SANITARY COVE MOLDING SYSTEM

Inventor: Eric Schick, Dallas, TX (US)

Correspondence Address:
CARR LLP
670 FOUNDERS SQUARE, 900 JACKSON STREET
DALLAS, TX 75202

Appl. No.: 11/937,492
Filed: Nov. 8, 2007

Related U.S. Application Data
Provisional application No. 60/864,862, filed on Nov. 8, 2006.

Publication Classification
Int. Cl. E04F 19/02 (2006.01)
U.S. Cl. 52/287.1

ABSTRACT
The present invention extends an interior corner piece to create flange portions of a ceramic or porcelain molding. The structure of the invention can provide a sanitary transition between a wall and a floor by smoothing out and raising the surface away from a sharp corner or crevice. The invention also moves edges of the corner piece farther away from the inside corner. This can improve sanitation and allow for easier cleaning. This structure can promote a smoother installation and more uniform molding scheme by possibility improving the stability of the design to allow the molding piece to lie flush in the corner. The features of the invention may promote easier installation, better sanitation, and a pleasing appearance to the molding scheme.
FIG. 6
SANITARY COVE MOLDING SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application relates to, and claims the benefit of the filing date of, co-pending U.S. provisional patent application Ser. No. 60/864,862 entitled SANITARY COVE MOLDING, filed Nov. 8, 2006, the entire contents of which are incorporated herein by reference for all purposes.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to floor and wall coverings and, more particularly, to sanitary ceramic or porcelain cove moldings to be used in transition from floor to wall coverings.

[0004] 2. Description of Related Art

[0005] Ceramic or porcelain moldings are used for various purposes. Molding does not only increase the aesthetic value of the environment in which it is used, but impervious molding may also improve sanitation and cleanliness. Dirt and germs often become trapped in the corners between the walls and the floor, and within the grout between individual tiles. Molding is often used to raise and smooth out those crevices and corners, and may decrease the amount of exposed grout.

[0006] However, the typical inside corner molding existing on the market today has several disadvantages. First, installation of this molding may present challenges. The current corner molding lacks stability and it is difficult to install in isolation without support from the neighboring baseboard molding pieces. Furthermore, if corner moldings are installed last to improve the stability, variations in the lengths of the baseboard moldings may create gaps which may result in an increase of exposed grout. Both these situations may greatly decrease uniformity throughout the scheme and negatively impact the aesthetic value of the molding. Secondly, an increase in the amount of grout exposed may make sanitation more difficult and the presentation of the molding more abrasive, as does an increase in the number of seams between the various molding pieces.

[0007] Therefore, there is a need in this market for an inside corner molding unit that increases stability, eases the difficulty of installation, and promotes uniformity by reducing the number of seams between molding pieces and decreasing the amount of exposed grout in the molding design scheme. There is also a need to improve the aesthetic value of the molding while improving sanitation and cleanliness of such molding schemes.

SUMMARY OF THE INVENTION

[0008] The present invention achieves these and other objectives through its design and structure. It provides a sanitary transition between a wall and a floor by smoothing out and raising the surface away from a sharp corner or crevice, to allow for easier cleaning. The invention also may decrease the number of seams and the amount of exposed grout by moving the grout joint and edges of the molding piece further away from the inside corner. This also improves cleanliness. The structure of the invention can provide for a smoother installation and more uniform molding scheme by improving the stability of the design with the use of a right-angle, rather than a triangle or point, to allow the molding piece to lie flush in the corner. All of the features of the invention may promote easier installation, better sanitation, and a pleasing appearance to the molding scheme.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following Detailed Description taken in conjunction with the accompanying drawings, in which:

[0010] FIG. 1 is a perspective view of a prior art sanitary cove molding system;

[0011] FIG. 1A is an elevation of a component of a sanitary cove molding system installed in a tile floor and wall;

[0012] FIG. 2 is a perspective view of a first component of a sanitary cove molding system;

[0013] FIGS. 3A and 3B are an end views of a first component of a sanitary cove molding system;

[0014] FIGS. 4A and 4B are nother end views of a first component of a sanitary cove molding system;

[0015] FIG. 5 is a perspective view of a first component of a sanitary molding system in a vertical orientation;

[0016] FIG. 6 is a front perspective of an extended inside corner component of a sanitary cove molding system;

[0017] FIG. 7 is a top plan view of an extended inside corner component of a sanitary cove molding system;

[0018] FIG. 8 is a rear perspective of an extended inside corner component of a sanitary cove molding system;

[0019] FIG. 9 is a perspective view of a sanitary cove molding system using an extended corner component;

[0020] FIG. 10 is a top view of a sanitary cove molding system using an extended corner component; and

[0021] FIGS. 11A-11C are perspective and side views of an outside corner component of a sanitary cove molding system.

DETAILED DESCRIPTION

[0022] The entire contents of Provisional Patent Application Ser. No. 60/864,862, entitled "SANITARY COVE MOLDING" filed on Nov. 8, 2006, including appendices, are incorporated herein by reference for all purposes.

[0023] In the following discussion, numerous specific details are set forth to provide a thorough understanding of the present invention. However, those skilled in the art will appreciate that the present invention may be practiced without such specific details. In other instances, well-known elements have been illustrated in schematic or block diagram form in order not to obscure the present invention in unnecessary detail. Additionally, for the most part, details concerning installation procedures, materials, and the like, have been omitted to the extent that such details are not considered necessary to obtain a complete understanding of the present invention, and are considered to be within the understanding of persons of ordinary skill in the relevant art.

[0024] Turning now to FIG. 1, the reference numeral 100 generally indicates a sanitary cove molding system comprising a sanitary cove molding straight piece 102, a sanitary inside cove inside corner piece 104, and a sanitary outside cove outside corner piece 106. Straight pieces 102 can be used to cover the straight-edge transitions between floors and walls, and to cover the straight-edge transitions between two walls. Corner pieces 104, 106 can be used to cover 90-degree corners and 270-degree corners, respectively. Straight pieces 102 can be extruded in the desired shape, while corner pieces
104, 106 can be pressed into their desired shapes. Straight and corner pieces 102, 104, 106 are shaped to have edges of substantially the same thickness as adjacent floor and wall tile pieces, and are curved to provide a substantially seamless transition between a tile-covered floor and an adjacent tile-covered wall or between two adjacent tile-covered walls. The pieces of the sanitary cove molding system fit so as to provide a substantially continuous, flush surface extending between a tile-covered floor and an adjacent tile-covered wall, or between two adjacent tile-covered walls, with substantially no sharp corners or edges upon which dirt and microbes can accumulate. The resulting corners are easily cleaned with a wet mop, reducing the need for certain cleaning agents.

[0025] FIG. 1 illustrates straight piece 102 installed in a corner adjacent a first edge 204 of floor tile piece 202. Inside corner piece 104 is shown installed at one end of straight piece 102 and at one corner 205 of floor tile piece 202. Outside corner piece 106 is shown installed adjacent corner piece 104 and adjacent a second edge 206 of floor tile piece 202. Turning now to FIG. 1A, straight piece 102 is shown installed in a corner and adjacent a surface tile 202 along a first planar surface such as a floor, and adjacent a surface tile 210 installed along a second planar surface such as a wall. The view representing a corner between two adjacent walls would be substantially the same as shown in FIG. 1A, as the same technique applies. The customary gaps between the pieces can be filled with grout 208A, 208B, forming a substantially continuous, flush surface extending between a tile-covered floor and an adjacent tile-covered wall, or between two adjacent tile-covered walls.

[0026] The pieces of the sanitary cove molding system can be fabricated from suitable materials such as ceramic, porcelain, synthetic stone, or other rigid, stone-like materials. The pieces of the sanitary cove molding system can be finished with a coat or glaze, as required, to obtain or further enhance certain desired properties of the sanitary cove molding pieces. One desired property of the sanitary cove molding pieces is imperviousness to microbial life. The substantially impervious sanitary cove molding pieces tend not to support microbial life, in part because the water absorption rate of the pieces is too low to permit introduction of microbes into the material of the cove molding pieces. The pieces meet the ASTM standard for impervious materials in which the rate of water absorption is less than 0.5 percent. This can be accomplished by utilizing an appropriate process for forming the body of each piece, and by careful selection of the material and or finish applied to each of the sanitary cove molding pieces. The pieces can be fired in such a way as to remove substantially all porosity from the material, thereby reducing the water absorption rate of the material and making the body of each piece substantially impervious to microbial life. The surface of each piece can be glazed or coated to impart a desired color to the piece and to seal the exposed surfaces of the pieces, thereby reducing the water absorption rate at the exposed surface of each piece and making the exposed surface of each piece substantially impervious to microbial life.

[0027] The pieces of the sanitary cove molding system can be used with a flooring system such as described in the attached Appendix A, describing a Porcelain Flooring System delivering a high performance, anti-microbial and easily maintained surface.

[0028] Turning now to FIG. 2, the straight piece 102 has length L and width W, and has edges 108A, 108B of substantially the same thickness as an adjacent floor or wall tile piece (not shown). A curved surface 110 extends transversely to the length L, and across width W, thereby interconnecting edge 108A and 108B. The exposed curved surface 110 and the edges 108A, 108B can be finished with a coating or glazing as described above to impart a color to the piece and to seal the surface against water absorption. End surfaces 112A, 112B and rear surface 114 need not be coated or glazed if these surfaces are generally not exposed when the piece 102 is installed in a tile flooring system. Similarly, corner pieces 104, 106 have exposed outer surfaces that can be coated or glazed to seal the surfaces against water absorption, and also have end surfaces and rear surfaces that need not be glazed if those surfaces are generally not exposed when the pieces 104, 106 are installed in a tile flooring system.

[0029] Turning now to FIG. 3A, a straight piece 102 is shown viewed from one end thereof, illustrating the edges 108A, 108B and the concave curved surface 110 extending therebetween. The piece 102 as shown rests on the rear, unexposed surface 114 of the straight piece 102, which can be shaped with small protruding areas 115A, 115B along rear surface 114 to enhance adhesion to a subsurface of a wall or floor during installation. The straight piece 102 has a cross-sectional profile that lends itself to extrusion fabrication techniques, having substantially the same cross sections along the entire length of the piece 102.

[0030] Turning now to FIG. 3B, a straight piece 102 is shown viewed from one end thereof, illustrating the edges 108A, 108B and the concave curved surface 110 extending therebetween. The piece 102 as shown rests on the rear, unexposed surface 114 of the straight piece 102, which can be extruded with serrated longitudinal grooves 115 to substantially increase adhesiveness important in securing the straight piece to a subsurface of a wall or floor during installation.

[0031] Turning now to FIG. 4A, the straight piece 102 is shown viewed from one end thereof, illustrating the edges 108A, 108B and the concave curved surface 110 extending therebetween. The piece 102 rests on corners between the edges 108A, 108B and exposed curved surface 110 of the straight piece 102. The profile of rear surface 114 can be seen to have generally planar surfaces 116A, 116B, which contain small protruding areas 115A, 115B, adjacent the edges 108A and 108B, respectively. The piece 102 can also have a substantially planar surface 118 interconnecting generally planar surfaces 116A, 116B.

[0032] Turning now to FIG. 4B, the straight piece 102 is shown viewed from one end thereof, illustrating the edges 108A, 108B and the concave curved surface 110 extending therebetween. The piece 102 rests on corners between the edges 108A, 108B and exposed curved surface 110 of the straight piece 102. The profile of rear surface 114 can be seen to have generally planar surfaces 116A, 116B, adjacent the edges 108A and 108B, respectively. The piece 102 can also have a substantially planar surface 118 interconnecting generally planar surfaces 116A, 116B. The straight piece can be manufactured to include serrated longitudinal grooves 115A, 115B, 115C on the surfaces of 116A, 116B, 118 to enhance adhesion to subsurface wall or floor during installation. A hollow center 111 can also be incorporated to reduce weight and amount of material used in manufacturing.

[0033] Turning now to FIG. 5, the straight piece 102 is shown standing vertically upon an end surface 112 and in a corner between two adjacent walls, illustrating the fit of the piece in a vertical configuration.
Returning now to FIG. 7, the extended interior corner piece 300 may have several portions with different dimensions. Flange portions 302A, 302B have lengths LA, LB and widths WA, WB and edges 304A, 304B, 304C, and inner edge 306A, 306B of the extended corner piece 300 may be finished with a coat or glaze as described above to attain the desired coloring and to seal the surface against water absorption.

Returning now to FIG. 8, the extended interior corner piece 300 is shown from the bottom rear with a view of the surfaces 314A, 314B, 314C, 312A and 312B, disposed opposite concave surfaces 310, and configured to be fixed against the floor and walls. Bottom surfaces 312A and 312B may be substantially continuous horizontal surfaces corresponding to flange portions 302A and 302B, respectively, and adjacent to bottom front edges 306A and 306B, respectively. Rear surfaces 314A, 314B and 314C may be substantially vertical contiguous surfaces corresponding to flange portions 302A and 302B, and central portion 303, respectively, and adjacent to top edges 304A, 304B and 304C, respectively. There can be a cut-back portion 316 represented by the surfaces 316A, 316B and 316C along the length of the extended corner piece. Cut-back surfaces 316 may be substantially contiguous surfaces extending between and interconnected bottom surfaces 312 and rear surfaces 314, and can allow the extended corner piece 300 to lie flush against the walls and floor, promoting an easier install even if the inside corners are not "truly" ninety degrees. Any remaining gaps between the extended inside corner piece 300 and the walls can be filled with portland cement based mortar. Additionally, the greater surface area of the bottom side of the extended corner piece 300, shown by the surfaces 312A and 312B, may substantially contribute to the improved stability and to the benefits of such stability discussed above. No coating or glaze should be applied to this side of the extended corner piece 300, specifically surfaces 314A, 314B, 314C, surfaces 312A, 312B, and surfaces 316A, 316B, 316C, since it remains unexposed and requires a rougher texture for adhesion purposes.

Returning now to FIG. 9, the sanitary cove molding system is illustrated from a perspective view as assembled with a floor piece 202, two wall pieces 210A and 210B, a vertical straight piece 102C, horizontal straight pieces 102A and 102B, an outside corner piece 106, and an interior corner piece 300. All molding pieces installed together can provide a smooth and continuous transition from floor to wall and wall to wall, and a polished inward curve rotating about the corner portion of the molding system.

Returning now to FIG. 10, as in FIG. 9, the sanitary cove molding system is illustrated from an exploded perspective view showing the following components: a floor piece 202, two wall pieces 210A and 210B, a vertical straight piece 102C, two horizontal straight pieces 102A and 102B, an outside corner piece 106, and an extended interior corner piece 300.

Returning now to FIG. 11A-11C, a sanitary outside cove 106 may be configured as an L-shaped unit with a top edge 120, a front edge 122, a bottom surface 124 and a back surface 126. The back surface 126 lies adjacent to the top edge 120 and the bottom surface 124 lies adjacent to the front edge 122. A concave surface 128 extends transversely from the front edge 122 to the top edge 120. A rear cut-back 130 surface may be substantially contiguous surface portions extending between and interconnected bottom surface portions 124 and rear surface portions 126. As described above with respect to sanitary inside cove inside corner piece 300, the cut-back portions allow the outside corner piece to lie flush against a wall and a floor without obstruction. The top and front edges 120, 122 and the concave surface 128 are exposed and can be treated with a coating or glaze to achieve the desired color and to seal the surface against water absorption.

Having thus described the present invention by reference to certain of its preferred embodiments, it is noted that the embodiments disclosed are illustrative rather than limiting in nature and that a wide range of variations, modifications, changes, and substitutions are contemplated in the foregoing disclosure and, in some instances, some features of the present invention may be employed without a corresponding use of the other features. Many such variations and modifications may be considered desirable by those skilled in the art based upon a review of the foregoing description of preferred embodiments. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the scope of the invention.
1. A molding piece for placement in an inside corner, comprising:
   a body having a plurality of body portions extending for a substantial distance from a vertex to form an interior angle, wherein each of the body portions encompasses a cross-section;
   the cross-section comprising a bottom surface adjacent to an inner edge, a concave surface adjacent to the inner edge, an upper edge adjacent the concave surface and opposite the inner edge, and a back surface adjacent to the upper edge; and
   a central portion defining a body of rotation about the vertex subtending the angle formed by the body portions.

2. The molding piece of claim 1, wherein the inner edge of the bottom surface defines a space between the plurality of the body portions.

3. The molding piece of claim 1, wherein a portion of the bottom surface defines a first plane and a portion of the back surface defines a second plane, and wherein the first and the second planes converge defines a space adjacent to a portion of the body spaced from the concave surface.

4. The molding piece of claim 3, wherein the inner edge of the bottom surface defines a space between the plurality of the body portions.

5. The molding piece of claim 1, further comprising:
   the body having a surface adjacent to the bottom surface and adjacent to the back surface.

6. The molding piece of claim 1, wherein the angle is approximately ninety degrees.

7. The molding piece of claim 1, wherein the concave surface comprises at least one selected from the list consisting of:
   a glazed surface and a coated surface.

8. The molding piece of claim 1, wherein the body portions extend from the vertex a sufficient distance such that a line from a center of gravity to the bottom surface is normal to a plane of the bottom surface.

9. A molding piece, comprising:
   a body having a central portion having substantially spherical concave surface; and
   the body having a first portion extending from the central portion and having a surface substantially concave about a first axis extending from the central portion.

10. The modeling piece of claim 9, further comprising:
    the body having a second portion extending from the central portion and having a surface substantially concave about a second axis extending from the central portion in a direction distinct from the first axis.

11. The molding piece of claim 10, wherein the first axis and the second axis form an interior angle.

12. The molding piece of claim 11, wherein the angle is approximately ninety degrees.

13. The molding piece of claim 10, wherein the first and the second body portions extend from the central portion a sufficient distance such that a line from a center of gravity to the bottom surface intersects a plane of the bottom surface at a normal angle.

14. The molding piece of claim 10, wherein the concave surface comprises at least one selected from the list consisting of:
    a glazed surface and a coated surface.

15. The molding piece of claim 10, further comprising a rear surface opposite the concave surface;

   wherein the rear surface comprises:
   a first, substantially vertical portion adjacent a top edge of the molding piece;
   a second, substantially horizontal portion adjacent a bottom edge of the molding piece; and
   a third portion interconnecting the first portion and the second portion.

16. A molding piece, comprising:
    a body having at least a first and second portion extending at an angle from a central portion of the body at a substantially right angle; and
    the first, second and central portions of the body having substantially smooth and continuous inwardly curved surfaces extending from a vertex of the right angle.

17. The molding piece of claim 16, wherein the first and the second portions extend from the central portion a sufficient distance such that a line from a center of gravity to the bottom surface intersects the bottom surface at a normal angle.

18. The molding piece of claim 16, wherein the concave surface comprises at least one selected from the list consisting of:
    a glazed surface and a coated surface.

19. The molding piece of claim 16, further comprising a rear surface opposite the concave surface;

   wherein the rear surface comprises:
   a first, substantially vertical portion adjacent a top edge of the molding piece;
   a second, substantially horizontal portion adjacent a bottom edge of the molding piece; and
   a third portion interconnecting the first portion and the second portion.

20. A molding piece for placement in an inside corner, comprising:
    a body having a bottom surface defining an inner edge and an outer edge;
    the body having a back surface defining a lower edge and an upper edge;
    the body having a concave surface facing away from the bottom and back surfaces; and
    the bottom surface, the back surface and the concave surface defining a plurality of body portions extending from a substantially central portion of the body in a plurality of distinct directions for a predetermined distance.

21. A molding system, comprising:
    a first straight piece adjacent to an inside corner piece; and
    a second straight piece adjacent to the inside corner piece.

22. The molding system of claim 21, further comprising:
    a third straight piece adjacent to the inside corner piece.

23. The molding system of claim 21, further comprising:
    an outside corner piece adjacent to the second straight corner piece.

24. The molding system of claim 23, further comprising:
    a first tile piece adjacent to the first straight piece, the first tile piece adjacent to the inside corner piece, and the first tile piece adjacent to the third straight piece; a second tile piece adjacent to the second straight piece, the second tile piece adjacent to the inside corner piece, the second tile piece adjacent to the second straight piece, the second tile piece adjacent to the outside corner piece; and
    a third tile piece adjacent to the first straight piece, the third tile piece adjacent to the inside corner piece, and the third tile piece adjacent to the second straight piece, the third tile piece adjacent to the outside corner piece.