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ORNAMENTAL TERRAZZO

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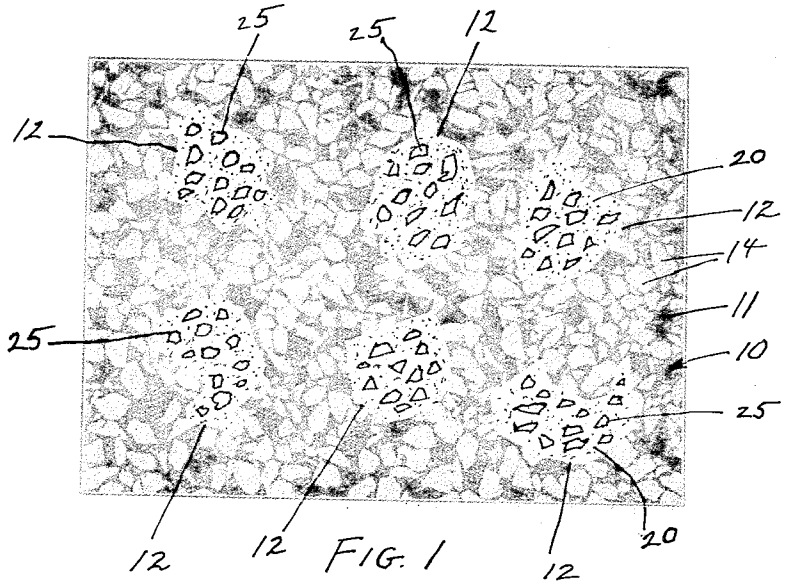


FIG. 1

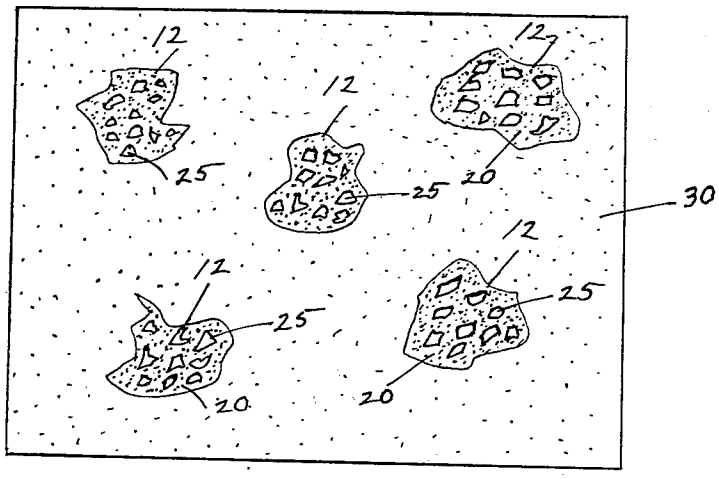


FIG. 2

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ORNAMENTAL TERRAZZO

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This invention relates to a novel terrazzo construction. More specifically, the invention relates to structural elements, such as floors, walls, panels, base covers, table tops and other products of terrazzo having preformed terrazzo inserts or "spatters" made of colored marble chips or other suitable materials to produce unusually beautiful novel artistic effects and patterns which could not be made previously by any other means.

Essentially terrazzo is an exposed surface of marble or granite chips retained in haphazard relation in a cement matrix. The marble or granite surfaces when used in floors are intended to receive the wear of traffic, and the bonding cement serves to hold the harder materials in place. At the same time the marble chips produce pleasing and ornamental effects.

Terrazzo may be made in pre-cast slabs or panels or it may be poured in place. Pre-cast terrazzo is sometimes referred to as art marble or synthetic marble. It is generally mixture of one part of Portland cement with three parts of coarse aggregate. This coarse aggregate is waste marble or granite chips of such a size ordinarily as will pass a two-inch mesh sieve. The factories where it is produced are frequently located either near marble quarries, or near mills where the waste chips are available.

According to the present invention, it is possible to produce unusual ornamental designs and effects in terrazzo which has not been possible previously. Details of my invention are described in the following description and accompanying drawing, wherein:

Figure 1 is a plan view of a terrazzo structural element made in accordance with my invention, and

Figure 2 is a plan view of another terrazzo structural element made in accordance with my invention.

Art marble is generally made by running the chips through a crusher and over screens which grade the chips, each size being deposited in bags for storage. Care is taken that only a certain kind or color of chip is run through at one time, so a later selection may be made of a certain color combination for specially ordered slabs.

An infinite number of designs of pre-cast terrazzo are available merely by varying the size, the coloring, and placing of the chips. According to this invention, when a design has been selected, suitable chips are mixed in the proportion of one part Portland cement to three parts chips. After thorough mixing of the dry materials, water is added in the ratio of about four gallons of water per sack of Portland cement, and the mixing is continued until a homogeneous mixture is obtained. This mixture is poured into molds and permitted to set to a semi-plastic state to form a base terrazzo layer as shown generally by numeral **10** in Figure 1, the matrix cement, indicated by numeral **11**, is shown for illustrative purposes as being dark in color, and the embedded marble or granite chips by numeral **14** which may be of the same or different colors to provide a suitable effect. A plurality of previously pre-formed terrazzo spatters, designated by numeral **12**, of suitable configuration, size and design are

then inserted in selected areas of the semi-plastic slab to form a suitable design. The terrazzo spatters are prepared in advance using a conventional terrazzo mixture of cement of suitable color, designated by numeral **20**, and selected chips **25** of suitable size and color which is spread out on a suitable work surface or mold and flattened down to a layer of suitable thickness and permitted to set to a semi-plastic state. The material is then broken or suitably cut into a plurality of small pieces of suitable size and shape to secure the effect and pattern desired. The mold containing the previously cast terrazzo and terrazzo spatter inserts is then put in a hydraulic press, and the mixture submitted to high pressure. The entire mold is then removed, and the terrazzo allowed to cure for several days. When the slab is hard enough to prevent displacement of the chips, it is put on a flat disc grinder and the surface ground smooth while a stream of water constantly flows over it, lubricating the discs and washing away waste particles.

The slabs may be made of various sizes depending on their use, whether for stair treads, risers or stringers, for walls or partitions of toilet rooms, or for floors. Ordinarily floors of terrazzo are poured in place, but the cove bases are ordinarily pre-cast, due to the obvious difficulty of pouring and grinding while in place.

It will be apparent that an endless variety of designs and ornamental effects can be produced by this method. The colors of the base terrazzo and the colors of the terrazzo spatter inserts can be varied to produce unusual artistic effects. The terrazzo spatters may be greatly varied in their size and contour. They may be of irregular shape and size and distributed irregularly or regularly in the terrazzo base. If desired, the terrazzo spatters may be cast in molds of uniform predetermined size and contour so as to produce terrazzo spatter of uniform size and contour which can then be inserted in the base terrazzo to produce regular repetitive patterns rather than random designs.

My invention is also suitable for producing unusual effects in poured-in-place terrazzo. The ingredients of poured-in-place terrazzo are usually the same as are used in pre-cast terrazzo as previously described. The difference is that they are combined on the job and laid while plastic instead of as a slab or tile. Also the poured-in-place terrazzo is bound to be less dense than the tile, due to the pressure to which the latter are submitted during manufacture.

In the conventional method for poured-in-place terrazzo a mortar base is usually first prepared which may be for example in the proportions of one part of Portland cement to three parts of clean, coarse sand, mixed with not less than six gallons of water per sack of Portland cement. The terrazzo mixture is then applied which may be for example a mixture of one part of Portland cement and three parts of marble or granite chips or other suitable aggregate. Not more than four gallons of mixing water, including the moisture in the aggregate is generally used for each sack of Portland cement in the mixture.

It is desirable to have the terrazzo concrete of the driest consistency possible to work with a sawing motion of the strike-off board or straight-edge. Changes in consistency can be obtained by adjusting the proportions of aggregate and cement.

After striking off the finished level, the concrete topping is rolled lengthwise and crosswise, so as to secure thorough compaction of the chips and cement. Terrazzo spatters of suitable design, size and shape, pre-formed as previously described, and preferably while still in semi-plastic or partially cured state, are then inserted in the surface of the semi-plastic terrazzo layer to form a suitable design. The surface is then rolled and trowelled.

After the terrazzo concrete has hardened enough to

prevent dislodgments of aggregate particles and inserted spatters, it is ground down with a suitable grinding machine provided with free, cutting carborundum stones to expose the coarse aggregate. The floor is kept wet during the grinding process. All material ground off is removed by squeegeeing and flushing with water.

The purpose of this procedure is to even up the entire terrazzo surface and bring it to a fine finished condition. The finished terrazzo surface will have a fine structure which is smooth and even.

It will be apparent that many designs and decorative effects can be produced in practicing my invention. Instead of inserting the pre-formed terrazzo spatters in a semi-plastic terrazzo base as shown in Figure 1, I may instead insert the terrazzo spatters **12** in a plain cement matrix or base **30**, as shown in Figure 2, while in semi-plastic condition, which is of uniform or complementary color with the terrazzo colors. The surface of the structural element is then ground and finished as previously described.

It is to be understood that my structural elements may be made from a great variety of suitable materials and that the invention is not restricted to the use of any specific cement or chips. In other words, any suitable cement and chips or aggregates may be used in producing my ornamental effects.

My invention as fully described herein imparts to structural elements beautiful design and permits the achievement of beautiful effects and patterns not possible by any other means. The terrazzo spatters may be blended into the surrounding terrazzo area without a sharp line of demarcation if so desired to obtain an effect of quilting or tufting. The prior methods of making designs in terrazzo require the outlining of different colored areas with metal or plastic border strips which is eliminated by the present invention. The terrazzo spatters give added beauty and unusual artistic effects in terrazzo which could not be produced previously.

It is to be understood that changes and modifications may be made in the specific details of my invention which are intended to be included within the scope of the appended claims.

I claim:

1. Ornamental smooth-surfaced terrazzo comprising a terrazzo base layer comprising a cement matrix and colored aggregates of contrasting colors and inserts of preformed terrazzo spatters, said spatters being formed of a cement matrix and aggregates of different colors than the base layer and having a predetermined design, said terrazzo spatters being located in the base layer to provide an ornamental design.

2. Ornamental smooth-surfaced terrazzo comprising a terrazzo base layer comprising a cement matrix and colored aggregates of contrasting colors and inserts of preformed terrazzo spatters, said spatters being formed of a cement matrix and aggregates of different colors than the base layer and having a predetermined design, said terrazzo spatters being of irregular contour and size and being located in the terrazzo base layer to provide an ornamental design.

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