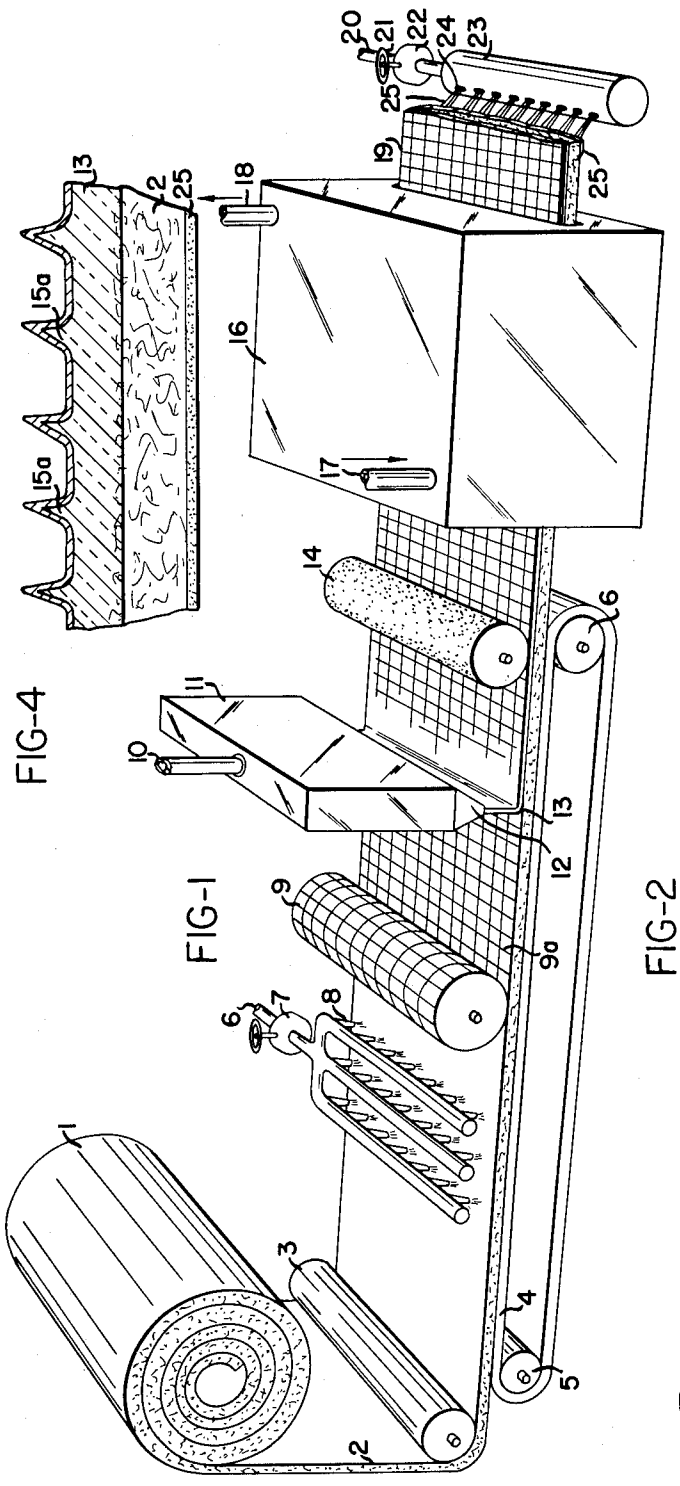
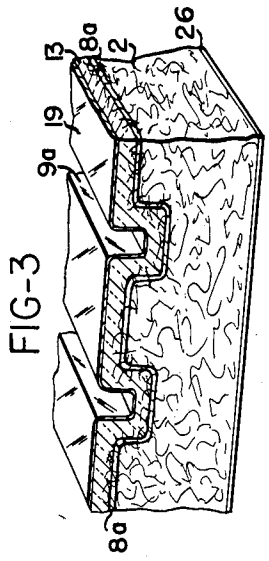
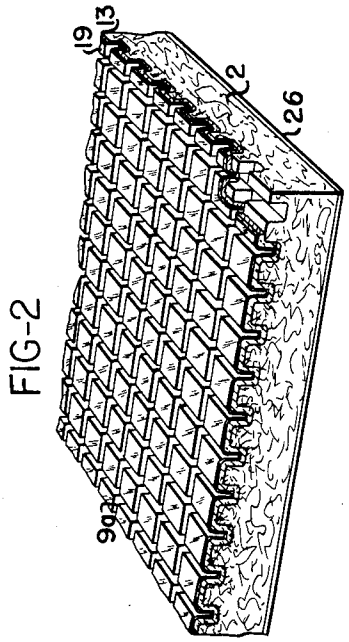
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ANTISTATIC TILE AND METHOD OF MAKING

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ANTISTATIC TILE AND METHOD OF MAKING

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My invention relates to antistatic tile and the method of making.

It is the object of this invention to provide metallic coated ceramic resiliently supported tile, particularly a tile that will prevent the discharge of static electricity.

It is a further object of this invention to provide a resilient, non-combustible, non-inflammable, base for tile integrally connected therewith, and made a part thereof, on which tile or resilient coating there is imposed a film of metal.

It is a further object to provide a continuous process for manufacturing such tile; and to provide an adhesive on the back of the supporting base so that the tile can be applied over very considerable size areas without the necessity of handling of each particular tile.

Referring to the drawings, Figure 1 is an isometric perspective of the entire apparatus practicing the process.

Figure 2 is an isometric view, partially in section, showing the resulting product.

Figure 3 is an enlarged view in section, in an isometric view, illustrating the details of the tile.

Figure 4 is a section through the tile, illustrating a modification in which fine points are formed on the surface of the tile to facilitate the harmless discharge of static electricity.

It is a particular object of this invention to provide a tile for use in operating rooms, chemical plants and laboratories and other locations where the discharge of static electricity would be dangerous to property and lives. It has long been a problem in operating rooms and other similar places to prevent the explosion of gases being used in such enclosures, as in the case of operating rooms when anesthesia is being given. There has been no satisfactory way by which such static electricity can be prevented from setting off an explosion when using the present type of tiles.

Some progress has been made in this direction by the use of carbon-black, but the difficulty has been that this reduces the light reflecting characteristics and the sanitary appearance and other characteristics desired in tile of this character.

Referring to the drawings in detail, **1** designates a roll of asbestor, rock wool, glass fiber, or other similar incombustible or non-inflammable, resilient fiber. This acts as an insulation mat to further prevent the storage of static electricity on the tile surface. **2** designates a sheet of such material as it is unrolled from the roll **1**. **3** is a guide roller. This sheet **2** is guided to the top of the endless conveyor belt **4** mounted on rolls **5** and **6** and preferably suitably driven. The sheet **2** passes beneath the applicator for applying resilience to give body and form, particularly to the top area thereof, of the fibrous mat **2**. This consists of a pipe **6** leading from a supply of resins. The material passes through the valve **7** and out of the nozzle **8** on to the surface of the fiber sheet **2** to impregnate it. This sheet then passes under the corrugated roller **9** which indents the surface of the

sheet with its plastic coating to form tile like indentations. The tile grooves are designated *9a*.

This formed sheet now passes beneath the ceramic material applicator fed from the pipe **10** into the tank **11** and out the nozzle **12** where the ceramic material **13** is applied to the surface of the mat as it has been formed. If desired, a roller can be applied to force the ceramic material into the fiber and configurations of this fiber.

Ordinarily that is not necessary. Such a roller can be that as shown at **14**. If desired, however, to provide the surface of the ceramic material with very fine points to facilitate the discharge of static electricity harmlessly, then the surface of roller **14** is formed in a series of fine depressions so that similar projections will be formed on the surface of the ceramic material as the roller turns and sucks up the surface of the ceramic material in small points.

Thereafter, this composite sheet is passed to a combined baking oven and a gas plating oven **16** as the baking operation and the gas plating takes place simultaneously.

The gas plating that takes place is done by heating the work piece, such as the sheet passing through the oven **16**, by using means such as gas dielectrics, high frequency, etc. The metal carbonyls or metal hydrides are supplied through the inlet pipe **17** and the surplus gases are removed through the pipe **18**.

As a result of the rapid gas deposition of thin metal upon the moving sheet, the tile is coated with a thin film of nickel or other metallic film materials. If the small indentations have been made in the roll **14**, then the plating will plate the projection *15a* which act as static discharge points. If they are micron or sub-micron size, so that the problem of walking upon them or the problem of cleaning them is not prohibitive, then the result of anti-static is satisfactory and the tiles can be used in the ordinary manner. These fine points are hardly distinguishable by the naked eye. They do add an important additional advantage and that is that they prevent slipping of rubber shoes upon tile where a great many accidents take place. It is to be understood that there are a variety of ways by which the surface of the tile can be roughened in order to provide these fine projections. There is only one suggested herein as it's possible for anyone skilled in the art to devise a variety of different ways in which this basic object can be accomplished.

After the finish tile sheet emerges with its coating of metal **19**, the underside is coated with adhesive **26** to facilitate the application of the resulting, composite sheet to some supporting surface such as a floor, a wall or ceiling. The pipe **20** supplies the resilient adhesive through the valve **22** controlled by the handle **21** that passes into the manifold **23** out the ports **24** in sprays **25**. If this resin necessitates further drying for conversion, the sheet can be passed through a second oven in the usual manner.

It is to be understood that I desire to comprehend within the hereafter appended claims variations of structure and method to fairly comprehend them within their terms and within the scope of the invention as set forth hereinbefore.

I claim:

1. A new article of manufacture comprising a metal plated ceramic tile having a plurality of minute projections, said ceramic tile having a resilient backing integrally secured thereto.

2. A new article of manufacture comprising ceramic tile having a resilient, non-combustible fibrous base; said ceramic tile being integrally mounted on such base; a metal plating mounted on said tile; said base, tile and metallic coating forming a composite member, a plu-

rality of minute projections on the upper surface of said composite metal, ceramic resilient base member adapted to discharge harmlessly static electricity.

3. In a method of manufacturing a ceramic tile comprising the following steps: step (*a*) of forming on the surface of an incombustible resilient fibrous mat base configurations having the appearance of ceramic tiling, the step (*b*) of applying a viscous ceramic coating composition to the surface of said base, and the step (*c*) of simultaneously baking the resultant tile and coating it with a metal coating.

4. In a method of forming a metal plated ceramic tile, the step (*a*) of forming on the surface of an incombustible resilient fibrous mat having configurations giving the appearance of multiple tile surfaces; the step (*b*) of applying a viscous ceramic coating to the surface of said support; and the step (*c*) of simultaneously baking the resultant tile and coating it with a metal coating; and the step (*d*) of coating the back of said composite sheet with adhesive material for attaching it to a supporting surface.

5. In a method of manufacturing a metal plated ceramic tile, the step (*a*) of providing a sheet of resilient incombustible fiber, the step (*b*) of coating the surface thereof with a resin, the step (*c*) of forming multiple configurations in the surface of said sheet to imitate tile multiple surfaces; the step (*d*) of applying viscous ceramic material to said configurated surface to conform thereto; the step (*e*) of passing said composite sheet through a heating oven to bake said tile; and the step (*f*) of subjecting the resultant baked tile to gas plating and metal plate the surface of said tile to form a composite sheet imitating tile with a ceramic base and metal plated surface.

6. In a method of forming a non-static tile, the step (*a*) of providing a resilient base of matted fibers that are incombustible and non-inflammable; the step (*b*) of pressing on the surface configurations to provide a sheet to imitate a tiling structure; the step (*c*) of applying viscous ceramic material to said matted fibers on the surface thereof to conform to the configurations already formed in the resilient base; the step (*d*) of forming minute projections of the surface of the tile; the step (*e*) of baking the tile, the step (*f*) of subjecting said baked tile to gas plating the baked tile and its projections.

7. In a method of forming a non-static tile, the step (*a*) of providing a resilient base of matted fibers, that are incombustible and non-inflammable, the step (*b*) of pressing configurations into said sheet to imitate tile, the step (*c*) of applying viscous ceramic material to the surface thereof to conform to the configurations already formed in the resilient base, the step (*d*) of forming minute projections of the surface of the viscous tile, the step (*e*) of baking the tile, the step (*f*) of gas plating the resultant baked tile and the step (*g*) blank of applying means to the back of the composite sheet for attaching the same to the supporting surface.

8. A new article of manufacture comprising a ceramic tile flooring with minute projections on the surface thereof, said tile and projections being gaseous metal coated.

9. A new article of manufacture comprising a ceramic tile with minute projections on the surface thereof, said tile and projections being gaseous metal coated and a fibrous dielectric backing supporting the tile.

10. A new article of manufacture for use as an antistatic tile, comprising a ceramic body with fine surface points, said surfaces of the tile and the points having a gaseous metal coating and a support of resilient dielectric fibers.

11. An antistatic wall tiling comprising a reinforced ceramic sheet having an outer tile-like wall surface design and comprising projections and depressions, said projections and depressions having a thin metal coating integral with said ceramic sheet, said metal coating extending over the wall tile surface as a continuous thin layer whereby static electrical charges are conducted over and away from the wall tile surface.

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