Unit 111: Roofing occupations

# Worksheet 7: Natural slate tiles (tutor)

1. Explain the correct process for working out the batten gauge for double lap weatherproof finishes, identifying the slate batten formula.

Length of slate minus headlap divide by two.

1. Work out the following gauges for the slate sizes below (length – headlap divided by 2).
2. 400 x 200mm(16x8) h/lap 75mm
3. 450 x 225mm(18x9) h/lap 90mm
4. 600 x 300mm(24x12) h/lap 100mm

450 – 90 = 360 mm

= 180 mm

600 – 100 = 500

= 250 mm

400 – 75 mm = 325

= 162.5 mm

1. Draw a slater’s knife in the box provided.

Drawings will vary.

1. When and where would you use a ‘tingle?’

To carry out a repair where you have removed a slate.

1. Name three materials that could be used as a tingle.

* Copper wire
* Lead strap
* Zinc strap
* Purpose-made slate hook

1. What is meant by the term **margin**? In measurement, what would the margin represent?

The margin is the face of the slate that is showing when laid.

It is equivalent to the gauge.

1. Name two areas of the country where slate is more commonly brought from and explain their differences.

* Wales – slates are cut to a specific size for laying.
* Westmorland/Cumbria – slates are random sizes to be used from big at the bottom to small at the top. Diminishing courses.

1. Explain the term ‘nail sickness’ when associated with slate roofs, including possible causes.

This is when nails have started to come loose in the slates and battens, caused possibly by water getting in and drying out the battens. When water gets in the batten gets wet; as it dries out it forces the nails loose in the batten, as the batten has swollen up then shrunk again.

1. What is the recommended distance from the edge for holing a natural slate?

20mm

1. Identify the formula for working out the holing position when setting out for slates that have been purchased without nail holes.

Gauge + headlap + 6–12mm (usually 10mm)

1. Calculate the holing position of the following slates.
2. 400 x 200mm(16x8) h/lap 75mm
3. 450 x 225mm(18x9) h/lap 90mm
4. 600 x 300mm(24x12) h/lap 100mm

190 min

172.5 min

360 min

1. Identify the method of grading slates prior to application.

Thick/medium/thin from bottom to top.

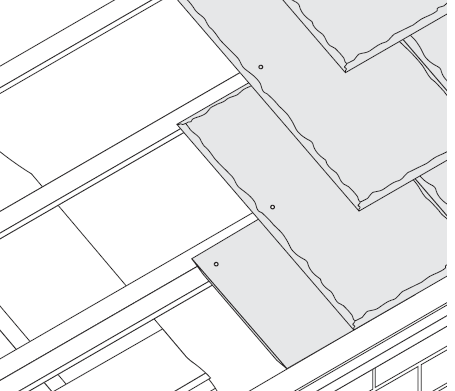
1. Draw and name the tool used for removing broken slates in pitched roof surfaces, in the box provided.

Slate ripper (drawings may vary).

1. Natural slates should be holed, one at a time, from the underside (bed) of the slate towards the face: identify why it is important this method is carried out.

To allow the nail hole to be counter sunk, which will prevent slates above from kicking up.

1. Look at the drawing below. Explain why it is important to always nail the first (eaves) course into the secondary batten, identify what problems can occur if this process is not carried out.



To prevent the under-eave slate from breaking and at a later date slipping out into the gutter.