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(54) **SOUND CONTROL FLOORING SYSTEMS AND METHODS THEREFOR**

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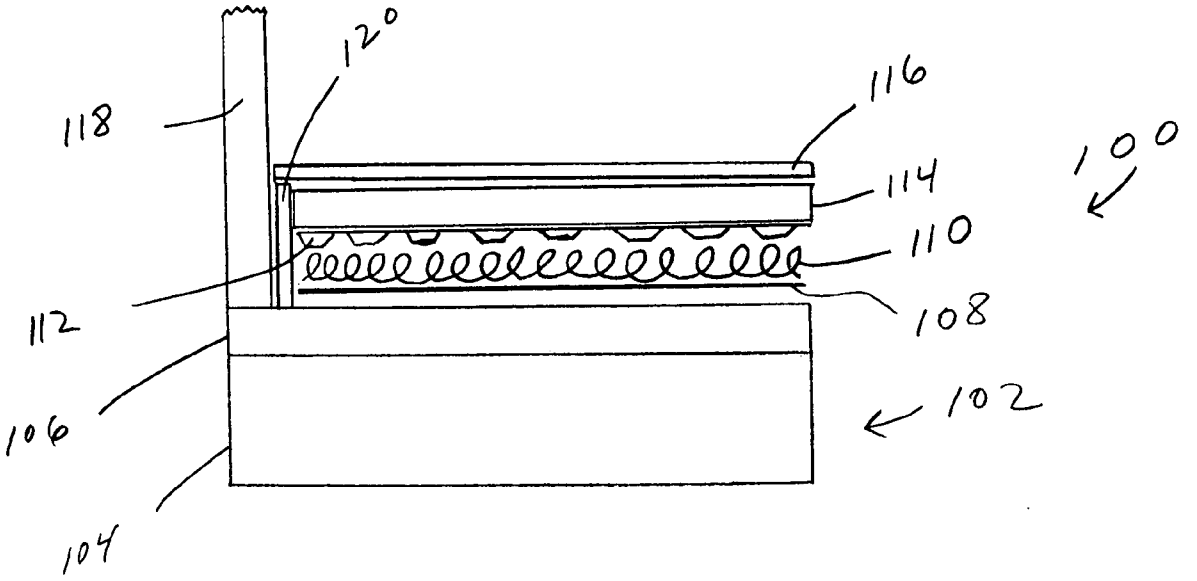
(57) **ABSTRACT**

A sound control flooring system adapted to reduce the transmission of airborne sound in a building structure. The system generally includes a subfloor assembly; a first layer of sound absorbing material disposed atop at least a portion of the subfloor assembly, a second layer of sound absorbing material disposed atop at least a portion of the first layer of material, and a cementitious overlay, adapted to receive finished flooring thereon, disposed atop at least a portion of the second layer of material. In an example embodiment, the second layer of sound absorbing material is disposed atop a portion of the first layer of material that generally corresponds to an area of the flooring system adapted to receive a high volume of foot traffic thereon.



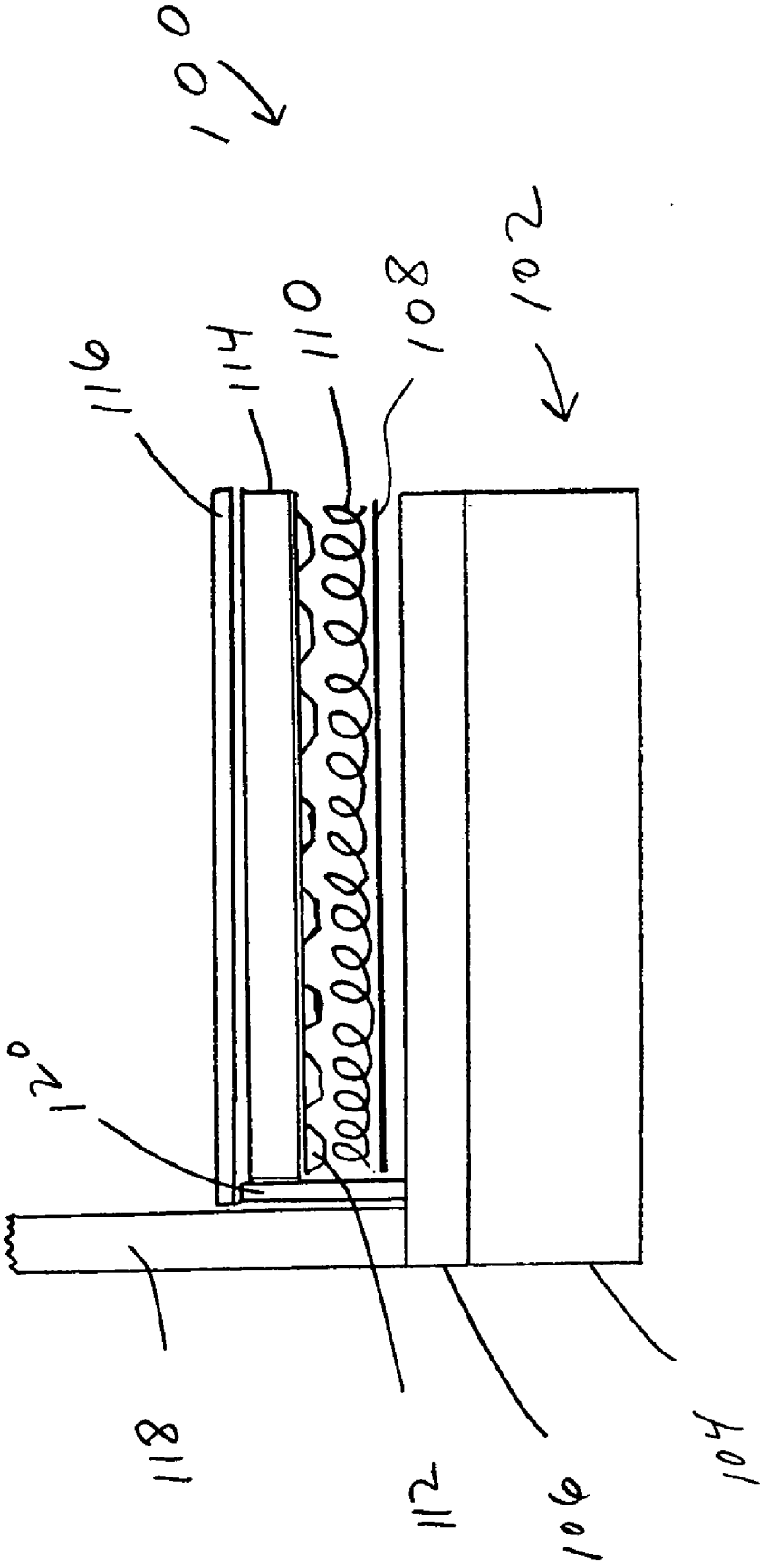


Figure 1

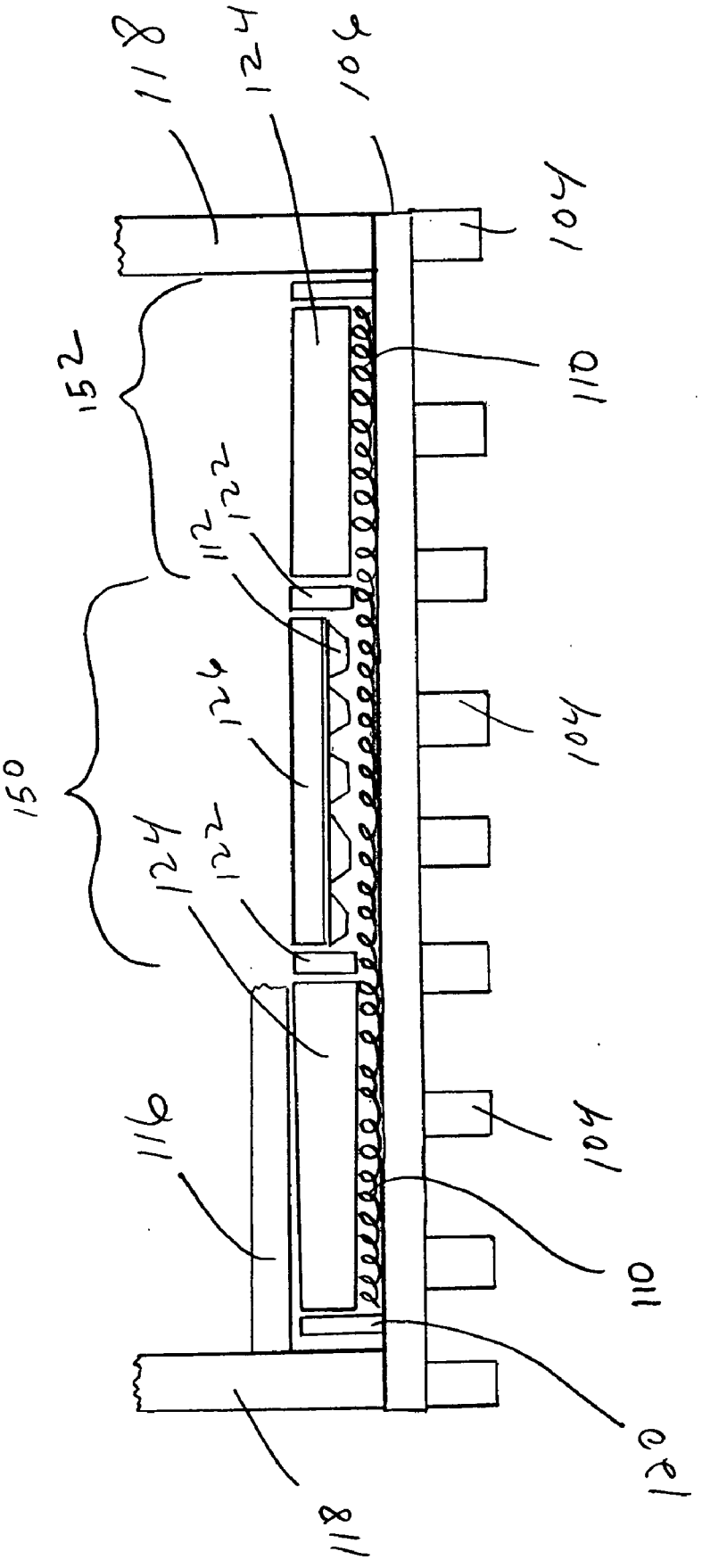

118
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Figure 2

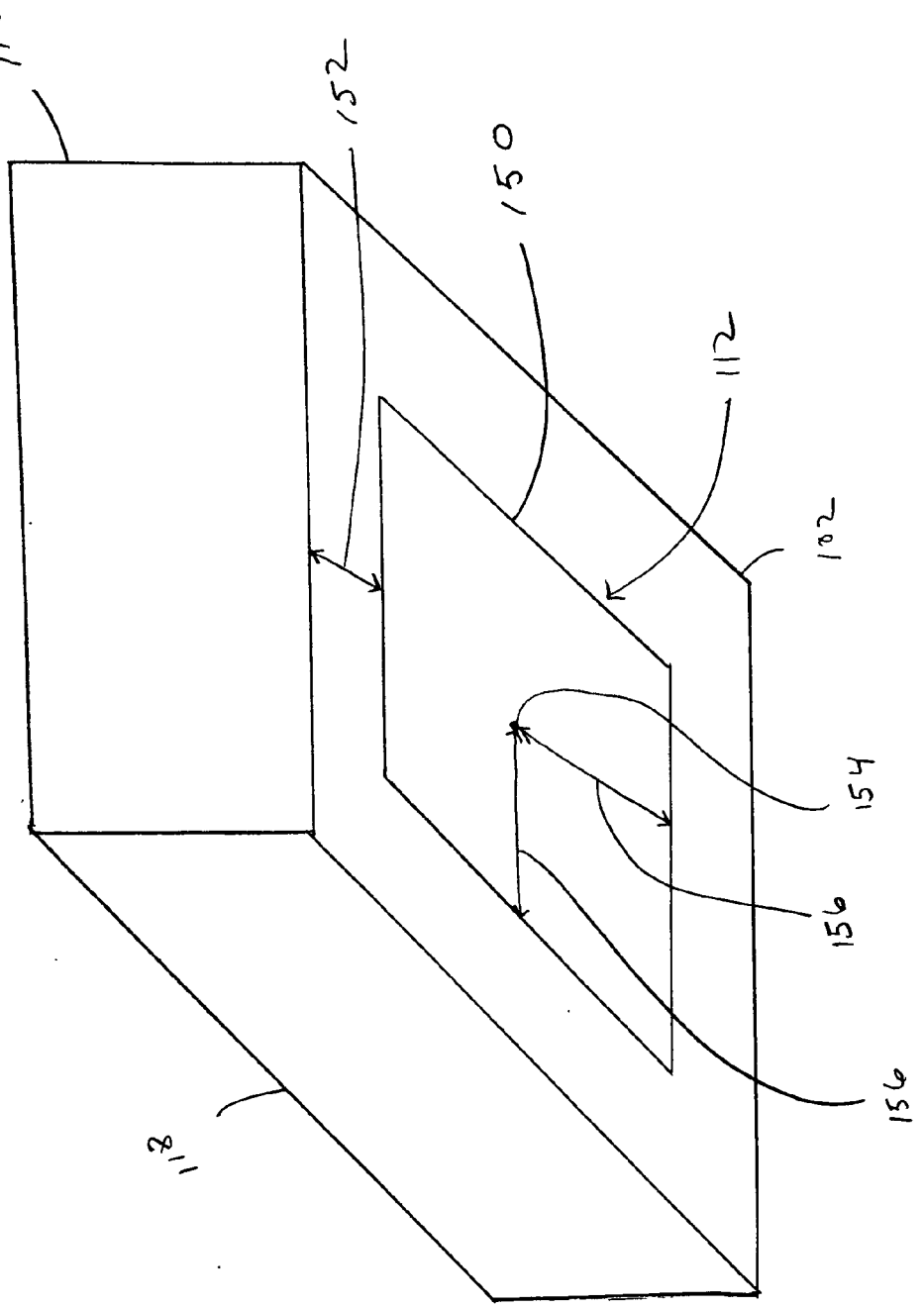

Figure 3

SOUND CONTROL FLOORING SYSTEMS AND METHODS THEREFOR

FIELD OF THE INVENTION

[0001] The present invention is directed to sound control flooring systems and methods therefor. More particularly, the present invention is directed to sound control flooring systems generally including at least two layers of sound control material disposed between a subfloor and finished flooring assembly, and to methods for installing sound control flooring systems.

BRIEF DISCUSSION OF THE RELATED ART

[0002] Sound and the transmission thereof in buildings, particularly between floors in multistory dwellings and commercial buildings, can be a serious problem. Transmitted sound is typically caused by impact generated by forceful meeting of an object with a floor or airborne sound. The transmission of sound between floors may disturb or be an annoyance to individuals present in the area below or adjacent to the room in which the sound is generated.

[0003] In general, impact sound is generated due to pedestrian footfall on the floor, movement of heavy objects over the floor, and any other contact made with the floor. Airborne sound is usually due to speech or music. The transmission of sound between floors is particularly a problem where the upper finished flooring is made of concrete, ceramic tiles, or hardwood. Installation of thick carpeting may be required to prevent the transmission of sound. However, in multi-family, stacked construction, hard surfaces are desirable, yet noisy for surrounding neighbors. Additionally, carpet is not an aesthetically desirable component. An alternative to the use of carpeting to prevent sound transmission has been the use of a sound rated floor system, such as one disclosed in U.S. Pat. No. 4,685,259, or a floating floor, such as one disclosed in U.S. Pat. No. 4,879,856. The use of sound rated floor system or a floating floor substantially reduces the transmission of sound between floors by isolating the flooring from the floor substructure. Products that create a floating floor have resilience, create an air space and the thicker the better. Accordingly, what is needed is a sound control flooring system that is inexpensive, simple and quick to install, is resilient, allows for a thin concrete topping while creating maximum airspace and change composition.

BRIEF SUMMARY OF THE INVENTION

[0004] In accordance with one example aspect, the present invention is directed to a sound control flooring system adapted to reduce the transmission of airborne sound in a building structure. The system generally includes a subfloor assembly; a first layer of material disposed atop at least a portion of the subfloor assembly, wherein the first layer of material is constructed of a sound absorbing material; a second layer of material disposed atop at least a portion of the first layer of material, wherein the second layer of material is constructed of a sound absorbing material; and a cementitious overlay disposed atop at least a portion of the second layer of material, wherein the overlay is adapted to receive finished flooring thereon.

[0005] In accordance with another example aspect, the present invention is directed to a sound control flooring system adapted to reduce the transmission of airborne sound in a building structure. The system generally includes a subfloor assembly; and a first layer of material disposed atop substantially all of the subfloor assembly, wherein the first layer of material is constructed of a sound absorbing material. The system generally also includes a second layer of material disposed atop a portion of the first layer of material, wherein the second layer of material is constructed of a sound absorbing material; and wherein the portion of the first layer of material corresponds to an area of the flooring system adapted to receive a high volume of foot traffic thereon; and a cementitious overlay disposed atop at least a portion of the second layer of material and the first layer of material, and wherein the overlay is adapted to receive finished flooring thereon.

[0006] In accordance with yet another aspect, the present invention is directed to a method for installing a sound control flooring system adapted to reduce the transmission of airborne sound in a building structure. The method generally includes the steps of disposing a first layer of material atop at least a portion of a subfloor assembly, wherein the first layer of material is constructed of a sound absorbing material; disposing a second layer of material atop at least a portion of the first layer of material, wherein the second layer of material is constructed of a sound absorbing material; and disposing a cementitious overlay atop at least a portion of the second layer of material, and wherein the overlay is adapted to receive finished flooring thereon.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] These and other features and a more thorough understanding of the present invention may be achieved by referring to the following description and claims, taken in conjunction with the accompanying drawings, wherein:

[0008] **FIG. 1** is a side plan view of an example sound control flooring system, according to the present invention;

[0009] **FIG. 2** is a plan view of an alternate example sound control flooring system, according to the present invention; and

[0010] **FIG. 3** is a perspective view of the sound control flooring system of **FIG. 2**.

DETAILED DISCUSSION OF EXAMPLE EMBODIMENTS

[0011] Disclosed according to the present invention are sound control flooring systems and methods for installing sound control systems. The systems and methods of the present invention are suitably useful for controlling sound and/or noise in commercial and residential multi-story building structures, such as, for example, condominiums, apartments, office buildings, hotels, schools, athletic floors, and the like. The systems and methods preferably control sound by including at least two layers of sound control material disposed between a subfloor assembly and a finished floor assembly. The layers of sound control material preferably lower both structural and airborne sound transmission by absorbing vibrational energy and otherwise generally reducing the continued transmission thereof. Accordingly, the presence of the sound control layers in a flooring assembly suitably reduces the noise profile of a building structure, especially noise generated by foot traffic of individuals and other noise generated by impact with a floor.

[0012] Illustrated with reference to **FIG. 1** is an example embodiment of a sound control flooring system **100**. The sound control flooring system **100** preferably, and by way of example only, includes a subfloor assembly **102**, one or more walls **118** associated with the subfloor assembly **102**, a first layer **110** of sound control material disposed atop the subfloor assembly **102**, a second layer **112** of sound control material disposed atop the first layer **110**, an overlay **114** disposed above the second layer **112**, and a finished flooring **116** disposed above the overlay **114**. The subfloor assembly **102** is preferably a conventionally known subfloor assembly installed as a structural framework member upon which components of a floor are installed and potentially forming an upper portion of a ceiling disposed below the subfloor assembly **102**. The subfloor assembly **102** may suitably comprise a plurality of load-bearing wood joists **104** running in parallel and spaced apart relationship along a lower portion of a subfloor **106**, which may suitable be provided as a plywood member. It is to be appreciated that the subfloor assembly **102** may suitably be provided as a unitary concrete assembly, or as any other appropriate structural member. Additionally, the subfloor assembly **102** may suitably include a waterproof membrane **108**, preferably a load-bearing waterproof membrane, positioned on an upper surface thereof.

[0013] The sound control flooring system **100** is preferably a component integral with a building, and, accordingly, is associated with one or more walls **118** in generally perpendicular relationship. The wall **118** may suitably be a drywall member fastened to a wall support member (not shown), or be provided according to any of a plurality of known configurations.

[0014] The sound control flooring system **100** also includes the first layer **110** of sound control material disposed atop at least a portion of the subfloor assembly **106**. In connection with a preferred example embodiment, the first layer **110** is provided as a highly porous three dimensional matrix filamentous mat manufactured from a thermoplastic material, such as a polyolefin (e.g., polyethylene, polypropylene, etc.), a polyvinyl halide (e.g., polyvinyl chloride, polyvinylidene chloride, polyvinyltetrafluoride, polyvinyl chlorotrifluoride), polystyrene, polyamide, a polyvinylester (e.g., polyvinyl acetate, etc.), and mixtures, copolymers and modifications thereof. The preferred mat includes a plurality of filaments that are heat fused to one another at randomly spaced points to form a three-dimensional, convoluted and mutually interconnected filamentatious body and is preferably constructed in accordance with techniques well known to one of ordinary skill in the art, such as disclosed by, for example, U.S. Pat. Nos. 3,687,759; 3,691,004; 4,212,692, etc., the contents of all of which are hereby incorporated by reference in their entireties.

[0015] The first layer **110**, preferably provided as the three dimensional matrix filamentous mat, is preferably disposed in the sound control flooring system **100** in a manner by which it overlies a portion of, more preferably substantially all, of the subfloor assembly **102**. Additionally, the first layer **110** may be provided in any appropriate thickness, such as approximately ⅛ inch, ¼ inch, ⅓ inch, ½ inch, ⅔ inch, ¾ inch, 1 inch, or any other appropriate size, Metric or English, given the particular configuration and requirements of a building assembly. The first layer **110** is also preferably disposed with its longitudinal axis in parallel relationship to the longitudinal axis of the subfloor assembly **102**, thereby maximizing the extent of contact between the first layer **110** and the subfloor assembly **102**. Accordingly, the first layer **110** is preferably disposed as a subfloor assembly **102** overlay that operates to receive and/or filter sound and/or vibration emanating from a region above the first layer **110** and reduce the transmission of the same to the subfloor assembly **102**.

[0016] The first layer **110** may suitably be disposed on the subfloor assembly **106** in a manner that provides continuous contact with edges of the first layer **110** and the walls **118**. Alternatively, the flooring system **100** may suitably include one or more spacers **120**, preferably constructed of, e.g., ⅛ inch packaging foam, disposed along the inner perimeter of the walls **118** at or near the junction of the walls **118** and the subfloor assembly **106**. Accordingly, the first layer **110** may suitably be provided in a size and configuration that extends along the entirety of the subfloor assembly **106** and extends to and generally remains in abutting contact with the spacers **120**. Alternatively, the spacers **120** may suitably be disposed atop the first layer **110** and in abutting contact with the walls **118**.

[0017] With reference to an example embodiment, a fastening means, such as a glue-like adhesive, a mechanical fastener (e.g., screw, staple, rivet, mortar, and the like), pressure sensitive tape, and the like, may suitably and optionally be provided between the first layer **110** and the subfloor assembly **102** to increase the association between the first layer **110** and the subfloor **102**. Such association may be especially advantageous in connection with a conventional configuration of the first layer **110** filamentous mat in which the mat is commercially provided in rolled form. Accordingly, the fasteners may suitably overcome the curling tendencies of the mat as the mat is being positioned atop the subfloor assembly **102**.

[0018] The use of a three dimensional matrix filamentous mat as the first layer **110** suitably provides a plurality of advantages. With reference to a first example advantage, the mat, suitably an account of the chemical composition of its structure, its three dimensional arrangement, etc., operates as a sound control mat. Accordingly, the presence of the mat in proximity to the sonic projections of sound suitably causes a reduction in the deleterious effects of the sound. With reference to another example advantage, the mat also exhibits a crush resistance property that allows it to withstand a level of compressive load without crushing away the peak and valley configurations thereof. The ability of the mat to withstand a given compressive load properly varies with certain factors, such as the filament diameter, the material used for construction of the mat, the size of the mat, etc., as known to one of ordinary skill in the art. However, the crush resistance property of the mat suitably ensures that the disposition of the mat as a load bearing surface positioned beneath additional overlays and finished flooring will not impair its sound absorbing capacity. With reference to another example advantage, the mat is preferably constructed from materials that are resistant to water, mold and other environmental factors, and/or be treated with antimicrobial agents, thereby reducing and/or otherwise eliminating the need for providing repair access to the installed first layer **110**.

[0019] Despite the foregoing discussion of the first layer **110** provided as a three dimensional matrix filamentous mat,

it is to be appreciated that the first layer **110** may suitably be provided as any material exhibiting sound control and/or dampening characteristics, given the aims of the present invention. For example, the first layer **110** may suitably be provided as elastic foam, such as described in U.S. Pat. No. 4,681,786, the contents of which are hereby incorporated in their entirety, a honeycomb-like structure of cardboard, such as described in U.S. Pat. No. 4,685,259, the contents of which are hereby incorporated in their entirety, fiber glass, kraft paper, mineral wools, a plastic mat having projections (e.g., pyramidal, conical, conico-frustral, and the like) emanating therefrom, as variously described in U.S. Pat. Nos. 3,729,364, 5,619,832, 5,489,462, and 5,383,314 the contents of all which are hereby incorporated in their entirety, and the like. Additionally, the first layer **110** may suitably also include a layer of a non-woven material associated with a surface thereof, such as one sold under the trademarks ROOFSHIELD (Liner Rolpanit, Inc., Toronto, Canada), DIFOLEN-S (OttoWolff, Chicago, Ill.), TEN CATE (Nicholson, Pendergrass, Ga.), and the like.

[**0020**] The sound control flooring system **100** suitably also includes a second layer **112** of sound control material disposed above the first layer **110** for augmenting the sound control flooring system's **100** sound reduction capacity. With reference to a preferred embodiment and as illustrated in **FIG. 1**, the second layer **112** is preferably provided as a plastic mat having a plurality of conical, dimple-like and/or cuspated projections extending therefrom, such as disclosed in U.S. Pat. No. 5,619,832, the contents of which are hereby incorporated in their entirety. In a preferred embodiment, the second layer **112** is preferably disposed above the first layer **110** in an overlay manner and may suitably include a fastening member, as described hereinabove, for securely associating the second layer **112** to the first layer **110**. The second layer **112** suitably operates in a manner similar to the operation of the first layer **110** by absorbing sound and/or generally reducing the transmission of sound to the subfloor assembly **102** and elsewhere. However, it is to be appreciated that the second layer **112** may suitably be provided as any material exhibiting desired sound control characteristics, suitably as hereinabove described.

[**0021**] With reference to a preferred embodiment and **FIG. 1**, the second layer **112** is preferably coextensively disposed above the first layer **110**. Accordingly, the second layer **112** is preferably provided in a size and configuration so as to overlay substantially all of the first layer **110**, thereby creating a two layer subfloor assembly **102** overlay system that overlies the entire subfloor assembly **102**, which may or may not be coextensive with the spacers **120**. With continued reference to this example embodiment, the sound control flooring system **100** may suitably include one or more bracing members disposed between the overlay **114** and the subfloor assembly **102** to provide structural reinforcement for the finished flooring **116**.

[**0022**] With reference to an alternate preferred embodiment and **FIGS. 2 and 3**, the second layer **112** is preferably provided in a reduced size, relative to the size of the first layer **110**, and is preferably positioned atop the first layer **110** in a position adapted to receive maximum exposure to sound. For example, most rooms of a dwelling structure contain furniture and other articles arranged therein in a manner that causes substantially all of the foot traffic generated therein to occur along a narrowly defined portion of the room's floor. Most frequently, the foot traffic is concentrated along a high traffic region **150** (**FIGS. 2 and 3**) that is disposed generally centrally over the floor. Accordingly, and as will be more fully described hereinafter, the second layer **112** is preferably disposed atop the first layer **110** in a position generally below the floor high traffic region **150** so as to maximize the amount of sound reduction effected by the flooring system **100** of the present system.

[**0023**] With continued reference to **FIG. 3**, the alternate example embodiment of the sound control flooring system **100** is preferably installed according to a method that involves identifying a region of the floor to be the high traffic region **150**. In a preferred embodiment, the high traffic region **150** is identified and/or demarcated by defining an inner perimeter that is inwardly offset relative to the walls **118** by a consistent distance **152**. In other words, the high traffic region **150** is preferably a quadrilateral-like portion having a first pair of edges that are parallel to each other and a second pair of edges that are also parallel to each other. One set of region **150** edges are preferably parallel with a pair of opposed walls **118** of the room and the other set of region **150** edges are preferably parallel with another pair of opposed walls **118** of the room. Accordingly, the distance **152** separating the region **150** edges from the walls **118** is preferably a distance continuous along entirety of the interface between the edges and the walls **118**. In a preferred embodiment, the distance **152** is established as approximately eighteen inches, although any other distance, such as four to sixteen inches and in excess of eighteen inches, may be employed, with regard given to the physical dimensions of the room, the intended application of the room, and the like.

[**0024**] Returning to **FIG. 2** and with continued reference to the alternate sound control flooring system **100**, the second layer **112** is preferably disposed atop the first layer **110** only along the region of the floor corresponding to the high traffic region **150**. Thus, as illustrated, the second layer **112** is disposed atop the first layer **110** only along a middle portion of the floor corresponding to the high traffic region **150** and extends from a midpoint of the floor to a perimeter thereof that is defined to terminate at a position inwardly offset from the walls **118** by the predetermined distance **152**, preferably eighteen inches.

[**0025**] Continuing with a more thorough discussion of the constitution of the alternate example embodiment of the sound control flooring system **100**, the system **100** preferably includes a spacer assembly **122**, preferably constructed of, e.g., ⅛ inch thick packaging foam, disposed atop the first layer **110** and in a position so as to perimetrically abut and generally frame the second layer **112**. The spacer assembly **122** is preferably provided as a generally rectangular member hollow along substantially all of its inner portion, in which inner portion the second layer **112** is position. Accordingly, the spacer assembly **122** may suitably be provided as four elongate, generally rectangular members, each disposed relative to each other so as to collectively define a frame-like member. However, it is to be appreciated that the spacer assembly **122** may suitably be provided as a unitary frame-like assembly, or in any other suitable form. It is also to be appreciated that the spacer assembly **122** is an optional component of the flooring system **100** and need not be included.

[0026] Once the first layer **110** has been position atop the subfloor assembly **106** and the second layer **112** has been positioned atop the first layer **110**, preferably only along a region corresponding to the high traffic region **150**, and, optionally, the spacers **122** have been installed, the flooring system **100** is in a state to receive an overlay that will operate as a situs for installation of finished flooring. With continued reference to **FIG. 2**, the second layer **112** preferably receives an overlay **126** thereabove that covers the entirety of the second layer **112** and extends to and abuts the spacer assembly **122**. The overlay **126** is preferably any appropriate overlay material as known in the art, such as, for example, gypsum, concrete, mortar, wood, and the like. The first layer **110** preferably also receives an overlay **124** thereover that covers the entirety of the first layer **110** and extends in abutting relationship between the spacer assembly **122** and the walls **118** (or, optionally, the spacers **120**). The overlay **124** is also preferably any appropriate overlay material as known in the art, such as, for example, gypsum, concrete, mortar, wood, and the like. Thus, it is to be appreciated that in one advantage of the present invention, a reduced amount of overlay **126** material is employed, relative to conventional techniques. Because the first layer **110** includes on at least a portion thereof the second layer **112**, the amount of overlay **126** required to complete the flooring system **100** is reduced, thereby reducing costs associated with installing a flooring system.

[0027] With the overlays **124**, **126** installed, the flooring system **100** is generally in a state ready to receive finished flooring **116** thereon. However, if the spacers **120**, **122** are present, they suitably are cut and/or leveled so that upper portions thereof are coplanar with the overlays **124**, **126** to thereby ensure a fully leveled and even surface for the receipt of the finished flooring **116** thereon. Depending on the particular configuration and arrangement of the spacers **120**, **122** relative to the overlays **124**, **126**, and especially if gaps exist therebetween, a non-woven fabric or similar member may suitably be fastened (with, e.g., mortar) atop the overlay **124**/**126** and the spacer **120**/**122** so as to provide a flush and continuous surface.

[0028] The finished flooring **116** is then installed atop the overlays **124**, **126** and, if optionally present, the spacers **120**, **122**. The finished flooring **116** is any conventional and desired flooring, such as, for example, hardwood, natural stone, ceramic tile, vinyl, and the like. Additionally, the finished flooring **116** is fixedly associated with the overlays **124**, **126** through any appropriate fasteners, as conventionally known in the art.

[0029] It is to be appreciated that the foregoing discussion of the sound control flooring system **100** and its various components, particularly the first layer **110** and the second layer **112**, is by way of example only and that a plurality of alternate configurations thereof are contemplated, each of which generally incorporates an aim of the present invention to provide a sound control flooring system that includes a plurality of different compositions of material within the floor and maximize sound control properties. With reference to an additional example embodiment, particularly the high traffic-focused embodiment, the flooring system **100** may suitably be modified in any of a plurality of ways for controlling sound and minimizing installation complications. Accordingly, a portion of the flooring system **100**, preferably a portion corresponding to the high traffic region **150**, may suitably include the first layer **110** and the second layer **112** being provided as a generally unitary construction, with the remainder of the first layer **110** to be disposed within the remainder of the flooring system **100** to be added as a separate component. In other words, as the flooring system **100** is installed, the high traffic region **150** receives a component, which is preferably provided as a two layer assembly, more preferably the first layer **110** having the second layer **112** associated thereon and/or therewith. Once the component (i.e., the two layer assembly) is installed, the remainder of the flooring system **100** (i.e., that portion of the flooring system **100** that does not include a layer of sound control material associated therewith) receives one or more layers of sound control material thereon.

[0030] Although the invention has been described with regard to certain preferred example embodiments, it is to be understood that the present disclosure has been made by way of example only, and that improvements, changes and modifications in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention. Such improvements, changes and modifications within the skill of the art are intended to be covered by the scope of the appended claims.

What is claimed is:

1. A sound control flooring system adapted to reduce the transmission of airborne sound in a building structure, wherein the system comprises:

a subfloor assembly;

a first layer of material disposed atop at least a portion of the subfloor assembly, wherein the first layer of material is constructed of a sound absorbing material;

a second layer of material disposed atop at least a portion of the first layer of material, wherein the second layer of material is constructed of a sound absorbing material; and

a cementitious overlay disposed atop at least a portion of the second layer of material, wherein the overlay is adapted to receive finished flooring thereon.

2. The sound control flooring system of claim 1, wherein the first layer of material is a three dimensional matrix filamentous mat manufactured from a thermoplastic material.

3. The sound control flooring system of claim 2, wherein the second layer of material is thermoplastic mat having a plurality of projections extending from a surface thereof.

4. The sound control flooring system of claim 3, wherein the projections are at least one of a conical projection, a pyramidal projection, a frustro-conical projection, and a cuspated projection.

5. The sound control flooring system of **3**, wherein the first layer of material is disposed atop substantially all of the subfloor assembly.

6. The sound control flooring system of claim 5, wherein the second layer of material is disposed atop a portion of the first layer of material.

7. The sound control flooring system of claim 6, wherein the portion of the first layer of material corresponds to an area of the flooring system adapted to receive a high volume of foot traffic thereon.

8. The sound control flooring system of claim 6, wherein the portion is defined by a first edge, a second edge spaced apart and parallel to the first edge, a third edge perpendicular to the first and second edges, and a fourth edge spaced apart and parallel to the third edge, and wherein the second layer of material is disposed between the first, second, third and fourth edges.

9. The sound control flooring system of claim 8, wherein the first edge is disposed parallel to a first wall of a building structure and is separated therefrom by a first distance, wherein the second edge is disposed parallel to a second wall of the building structure and is separated therefrom by a second distance, wherein the third edge is disposed parallel to a third wall of the building structure and is separated therefrom by a third distance, and wherein the fourth edge is disposed parallel to a fourth wall of the building structure and is separated therefrom by a fourth distance.

10. The sound control flooring system of claim 9, wherein the first distance, the second distance, the third distance, and the fourth distance are a substantially identical distance.

11. The sound control flooring system of claim 9, wherein the first distance, the second distance, the third distance, and the fourth distance are each a distance of eighteen inches.

12. The sound control flooring system of claim 10, wherein the cementitious overlay is disposed atop at least a portion of the first layer of material.

13. A sound control flooring system adapted to reduce the transmission of airborne sound in a building structure, wherein the system comprises:

a subfloor assembly;

a first layer of material disposed atop substantially all of the subfloor assembly, wherein the first layer of material is constructed of a sound absorbing material;

a second layer of material disposed atop a portion of the first layer of material, wherein the second layer of material is constructed of a sound absorbing material; and wherein the portion of the first layer of material corresponds to an area of the flooring system adapted to receive a high volume of foot traffic thereon; and

a cementitious overlay disposed atop at least a portion of the second layer of material and the first layer of material, and wherein the overlay is adapted to receive finished flooring thereon.

14. The sound control flooring system of claim 13, wherein the first layer of material is a three dimensional matrix filamentous mat manufactured from a thermoplastic material.

15. The sound control flooring system of claim 14, wherein the second layer of material is thermoplastic mat having a plurality of projections extending from a surface thereof, and wherein the projections are at least one of a conical projection, a pyramidal projection, a frustro-conical projection, and a cuspated projection.

16. The sound control flooring system of claim 15, wherein the portion of the first layer of material is defined by a first edge, a second edge spaced apart and parallel to the first edge, a third edge perpendicular to the first and second edges, and a fourth edge spaced apart and parallel to the third edge, and wherein the second layer of material is disposed between the first, second, third and fourth edges.

17. The sound control flooring system of claim 16, wherein the first edge is disposed parallel to a first wall of a building structure and is separated therefrom by a first distance, wherein the second edge is disposed parallel to a second wall of the building structure and is separated therefrom by a second distance, wherein the third edge is disposed parallel to a third wall of the building structure and is separated therefrom by a third distance, and wherein the fourth edge is disposed parallel to a fourth wall of the building structure and is separated therefrom by a fourth distance, and wherein the first distance, the second distance, the third distance, and the fourth distance are a substantially identical distance.

18. The sound control flooring system of claim 17, wherein the first distance, the second distance, the third distance, and the fourth distance are each a distance of eighteen inches.

19. A method for installing a sound control flooring system adapted to reduce the transmission of airborne sound in a building structure, wherein the method comprises the steps of:

disposing a first layer of material atop at least a portion of a subfloor assembly, wherein the first layer of material is constructed of a sound absorbing material;

disposing a second layer of material atop at least a portion of the first layer of material, wherein the second layer of material is constructed of a sound absorbing material; and

disposing a cementitious overlay atop at least a portion of the second layer of material, and wherein the overlay is adapted to receive finished flooring thereon.

20. The method of claim 19, wherein the first layer of material is a three dimensional matrix filamentous mat manufactured from a thermoplastic material.

21. The method of claim 20, wherein the second layer of material is thermoplastic mat having a plurality of projections extending from a surface thereof.

22. The method of claim 21, wherein the projections are at least one of a conical projection, a pyramidal projection, a frustro-conical projection, and a cuspated projection.

23. The method of **3** further comprising the step of disposing the first layer of material atop substantially all of the subfloor assembly.

24. The method of claim 23, wherein the second layer of material is disposed atop a portion of the first layer of material corresponding to an area of the flooring system adapted to receive a high volume of foot traffic thereon.

25. The method of claim 24, wherein the portion is defined by a first edge, a second edge spaced apart and parallel to the first edge, a third edge perpendicular to the first and second edges, and a fourth edge spaced apart and parallel to the third edge, and wherein the second layer of material is disposed between the first, second, third and fourth edges.

26. The method of claim 25, wherein the first edge is disposed parallel to a first wall of a building structure and is separated therefrom by a first distance, wherein the second edge is disposed parallel to a second wall of the building structure and is separated therefrom by a second distance, wherein the third edge is disposed parallel to a third wall of

the building structure and is separated therefrom by a third distance, and wherein the fourth edge is disposed parallel to a fourth wall of the building structure and is separated therefrom by a fourth distance.

27. The method of claim 26, wherein the first distance, the second distance, the third distance, and the fourth distance are a substantially identical distance.

28. The method of claim 27, wherein the first distance, the second distance, the third distance, and the fourth distance are each a distance of eighteen inches.

29. The method of claim 27 further comprising the step of disposing the cementitious overlay atop at least a portion of the first layer of material.

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