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Boiardi

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[54] **METHOD OF INSTALLING A DIVIDER STRIP IN A TERRAZZO FLOOR**

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[21] Appl. No.: **500,628**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 380,964, July 20, 1973.

[52] **U.S. Cl.** **29/418;** 29/423; 29/460; 52/371; 52/396; 52/744

[51] **Int. Cl.²** **B23P 17/00**

[58] **Field of Search** ..... 29/418, 423 X, 460 X, 445; 52/744 X, 364, 367, 371 X, 396 X

[56] **References Cited**

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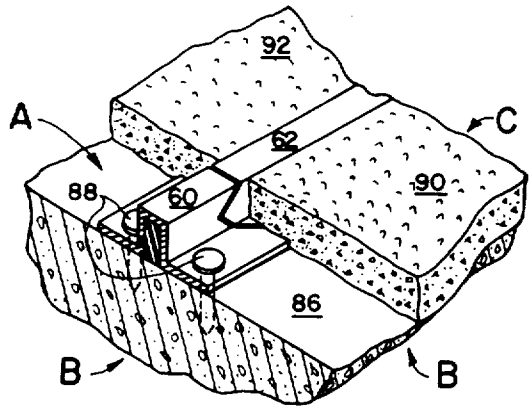
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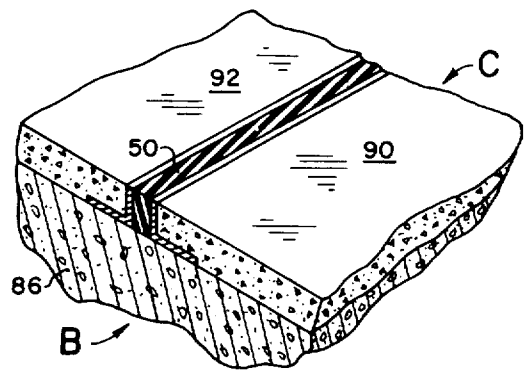
Primary Examiner—Charlie T. Moon
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[57] **ABSTRACT**

A divider strip and method of using same which facilitates the provision of seam areas in terrazzo type flooring structures. The divider strip comprises an elongated thin, generally U-shaped body portion including an outwardly extending mounting flange at the distal end of at least one leg of the U. A resilient plastic material is received in the channel area defined by the body portion for maintaining the shape of the strip and for keeping foreign material from entering thereinto during the floor construction work. The strip is desirably mounted by means of the mounting flanges to a base floor in an inverted position and terrazzo flooring material is poured over the base floor on both sides of the divider strip to a level substantially equal to the height of the divider from the base floor. Following pouring, the terrazzo surface is ground smooth and, in the process, the closed end of the U-shaped body portion is ground away to expose the resilient plastic material in the channel area. The plastic may then be removed and the channel area filled with a color impregnated or plain grout-like material in order to complete the seam. The ends of the divider strip include means to facilitate an interfitting locking relationship between the divider and other, similar dividers when they are to be spliced in a straight line end to end relationship.

7 Claims, 5 Drawing Figures





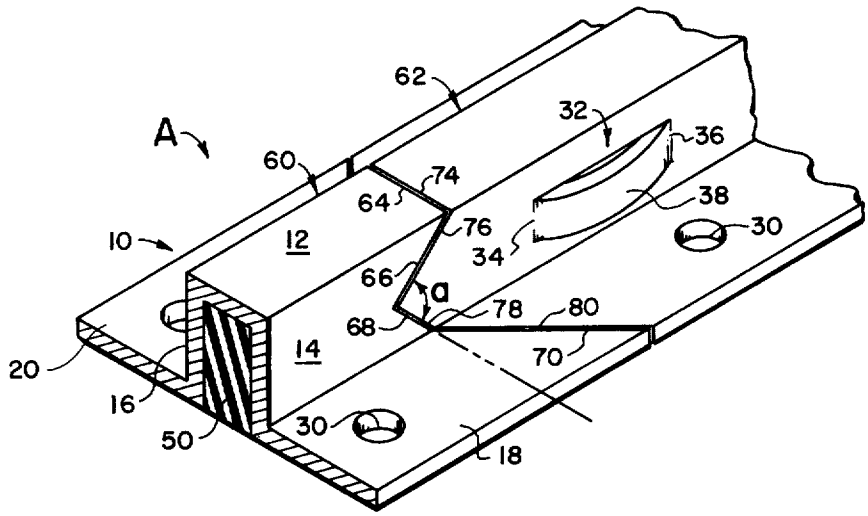


Fig. 1

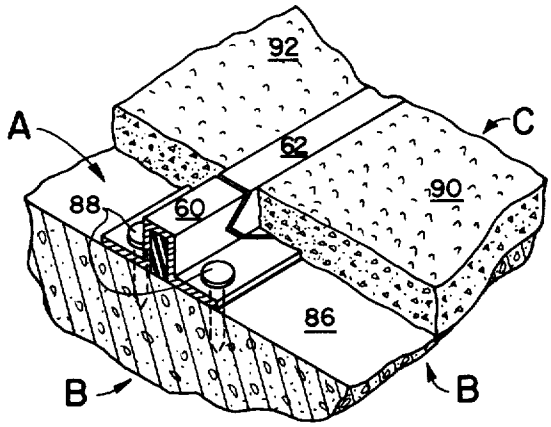


Fig. 2

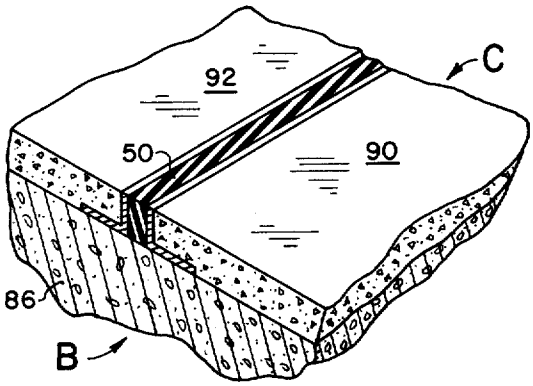


Fig. 3

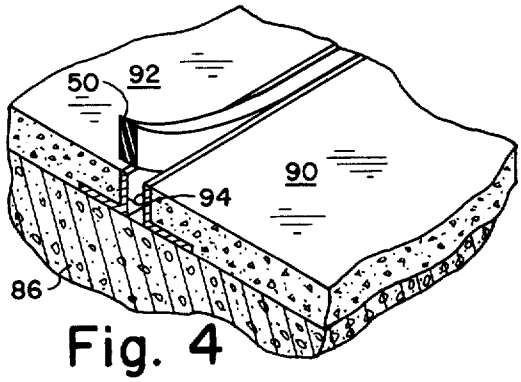


Fig. 4

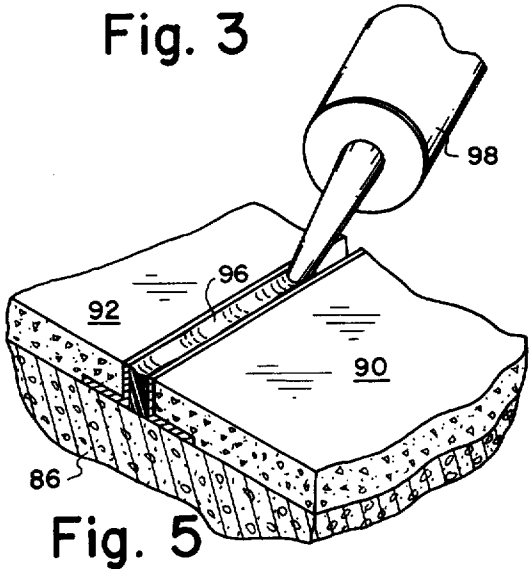


Fig. 5

METHOD OF INSTALLING A DIVIDER STRIP IN A TERRAZZO FLOOR

This is a continuation-in-part of Application Ser. No. 380,964 entitled, Divider Strip and Method of Using, Filed July 20, 1973.

BACKGROUND OF THE INVENTION

This invention pertains to the art of building construction and more particularly to building floor construction.

The invention is particularly applicable to terrazzo type flooring structures and will be described with particular reference thereto; however, it will be appreciated by those skilled in the art that the invention has broader applications particularly in the area of other types of flooring structures where seams are desired to be placed thereinto.

Terrazzo type flooring structures are, of course, well known in the construction industry. As used hereinafter, a terrazzo type flooring structure is deemed to refer to a flooring structure comprised of small chips of marble set in cement or the like and then smoothed and polished. In such flooring structures, it is necessary to include a number of seams therein in order to compensate for various changes in conditions such as, for example, abrupt and severe changes in weather or slight movement or settling of the building floor itself. Without these seams, movement of the floor or terrazzo structure by settling, expansion, and/or contraction would cause portions of the floor structure to crack and require repair or replacement.

Heretofore, the divider strips for making these seams have comprised thin gauged metal strips positioned along that area of the floor structure in which a seam is desired with the terrazzo flooring material then being disposed on both sides thereof. Such arrangements did not facilitate any substantial degree of flexibility of the seam without damaging it. It has also been known to employ a pair of closely spaced, parallel strips which define a channel therebetween and which extend along the floor at the desired seam area with the terrazzo flooring material positioned along the outwardly facing sides of each strip. The area between the strips may then be filled with a rubber material or the like to complete the seam. Other similar arrangements have been known heretofore and which are directed to specific flooring installations. Typical examples of such prior art arrangements may be found in the Moody, U.S. Pat. No. **3,395,507** and Kambert, et al. U.S. Pat. No. **3,555,759.** Various other arrangements combining some features of the prior arrangements have also been attempted; however, their use has met with particular problems as will hereinafter be discussed.

It has been found that it is oftentimes desirable to provide seams in terrazzo type flooring wherein the seams, once the divider members or strips are properly positioned, and the terrazzo flooring material has been poured, may be filled with a grout-like material to more desirably seal the seams. It has further been desired to allow for the use of color impregnated grout material in order to color coordinate the terrazzo floor structure. However, in employing the available prior art devices, these desires have often become frustrated due to the complexity of the prior divider structural members, that is, the number of individual component parts required to properly effect a single seam area during construction of a terrazzo floor. Moreover, the majority of the prior art devices could not be used in accomplishing the desired result and could not be modified to accomplish that result.

It will also be appreciated that in elongated, generally parallel seam areas of the type employed in terrazzo floor structures, it oftentimes becomes necessary to place at least two divider strip member lenghts in an end to end abutting relationship in order to span the total length of the seam. Heretofore, when two or more lengths were required, they were merely placed in an aligned end to end abutting relationship and held in place by conventional mechanical fasteners. However, such end to end abutting mountings have been found extremely difficult to maintain in proper axial alignment during actual pouring of the terrazzo flooring material. Substantial divider strip scrap and unsatisfactory appearing terrazzo floors have been the result. Transverse misalignment in the finished product is particularly unsightly and vertical misalignment creates non-uniform strip thickness due to the grinding thereof when "finishing" the floor structure. This situation presents several undesired problems including that of creating later problems of spalling.

The present invention contemplates a new and improved article and method which overcomes all of the above referred to problems and others and provides a new divider strip and method of using same for particular application to terrazzo type floor structures, which divider strip and method of using are simple, economical and provide a degree of versatility heretofore unrealizable when using prior art strips and methods.

BRIEF DESCRIPTION OF THE INVENTION

In accordance with the present invention, there is provided a construction divider for particular use in flooring structures wherein it is desired to include a plurality of narrow, spaced apart seam areas in at least the surface portion of the floor structure. Accordingly, the divider comprises an elongated thin walled, generally U-shaped body portion having a top wall and a pair of spaced apart legs which define an elongated channel. While the preferred embodiment of the divider has metal walls which are thin relative to the overall divider strip thickness, the thickness itself is not critical. A mounting flange extends generally normally outward from adjacent the distal end of at least one of the legs. Resilient means disposed in the channel effectively maintain the desired shape of the body portion and prevent foreign material from entering the channel during the construction period. These resilient means are selectively removable from within the channel following installation of the divider into the floor structure for replacement by a compressible or incompressible grout-like sealing material which may be color impregnated if desired. The color impregnation of the sealing material greatly assists in enhancing the asthetic value of the basic floor structure design or in creating color contrasts in addition to the design.

In accordance with another aspect of the present invention, both legs of the U-shaped body portion include a mounting flange at the distal ends thereof extending outwardly of the body portion.

In accordance with another aspect of the present invention, means are included in the divider member for positively desirably locating it relative to at least one identical associated divider member in an end to end abutting relationship.

In accordance with another aspect of the present invention, there is provided a new joint arrangement for use in a floor structure of the type including at least one elongated, narrow seam area formed by elongated generally U-shaped divider members disposed in an abutting end to end relationship and wherein each divider member includes a top wall, a pair of spaced apart legs upstanding from the top wall and an outwardly extending mounting flange disposed adjacent the distal end of each leg. The joint comprises the axially adjacent, abutting divider members which establish the seam including interfitting portions at the abutting ends thereof wherein in the interfitted position, each divider member is prevented from moving relative to each other in the directions generally normal to the bottom wall and to the legs.

In accordance with still another aspect of the present invention, there is provided a method of forming an elongated narrow seam in a terrazzo type flooring structure. The method comprises the steps of:

a. providing an elongated generally U-shaped divider member;

b. positioning the divider member in an inverted condition on the base floor area where the seam is to be formed;

c. placing terrazzo flooring material along the divider on both sides thereof to a level substantially equal to the height of the divider; and,

d. selectively removing the top wall of the U-shaped divider member from its connection with the legs to expose a resilient material contained between the legs of the divider.

In accordance with yet a further aspect of the present invention, the method of forming a seam further includes the steps of removing the resilient material and filling the void created thereby with either a hard or resilient grout-like material.

The principal object of the present invention is the provision of a new divider strip and method of using the same which are more readily adaptable to use in a variety of different terrazzo flooring structures to perfect seams therein.

Another object of the present invention is the provision of a divider strip and method of using the same which reduce the number of component parts required to form seams for terrazzo type flooring structures in which color coordination of the seams may be easily effected.

Another object of the present invention is the provision of a divider strip and method of using the same which facilitates ease of location and mounting of adjacent, abutting divider strips used in forming an elongated seam.

Still another object of the present invention is the provision of a divider strip which is easy to manufacture and method of using which is simple to employ.

Yet another object of the present invention is the provision of a divider strip and method of using a resilient grout which facilitates movement of the terrazzo floor without causing damage to the seam.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention may take physical form in certain parts and arrangements of parts, a preferred embodiment which will be described in detail in the specification and illustrated in the accompanying drawings which form a part hereof and wherein:

FIG. **1** is a perspective view of the subject new divider member along with the subject new joint arrangement; and,

FIGS. **2–5** show the method of use of the divider member of FIG. **1.**

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings wherein the showings are for purposes of illustrating the preferred embodiment of the invention only and not for purposes of limiting same, the FIGURES show a divider member A mounted to a base flooring area B to define a seam in terrazzo flooring structure C.

More specifically, and with particular reference to FIG. **1,** divider member A is comprised of a thin generally U-shaped channel or body portion **10** having a top wall **12** and parallel spaced apart side walls or legs **14,** 16 extending outwardly therefrom in a direction generally normal thereto. According to the preferred embodiment of the invention, top wall **12** and side walls or legs **14, 16** define a generally rectangular shaped elongated channel area. Depending outwardly oppositely from each other adjacent the distal ends of side walls **14, 16** are a pair of mounting flanges **18, 20.** These flanges extend generally parallel to top wall **12.** Although the U-shaped channel or body portion **10** may be comprised of any number of materials, zinc, aluminum or brass have been found to be particularly acceptable. Also, a non-absorbent plastic material has been found to be acceptable.

A plurality of mounting holes **30** are disposed along the axial length of mounting flanges **18, 20** to extend therethrough and the purpose for including these mounting holes, although deemed conventional, will become more readily apparent hereinafter. Although mounting holes **30** are employed in the preferred embodiment of the invention, it will be appreciated that other mounting arrangements such as glue or epoxy may be employed without departing from the intent and scope of the invention. Side walls **14, 16** each include a plurality of outwardly extending arcuate projections **32** spaced along the axial length thereof for retaining the dividers in the terrazzo flooring material as will also hereinafter become apparent. These outwardly extending arcuate projections are deemed to be conventional in the art and each includes ends **34, 36** with a center area **38** extending the furthest out from the respective side wall **14** or **16.** Projections **32** are optional features and are merely one of several equivalent structures well known in the art.

Closely received in the channel area defined by the U-shaped member is a form retaining strip **50.** In the preferred embodiment of the present invention, this strip may be constructed from a resilient plastic material and primarily performs the dual function of retaining the desired shape for the U-shaped member and maintaining the channel area free and clear of foreign matter. Inasmuch as the wall thickness of walls **12, 14,** 16 and mounting flanges **18, 20** may, sometimes, only be of **14, 16** or **18** B & S (Browne and Sharpe) gage metal, they can easily and undesirably be bent or deformed so that they are not useable. Also, and during the construction period when the divider members are positioned on the floor structure, the form retaining strip functions to prevent dirt and even the terrazzo flooring material itself from undesirably entering the

channel area. In addition to using a retaining strip **50** constructed from resilient plastic, the strip could be formed from other acceptable fillers such as, for example, a foamed type plastic or rubber.

It will be appreciated that each divider member is an elongated element having the general basic construction hereinabove described. Reference will hereinafter be made to FIG. **1** and the joining of the two axially adjacent divider members **60, 62.** These two divider members are each identical with the other except for the end abutting area as will hereinafter be described. Accordingly, divider member **60** includes a top wall end edge **64,** side wall or leg end edges **66, 68** and mounting flange end edge **70.** As will be seen from FIG. **1,** leg end edges **66, 68** extend inwardly into divider **60** from top wall end edge **64** and converge toward each other so as to define a receiving area and receiving angle *a* therebetween. Angle *a*, although capable of being any particular desired angle, in the preferred embodiment presently under discussion, is **90°.** Mounting flange end edge **70** then extends longitudinally angularly outward from the connection of mounting flange **18** with side wall **14** to the distal end thereof. Again, although the angular disposition of this edge could be as desired, an angle of **45°** relative to a line normal to side walls **14, 16** is particularly desired. It will, of course, be appreciated that side wall **16** and mounting flange **20** of divider member **60** include identical end edge configurations as just discussed with reference to side wall **14** and mounting flange **18.**

Divider member **62** includes an interfitting design which is receivable in the arrangement hereinabove described with reference to divider member **60.** That is, divider member **62** includes a top wall end edge **74** and side wall or leg end edges **76, 78** protruding outwardly thereof. Leg end edges **76, 78** converge toward each other at an angle equal to angle *a* so as to be closely received against end edges **66, 68.** Thus, in the preferred embodiment, the angle of convergence of edges **76, 78** is equal to **90°.** Likewise, mounting flange **18** includes a mounting flange end edge **80** which is longitudinally angled back toward the main portion of the divider member itself. Again, and although this angle may be whatever degree desired, **45°** from a line extending normal to side walls **14, 16** is preferred in order that edges **70, 80** will be closely received against each other. Of course, side wall **16** and mounting flange **20** of divider **62** include end edges corresponding to end edges **76,** 78 and **80** as just discussed.

With the arrangement hereinabove described, when it is desired to place two divider members similar to divider members **60, 62** in an end to end abutting relationship, the close interfitting relationship between all the leg end edges **66, 68** and **76, 78** as well as all mounting flange end edges **70** and **80** prevent relative movement between divider member **60, 62** in the directions normal to bottom wall **12** and normal to side walls **14,** 16. Thus, a convenient interfitting locking arrangement is provided. This locking arrangement could be employed on either one or both ends of a divider member as deemed necessary to fulfill a particular construction arrangement. In FIG. **1,** divider **60** is an end member and, therefore, only includes the locking arrangement on one end. Divider **62** could, if used as an intermediate structural element, include the locking arrangement on both ends thereof for interfitting and locking with another end divider member similar to divider **60.**

In utilizing the above described divider member, reference will hereinafter be made to FIGS. **2–5.** In FIG. **2,** divider members **60, 62** are shown as disposed in an end to end abutting relationship as described above on a terrazzo flooring structure base **86** of the conventional type comprised of, for example, wood or concrete. Conventional mechanical fasteners **88** are received through mounting holes **30** in divider members **60, 62** and extend into base **86** rigidly retain divider members **60, 62** in a desired position. It should be particularly noted that form retaining strip **50** acts to protect the channel defined by the divider members from being deformed or damaged and from becoming clogged with any undesirable foreign matter. Again, while mounting holes **30** and fasteners **88** are illustrated, it is clear that other means such as adhesives are reasonable alterations.

Once all the divider members are installed as would be required in the particular terrazzo flooring structure desired, the terrazzo floor itself generally shown by numerals **90, 92** may be poured or laid in the conventional manner. Inasmuch as the characteristics of terrazzo flooring material and the laying of a terrazzo floor are deemed conventional and well known in the art, further elaboration will not be made herein. It should be appreciated that the depth of terrazzo flooring **90, 92** is substantially equal to the height of top wall **12** of divider members **60, 62** from terrazzo floor base **86.** It should be noted, however, that the arrangement shown in FIG. **2–5** is merely for one portion of an overall terrazzo floor structure.

Referring now to FIG. **3,** and following setting of terrazzo flooring portions **90, 92** top wall **12** for each divider member **60, 62** is conveniently removed by grinding it away from its association with walls **14, 16** to thus expose form retaining strip **50** as shown in the Figures. The grinding required for this top wall removal is easily effected during the normal smoothing and polishing steps utilized in polishing the marble and matrix components which comprise the terrazzo floor portions **90,** 92 themselves.

As shown in FIG. **4,** form retaining strip **50** is then removed from its close fitting association with side walls **14, 16** thus exposing an open channel **94** defined by side walls **14, 16** and the portion of terrazzo floor base **86** disposed therebetween.

Finally, and with reference to FIG. **5,** a conventional grout-like material **96** may be placed in channel **94** by using a conventional dispenser **98** in order to complete the seam. Preferably, this grout-like material comprises a portland or resin type of grout and may either be color impregnated to color coordinate the overall floor structure or plain, depending on the particular color scheme desired. For best results, this grout material is compressible in nature when needed to accommodate expansion and contraction between the various seams in the overall flooring structure. However, where such expansion and contraction are not a problem, hard or incompressible grout-like material may be employed or a non-slip grout may be desirable where the terrazzo is for steps or is inclined. A common aggregate for friction or non-slip grout is aluminum oxide or other metal oxide. An alternative to this arrangement would be to employ the final desired seam color in the form retaining strip **50** so as to eliminate the final step of inserting a grout-like material **96** in channel **94** once top wall **12** has been removed. In this arrangement, the seam is

completed once the top wall **12** has been removed and terrazzo flooring **90, 92** polished. Of course, the above described steps are repeated for each seam to be included whether the desired seam pattern be, for example, check board, parallel or random.

An alternative to the above divider structure is found by eliminating one of mounting flanges **18, 20** and merely extending the associated side wall **14** or **16** length so as to extend beyond the remaining mounting flange. This arrangement facilitates positioning the divider in fresh or wet concrete with the extended length side passing into the concrete itself. Although the concepts of this alternative arrangement are the same as the arrangement hereinabove previously described, this alternative provides a slightly varied mounting and positioning structure.

The invention has been described with reference to the preferred embodiment. Obviously, modifications and alterations will occur to others upon the reading and understanding of this specification. It is my intention to include all such modifications and alterations insofar as they come within the scope of the appended claims or the equivalents thereof.

I claim:

1. A method of providing a seam in a terrazzo type flooring structure, said method comprising the steps of:

providing at least one elongated generally U-shaped divider member having a pair of spaced apart side walls and a top wall, said side walls and top wall defining an elongated channel;

substantially filling said channel with a resilient filler material;

positioning said U-shaped divider member in an inverted condition so as to extend along the area where said seam is to be formed;

placing a terrazzo type flooring material along both sides of said divider to a level substantially equal to the height of said top wall; and,

selectively removing said top wall from its connection with said side walls by grinding, thereby exposing said resilient material and said resilient preventing foreign matter from entering the area between the side walls during the grinding procedure.

2. The method as defined in claim **1** further including the steps of removing said resilient material from said channel and filling said channel with a grout-like material.

3. The method as defined in claim **2** wherein said step of positioning comprises rigidly affixing said divider member to a base area for said terrazzo type flooring structure.

4. The method as defined in claim **3** wherein said filling step comprises filling said channel with a decorative, color impregnated grout-like material.

5. The method as defined in claim **2** wherein said filling step comprises filling said channel with a decorative, color impregnated grout-like material.

6. The method as defined in claim **3** wherein said filling step comprises filling said channel with a non-slip grout material for providing better footing.

7. The method as defined in claim **2** wherein said filling step comprises filling said channel with a non-slip grout material for providing better footing.

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