A flooring system including a modular frame surrounding modular floor covering units. Frame members attach easily to one another, providing stability to the flooring system and ease of installation.
MODULAR FRAME AREA FLOOR COVERING

RELATED APPLICATION DATA

[0001] This application is a continuation-in-part of U.S. application Ser. No. 10/381,025, which is a U.S. National Phase application of International Application No. PCT/US01/29313, filed Sep. 19, 2001, incorporated by reference herein.

FIELD OF INVENTION

[0002] The invention generally relates to the field of carpet and floor covering, specifically to the area of self contained flooring systems.

BACKGROUND OF THE INVENTION

[0003] Floor covering has included a vast array of materials such as ceramic tile, wood, carpet, carpet tile and other materials. Equally as numerous have been the methods for installing and securing flooring, either permanently or temporarily to subfloors. Traditionally, among other approaches, flooring systems have used surrounding walls as a method of containing and securing the flooring material. However, this method provides very little flexibility to the installer of the flooring system. Using existing walls as lateral support for flooring materials requires that the installer invest substantial time and labor to fit the flooring materials to the existing subfloor. Accordingly, a need exists for a method or system that allows floor tiles to be contained and laterally supported by a means other than the existing walls of the structure.

SUMMARY OF THE INVENTION

[0004] This invention is a self contained kit or a group of components from which a purchaser can assemble an area floor covering. In one embodiment, a four-sided modular frame surrounds modular units of carpet or carpet tile bounded by the frame, which also provides transition from the carpet to the floor on which the assembly sits. Frame members may be attached to the modular units and to one another. The frame members may be made of plastic, wood, metal, ceramic, marble, or other suitable materials.

[0005] One feature of this invention is a system having components salable through retail outlets for producing an area floor covering.

[0006] Another feature of this invention is a system and method for containing replaceable wear surfaces without reliance on interior walls of a room for lateral support.

[0007] Yet another feature of this invention is an efficient method of installing replaceable wear surfaces in any room with a minimal investment of time and labor.

[0008] Another feature of this invention is an area floor covering having an exterior frame that is stable and easy to assemble.

[0009] An aspect of this invention provides an area floor covering, comprising a plurality of replaceable wear surfaces having edges, and a plurality of connectable edge segments adapted to bound the plurality of replaceable wear surfaces when connected and comprising a flap having attachment material for attaching one of the replaceable wear surfaces.

[0010] Another aspect of this invention provides a framing system for an area floor covering, the framing system comprising a plurality of connectable frame segments, each segment comprising: a flap comprising adhesive for attaching a replaceable wear surface; an aperture adapted to receive a connector; and a connector retainer.

[0011] Another aspect of this invention provides an area floor covering comprising a plurality of carpet tiles and a frame adapted to bound the plurality of carpet tiles, the frame comprising: at least one connector; at least two edge segments, each segment comprising a flap comprising adhesive for attaching a replaceable wear surface, and an aperture adapted to receive the connector; and at least one a connector retainer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a top plan view of an area rug of this invention.

[0013] FIG. 2 is a side elevation view of the rug of FIG. 1.

[0014] FIG. 3 is a cross-sectional view of a segment and replaceable wear surface of this invention.

[0015] FIG. 4 is a perspective view of a portion of the exterior frame of FIG. 1.

[0016] FIG. 5 is an end view in cross-section of a segment of FIG. 1.

[0017] FIG. 6 is a plan view of the bottom of the connection between two segments, without a retainer.

[0018] FIG. 7 is a perspective view of a collaboration of pieces for forming an area rug.

DETAILED DESCRIPTION OF THE INVENTION

[0019] FIG. 1 illustrates an area rug flooring system 10 of this invention. The flooring system 10 includes an exterior base 12 and multiple replaceable wear surfaces 14. The replaceable wear surfaces 14 maybe carpet tiles or hard surface modules composed of materials such as, but not limited to hardwoods or ceramics.

[0020] In one embodiment, exterior frame 12 includes multiple segments 16 sized to receive replaceable wear surfaces 14. The segments 16 typically are joined at a 90° angle to form a square or rectangular base 12 around the area rug 10. Alternatively, segments 16 may be joined at other angles to form various shapes to suit the needs of the layout of the desired design. In the embodiment shown, the segments 16 include linear sides 18 and corners 20. Corners 20 and linear sides 18 are joined to form a rectangular exterior frame 12. However, the exterior frame 12 may be comprised of any number of segments 16 in any number of shapes, including triangular, circular, and any shape in between. The replaceable wear surfaces 14 may be assembled in various combinations and patterns to suit the needs and tastes of the consumer.

[0021] FIG. 2 is a side elevation view of the system 10. The exterior frame 12 can be constructed of a variety of materials including plastics, wood, rubber, metals, ceramics,
marble and other resilient and workable materials. Extruded plastic or aluminum profiles are particularly desirable for use as exterior frame 12.

[0022] FIG. 3 is a cross-sectional view showing a replaceable wear surface 14 disposed within the exterior frame 12. The segment 16 can have a thickness equal to or approximately equal to the thickness of the replaceable wear surface 14. However, segment 16 could also have a thickness less than or more than the thickness of replaceable wear surface 14.

[0023] As shown in FIG. 3, frame 12 includes an exterior surface 17, which may be formed from a hard plastic, and a flap 19, which may be formed from a soft plastic. Exterior surface 17 also includes contact surface 21, which may be formed from soft plastic, which provides non-slip properties to the frame member. Segments 16 and corners 20 may be co-extruded during manufacture. Upper surface 23 of flap 19 includes an adhesive 25, which adheres to a replaceable wear surface 14. Adhesive 25 may be a peel and stick adhesive, or any other adhesive suitable for attaching a replaceable wear surface. Segments 16 are sized to correspond to the size of a modular carpet tile, or may be designed in any suitable size or shape.

[0024] Segments 16 may be joined in a number of ways including adhesives, snap fittings, sonic welding, splines, nails, screws, or other means of attachment. In one embodiment, as shown in FIGS. 5 and 6, the segments 16 include an aperture on the underside of the segment 16 and spaced from an end of the segment 16. The aperture is adapted to receive end 28 of a connector 30. A second end 28 of a connector 30 is received in an aperture in a second segment 16. Tensioner 32 extends between ends 28 of connector 30 and is received in channel 34 on the underside of the segment. Retainer 36 has recess 38 snaps in place over connector 30, securing the position of the components. Lip 40 of retainer 36 joins with ridge 42 of segment 16 and the opposite edge 44 of retainer 36 fits over protrusion 46 of segment 16 so that retainer 36 locks in place over each channel 34 of each segment 16. Retainer 36 thus provides torsional stability to the union of the two segments 16. In this manner, connector 30 and retainer 36 join two segments 16.

[0025] The components of flooring system 10 may be sold unassembled so that the purchaser may assemble the exterior base 12 by joining segments 16 and corners 20 and positioning replaceable wear surfaces 14 within exterior base 12 in an arrangement chosen by the purchaser.

[0026] The system described above can be marketed and sold as a kit. FIG. 7 illustrates various components that may be included in various quantities. For instance, the system can be contained within a container, such as a pasteboard or other box. Alternatively, the system can be sold as individual components so that a consumer can select the pieces, such as segments 16, and replaceable wear surfaces 14. Further, the segments may be offered in various thickness, lengths, colors and designs. The replaceable wear surfaces 14 may also be offered in various sizes, colors and designs.

[0027] An advantage of this invention is that it provides systems and methods for installing free lay replaceable wear surfaces with a minimal investment of time and labor.

[0028] Another advantage of this invention is that it provides systems and methods for containing many types of hard and soft replaceable wear surfaces without the need for lateral support or containment typically provided by interior wall surfaces.

[0029] Yet another advantage of this invention is that it provides systems and methods for a flooring structure where the surface may be easily replaced.

[0030] Still another advantage of this invention is that modules of the replaceable wear surface may be assembled in multiple configurations in order to obtain multiple designs with the same components.

[0031] An additional advantage of this invention is that the rug may be installed in oddly shaped rooms with a minimal investment of time and labor.

[0032] While various embodiments of this invention have been described above, these descriptions are given for purposes of illustration and explanation. Variations, changes, modifications and departures from the systems and methods disclosed above may be adopted without departure from the spirit and scope of this invention.

1. An area floor covering, comprising:
   (a) a plurality of replaceable wear surfaces having edges; and
   (b) a plurality of connectable edge segments adapted to bound the plurality of replaceable wear surfaces when connected and comprising a flap having attachment material for attaching one of the replaceable wear surfaces.

2. The area floor covering of claim 1, wherein the edge segments are each sized to correspond to the size of a replaceable wear surface edge.

3. The area floor covering of claim 1, wherein the edge segments further comprise at least two linear side segments and four corner segments.

4. The area floor covering of claim 1, wherein the edge segments further comprise curved segments.

5. The area floor covering of claim 1, wherein the edge segments further comprise linear edge segments.

6. The area floor covering of claim 1, wherein the connectable edge segments further comprise an aperture adapted to receive a connector, and a connector retainer.

7. The area floor covering of claim 1, further comprising at least one connector.

8. The area floor covering of claim 7, wherein the connector further comprises a tensioner adapted to provide torsional stability to the union of two segments.

9. The area floor covering of claim 1, wherein the replaceable wear surfaces comprise carpet tile.

10. The area floor covering of claim 1, wherein the attachment material comprises adhesive.

11. A framing system for an area floor covering, the framing system comprising a plurality of connectable frame segments, each segment comprising
   (a) a flap comprising adhesive for attaching a replaceable wear surface;
   (b) an aperture adapted to receive a connector; and
   (c) a connector retainer.

12. The framing system of claim 11, further comprising replaceable wear surfaces.
13. The framing system of claim 12, wherein the frame segments are each sized to correspond to the size of a replaceable wear surface.

14. The framing system of claim 11, wherein the frame segments further comprise at least two linear side segments and four corner segments.

15. The framing system of claim 11, wherein the frame segments further comprise curved segments.

16. The framing system of claim 11, wherein the frame segments further comprise linear segments.

17. The framing system of claim 11, further comprising at least one connector.

18. The framing system of claim 17, wherein the connector further comprises a tensioner adapted to provide torsional stability to the union of two segments.

19. The framing system of claim 11, wherein the framing segments are adapted to frame a plurality of carpet tiles.

20. The framing system of claim 11, further comprising at least one carpet tile and at least one connector.

21. An area floor covering comprising a plurality of carpet tiles and a frame adapted to bound the plurality of carpet tiles, the frame comprising:

(a) at least one connector; and

(b) at least two edge segments, each segment comprising

(i) a flap comprising adhesive for attaching a replaceable wear surface; and

(ii) an aperture adapted to receive the connector; and

(c) at least one a connector retainer.

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