Specification and Method Statement for Roof Slate Replacement works

Project: Planning consent on the slate roof replacement works
Location: 44 Portland Street, Manchester, M1 4GS
Client: NW Groups Ltd.
Date: 11/09/2024

1. Scope of Work

The specification and method statement outline the procedure using natural Welsh slates for “like for like” replacing of the existing slate roof on the above Grade II listed building. The objective is to ensure the proposed works are complied with all conservation and planning requirements to preserve the historic character and achieved a durable and weatherproof roof.

2. Materials

- **Slates:** The existing used slate is natural Welsh slate with 600x300mm (24”x12”) size. However, It is agreed that due to the shortage on the required size, quantity and delivery time of New Welsh Slate from the slate suppliers. The reclaimed Natural Welsh slates of similar colour, thickness, texture to the original slates are to be used. Additionally, due the shortage of the required quantity, a smaller slate size of 550x300mm (22”x12”) will be used in the whole replacement with an approximately quantity of 1980 numbers.
- **Underlay:** Breathable, vapour-permeable membrane suitable for heritage roofing As standard practice.
- **Battens:** Timber battens (treated softwood), typically 25mm x 50mm, spaced according to the slate size and overlap.
- **Nails:** Non-ferrous nails (copper or stainless steel) appropriate for heritage work.
- **Lead Flashing:** Code 3, Code 4 or 5 lead sheet as required for valleys, ridges, abutments, and changes in roof pitch.
- **Ventilation:** Replace the numbers of discreet roof ventilation units as existing on the roofs.

3. Preparation and Site Setup

- **Access:** Erected scaffolding to provide safe access. (completed)
- **Protection:** Protect all internal and external areas of the building from debris and damage during works. (completed)
- **Inspection:** Carefully remove existing slates, and inspect roof structure for any necessary repairs. Document any areas of concern and consult with the conservation officer. (completed)

4. Slate Layout and Cutting

- **Slate Layout:**
    - Slates will be laid using the traditional "double-lap" system, ensuring that each slate overlaps the slate below by at least 75mm.

    - The layout will start from the eaves and work upwards towards the ridge, ensuring that the courses are parallel and the gauge (exposed part of the slate) is consistent across the roof.
    - Slates should be laid with a minimum headlap of 65mm for pitches above 35° and 75mm for lower pitches.
    - Random widths can be used to replicate the original roof appearance, but consistent slate thickness should be maintained to avoid an uneven surface.
- **Cutting:**
    - Slates should be cut using a slate cutter or guillotine to ensure clean, straight edges.
    - For hips, valleys, and abutments, slates should be cut to fit tightly against adjacent surfaces.
    - Ensure all cuts are made carefully to preserve the slate's structural integrity.

5. Underlay and Battens

- **Underlay:**
    - Install a breathable, vapour-permeable underlay over the entire roof structure, ensuring it is laid taut with minimal sagging.
    - Overlap the underlay by at least 150mm at horizontal joints and 100mm at vertical joints.
    - Ensure the underlay is brought up and over all ridges and abutments to provide a continuous barrier against wind and water.
- **Battens:**
    - Fix treated timber battens at the correct spacing to accommodate the slate size and desired overlap.
    - Battens should be secured with non-ferrous nails, ensuring they are level and straight.

6. Nailing and Overlap Detail

- **Nailing:**
    - Use two copper or stainless steel nails per slate, positioned approximately one-third down from the top of the slate and 25mm from each edge.
    - Ensure nails do not penetrate through the underlay or battens below, as this could create potential water ingress points.
- **Overlap Detail:** See item 4 above

7. Detailing at Hips, Ridges, Valleys, and Abutments

- **Hips:**
    - Slates should be cut and laid to form a mitred hip, with the use of lead soakers where necessary.
    - Lead or zinc hip cappings can be used, fixed securely with non-ferrous nails.
- **Ridges:**

    - Ridge tiles should be bedded in mortar or mechanically fixed as per traditional methods.
    - Ensure the ridge is fully waterproofed with a lead strip or a suitable alternative under the ridge tiles.
- **Valleys:**
    - Valleys should be formed with Code 4 or 5 lead, dressed into position and fixed securely.
    - Slates should be cut to form a neat junction with the valley, allowing for a minimum 100mm overlap of slates onto the lead.
- **Abutments:**
    - Use lead soakers at abutments with walls, with each slate having its own lead soaker.
    - Cover the soakers with a continuous cover flashing, fixed into the mortar joints of the wall.
- **Changes in Roof Pitch:**
    - Where roof pitches change, ensure the slates are adequately supported and that the junction is fully waterproofed with lead flashings or soakers as required.

8. Ventilation

- **Ventilation:**
    - Install discreet, heritage-compatible ventilation units as existing at installed strategic points, ensuring adequate airflow through the roof structure (14 numbers)
    - Ventilation should be installed without disrupting the roof's visual appearance or the historical character of the building. (Dark Grey Colour to be used)

9. Finishing

- **Lead Dressing:**
    - All lead work should be dressed neatly and securely, with adequate overlaps and fixings to prevent water ingress.
    - Patination oil should be applied to lead surfaces to prevent staining and promote even weathering.
- **Inspection and Snagging:**
    - Once all works are completed, Contractor to carry out a thorough inspection to ensure all slates are secure, and all detailing is correctly executed.
    - Address any defects or snagging issues before demobilizing from the site.

10. Health and Safety

- All work must comply with relevant health and safety regulations, including working at height.
- All the contractors and site operatives are suitable qualified to carry out such works.
- All site operative should be provided with all the risk and methoda for the works prior to start on site.

- Appropriate PPE must be worn at all times, and all tools and materials must be handled safely and securely.

11. Environmental Considerations

- All waste materials should be disposed of in accordance with local regulations, with an emphasis on recycling and reuse where possible.
- Care should be taken to minimize disturbance to wildlife, particularly bats, and any nesting birds.

12. Communication and Documentation

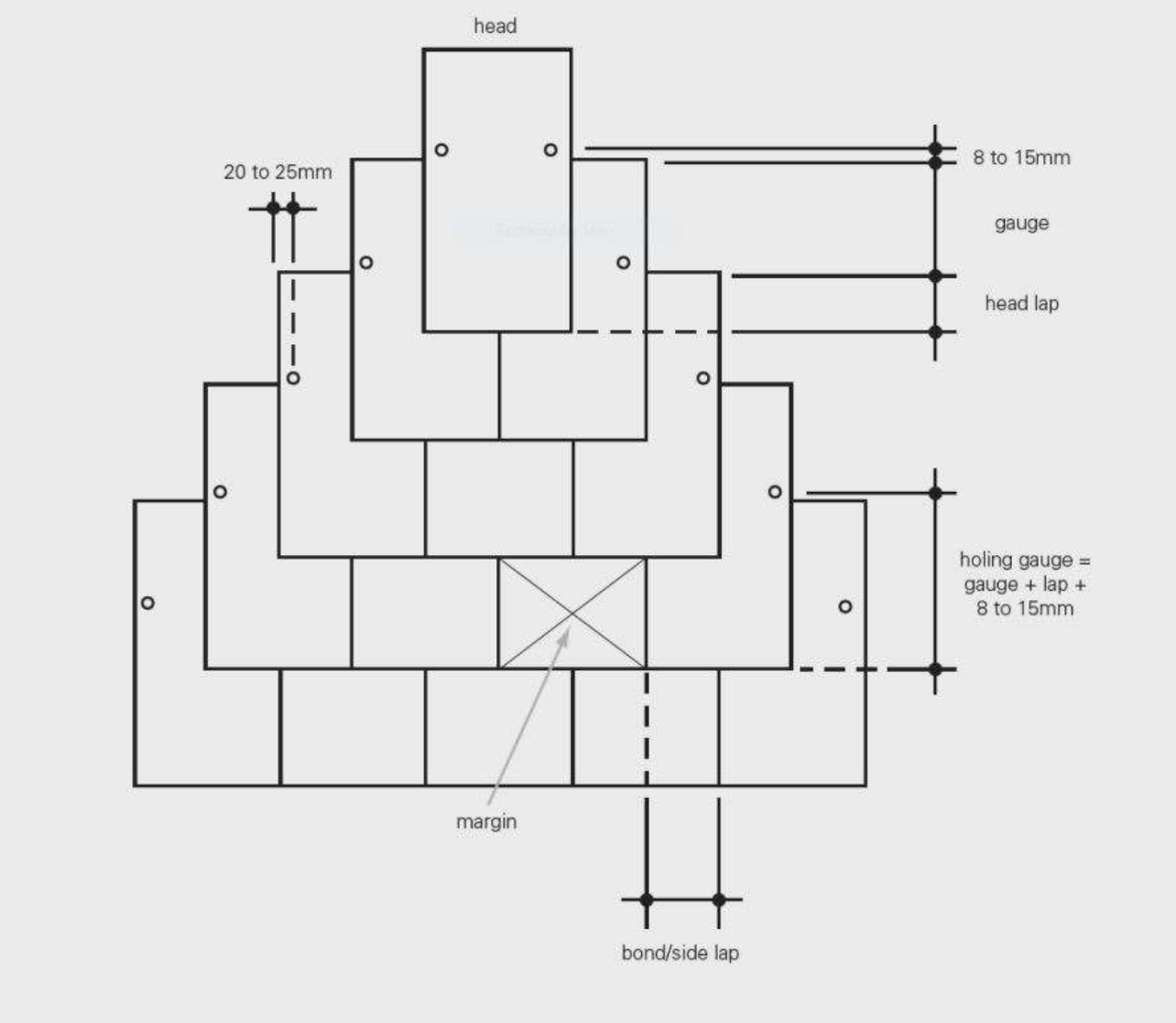
- Regular communication should be maintained with the conservation officer to ensure compliance with heritage requirements.
- Detailed records of the work, including photographs and material specifications, should be kept for future reference.

This specification and method statement should be reviewed and approved by all relevant parties before commencement of the works.

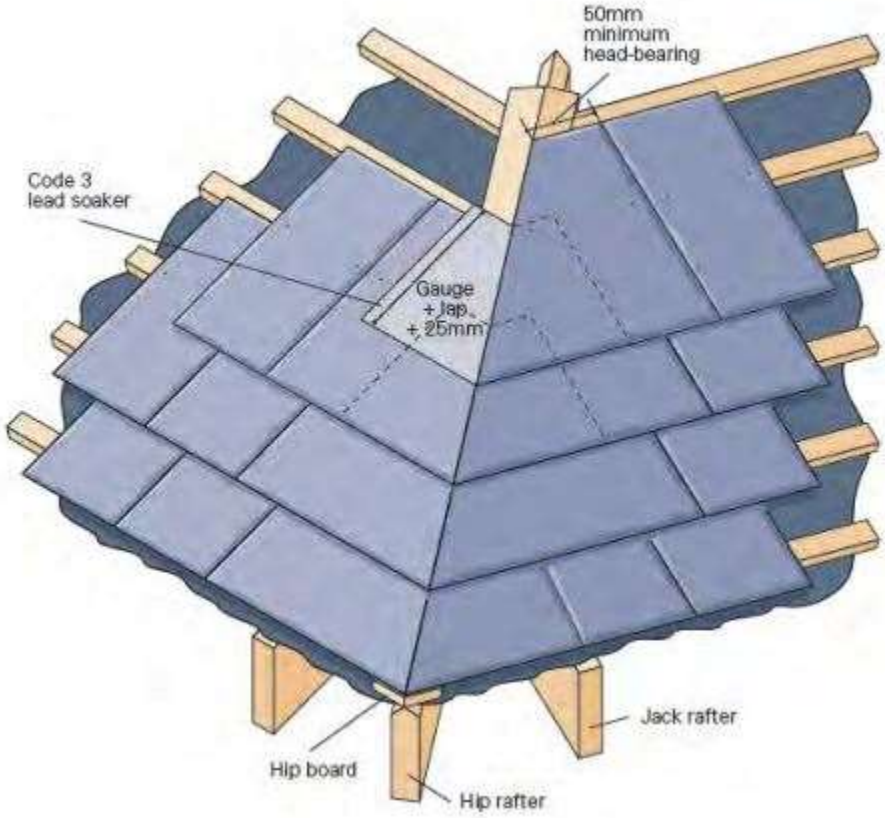
Appendix

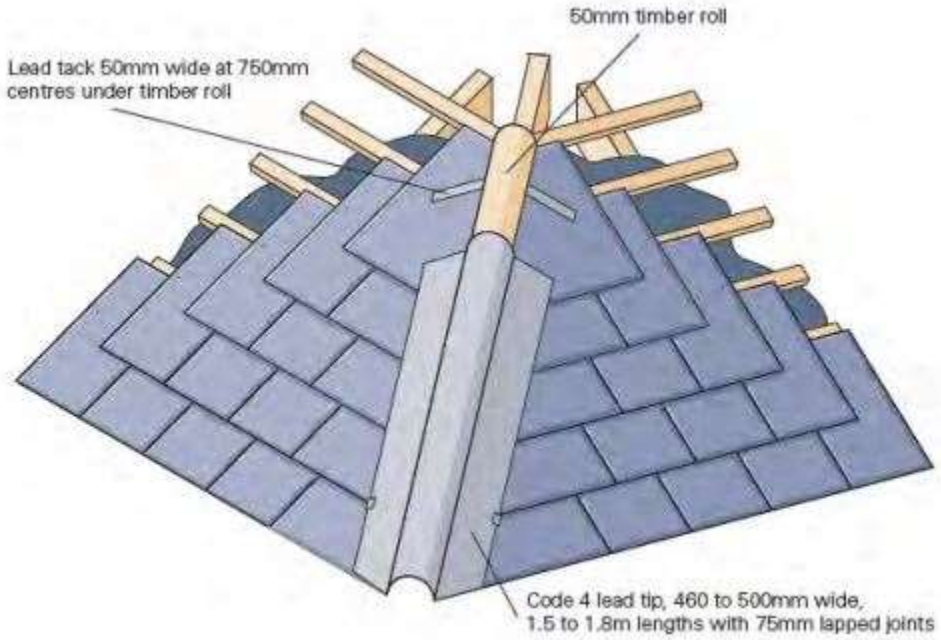
1. Slate Double lap system layout
2. Hips
3. Valleys
4. Ridges
5. Abutments
6. Changes in roof pitch

1. Double lap system Layout

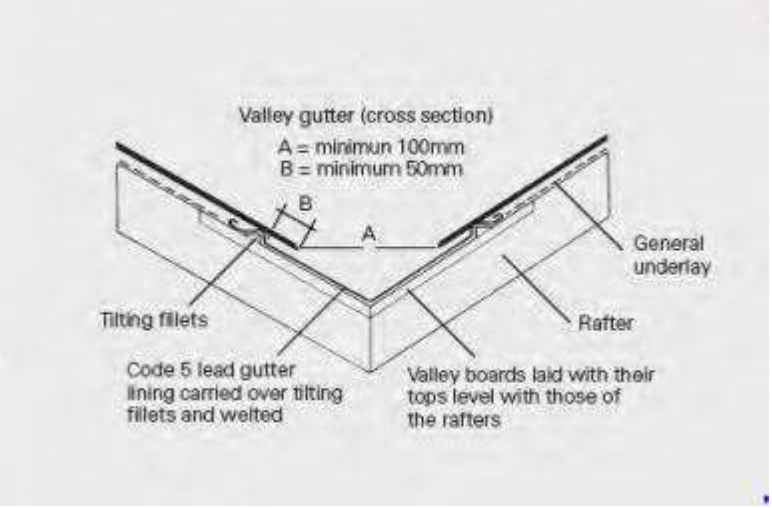


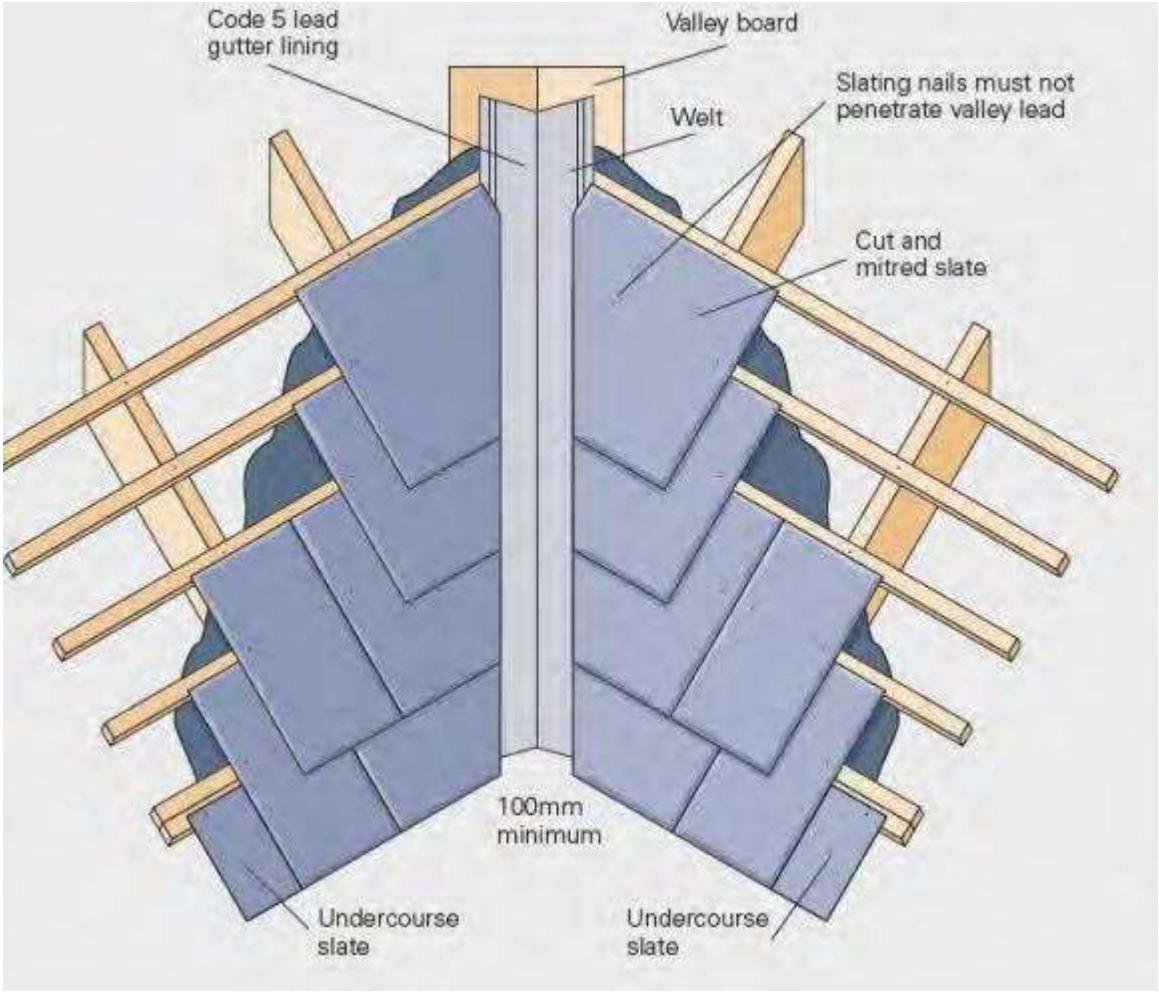
2. Hips


50mm
minimum
head-bearing
Code 3
lead soaker
Gauge
+ lap
+ 25mm
Jack rafter
Hip board
Hip rafter

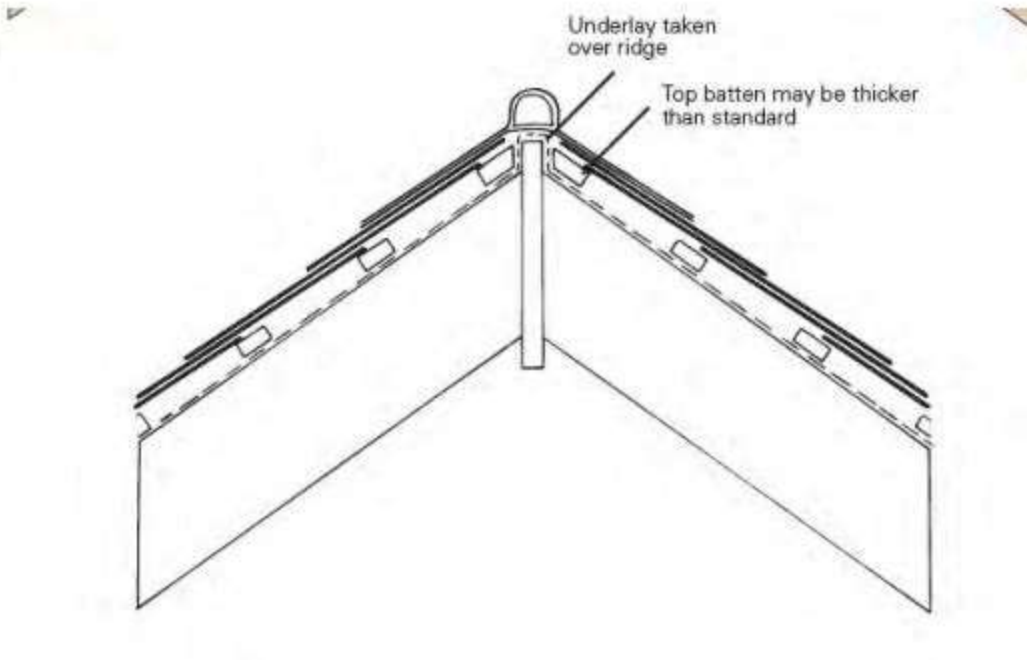

50mm timber roll
Lead tack 50mm wide at 750mm
centres under timber roll
Code 4 lead tip, 460 to 500mm wide,
1.5 to 1.8m lengths with 75mm lapped joints

3. Valleys

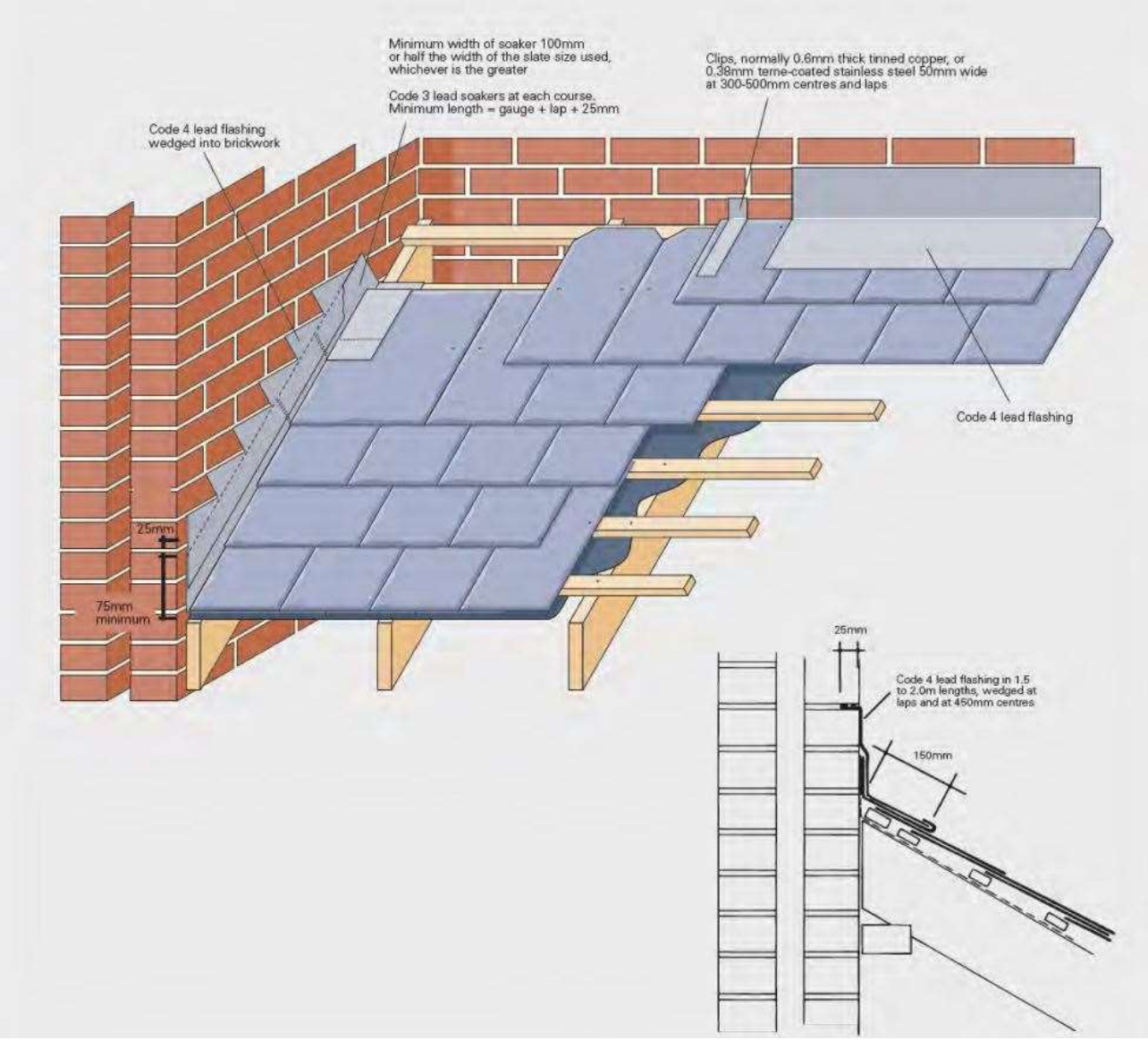

Valley gutter (cross section)
A = minimun 100mm
B = minimum 50mm
B
A
General underlay
Tilting fillets
Rafter
Code 5 lead gutter lining carried over tilting fillets and welted
Valley boards laid with their tops level with those of the rafters


Code 5 lead gutter lining
Valley board
Slating nails must not penetrate valley lead
Welt
Cut and mitred slate
100mm minimum
Undercourse slate
Undercourse slate

4. Ridges


Underlay taken over ridge
Top batten may be thicker than standard

5. Abutments


Minimum width of soaker 100mm
or half the width of the slate size used,
whichever is the greater
Code 3 lead soakers at each course.
Minimum length = gauge + lap + 25mm
Clips, normally 0.6mm thick tinned copper, or
0.38mm terne-coated stainless steel 50mm wide
at 300-500mm centres and laps
Code 4 lead flashing
wedged into brickwork
Code 4 lead flashing
25mm
75mm
minimum
25mm
Code 4 lead flashing in 1.5
to 2.0m lengths, wedged at
laps and at 450mm centres
150mm

6. Changes in roof pitch

