: * the sub-structure is suitable, including roof pitch * work of other trades is complete * scaffold and ladder access are all in place * any faults with the sub-structure and roof interfaces/details are reported and resolved. * Learners to know how to lay underlay across the roof, to openings/abutments and down hips and valleys. * Learners to know how to nail underlay, battens, valley liners and related components. * Learners to know how to screw background components for dry ridge, verge and hip systems. * Learners to demonstrate knowledge of bedding and pointing of mortar of undercloak at verges. * Learners to demonstrate knowledge of cutting of underlay, battens, valley liners and related components. * Learners to demonstrate knowledge of lapping of underlay, both horizontally and vertically and drape. * Learners to demonstrate knowledge of positioning materials and components to working instructions. * Learners to demonstrate knowledge of forming firebreaks with quilt and rigid insulation. |
| * 1. Tools and equipment | * Learners to know how and where in the contract the following tools are used: * nail pouch when nailing underlay, battens and related components * hammers for nailing underlay, battens and related components * trimming knife for cutting underlay to size and shape * knee pads for comfort and protection when kneeling on battens * measuring tape/rule for setting out battens, measuring and cutting and for all dimensional positioning of materials and components (pencil and/or marker pen) * chalk or wet line for striking positional lines for battens * trowel for bedding and pointing mortar to undercloak verges * bucket for bedding and pointing mortar to undercloak verges * battery drill / screw gun and bits for screwing any components which require such fixings and for drilling small additional holes where required for additional fixings * hand saw for cutting battens to size. |
| 1. Comply with the given contract information to carry out the work safely and efficiently to the required specification | * 1. Demonstration of work skills | * Learners to practically demonstrate how to check: * the roof before installing new materials, including appropriate kick/support at eaves, brickwork levels at gables and party walls, out-of-squareness and straightness of fascia and bargeboards * that the underlay is laid evenly to a slight drape and finished neatly at all penetrations and upstands * that battens and counter battens are set out to fixed points and batten gauge and fixed securely to rafters in straight lines with joints neatly formed halfway onto rafters * that undercloak is neatly bedded/fixed to straight lines at verges * that materials and components are accurately measured and cut to size * that the finished installation of the materials and components compares with the manufacturer’s and/or work instructions and how to report any discrepancies. |
| * 1. Use and maintain hand tools, power tools and ancillary equipment to install materials and components | * Learners to know how to ensure the safe use and maintenance of hand tools, portable power tools and ancillary equipment to include regular inspection and replacement where appropriate. * Range to include using tools and equipment to install materials and components to eaves, verges, hips, ridges, valleys, abutments, openings, penetrations, general areas and vertical surfaces. |
| * 1. Set out battens to datum points and gauge | * Learners to practically demonstrate their knowledge of establishing fixed points at: * eaves/bottom edges to ensure effective drainage * ridge or top edges to ensure correct finish and maintain laps * openings, penetrations and split levels. * Learners to practically demonstrate how to: * identify maximum, minimum and even gauge * make suitable adjustments to gauge where required * mark and strike lines for batten positions * establish equal overhangs for bedded verges where applicable (using setting out skills from tile/slate units). |