Basic Estimating Guide

1) Calculating Interlocking Roof Tiles

a) Measure the eave length (a) and the verge length (b) as shown in (fig.1).

b) Dividing dimension (a) by 298mm, which is the approximate covering width of a Double Roman Tile, will give the number of tiles across the width of the roof. Round this up to the nearest full tile.

c) Example: a = 2086mm then $\frac{2086}{298}$ = 7

d) Answer: 7 tiles across the roof (see fig.2).

e) Dividing dimension (b) by 343mm, which is the approximate maximum gauge of a Double Roman tile, will give the number of tiles up the roof slope, known as the "number of courses" (see fig.2).
The resulting number should be rounded up.

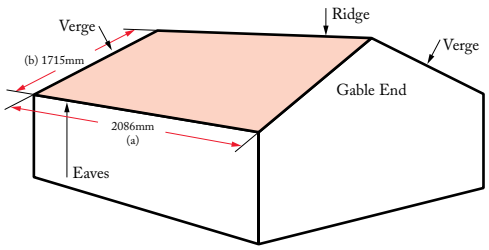
Example: b = 1715mm then $\frac{1715}{343}$ = 5

f) Answer: 5 courses of tiles up the roof slope.

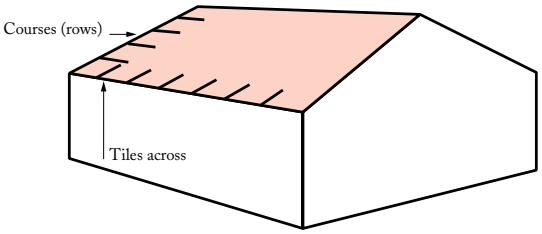
g) It is now a simple task to work out the number of tiles required for the roof area.
Example: 7 tiles x 5 tiles = 35 tiles each side, x 2 = 70 tiles in total. This does not allow for wastage.

h) Wastage at 2.5% = 70 x 2.5% = 1.75 + 70 = 71.75

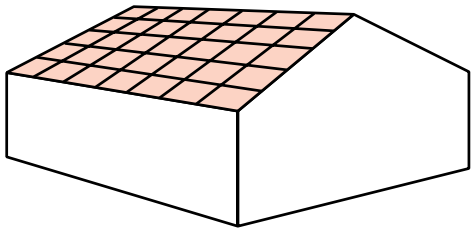
Total = 72 tiles



(Fig. 1) Not to scale



(Fig. 2) Not to scale

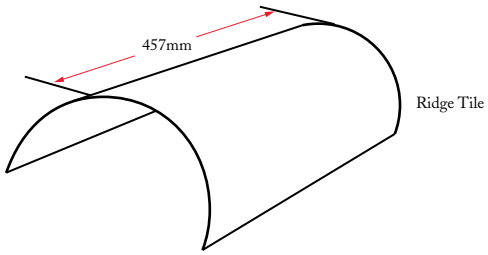


2) Calculating Ridge Tiles

a) Ridge tiles are often half round or universal and 457mm in length. To work out how many are required, divide the width of the roof (this should be measured at the ridge line, but across the eaves is fine for normal roof areas) by 457mm, the length of one ridge tile. Round up to the next full ridge tile.

b) Example: Ridge length 2086mm = 4.56 rounded up to 5 ridge tiles
Ridge tile length 457mm
Therefore 5 ridge tiles are required for this roof.

NOTE: Please contact the Russell Roof Tiles Technical Services Department should you require any further assistance or for more complicated roof areas.



3) Calculating Batterns

a) To work out the amount of batten required, multiply the number of courses by the eave length.
Example: 5(course) x 2086mm (eave length) = 10430mm for one side of the roof area.

b) For both sides of the roof area multiply 10430mm x 2 = 20.86m batten in total (rounded up to 21 m).

c) Add for wastage at 7.5% = 21 x 7.5% =1.58+ 21 = 22.58m, say 23 metres

4) Calculating Underlay (Felt)

a) To work out the area of underlay required, simply divide the roof area by the net coverage of a roll, and then roundup to the next full roll.

b) Example: 2086mm (eave length) x 1715mm (rafter length) = 3.578m^2 one slope of area.

c) 3.578m^2 x 2 (sides) = 7.16m^2 two slopes of area.
This gives the total area of the roof in square metres (m^2)

d) 1 roll of underlay = 12.50m^2 (This allows for 2.5m^2 of waste per roll)
Therefore $\frac{7.16m^2 \text{ (roof area)}}{12.50}$ = 0.57m^2 of a roll of underlay

Therefore 1 roll of underlay is required for the roof area.

5) Undercloak (Fibre Cement Strip)

a) To work out the number of strips of undercloak, add up the total verge lengths, and divide that figure by 1.200m or 2.400m depending on the length of the undercloak strips available.

b) The verge lengths must be equal to the rafter lengths. There are four verges to this roof area example, which would work out as follows:

Example: 1715mm (verge length) x 4 = 6.86m

This is the total verge length measurement

c) Therefore $\frac{6.86m \text{ (total verge lengths)}}{1.200m \text{ undercloak strip}}$ = 5.71 strips of 1.200m in length = 6 total

d) The same can be done for 2.400m lengths of undercloak = 3 total

6) Calculating Plain Roof Tiles

a) Measure the eave length (a) and the verge length (b) as shown in (fig.1).

b) Example: 2086mm (eave length) x 1715mm (rafter length) = 3.578m^2
One roof slope

3.578m^2 x 2 (sides) = 7.16m^2 two slopes of area.
This gives the total area of the roof in square metres (m^2)

c) Multiply the area by 60, this being the number of plain tiles per square metre.
Example: 7.16m^2 (area) x 60 (tiles perm^2) = 429.6 tiles - say 430 tiles

7) Calculating Tile And A Halves

a) Dividing dimension (b) by 100mm, which is the approximate maximum gauge of a Plain Tile, will give the number of tiles up the roof slope, known as the "number of courses". The resulting number should be rounded up.

Example: b = 1715mm then $\frac{1715}{100}$ = 17.15 - say 18 courses

b) A tile and a half is needed in every other course at the verge. The easiest way to work this out is to allow one per course on one side.

Example: 18 courses x 2 verges = 36 tile and a half
This has automatically allowed for a tile and a half to every other course and for both roof slopes on the roof.

8) Calculating Eaves/Tops Tiles

a) Take the eaves length (a), or the ridge length and divide by the width of an eaves tile - 2086mm divided by 165mm = 12.64 eaves - say 13.

Multiply by 2 for both sides, and 2 again for the ridge - 4 x 13 = 52 eaves.