

HYDE ABBEY - REDISCOVERING THE LOST MINSTER OF ALFRED THE GREAT

Hyde Abbey medieval encaustic floor tiles: a tale of two colours

What are encaustic floor tiles?

Encaustic or two colour tiles are decorated tiles where the pattern has been stamped on to the tile (generally red clay) and the resulting depression filled with an inlay of white clay. The tiles were decorated with a wide variety of designs including floral patterning, animal motifs, people and coats of arms. The application of a lead glaze gave the tiles a yellow or greenish appearance.

When were they made?

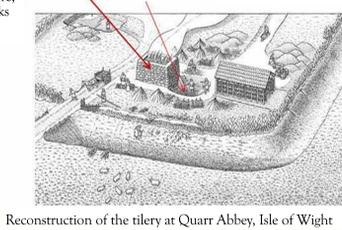
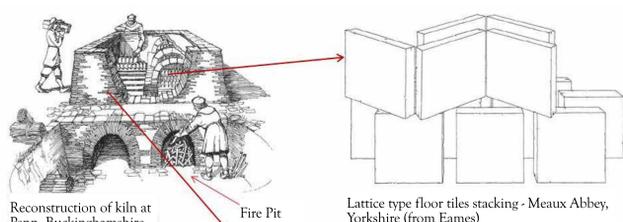
Two-coloured or encaustic tiles started to be produced in the second quarter of the 13th century. They were a luxury item and it is likely they were initially made by European craftsmen. Owing to the great cost, the first tiles were probably made under royal or monastic patronage. The practice died out in the latter part of the 16th century.

The earliest pavement of two-colour tiles for which we have both documentary and archaeological evidence is that made between 1240 and 1244 for the Clarendon Palace near Salisbury.

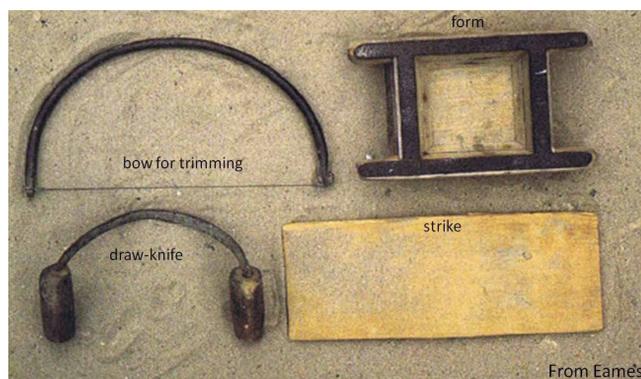


How were the tiles made?

There is no contemporary documentation to tell us how tiles were made in the medieval period. Later practice suggests that they were shaped in a wooden frame called a form. The table on which the tiles were made was sprinkled with sand so that the clay did not stick to the table. We know this because sand can be found adhering to the undersides of these ancient tiles. The clay was worked on the table to drive out pockets of air that would otherwise cause cracking and holes when the tiles were fired. The clay was then forced into the wooden form. The top of the tile would have then been cut flat with a wire bow. The sides of the tile were trimmed to produce a bevelled edge and sometimes holes or 'keys' were scooped in the bottom of tiles (see below).



Left: Layout of a tile factory and stacking of tiles in the kiln



Tile maker's tool set (19th century)

Kilns

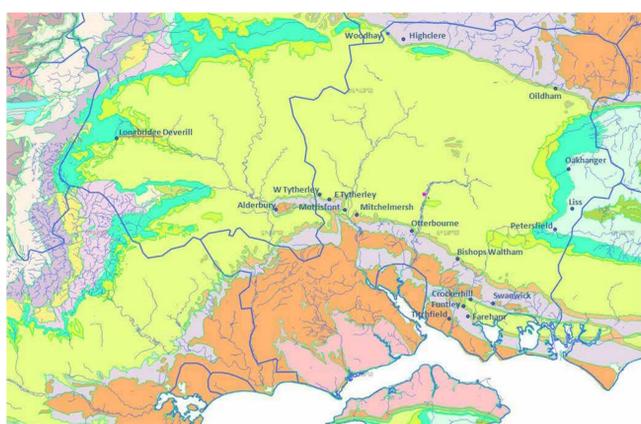
When complete the tiles had to be fired in a kiln. Early encaustic tiles were fired in kilns built on site for specific flooring programmes such as royal palaces or monastic buildings. The kilns would have been abandoned when the programme was complete. Kilns have been excavated at several places such as the royal palace of 'Clarendon' near Salisbury. Later the use of these tiles became widespread amongst the wealthy allowing the tile makers to establish commercial factories at fixed locations.

Where did the raw materials come from?

The medieval tiler had to search for a source of clay, usually nearby, as transport was expensive. Around Winchester clay is scarce because Winchester lies within the chalk outcrop (pale and medium green on map below) that covers much of Hampshire and Wiltshire. Clay is plentiful in areas where the Tertiary (brown, orange, mauve colours on map) and Lower Cretaceous clay (turquoise on map) outcrop. For this reason most of the known tile factories in Hampshire and Wiltshire were located around the edge of the chalk within geologically clay rich areas.

White china clay is more difficult to find and most had to be imported from elsewhere, primarily Cornwall. However, Winchester College paid for white clay from Lower Cretaceous beds at Farnham, Surrey, to be transported to the tiler at Otterborne, south of Winchester. There are undoubtedly other small pockets of white firing clay that local tilers may have exploited, scattered around the country.

Before it could be used, the clay needed to be cleaned of pebbles and weathered in the open air. Clay was probably dug in the summer or autumn and left over winter, and turned over at least once.

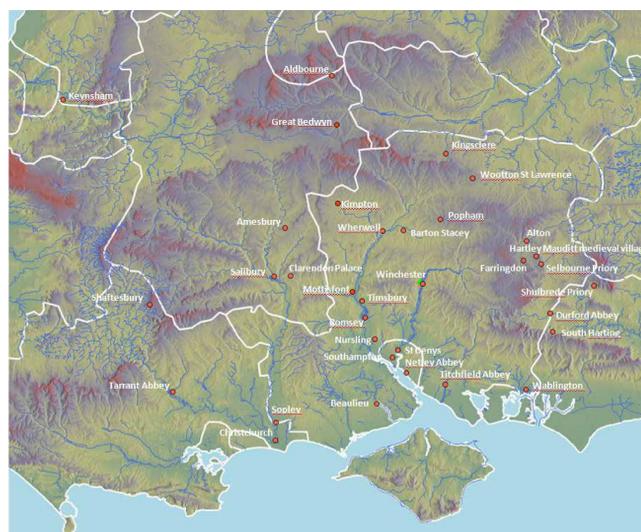


Location of commercial tile (roof and floor) factories in Hampshire and Wiltshire

Who made encaustic tiles and where were they used?

The men who made decorated floor tiles were specialists who possessed detailed knowledge about the methods of decoration, the properties of different clays, the manufacture of glazes and the construction of kilns that would reach the required temperature.

Encaustic tiles were very popular in medieval times. The map beneath shows locations in Hampshire, Dorset and Wiltshire where tiles have been found.



Map showing the places where encaustic tiles have been found in Hampshire, Wiltshire and Dorset

Market economy

Commercial tilers would have competed on the open market. This competition probably led to a drive to reduce costs. One way of doing this was by reducing the amount of raw material used to make a tile, for instance, by making tiles smaller. This had the added advantage that more tiles could be put in an oven for a single firing. It has been estimated that an oven that would hold 1,500 Wessex tiles, would hold 2,500 tiles made at Penn in Buckinghamshire. Thus, a tiler could make a far greater number of tiles using the same amount of clay and oven fuel.



Early date tile with deep inlay (5mm)



Late date tile with shallow inlay (1mm) and sloping sides. Note that the tile is of poor quality with impurities of chalk and other materials.

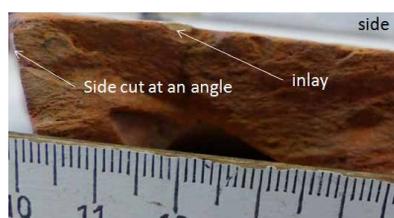
Inlay depth

Another way to reduce costs was to reduce the amount of white pipe clay needed for the inlay. There was a gradual shift from the use of a deep paste inlay (up to 5mm deep) to the pouring of liquid slip on to a shallow (1mm) groove. The method of pouring a thin slip, used very successfully by the Great Malvern and Bristol tilers, was highly economical of white clay, but by the early 15th century this had led to a reduction in tile quality and durability.

Anatomy of a tile

The most common tile shape was square or rectangular. They mostly ranged from 100mm to 140mm square and from 18mm to 34mm thick.

The tile pattern was produced by stamping the red body clay. White clay was poured into the groove to form an inlay. The inlay depth varies widely from 1mm to 5mm. Older tiles generally have a deeper inlay.



Griffin motif produced at Otterborne in about 1395. The base of this tile has 5 key marks and the inlay is about 1mm. The sides are sloping.

Work process

Savings could be made by streamlining the manufacturing process. Early tilers scooped 3 to 5 key marks on the underside of the tiles to facilitate the bedding of the tiles. Keys became rare after the middle of the 14th century. Later tilers were more likely to cut the sides of the tiles at an angle from top to bottom.

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