

The Floor Tiles from Tewkesbury Abbey Meadow (TAM92)

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The excavation at Abbey Meadow produced a small collection of floor tile fragments. These were all recorded in detail, fragment by fragment, and only a summary is published here.

Fabric Groups

Eight fabric groups were recognised (Table 1).

Bredon-type tiles. This fabric is extremely fine with rare calcareous and sandstone inclusions and a micaceous groundmass. Tiles of this fabric were used in the Lady Chapel where they were used as the risers to steps (as in the extant pavement at Bredon parish church) and are probably datable through their heraldry to the 1320s (Vince and Wilmott 1991). Non heraldic tiles of this fabric have also been found at Tewkesbury, relaid in the abbey church, and these probably represent a contemporary pavement, perhaps also used in the east end of the church. However, the industry seems to have been operating in the late 13th/early 14th centuries, for example at Abbey Dore (Vince 1997) and it is possible that earlier tiles were used at Tewkesbury.

Petrological analysis of the fabric and the distribution of examples of this group indicate an origin in Herefordshire, but whether all were produced in the same tiliary or whether the tilers moved from site to site is not yet known, although the Abbey Dore tiles have more calcareous inclusions than those from other sites.

Canynges-type. This fabric contains sparse rounded quartz and rounded clay pellets with a slightly silty groundmass which is sometimes micaceous and sometimes calcareous. The fabric was probably produced at Worcester, superseding the use of Worcester Sandy and Droitwich-type fabrics. It is the equivalent of CBM fabric 3 and a few bricks from the Abbey Meadow have the kiln scars from where they were fired alongside Canynges-type floor tiles. However, the glazed floor tiles are rare finds at Tewkesbury, consisting of a handful of re-laid examples in the Abbey Church and one from the Abbey Meadow. Two of the examples present are unglazed and may be thin bricks or thick flat roof tiles rather than floor tiles.

However, examples of unglazed Canynges-type floor tiles were used to re-floor the Despenser chantry chapel (constructed in the late 14th century, but probably re-floored in the 16th-century or later).

A sample of the glazed Canynges-type floor tile from the Abbey Meadow was taken for chemical analysis. It was compared with analyses of a sample of Droitwich-type tiles and with samples of local? sand-tempered roof tiles (Fabrics 2, 4 and 6) and samples of probable Worcester-made bricks and flat roof tiles (CBM Fabric 3 and samples from two phases of brick building at Llanthony Priory, Gloucester. The results indicate that the tile is more similar to the Droitwich-type floor tiles than to other groups.

Droitwich-type. This fabric contains moderate quantities of rounded quartz sand and is named after a floor tile kiln found at Droitwich in the 19th century. However, it is likely that the industry was based at Worcester and that this kiln was set up by Worcester tilers. To test the

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possibility that a similar situation occurred at Tewkesbury, samples of the floor tiles were taken for chemical analysis to compare with the locally made flat roof tiles. The fabric was first used in the mid 14th century and continued to be used to the middle of the 15th century (if not later). It succeeded Worcester Sandy ware, and was replaced by Canynges-type fabric. During the 14th and 15th centuries the size of the floor tile quarries changed. The earliest tiles are c.110 mm square. Tiles of c.120 mm square were produced in the later 14th century followed in the 15th century by c.135mm and c.160mm square tiles. All four size groups were used at Tewkesbury but only c.120mm and c.135mm square tiles were definitely present in the Abbey Meadow collection.

Samples of 11 Droitwich-type tiles were analysed, chosen to span the apparent chronological range of designs. They were compared with the same comparanda as the Canynges-type tiles and formed a group which was separable from local roof tiles and from the probable Worcester bricks and roof tiles. However, the Canynges-type tile was part of this group and no clear difference within the Droitwich-type tile samples was found.

Great Malvern tiles. A single example of a Great Malvern tile was present at the Abbey Meadow. The fabric of these tiles is similar to that of the Canynges-type tiles, except that it is never calcareous or micaceous, and it includes sparse large angular fragments of Malvernian rock (Vince 1977). The Great Malvern tiling probably operated from the early 1450s until the 1480s after which time some of the designs were copied by Malvern Chase tilers, who may even have obtained some of the Great Malvern dies.

Malvern Chase tiles. Floor tiles were produced in the Malvern Chase from the mid 14th century until the mid 16th centuries. There are several distinct groups of tiles made during this period, varying in the relative content of rounded quartz sand and angular Malvernian rock as well as in the range of designs employed and the quarry size. However, the boundaries between these groups are impossible to define visually. The Abbey Meadow collection includes just four tiles whose quarry size can be measured, three are between 140 and 144mm and one is 165mm square. The larger quarry size was used in the mid 14th century, mostly with dies first employed to make Bredon-type tiles and then with new dies copying those dies. The smaller quarry size was used with designs first employed Great Malvern and is probably therefore of later 15th/early 16th century date.

Local? Tiles. Two tiles have a sandy fabric containing a rounded quartz sand but also have sparse heat-altered calcareous inclusions. The groundmass, in a fresh break, is calcareous. They have a quartzose moulding sand on the base. Samples of the two tiles were taken for comparison with the local ceramic roof tiles (Fabric 1).

Nash Hill tiles. These tiles were produced at the Nash Hill tiling, near Lacock, Wiltshire (Eames in McCarthy 1974; Griffiths and Robinson 1991). The fabric contains abundant rounded quartz grains, some of which are either coated with red haematite or loosely cemented. The backs of the tiles have shell scoops and the designs are of the Wessex School. The date of the Nash Hill tiling is uncertain. The tilers seem to have moved to Nash Hill from the Salisbury area, where they were operating in the mid/late 13th century, and were certainly operating in the later 13th and early 14th centuries. However, there is reason to believe that both pottery and tile production continued into the later 14th century, if not later. However, the likelihood is that the Abbey Meadow tiles date to the late 13th or early 14th century. Two of the tiles have measurable quarry sizes: a triangular border tile scored before firing and snapped from a c.130mm square tile and a triangular tile scored and snapped from a 138mm square tile.

Table 1

<i>cname</i>	<i>BRICK/FLOOR</i>	<i>FLAT/FLOOR</i>	<i>FLOOR</i>	<i>FLOOR?</i>	<i>Grand Total</i>
BREDON			8		8
BREDON?				1	1
CANYGNES	1	1			2
DROIT			199	1	200
GM			1		1
LOCAL			2		2
MALV			53		53
NH			9		9
DROIT?			1		1
Grand Total	1	1	271	2	275

Decoration and layout

Eighty-five fragments were decorated with slip designs, either inlaid with plastic slip (NH) or with liquid slip (the remaining types). A further 40 tiles were coated with a white slip and the remainder were either plain or too worn or fragmentary to determine whether they had been decorated.

Table 2

<i>cname</i>	<i>PLAIN/FRAGMENTARY</i>	<i>WS</i>	<i>YES</i>	<i>Grand Total</i>
BREDON	6		2	8
BREDON?	1			1
CANYNGES	2		1	3
DROIT	102	35	61	198
GM			1	1

LOCAL?			2	2
MALV	37	4	12	53
NH	1	1	7	9
DROIT?	1			1
Grand Total	150	40	86	276

Of the 85 decorated tiles, 71 were sufficiently complete to make an attempt to identify or classify the design worthwhile.

Nash Hill. Six of the seven decorated tiles had recognisable designs, coming from four dies. All are standard Wessex School designs and all come from tiles of similar quarry size (c.130-140mm square). Three of these are single designs (Fig 1 Nos 1 to 3), capable of being used singly or in groups, whilst one is a four-tile design (Fig 00 No 4). All four designs occur at Cirencester Abbey (Vince 1998, Nos 31, 32, 39 and 48) and are clearly part of a single consignment. An example of a small dark green glazed border tile, scored into 8 triangles before firing was present, together with fragments of plain dark green glazed and white-slipped plain glazed tiles (size unknown). Two of the decorated tiles were scored diagonally before firing and then snapped. All these features suggest that the tiles were laid at 45 degrees to the walls and that panels of decorated tiles were separated by a grid of small border tiles.

1. [ak4, ak5, ak6] A square filled with four squares and with fleurs-de-lys at the corners (Vince 1998, No.31)
2. [ak3] A circular band containing a lion, facing left, with fleurs-de-lys in the corners (Vince 1998, No.39)
3. [ak2] A circular band containing foliage with trefoils in the corners (Vince 1998, No.32).
4. ak1] A four-tile foliage pattern (Vince 1998, No.48).

Malvern Chase. Although twelve decorated tiles were recovered only three were complete enough to establish the design. One of these (Fig 00 No.5) is a common pattern of mid 14th-century date found in the floor of the crypt of George, duke of Clarence, and relaid in the abbey church as well as being present at several other sites (for example, St Oswald's Priory, Gloucester, Vince 1999, No 54). The other two designs are probably contemporary but have not been recognised elsewhere (Fig 00 Nos 6 and 7). In addition, there are three unidentifiable fragments which are probably of later 15th to 16th-century date (Fig 00 Nos 8 to 10). No narrow border tiles were present and only two tiles were scored diagonally. It is possible, therefore, that these tiles were laid square to the walls. Plain white-slipped tiles (3), white-slipped tiles with a dark green glaze (1) and unslipped tiles with a dark green glaze (8) were present. The ratio of plain to decorated tiles (15 to 12) suggests that the Malvern chase tiles may have been used in a chequer pattern in conjunction with the decorated tiles.

5. [ak29] Repeating pattern consisting of a central band containing an eight-petalled flower with vine leaves filling the corners (Vince 1999, No.54). Unlike the Gloucester example,

however, the stems of the leaves in the corners join the central band whereas those on the Gloucester tile are separated by a thin break. This may be due to a mistake in drawing the Gloucester tile.

6. [ak28] Probably the central tile of a 16-tile design. The size of the quarry and the cutting of the die suggest a mid 14th-century date.

7. [ak22] A shield containing a central bar above a left-facing bird. Vine leaves fill the bottom corners.

8. [ak43] Unidentified fragment. White slip has smeared along one of the edges. The glaze has copper mottling.

9. Border tile, consisting of a stylised castle within two decorative bands. This design was first used on Bredon-type tiles in the early 14th century.

10. [ak52] Unidentified fragment.

11. [ak60] Unidentified fragment.

Great Malvern. The single Great Malvern tile (Fig 00 No.11) is a common Great Malvern design, found in the priory church at Great Malvern as well as other sites. The die was also used by tiles of the Great Malvern school at Monmouth (1999No.312) but this tile has fragments of Malvernian rock in it, but in much lower quantities than in Malvern Chase fabrics and is clearly a Great Malvern product.

12. [ak14] Crowned IHC monogram in a double circular band with quarter quatrefoils in the corners (cf Lewis 1999, No.312).

Droitwich-types. The earliest Droitwich-type tiles were probably made for c.100-110mm square tiles. No tiles of this size were definitely present in the Abbey Meadow collection although they have been recorded from the Abbey church (relaid in the Despenser chantry chapel). Some of the tiles used to pave the Worcester Cathedral Singing School in c.1377-80 are of this size, but may have either been old stock or re-used and a mid-14th-century date is more likely for their floruit. A single possible example is present (Fig 00 No.12).

13. [ak47] a crude 8-petalled flower. This design is present at Worcester Singing School (Keen 1978 No.44) and has also been recorded at Evesham Abbey, and Leominster Priory.

The majority of the tiles used in the Worcester Singing School pavement, and in two pavements of probably slightly earlier date (Holm Castle, Tewkesbury, and the surround of the tomb of Edward II in Gloucester Cathedral) were of a slightly larger size (c.120-130mm) and most, if not all, the Droitwich-type tiles found at the Abbey Meadow are of this size and have designs paralleled in one or other of these groups.

None of the designs found on the Abbey Meadow tiles, however, belong to a group which also occurs (with larger dies) on tiles of c.130-140mm square size, some of which are found in 15th-century pavements (such as the Beauchamp Chapel in Tewkesbury abbey church). It is likely, therefore, that the Abbey Meadow tiles come from one or more pavements of mid/late 14th century date. To test whether they might have come from a single batch of clay samples were taken of tiles with designs paralleled at Holm Castle (and a border tile of a type which occurred at Holm Castle but not the Worcester Singing School), tiles which are paralleled in the Singing School pavement and tiles with designs not found in either group.

Fifty-one fragments were large enough to determine their shape. Of these, 20 were square and 25 were scored diagonally and then snapped. A few tiles had been scored and snapped into smaller size: three were squares scored and snapped in half to form rectangles; one was a triangular tile formed by scoring and snapping a square tile into eight pieces and one was a rectangular tile formed from a tile scored into eight triangles and then snapped into two rectangles. A single mosaic tile, with conical keying, was recovered. These tiles indicate that a pavement consisting of panels with narrow border tiles was present as was a mosaic panel. Such tiles were present at Holm Castle but not at the Worcester Singing School and it is likely that their use had ceased by the late 14th century. The ratio of square to triangular tiles makes it clear that the majority of the tiles came from a pavement set at 45 degrees to the walls.

14. [AK46] Possible central tile from 16-tile pattern. This design is present at Worcester Singing School (Keen 1978, No.33) and is also recorded at Gloucester Greyfriars, Evesham Abbey, and Gloucester Cathedral (War Memorial Chapel). Other designs from the same 16-tile set have been found at Gloucester St Nicholas, Gloucester Cathedral (Deanery Chapel) and Gloucester St Oswald's Priory (Vince 1999, No.48).

15. [AK40] Possibly part of the corner tile from a 9-tile pattern, similar to that at Worcester Singing School (Keen 1978, No.11). Sample V3312.

16. [AK53]. Part of a 4-tile pattern, made with four separate dies, making up a lion facing right within a quatrefoil. This design is present at Worcester Singing School (Keen 1978 No.20). Sample V3321.

17. [ak7] Part of the same 4-tile pattern as 14a, making up a lion facing right within a quatrefoil. This design is present at Worcester Singing School (Keen 1978 No.21). Sample V3320.

18. [ak19, ak20] A 4-tile pattern. A lion facing right within a vine scroll band. This design is present at Worcester Singing School (Keen 1978, No. 25) and has been recorded at Evesham Abbey, Burford, Gloucester Cathedral and Gloucester St Oswald's Priory. (Vince 1999, No.42).

19. [ak21] A 4-tile or repeating pattern. Consisting of four overlapping circles containing foliage. This design is present at Worcester Singing School (Keen 1978, No.26) and has been recorded at Pershore Abbey and Gloucester Cathedral (War Memorial Chapel).

20. [ak53] A 4-tile pattern consisting of a quarter-circular band containing a foliage scroll. This design occurs in Canynges-type fabric ({Eames 1951 #33703} design IV) and is found in several collections of these tiles (Lewis 1999, No.403 lists several of these). A sample of the fabric of this tile was therefore taken to test the visual identification. Sample V3439.

21. [ak9, ak50 ak63, ak66] A 4-tile pattern, consisting of a quarter quatrefoil with foliage within and without. This design is present at Worcester Singing School (Keen 1978, No.24) and has also been recorded at Gloucester Cathedral (War Memorial Chapel) and Gloucester St Oswald's Priory (Vince 1999, No.36).

22. [ak8, ak33, ak34, ak35, ak56, ak61] A repeating pattern, consisting of intercutting circles with trefoils in the spandrels. This design is present at Worcester Singing School (Keen 1978, No.17, apparently a different die) and has been recorded at Gloucester Cathedral (War Memorial Chapel, the pavement surrounding the tomb of Edward II and the Deanery Chapel), Gloucester St Oswald's Priory (Vince 1999, No.24) and Little Malvern Priory.

23. [ak24, ak25] A repeating pattern, consisting of a square set diagonally containing a flower

and with foliage in the corners. The pattern is present at Worcester Singing School (Keen 1978, No.16) and has also been recorded at Bristol Greyfriars, Evesham Abbey, Gloucester Blackfriars, Gloucester Cathedral (War Memorial Chapel), Gloucester Greyfriars and Gloucester St Oswald's Priory (Vince 1999, No.14).

24. [ak10] A repeating pattern, consisting of a diagonal cross with half-circles containing half-flowers in the spandrels. The design has been recorded at Evesham Abbey, Gloucester St Oswald's Priory (Vince 1999, No.22) and Tewkesbury Holm Castle.

25. [ak16, ak17, ak18]. A repeating pattern consisting of a cross with fleur-de-lys in the corners. This design is present at Worcester Singing School (Keen 1978, No.27) and has been recorded at Fladbury church (scored and snapped into four) and Gloucester Cathedral (War Memorial Chapel and surround to King Edward II's tomb). Sample V3319.

26. [ak12]. A repeating pattern consisting of a diagonally-set square containing a fleur-de-lys. The design has been recorded at Gloucester St Oswald's Priory (Vince 1999, No.15) and Little Malvern Priory.

27. [ak15, ak67?]. Two birds to either side of a tree. This design is present at Worcester Singing School (Keen 1978 No.18) and has also been recorded at Fladbury Church, Gloucester Cathedral (War Memorial Chapel and surround to the tomb of King Edward II). The same design, but a different die, has been recorded at Little Malvern Priory and Gloucester St Oswald's Priory (Vince 1999, No.21). Sample V3322.

28. [ak31] A diagonally-set fleur-de-lys. The stamens of the flower are ornamented and distinguish this die from any other fleur-de-lys designs made in Droitwich-type fabric. V3321

29. [ak33] Z diagonally-set fleur-de-lys. Several slightly different versions of this design existed and it is not clear which was used on this tile.

30. [ak13] A heraldic design, consisting of a square-set shield containing a fleur-de-lys with parallel lines in the bottom corners. Two dies for this design are known. That at the Worcester Singing School pavement (also known at Gloucester Cathedral, Deanery Chapel) has foliage in the bottom corners and incorporates an animal head into the fleur-de-lys whilst that at Little Malvern Priory has a simpler base to the fleur-de-lys (although this may be due to a poorer impression). Samples V3317.

31. [ak36, ak39]. A heraldic design. The presence of crosslets identifies this design as incorporating the arms of Beauchamp. However, several Droitwich-type tiles have designs with this element. This one is likely to be that found at Worcester Singing School pavement (Keen 1978, No.35). Sample V3315.

32. [ak57, ak65]. Probably a heraldic design consisting of alternating white and plain bands.

33. [ak11] Unidentified design. Possibly the bottom right hand corner of a hunting scene, similar to one found at the Droitwich tile kiln. Sample V3311.

34. [ak30]. Unidentified design. The only identifiable element is a bird's foot. Several Droitwich-type designs incorporate birds, or mythical beasts with bird's feet, but this tile is not part of any of these. V3313.

35. [ak69] Unidentified design.

36. [2232] Unidentified design.

Canynges-type. A single stamped tile was found, part of a 4-tile pattern.

37. [ak23]. 4-tile pattern with a quarter-rose in the centre. The design is similar to that of central tile of Canynges design III ({Eames 1951 #33703}). Sample V3314.

Local? Two fragments of slip-decorated tile were identified. Neither is of a recognised design.

38. [ak54] Unidentified design.

39. [ak41] Unidentified design.

Discussion

All of the tiles come from late deposits, either associated with robbing of monastic period walls or subsequent activity. Associated finds, however, suggest that the robbing of the monastic structures is likely to have taken place soon after the dissolution and thus the tiles are unlikely to have been dislodged from the abbey church since no major structural changes took place there until the mid 19th century, apart from the demolition of the Lady Chapel. The tiles are therefore likely to have been used in other abbey structures demolished at the dissolution or soon after although whether they came from the structures whose footings and robber trenches were found in the excavations is unknown. There is some evidence for a difference in character of the tiles from Trench B and those from Trenches A and C, but since the overwhelming majority of the tiles come from Trench C this is, naturally, where most of the different types are most common. We cannot, therefore recognise individual floors or structures within the collection.

The floor tiles do, however, extend our knowledge of the use of floor tiles at Tewkesbury. Firstly, they include examples of Nash Hill tiles. Not only do no such tiles exist in the various collections from Tewkesbury Abbey known before the Abbey Meadow excavations, but these finds are the furthest north-west from the production site that the tiles have been found, a distance of c.53 miles overland. Another westerly find of Nash Hill tiles was at Goodrich Castle, a distance of over 66 miles. In both cases an overland route would be possible but an alternative route using river transport is likely, considering the bulk of a consignment of floor tiles.

Until recently, the Nash Hill tiles were the earliest floor tiles known from Tewkesbury but a loose relief-decorated tile in Worcester Sandy ware fabric was discovered in the church, found on top of a 14th-century chantry chapel. The use of large, relief-decorated tiles in the west country is rare and seems to be a late 12th/early 13th-century phenomenon. The only other examples close to Tewkesbury are known from Abbey Dore (Vince 1997; 1986). However, those tiles were probably made on site and may represent a unique event whereas their presence in Worcester Sandy ware suggests that their use was wider, presumably including pavements at Worcester itself.

Early to mid 14th century tiles, of Bredon-type and Malvern Chase groups, were present in the Abbey Meadow collection as well as in relaid patches in the church and probably therefore represent a more large-scale employment of floor tiles. However, tiles of either group are uncommon in the Abbey Meadow collection and the majority of the Abbey Meadow collection dates to the mid/late 14th century or later. This seems to be the period where floor tiles started to be used more widely in the Severn Valley and in Tewkesbury itself there were pavements of this type from Holm Castle and probably in Abbey House, the abbot's lodgings in the

medieval period.

Later medieval floor tiles from the Abbey Meadow consist of a group of Malvern Chase tiles, the two possible unglazed Canynges-type tiles and a single Great Malvern tile. The late Malvern Chase group is probably present in the relaid pavements in the abbey church and in the crypt of George, Duke of Clarence, and his wife where decorated tiles which are probably of this group were found used to form a cross in the floor of the crypt (Morris and others forthcoming). Similar tiles were clearly discovered during the reflooring of the church in the 1870s and used as the models for the new tile floor (e.g. Vince 2003, Fig 15.5P, Q and R).

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