A modular curb assembly of pre-cast pre-finished components forming a base for supporting sidewalls of a shower stall or other enclosure attached to a floor. The curb is made from a plurality of pre-cast pre-finished components of substantially uniform shaped cross section joined in end to end relationship to each other and attached to a floor in a predetermined contour around the perimeter of the enclosure. The components may be straight, curved or in the shape of angular corners and are cast in various configurations which provide a choice of different end angles so that the contour of the curb can be varied depending upon which different combination of component configurations are used in any particular curb design. The pre-cast pre-finished components of this invention are made from a cast polymer composite material similar to or like Solid Surface or Cultured Marble, including the group of granite, onyx, alabaster or the like, as well as cement based, or concrete gypsum cement, composite materials which form a ready to use waterproof outer surface requiring no additional coating or layer added thereto. The walls may be of glass block, plate glass or other materials.
Fig. 16
MODULAR CURB ASSEMBLY OF PRE-CAST PRE-FINISHED COMPONENTS

FIELD OF THE INVENTION

This invention relates to a modular curb assembly forming the base of a wall of glass block, plate glass or other material. More specifically, the pre-cast components are made from cultured marble or other materials which form a finished surface when cast and support the sidewalls of shower stalls or other enclosures.

BACKGROUND OF THE INVENTION

The use of curbs is well known in the construction of water containment enclosures such as showers, bathtubs, saunas and hot tubs. Curbs may also be used as a base for supporting walls of glass block, plate glass or other materials which form enclosures or function as divider walls.

U.S. Pat. No. 5,092,002 describes a shower base having a threshold formed by long plastic members over a 2x4 lumber base.

U.S. Pat. No. 6,735,793 describes a prefabricated block for constructing a water containment curb for use with showers, bathtubs and the like.

US Patent Application Publication No. US 2003/ 0089059 A1 shows a lattice frame placed over horizontal 2x4s and a waterproof liner to form a curb upon which ceramic tiles are laid.

Various other patents show components for constructing water retaining curbs, however such components need to be cut on the ends to obtain the necessary angles which when the components are assembled will provide the desired contour in the curb. Furthermore, many of the prior components need to be covered with tile in order to have a finished surface. In addition, none of the curbs of the above patents are designed to accept specific glass block shapes and configurations.

SUMMARY OF THE INVENTION

This invention as claimed is a modular curb assembly of pre-cast pre-finished components forming a base for supporting sidewalls of an enclosure attached to a floor which is made from a plurality of pre-cast pre-finished components of substantially uniform shaped cross section joined in end to end relationship to each other and attached to a floor in a predetermined contour around the perimeter of the enclosure, the pre-cast pre-finished components cast in various configurations which provide a choice of different end angles so that the contour of the curb can be varied depending upon which different combination of component configurations are used in any particular curb design, each of the pre-cast pre-finished components being cast from a material which forms a ready to use waterproof outer surface requiring no additional coating or layer added thereto.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary perspective view of a shower stall showing the curb assembly of the invention with glass block walls mounted thereon;

FIG. 2 is a fragmentary perspective view of a shower pan with drain and showing how a portion of the curb assembly of the invention is sealingly attached thereto around part of its perimeter;

FIG. 3 is a perspective view showing an example of one contour design of a complete shower curb with one row of glass block placed in position on top of the curb;

FIG. 4 is a perspective view showing a straight elongated curb component of the invention;

FIG. 5 is a perspective view of a curved curb component of the invention with in ends in planes at 90 degrees to each other;

FIG. 6 is a perspective view of a 90 degree corner component of the invention;

FIG. 7 is a perspective view of another 90 degree corner similar to FIG. 7 except with a longer distance between the ends of the component;

FIG. 8 is a perspective view of another 90 degree corner similar to FIG. 7 but having an even further distance between the ends of the component;

FIG. 9 is a perspective view of a 45 degree corner component of the invention;

FIG. 10 is a perspective view of a 45 degree corner component similar to that shown in FIG. 9 but having connector brackets attached to each end;

FIG. 11 is a perspective view of a connector bracket similar to those shown in FIG. 10;

FIG. 12 is a perspective view of a connector bracket for connecting an end of a component of the invention to a side of another component;

FIG. 13 is a perspective view of the end of one straight component being connected to the side of another straight component of the invention using a connector bracket similar to that shown in FIG. 12;

FIG. 14 is a rear perspective view of an end cap for covering an end of one of the components of the invention;

FIG. 15 is a front perspective view of the end cap shown in FIG. 14; and

FIG. 16 is a plan view of a glass block enclosure showing a first tier of glass blocks positioned on the top of a curb constructed from an assembly of modular curb components such as those shown in FIG. 3 and showing how the contour of each curb component is contoured to match with a particular contour of glass component.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the details of the invention, FIG. 1 shows fragmentary perspective view of a shower stall assembly 20 having a modular curb assembly 22 mounted on a floor or base surface and has water collection tray 26 at the bottom of the shower stall with a drain as shown in FIG. 2. Glass block walls 24 are mounted on top of the curb assembly 22. The curb 22 is constructed from a series of straight intermediate components 28 and corner component 30 forming a 90° angle between two of the straight components 28. An end cap 32 is shown covering an end of a component 28.

A shower stall can be made using existing walls 34 as part of the enclosure or it can be made free standing with all the walls made from glass block mounted on the curb assembly 22.
FIG. 2 shows a fragmentary perspective view of a curb assembly 22 with straight components 28, and two 45° corner components 36. An elastomeric sheet 38 covers the floor area beneath the shower stall. The sheet 38 is sealed to a flange 40 of the components 28 and 36. A sloping concrete filler 40 is placed on top of the sheet 38 and slopes toward a drain 42. A plastic cover sheet 44 is placed on top of the filler 40 and is in sealing engagement with the drain 42 and forms a water collection tray 46.

It may also be seen that ceramic tile can also be used instead of the plastic sheet 44. Also the water collection tray 46 can be made as one piece instead of with a filler and a cover sheet.

Referring now to FIG. 3, a shower stall assembly 20a is shown having a curb assembly 22a with straight components 28, 90° corner components 30, 45° corner components, 36, and 90° corner components 30a and 30b. A single row of glass block 48 is placed on top of the curb assembly 22a. It may be secured in place by adhesive or mortar. Further similar layers can be added to make a complete series of walls for the shower stall. An end cap 32 is placed on each end open of any of the curb components.

FIGS. 4 through 15 show individual components which make up the curb assembly when combined in to form the desired contour for each enclosure.

FIG. 4 shows the straight intermediate component 28 which was previously shown on previous figures.

FIG. 5 shows a 90° angle arcuate component 29 to be used with a PC arque 90 degree component of glass block.

FIG. 6 through 8 shows 90° angle corner components 30, 30a, and 30b. These components are identical except the distance between the ends is longer on some than others.

FIGS. 9 and 10 both show a 45° angle corner component 36 except that FIG. 10 shows a curb connector bracket 50 attached to each end of the angle component 36. The connectors are attached to each pair of adjacent ends by adhesive or other suitable means.

FIG. 11 shows a curb connector bracket 50 before it is attached to an end of one of the components.

FIG. 12 shows a curb connector bracket 52 for connecting an end of a curb component 28a to a side of another curb component 28b as shown in FIG. 13.

FIG. 14 shows the back of an end cap 32 and FIG. 15 shows the front of the end cap 32 which may be used on any open ends of the curb components as previously described.

FIG. 16 is a plan view showing a shower stall 20a similar to that shown in FIG. 3 but listing the different kinds of commercially available glass block that can be accommodated by the various configurations of curb components shown in previous figures. Other corner configurations besides those shown in the drawing can also be made to accommodate other corner angles besides 90° and 45°.

For example angles such as 22½°, 62½°, 135°, 112½° or other angles can be accommodated.

In making an assembly of a shower curb, the desired combination of intermediate and corner components are selected and attached to the floor to form the desired contour. A water collection tray 26 as previously described is placed on the floor area of the shower stall and the curb is sealingly assembled around the tray. The rows of glass block are then built up to the desired height from the curb.

It should be understood that while glass block has been shown as the material for constructing the walls, other material such as plastic or plate glass or other materials can also be attached to the curb of this invention.

The pre-cast pre-finished components of this invention are shown as made from a cast polymer composite material similar to or like Solid Surface or Cultured Marble, including the group of granite, onyx, alabaster or the like, as well as cement based, or concrete gypsum cement, composite materials. Other materials can also be used so long as it provides components of sufficient strength to support the type of walls selected and provides a waterproof finish that is attractive and suitable for use when installed without the need for any additional surface finish.

These and other variations may be made without departing from the scope of the invention.

What is claimed is:

1. A modular curb assembly of pre-cast pre-finished components forming a base for supporting sidewalls of an enclosure attached to a floor comprising:

   a plurality of pre-cast pre-finished components of substantially uniform shaped cross section joined in end to end relationship to each other and attached to a floor in a predetermined contour around the perimeter of the enclosure:

   the pre-cast pre-finished components cast in various configurations which provide a choice of different end angles so that the contour of the curb can be varied depending upon which different combination of component configurations are used in any particular curb design;

   each of the pre-cast pre-finished components being cast from a material which forms a ready to use waterproof outer surface requiring no additional coating or layer added thereto.

2. A modular curb assembly as claimed in claim 1 wherein the pre-cast pre-finished components of this invention are made from a cast polymer composite material similar to or like Solid Surface or Cultured Marble, including the group of granite, onyx, alabaster or the like, as well as cement based, or concrete gypsum cement, composite materials.

3. A modular curb assembly as claimed in claim 1 wherein enclosure is a shower stall including a water collection tray covering in the floor area inside the shower stall and having a drain hole in sealing relation with the floor drain and having its peripheral edges in sealing relationship with the curb.

4. The modular curb assembly of claim 3 wherein the curb is comprised of a plurality of different configurations of pre-cast components including straight elongated components and intermediate transitional components placed between straight components positioned at different angles with respect to each other the intermediate components
having end surfaces positioned to match with the ends of adjacent straight components.

5. The modular curb assembly of claim 1 wherein the sidewalls supported by the curb are made of glass block.

6. The modular curb assembly of claim 1 wherein the sidewalls supported by the curb are glass panels.

7. A modular shower curb assembly of pre-cast pre-finished components forming a base for supporting sidewalls of a shower stall and including a floor having a drain therein comprising:

- a flexible shower liner covering the floor in the area of the shower stall.

- a curb having a plurality of pre-cast pre-finished components of inverted U-shaped cross section sealingly surrounding the liner and sealingly joined in end to end relationship to each other and extending in a selected contour around the perimeter of the shower stall;

- the pre-cast components of the curb having a ready to use waterproof outer surface requiring no additional coating or layer added thereto; and

- a water collection tray covering the liner in the floor area inside the shower stall and having a drain hole in sealing relation with the floor drain and having its peripheral edges in sealing relationship with the curb.

8. The shower curb assembly of claim 7 wherein the curb is comprised of a plurality of different configurations of pre-cast pre-finished components including straight elongated components and intermediate transitional components placed between straight components and positioned at different angles with respect to each other, the intermediate components having end surfaces positioned to match with the ends of adjacent straight components.

9. The shower curb assembly of claim 8 wherein at least one of the intermediate components is designed to interconnect two straight components which are at 90° to each other.

10. The shower curb assembly of claim 9 wherein at least one of the intermediate components is designed to form a 90° curve between two straight components.

11. The shower curb assembly of claim 8 wherein at least one of the intermediate components is designed to interconnect two straight components which are at 45° to each other.

12. The shower curb assembly of claim 7 wherein the pre-cast components are of sufficient size and strength to support a mortared block wall positioned on top of the curb to form the shower stall sidewalls.

13. The shower curb assembly of claim 12 wherein the mortared block wall is made of glass block.

14. The shower curb assembly of claim 7 wherein plate glass panels are sealingly mounted on top of the curb to form the shower stall sidewalls.

15. The shower curb assembly of claim 7 wherein the pre-cast pre-finished components of this invention are made from a cast polymer composite material similar to or like Solid Surface or Cultured Marble, including the group of granite, onyx, alabaster or the like, as well as cement based, or concrete gypsum cement, composite materials.

16. The shower curb assembly of claim 7 wherein the pre-cast components are fastened together by inverted U-shaped curb connectors mounted inside of and overlapping each pair of adjacent components.

17. A series of pre-cast pre-finished components of different design configurations and adapted to fit in end to end relationship with each other to form a modular curb attached to a floor and supporting at least one vertical wall.

18. The pre-cast pre-finished components of claim 17 wherein the components have an inverted U-shaped cross section with part of the components being straight and elongated and other components being intermediate transitional components which may be placed between straight components positioned at different angles with respect to each other.

19. The pre-cast pre-finished components of claim 18 wherein at least one of the intermediate components is designed to interconnect two straight components which are at 90° to each other.

20. The pre-cast pre-finished components of claim 19 wherein at least one of the intermediate components is designed to form a 90° curve between two straight components.

21. The pre-cast pre-finished components of claim 18 wherein at least one of the intermediate components is designed to interconnect two straight components which are at 45° to each other.

22. The pre-cast pre-finished components of claim 18 wherein the pre-cast components are of sufficient size and strength to support a mortared block wall positioned on top of the curb to form shower stall sidewalls.

23. The pre-cast pre-finished components of claim 18 wherein the mortared block wall is made of glass block.

24. The pre-cast pre-finished components of claim 18 wherein plate glass panels are sealingly mounted on top of the curb to form shower stall sidewalls.

25. The pre-cast pre-finished components of claim 19 wherein the pre-cast pre-finished components of this invention are made from a cast polymer composite material similar to or like Solid Surface or Cultured Marble, including the group of granite, onyx, alabaster or the like, as well as cement based, or concrete gypsum cement, composite materials.