ABSTRACT: A construction for floors, steps, or the like having a grip strip or color strip mounted in terrazzo material. The strip includes a member composed of binder and aggregate molded in a metal retainer. The retainer is embedded in terrazzo material and hidden from sight, but the molded member is exposed at the top of the terrazzo.
TERRAZZO AND STRIP CONSTRUCTION

BACKGROUND OF THE INVENTION

At the present time, dividers in terrazzo floors ordinarily are made of metal, and the metal is visible at the top of the terrazzo. As people walk on the floor, the terrazzo material wears down faster than the metal, so a hump forms where the metal divider is located. This sometimes requires reworking of the floor to eliminate the humps.

Sometimes grip strips are provided in terrazzo floors and/or steps to provide nonskid surfaces for safety purposes. However, a considerable amount of labor has been required to build such grip strips into a terrazzo floor or step. It would be desirable to have prefabricated grip strips which could be incorporated into a floor or step easily and economically without any metal showing in the finished construction.

SUMMARY OF THE INVENTION

The present invention provides a strip for use in terrazzo floors, steps, or the like, wherein a molded member composed of binder and either marble aggregate or abrasive aggregate is held in a retainer. This invention includes a terrazzo construction in which the retainer, which is preferably a metal channel member, is embedded in terrazzo material and hidden from sight, but the molded member is exposed at the top of the terrazzo. In one embodiment, the molded member is composed of abrasive particles and a resin binder and thus provides an abrasive surface. In another embodiment, the molded member is composed of marble aggregate and a resin binder and thus provides a colored surface which contrasts with the surrounding terrazzo floor. The molded member may be of any color including white and black.

ON THE DRAWINGS

FIG. 1 is a sectional view of a step having abrasive strips embedded in terrazzo material in accordance with one embodiment of the invention.

FIG. 2 is a fragmentary sectional view of a floor having color strips embedded in terrazzo material.

FIG. 3 is a perspective view of an abrasive strip.

FIG. 4 is a perspective view of a color strip.

FIG. 5 is a perspective view of an abrasive strip, and FIG. 6-10 show a modified strip.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and that the drawings are not to scale.

AS SHOWN ON THE DRAWINGS

A portion of a step 10 is shown in FIG. 1, the step being provided with abrasive or grip strips 12, 14 and 16 in accordance with the invention. The step includes a base 18 which is a cement and sand mixture which is ordinarily poured on a suitable substructure (not shown). The base 18 has a horizontal top surface 20 and a downwardly inclined front surface 22.

Three channel-shaped retainer members 24, 26 and 28 are mounted on the top surface 20 of base 18. Each of these retainer members has a U-shaped portion resting on top surface 20. Molded members 13, 15 and 17 are received and retained in the U-shaped portions of the retainer members. Strip 12 is shown in perspective in FIG. 3, and strip 14 is shown in perspective in FIG. 5.

Retainer members 24, 26 and 28 have respective anchoring webs 30, 32 and 34 which project downwardly into the base 18. As may be seen in FIG. 3, web 30 has a plurality of apertures 36 formed in it, and as may be seen in FIG. 5, web 32 has similar apertures 38 formed in it. Web 34 also has apertures of the same type. The cementitious material of base 18 extends through these apertures and therefore locks the channel members in place. The channel portions of the retainers also have apertures 33 and 35 in them on both sides, and the material of the molded members projects at 33' and 35' into these apertures to lock each molded member in place. The molded member adheres to the retainer.

The molded members 13, 15 and 17 project upwardly beyond the uppermost edges of the retainer members 24, 26, and 28. Thus, there is ample material in each of the strips 12, 14 and 16 above the retainer members which can wear down in the use of the step 10.

The step 10 also includes terrazzo material 40 on the top surface 20 of base 18 and also terrazzo material 42 at the front surface 22 of the step. The terrazzo material 40 abuts against the sides of the strips and extends upwardly far enough so that its top surface is flush with the top surfaces of members 13, 15 and 17. The terrazzo material 42 butts against the bottom of retainer member 24 and is flush with the front edge of strip 12. It may be noted that the strip 12 receives one small upward leg 44 of retainer member 24 to key the nosing, and the strip 12 projects laterally beyond leg 44. Thus, the terrazzo material 40 and 42 completely hides all of the retainer members from view.

The strips 12, 14 and 16 are abrasive strips which provide nonskid surface to reduce the chance of a person slipping on the step 10. The members 13, 15 and 17 are preferably made of abrasive material such as aluminum oxide or silicon carbide dispersed in a resin binder. The resin is preferably an epoxy resin. The strip may be about 6 feet long and up to 2 inches high, but dimensions may vary.

In building the step 10, the method of construction is carried out as follows. The strips 12, 14 and 16 are made up prior to construction of the step by mixing abrasive particles with epoxy resin binder and molding the strips to the desired shape into the retainer member. This can be done with the aid of a mold. To build a step, a mixture of sand and cement is poured onto a suitable substructure to form the base 18. While this base is in a plastic or pliable condition, the anchoring portions 30, 32 and 34 of retainer members 24, 26 and 28 are inserted into the base 18. The material of the base is sufficiently pliable to flow through the apertures 36 and 38. The base 18 is allowed to set to firmly anchor the retainer members in place.

Terrazzo material is then applied to the top surface of base 18 to a thickness so that its top surface is flush with the top portions of strips 12, 14 and 16. This terrazzo material is also applied beneath leg 44 at 42 to surface 22 so that its front surface is flush with the front edge of strip 12. Thus, in the completed structure, the retainer members are firmly anchored in place. The terrazzo material 40 is flush with the top surfaces of the strips and completely hides the retainer members from the top. The terrazzo material at 42 hides the bottom of leg 44 of retainer member 24.

FIG. 2 illustrates another embodiment of the invention. In FIG. 2, portions of a floor are shown, and it will be understood that the grip strips of FIG. 1 could be incorporated in a floor in the manner illustrated in FIG. 2. However, in FIG. 2, the strips 50, 52 and 54 are color strips which provide a pleasing contrast with the terrazzo material at 56. The construction is very similar to that of FIG. 1. Molded members 51, 53 and 55 are retained in the U-shaped portions of channel shaped retainer members 58, 60 and 62. For purposes of illustration, the strips are shown as being of different sizes, although they obviously could all be of the same size if desired. One strip 52 is shown in perspective in FIG. 4.

Retainer members 58, 60 and 62 respectively have anchoring webs 64, 66 and 68 which project downwardly into the base 70. The molded members 51, 53 and 55 project upwardly a substantial distance beyond the uppermost edges of the retainer members. The web portions of the retainer members have apertures 72 through which the material of base 70 extends, these apertures being identical to apertures 72 shown in FIG. 4. The channel portions of the retainer members have
apertures 73 on both sides into which the material of the molded members projects at 73' to lock them in place. The strip may be about 6 feet long and up to 2 inches high, but dimensions may vary.

The method of constructing the floor of FIG. 2 is almost identical to the method described previously except for the fabrication of the strips. The color strips 50, 52 and 54 are made by mixing marble aggregate of a suitable color and size with a resin binder, and molding the mixture into the retainer with the aid of a mold. The binder may be an epoxy resin. The molded member adheres to the metal retainer. To build a floor, a mixture of sand and cement is poured on a suitable substructure 71 to form the base 70. While the base 70 is still pliable, the anchoring portions 64, 66 and 68 of the channel retainer members are inserted into the base. The material of the base flows slightly through the apertures 72, and when the base sets, the retainer members are anchored firmly in place.

Terrazzo material 56 is applied to the top surface of the base to a thickness such that the top surface of the terrazzo material is flush with the top surfaces of strips 50, 52 and 54. Thus, the terrazzo material completely hides the retainer members 58. The strips 50, 52 and 54 divide the terrazzo material into sections and ordinarily provide a pleasing color and texture contrast with the surrounding terrazzo floor.

FIGS. 6-10 show strips of a modified form, the various views differing only in size. These strips each include a metal retainer member 100 which holds a molded member 102. The molded member 102 is composed of epoxy resin binder and either marble aggregate or abrasive aggregate in accordance with the previous description. The vertical portions of the retainer 100 have apertures 104 in them, and the material of the molded members projects 104' into these apertures to lock the molded member in place. The member 102 also adheres to the metal retainer. Each retainer has horizontal flanges 106 and 108 with nail holes 110 in them to receive nails for securing the strip to a base. The molded member projects above the retainer. Thus a step or floor with a strip in it can be built in accordance with the previous description except that the strip is nailed to the base.

From the foregoing description, it is apparent that the invention provides a terrazzo and divider construction for floors, steps, or the like wherein a flat, even top surface is provided for the terrazzo and strips. The strips are firmly anchored to an underlying base by retainer members, but the retainer members are completely hidden by the terrazzo material. Only the molded members are visible at the top of the terrazzo. The method of construction can be carried out with a minimum of labor, thus keeping construction costs down.

Having thus described my invention, I claim:

1. A terrazzo and strip construction for floors, steps, or the like comprising a cementitious base having a generally horizontal top surface, a channel mounted on said top surface of said base including an elongated U-shaped portion and an apertured flange at the base of said U-shaped portion providing an anchoring portion, said apertured flange extending downwardly into said cementitious base with the material of said base extending through the apertures in said flange to lock said channel on said base, a molded member molded into said U-shaped portion of said channel composed of particulate material dispersed in a solid resin binder, said molded member projecting substantially above the uppermost portion of said channel to provide material above said channel capable of wearing down without exposing said channel, and terrazzo material on said base and abutting said U-shaped portion of said channel and said molded member so that said channel is completely hidden and said terrazzo material has a top surface flush with the top of said molded member, said U-shaped portion of said channel having apertures with locking edges therein for retaining said molded member in said channel, and said molded member having flow-formed locking portions projecting from the bulk of the molded member into said apertures about said locking edges locking said molded member to said channel to retain the same, said molded member further being adherent to said U-shaped portion of said channel.

2. A strip for use in floors, steps or the like, comprising a channel including an elongated U-shaped portion and an apertured flange at the base of said U-shaped portion providing an anchoring portion, a molded member molded into and retained in said U-shaped portion of said channel composed of particulate material in a resin binder, said molded member projecting substantially beyond the outermost edges of said channel so that said channel may be embedded and hidden in terrazzo material with only said molded member exposed at a top surface of the terrazzo and available to be worn down without exposing said channel, said channel having apertures with locking edges therein for retaining said molded member in said channel, and said molded member having flow-formed locking portions projecting from the bulk of the molded member into said apertures about said locking edges locking said molded member to said channel to retain the same, the resin material of said molded member adhering firmly to said U-shaped portion of said channel to further anchor said molded member in said channel, and the apertures in said flange at the base of said U-shaped portion providing a means for anchoring said channel to a base on which said channel is to be mounted.