FLOORING PRODUCT WITH GROUTING BARRIER

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ABSTRACT

A flooring product is provided with a removable protective grouting film. In one embodiment, the flooring product may be a synthetic polymeric laminated tile. The protective grouting film is releasably adhered to a top surface of the tile and may have a flexible structure. In one arrangement, the protective grouting film is configured to form a protective barrier covering peripheral portions of the tile and leaving an exposed open central portion. The protective grouting film helps prevent grout from contacting the tile making subsequent cleanup easier and quicker. In one embodiment, the tile may be a resilient type synthetic flooring product formed of polyvinyl chloride such as luxury vinyl tile.
providing base layer 102

bonding patterned layer 130 to base layer

embossing laminate (optional)

cutting tiles

forming protective grouting film 110 on wear layer

forming protective grouting film 110 on wear layer

cutting tiles

FIG. 5
FLOORING PRODUCT WITH GROUTING BARRIER

BACKGROUND OF THE INVENTION

[0001] The present invention generally relates to flooring systems, and more particularly to synthetic flooring systems including grout joints.

[0002] Various flooring products are laid with grout joints to form a complete flooring system. Products used include individual tiles in various shapes including elongated planks, hexagonal or octagonal shapes, or others, which may be formed of many different natural or synthetic materials. During installation on a subfloor, the tiles are placed and separated by open gaps or joints which are subsequently filled with a suitable grout material (e.g. cement based) that air dries and begins to harden in a relatively short period of time.

[0003] The grouting process typically includes troweling an excess amount of wet flowable grout across and into the joint partially covering the adjacent top surface of the tile to ensure that the joints are completely filled. Removing this over burden of grout is a cumbersome and time consuming process typically involving wet wiping and/or washing the tile surface with a wet sponge. The wiping may take several passes because the grout tends to smear across the surface of the tile and may partially air dry increasing adherence to the tile. The grout may also adhere more readily to some types of flooring products due to the nature and composition of the tile making cleanup more difficult.

[0004] Various polymeric synthetic flooring products in tile form may be laid with grouted joints. One such flooring product is luxury vinyl tile (LVT). LVT is a category of resilient thermoplastic-based floor covering product thrilled of polyvinyl chloride (PVC) that may replicate natural materials such as ceramic tile, stone, slate, marble, granite, wood and others. The use of grout joints with LVT lends to creating a flooring system having the appearance of natural flooring materials. Removal of excess grout from LVT or other synthetic flooring products, however, may sometimes prove more difficult than these products may not be as readily scrubbable with harsh abrasive materials as some of their natural tile material counterparts (e.g. ceramic tiles). In addition, thin dried grout smears or films detected later during the installation process may not be readily removed via acid cleaning sometimes used to clean grout from ceramic or other natural material tiles which are more chemically resistant to the acidic solutions. By contrast, these acidic solutions may damage polymeric flooring products such as LVT.

[0005] Improvements in products and processes for grouting polymeric synthetic flooring products is desired.

SUMMARY OF THE INVENTION

[0006] The present invention provides a synthetic flooring product having a factory formed peelable protective grouting film which is releasably adhered to peripheral top surfaces of the flooring product adjacent the grout line. The protective grouting film is formed of a hydrophobic material and forms a barrier that is impervious to moisture penetration by unset wet grout during the process of grouting the flooring system joints. Excess or splattered grout is captured by the film and prevented from reaching the top surface of the flooring product. The excess grout may readily removed from the protective grouting film during the normal process of wet sponging or wiping the grouted joints.

[0007] After the grout has been installed in the joints, the protective grouting film (with any residual grout remaining thereon) may be readily stripped from the flooring product advantageously leaving a clean top flooring product surface beneath the film requiring little or no additional cleaning. In some tile grouting scenarios, the protective grouting film may then be removed immediately after filling the flooring joints with grout prior to wet wiping. Accordingly, the protective grouting film may be removed when the grout is still wet, partially dry, or completely dry depending on the flooring installation approach employed. In one embodiment, the synthetic flooring product may be a polymeric resilient laminated product such as luxury vinyl tile (LVT).

[0008] According to one embodiment, a flooring product includes a substrate and a polymeric wear layer bonded on top of the substrate, the substrate and wear layer collectively forming a flooring product having a plurality of lateral edges and peripheral top surfaces lying adjacent the lateral edges and extending around a perimeter of the substrate. The flooring product further includes a conformal protective grouting film releasably adhered on the peripheral top surfaces of the flooring product, the protective grouting film having a flexible structure and being removable from the peripheral top surfaces by peeling. In one embodiment, the protective grouting film is formed of a polymeric material.

[0009] According to another embodiment, a synthetic flooring product includes a polymeric base layer and a transparent polymeric wear layer bonded to substrate. The polymeric base and wear layers collectively form a synthetic flooring product having a top major surface and opposing bottom major surface, the top surface defining a plurality of lateral edges and peripheral top surfaces lying adjacent the lateral edges and extending around a perimeter of the substrate. The flooring product also includes a hydrophobic protective grouting film releasably adhered on the peripheral top surfaces of the flooring product, the protective growing film having a flexible conformal structure which confirms to contours of the peripheral top surface of the flooring product. The protective grouting film is impervious to moisture from grout and removable from the peripheral top surface by peeling and bending the film.

[0010] A method for forming a protective grouting film on a synthetic flooring product is also provided. The method includes: (a) placing a template against a top surface of a synthetic polymeric, flooring product, the template having openings; (b) spraying a fluidic polymeric composition through the template onto the top surface of the flooring product, the composition being hydrophobic; (c) removing the template from the building material; and (d) drying the composition forming a releasable protective growing film adhered to the top surface of the flooring product which is impervious to moisture from grout.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The features of the exemplary embodiments will be described with reference to the following drawings where like elements are labeled similarly, and in which:

[0012] FIG. 1 is a top plan view of a flooring product in the form of a tile including a peripheral protective grouting film;
[0013] FIG. 2 is an isometric view thereof;
[0014] FIG. 3 is a cross-sectional view thereof taken along line III-III in FIG. 2;
[0015] FIG. 4 is an exploded side elevation view showing the individual layers comprising the tile;
[0016] FIG. 5 is a flow chart showing steps in an exemplary process for forming the tile and protective grouting film;  
[0017] FIG. 6 is schematic diagram and top plan view of a process for forming protective grouting film using a spray template; and  
[0018] FIG. 7 is a top plan view showing use of the protective grouting film during the tile joint grouting process.  

DETAILED DESCRIPTION OF EMBODIMENTS  

[0019] The features and benefits of the present disclosure are illustrated and described herein by reference to exemplary embodiments. This description of exemplary embodiments is intended to be read in connection with the accompanying drawings, which are to be considered part of the entire written description. Accordingly, the present disclosure expressly should not be limited to such embodiments illustrating some possible non-limiting combination of features that may exist alone or in other combinations of features; the scope of the claimed invention being defined by the claims appended hereto.  

[0020] In the description of embodiments disclosed herein, any reference to direction or orientation is merely intended for convenience of description and is not intended in any way to limit the scope of the present invention. Relative terms such as “lower,” “upper,” “horizontal,” “vertical,” “above,” “below,” “up,” “down,” “top” and “bottom” as well as derivative thereof (e.g., “horizontally,” “downwardly,” “upwardly,” etc.) should be construed to refer to the orientation as then described or as shown in the drawing under discussion. These relative terms are for convenience of description only and do riot require that the apparatus be constructed or operated in a particular orientation. Terms such as “attached,” “coupled,” “affixed,” “connected,” “interconnected,” and the like refer to a relationship wherein structures are secured or attached to one another either directly or indirectly through intervening structures, as well as both movable or rigid attachments or relationships, unless expressly described otherwise.  

[0021] FIGS. 1-4 illustrate a non-limiting exemplary embodiment of a resilient synthetic flooring product with peelable protective grouting film 110 according to the present disclosure. The flooring product may be a plastic laminated composition formed from polymers such as a vinyl or non-vinyl thermoplastics. In one embodiment, without limitation, the thermoplastic used in the product composition may be vinyl such as PVC. The flooring product may be vinyl composition tile (VCT) per ASTM F 1066 or solid vinyl tile (SVT) per ASMT F 1700. VCT contains less PVC than SVT, and therefore is more rigid in structure. By contrast, SVT contains a higher content PVC and other ingredients or fillers providing more resiliency. SVT is typically manufactured in tiles and planks of various dimensions. In various embodiments, SVT may be a monolithic tile having color throughout the body of the tile and no backing, a surface-decorated tile having the pattern or design printed on the surface or inlaid colored chips with a wear layer on the surface, or a printed film tile having a pattern or design printed on a film which is layered between a backing and a transparent heavy-duty top wear layer. The tile may have a smooth exposed top surface or an embossed top surface.  

[0022] In one embodiment, the synthetic flooring product may be SVT such as laminated tile 100 for forming a resilient flooring system comprised of a plurality of tiles. Tile 100 may be a luxury vinyl tile (LVT) in one embodiment. It will be appreciated, however, that other suitable polymeric or plastic composition tiles may be used. It should be noted that the term “resilient” with reference to flooring systems or products herein refers to synthetic polymeric products which have a certain amount of flexibility or resiliency and moderate hardness in their structure. By contrast, natural flooring product tiles (e.g., ceramic, marble, slate, quartz, etc.) are substantially rigid and have a higher degree of hardness in structure.  

[0023] Although the terminology “flooring product” is used herein for convenience of description only, such flooring products may be applied to any suitable type and oriented surface including without limitation horizontal, vertical, and/or angled or sloped surfaces. Application surfaces or substrates to which the flooring product is mounted may include floors, walls, countertops, ceilings, and others. Accordingly, the flooring products described herein are not limited in their application or use to flooring systems alone.  

[0024] Referring now to FIGS. 1-4, tile 100 generally includes a substrate such as base layer 102, an ink printed or patterned film 130 (e.g. “white film”) bonded an base layer 102 and having an ornamental pattern or design imprinted thereon, and a wear layer 140 bonded on film 130 to form a laminated composite flooring product structure. Tile 100 includes a top major surface 101, opposing bottom major surface 103, and lateral sides 104 extending between the major surfaces around all sides of the tile and defining a perimeter. The top and bottom extremities of lateral sides 104 define top and bottom edges 105 and 106, respectively. Regions of top surface 101 adjacent the top edges 105 of tile 100 define a peripheral top surface 101A on wear layer 140 (see, e.g. FIG. 4) which will lie adjacent the grout lines of the flooring system when installed. As further described herein, these peripheral surfaces 101A may be protected during grouting using protective grouting film 110.  

[0025] Base layer 102 may be any thermoplastic-based composition or mixture suitable for producing resilient laminated flooring. In one embodiment, base layer 102 is a vinyl composition such as without limitation polyvinyl chloride (PVC) which is a polymeric resin that may be mixed with suitable fillers, plasticizers, hinderers, stabilizers, organic materials (e.g. limestone, etc.) and/or pigments. In one embodiment, base layer 102 may form a substrate of a SVT in the category of LVT.  

[0026] Base layer 102 may have any suitable thickness depending on the final floor covering product to be produced. In some exemplary embodiments, base layer 102 may have a representative gauge or thickness from about 80 mils to about 250 mils for LVT products. In one example, thickness may be about 145 mils. Other suitable thicknesses may be used. Base layer 102 forms the primary or core structural component of tile 100 and has a thickness substantially greater than patterned film 130 or wear layer 140.  

[0027] Patterned film 130 may be a print layer having any type pattern, design, indicia, and colored images typically imprinted with ink on one side the film. For example, in some embodiments, the patterns and color may replicate wood, stone, slate, marble, granite, and other natural materials. The patterned film 130 may be formed of a suitable plastic or polymeric material, such as without limitation PVC. Alternatively, printed transfer paper may be used. Representative thicknesses for patterned film 130 may be about and including 0.5-5 mils.  

[0028] Wear layer 140 may be formed of any suitable clear or transparent polymeric film material or composition. The wear layer 140 protects the patterned film 130 from wear by
foot or equipment traffic on the top surface of the tile 100, while allowing the decorative pattern to show through. Wear layer 140 may be formed of vinyl such as PVC in some embodiments and may have a representative non-limiting thickness of 3 mils or more. In one configuration, the wear layer film may be a “thick” wear layer having a thickness of at least 12 mils or more to provide a durable and long lasting wear layer for protecting the patterned layer 130 and base layer 102. In one embodiment, a thick wear layer 140 may be made from a rigid vinyl film (RVF). The RVF may have a thickness of about 20 mils in one non-limiting example. Semi-rigid vinyl films (Semi-RVF) may also be used and thicknesses less than 20 mils may be used in various embodiments. In some embodiments, without limitation, a top coat of urethane may be applied to the wear layer 140.

In sonic embodiments, a back-printed wear layer 140 film may be used in which the pattern or design may reverse printed on the underside of the film facing the base layer 102, thereby eliminating the need for printed patterned layer 130. In this example, the tile 100 would generally comprise the base layer 102 and back printed wear layer 140 which are bonded together.

The laminated composite structure of tile 100 may be fabricated by first separately forming and providing a bulk laminate sheet comprising base layer 102, a printed patterned film 130, and a wear layer 140 in processes well known in the art. These layers may then be integrated to form tile 100 by using a laminating process combining heating and pressure which essentially bonds the three components together into a unitary self-supporting structure. Adhesive layers may optionally be used between certain layers as needed to form a completely bonded and laminated composite structure.

Tile 100 may be fabricated using any suitable method or process. A combination continuous laminating conveyor and rotating drum and/or batch mode flat table press laminating processes may be used. In a continuous laminating process, one or more calendaring stations may be used to bond the patterned film 130 to base layer 102, and then to bond the wear layer 140 to the patterned film thereby forming the composite flooring laminate. Sheets of materials for each of these layers may be staved or spoiled on separate rolls which are sequentially fed to various different calendaring stations comprised of spaced apart rollers forming nips (i.e. gaps). The sheets enter and travel through the nip where they are compressed together and bonded. In some embodiments, the laminate may then optionally undergo embossing in an embossing station to add regular and/or irregular patterned depressions or surface texture to the tile 100. Appropriate temperatures and pressures for the laminating process will be known to those skilled in the art to achieve suitable bonding between the various laminated layers of the flooring product. A lamination process such as that described in U.S. Pat. No. 4,804,429, which is incorporated herein by reference in its entirety, or modified versions of that process may be used. After formation of the laminated composite sheet, individual tiles 100 of any desired shape may be cut from the laminate using dies and/or knives as known in the art. Final gauge of the composite laminate floor covering product may be about 150 mils in some examples.

With continuing reference to FIGS. 1-4, the 100 further includes a protective grouting film 110 which serves as a barrier to facilitate grouting the tile joints and water cleanup. Protective grouting film 110 has a flexible and conformal structure providing a peelable and removable surface which is releasably adhered to the top major surface 101 of the tile 100. The protective grouting film 110 may be formed and adhered onto the exposed top surface of the wear layer 140 after the composite flooring laminate product has been fabricated as described above. In certain embodiments, the protective grouting film 110 may be adhered to the laminated flooring product either before or after cutting the individual tiles. The protective grouting film 110 conforms to the contours and topography of tile 100 which may have an embossed wear layer 140. This provides substantially uniform adherence between the film 110 and top surface of wear layer 140 even in areas with depressions or undulations to minimize the possibility of wetted grout seeping beneath the edges of the protective grouting film 110 on the top surface 101 of the tile 100.

In one embodiment, the protective grouting film 110 is formed of a hydrophobic material that is impervious to penetration by moisture such as water leaching from wet uncured grout. The protective grouting film 110 therefore provides a water-proof barrier which captures excess grout when filling the open joints between adjacent tiles thereby protecting the top surface 101 of the tile 100. The protective grouting film 110 may be made of a thin polymeric material. In some exemplary embodiments, the grouting film 110 may be made of polyethylene, polypropylene, polyester (preferred in some embodiments), cellophane, acetate, silicone, vinyl, vinyl acetate, vinyl alcohol, acryl, or an ultraviolet radiation curable material.

Protective grouting film 110 extends around the perimeter of tile 100 on peripheral top surface 101A adjacent to top edges 105 which will form opposing grout lines as best shown in FIG. 7 when adjacent tiles are laid on a subfloor. With additional reference to FIGS. 1-4, the interior edges of the protective grouting film 110 define an open central area 141 exposing top major surface 101 of the 100 thereby forming a peelable protective frame around the perimeter of the tile. The exposed central tile area advantageously allows the user (e.g. the installer) to see and mix or match the decorative patterns on each tile for achieving an overall aesthetically pleasing flooring installation. The protective grouting film 110 may have any suitable shape. In one embodiment, a rectilinear shape as shown is provided including substantially parallel and perpendicular grouting film edges. Other suitable configurations or shapes of the protective grouting film 110 are possible and may be used.

In one embodiment, lifting tabs 142 may optionally be provided to facilitate lifting and peeling the protective grouting film 110 from tile 100. The lifting tabs 142 have one end engaging protective grouting film 110 and an opposing free end configured for lifting and grasping by a user. The bottom surface of the tab 142 may be releasably adhered to the top surface 101 of the flooring product similarly to the protective grouting film. In some embodiments, the protective grouting film 110 may include full or partially cut slits 143 (see FIG. 1 dashed lines) extending through the thickness of the film in addition to or instead of tabs 142 to provide a starting point for peeling the film off.

The protective grouting film 110 may be have a representative thickness from about and including 1 to 5 mils, and in one embodiment may be about 3 mils. The thickness selected preferably is suitable to protect the top major surface 101 of the tile 100 during grouting and to avoid tears during routine handling of the tile prior to grouting. Accordingly, other thicknesses are possible which will depend in part on
the type of material used for the protective grouting film 110 and its mechanical/physical properties.

[0037] Referring to FIG. 2, protective grouting film 110 may have any suitable width W1. In some non-limiting exemplary embodiments, width W1 may be from about an including 1-5 inches, and more preferably about 2-4 inches. The width W1 preferably is not so large as to substantially obscure the pattern on tile 100 from the tile installer, yet not too small to be ineffectual as a protective barrier for the tile during grouting. The outer edges of the protective grouting film may optionally be set back from the lateral sides 104 and top edges 105 of the tile 100. This may be beneficial in some embodiments particularly if the top edges 105 are chamfered or convexly contoured to facilitate grouting and/or prevent chipping of the tile 100 during handling and installation. In some embodiments, without limitation, the set back distance of the outer film edges may be from about ¼ inch to about ½ inch. In other embodiments, no set back may be provided.

[0038] Protective grouting film 110 may be formed and applied to the top major surface 101 of tile 100 in any suitable manner. In one embodiment, the protective grouting film is formed in the tile fabrication factory prior to boxing and shipping to the end user. This allows the protective grouting film to be created in a controlled environment for maintaining the desired dimensional accuracy and quality of the grouting film. In addition, the tile installer need not waste time on the job site applying the protective grouting film.

[0039] FIG. 5 shows an exemplary process for forming a protective grouting film 110 during the tile fabrication process in the factory. Formation of protective grouting film 110 occurs after fabricating the laminate composite tile 100 in the manner previously described, which is complete in itself. The final steps of cutting the bulk sheet of tile 100 and forming the protective grouting film 110 may be alternated as shown in the figure.

[0040] According to one aspect of the present invention, the protective grouting film 110 may be a spray-on coating which is applied in the factory setting as schematically shown in FIG. 6. A template 200 may be provided having openings 203 (negative image) configured and shaped that correspond to the desired pattern and shape of the protective grouting film 110 (positive image) to be formed on tile 100. In this example, the template 200 includes a closed central portion 201 and a perimeter close portion 202 which may be sized larger than the width of the tile 100 as shown. The coating material, which may be in liquid solution form, is stored in a bulk container 210 of any size and fluidly coupled to one or more spray nozzles 212. The coating material is pressurized by a suitable means (e.g., air pressure, pumped, etc.) and sprayed through the openings 203 onto the top major surface 101 of the tile 100. The template forms a mask covering the portions of the tile intended to be free of the protective grouting film 110. When the coating material has been sprayed, the protective grouting film 110 having the perimeter frame-like configuration shown in FIGS. 1 and 2 is formed on the tile 100.

[0041] According to other possible embodiments, another non-template process to form the sprayed on protective grouting film in the desired locations is via using a computer processor based system having a programmed directed spray head controlled by the processor that travels a predetermined and configured programmed route while spraying the film product precisely where needed to form the grouting film. Precision spray nozzles may be employed capable of spraying the protective grouting film material to form a relatively straight line or edge and with minimal or no overspray onto adjacent tile area unintended for coverage by the protective grouting film. According to another possible embodiment, a third process to form the stripable protective grouting film involves registered flexographic printing. Tiles are indexed into a registered printer and the material is printed on using a patterned rubber pad. The registered printer applies the pattern in register with the edge of the tile. It will be appreciated that the protective grouting film may therefore be formed on tile 100 using a number of possible processes and the invention is not limited by the process used.

[0042] The spray-on grouting film 110 coating may be formed on and adhere to the peripheral top surfaces 101A of the tile without use of separate adhesives. Preferably, the material or composition used for protective grouting film 110 is selected to releasably adhere on the wear layer 140 of the tile 100 and form a flexible, stripable and peelable film that can be later removed in the field during the tile installation process. The protective grouting film 110 forms a contiguous frame-like structure around the perimeter of the tile 100 without seams or joints. Accordingly, the grouting film in some embodiments may there be removed from tile 100 as a single intact unit. In other embodiments, the protective grouting film 110 may be formed as separate segments with close joints formed between the segments.

[0043] In addition to the exemplary materials described above for forming protective grouting film 110, in some embodiments commercially available stripable and removable spray booth protective coatings may be used for the spray-on protective grouting film material using suitable spray equipment and nozzles. These materials are available from several manufacturers, and includes such products for example as Chemco 05CL030 which is a white to hazy/clear water base peelable booth coating available from Chemco Manufacturing of Northbrook, Ill. Other comparable products may be used. In one embodiment, a water-based spray booth protective coating is preferred to avoid chemical reaction with the wear layer 140.

[0044] According to another aspect of the invention, the protective grouting film 110 may be a pressure sensitive and conformal flexible tape that adheres to and conforms to an irregular textured top major surface 101 of the tile 100. The tape may be made of vinyl or polyethylene in some examples backed with a suitable acrylic, rubber, or other releasable type adhesive openable to bond semi-aggressively to tile 100, but remove cleanly leaving little or no residue. The tape may have a suitable thickness, such as without limitation from about and including 3 to 6 mils. In one exemplary embodiment, the tape thickness may be about 3 mils. The tape temporarily adheres to the top surface of wear layer 140 and the tape material is selected with a sufficient tensile strength to peel off easily in a strip or large pieces, yet remain in place on the tile during routine handling until removed after grouting. In some non-limiting embodiments, the tape may be from about and including 2-4 inches in width W1 (see FIG. 2) and applied in several strips on the peripheral top surfaces of the tile 100 on wear layer 140 extending around the entire perimeter of the tile. This leaves an open central area 141 on tile 100 which exposes top surface 101 of the tile. Butt, lap, or corner joints may be formed between adjoining sections or strips of the tape. In one embodiment, four strips of tape may be used to cover the entire peripheral top surface 101A around the perimeter of the tile. An industrial labeling or taping machine may be used for applying the protective grouting film 110.
tape to the top surface 101 of the laminated tile 100. Such machines may include a tape feed, cutting, and rolling systems for placing sections of tape against the tile 100 and rubber rollers for pressing the adhesive backed tape conformal tape into the top surface of the tile to achieve a suitable but releasable bond.

While the foregoing description and drawings represent exemplary embodiments of the present invention, it will be understood that various additions, modifications and substitutions may be made therein without departing from the spirit and scope and range of equivalents of the accompanying claims. In particular, it will be clear to those skilled in the art that the present invention may be embodied in other forms, structures, arrangements, proportions, sizes, and with other elements, materials, and components, without departing from the spirit or essential characteristics thereof. In addition, numerous variations in the methods/processes. One skilled in the art will further appreciate that the invention may be used with many modifications of structure, arrangement, proportions, sizes, materials, and components and otherwise, used in the practice of the invention, which are particularly adapted to specific environments and operative requirements without departing from the principles of the present invention. The presently disclosed embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being defined by the appended claims and equivalents thereof, and not limited to the foregoing description or embodiments. Rather, the appended claims should be construed broadly, to include other variants and embodiments of the invention, which may be made by those skilled in the art without departing from the scope and range of equivalents of the invention.

1. A flooring product comprising:
   a substrate;
   a polymeric wear layer bonded on top of the substrate;
   the substrate and wear layer collectively forming a flooring product having a plurality of lateral edges and peripheral top surfaces lying adjacent the lateral edges and extending around a perimeter of the substrate; and
   a conformal protective grouting film releasably adhered on the peripheral top surfaces of the flooring product, the protective grouting film having a flexible structure and being removable from the peripheral top surfaces by peeling.

2. The flooring product of claim 1, wherein the protective grouting film has an open frame shape defining an open central area in which a top major surface of the flooring product is exposed.

3. The flooring product of claim 2, wherein the protective grouting film forms a single contiguous structure extending around the perimeter of the flooring product on the top major surface.

4. The flooring product of claim 3, wherein, the protective grouting film is peelable from the flooring product as a single intact unit.

5. (canceled)

6. (canceled)

7. The flooring product of claim 1, further comprising a printed patterned layer bonded between the substrate and wear layer.

8. (canceled)

9. The flooring product of claim 1, wherein the protective grouting film is adhesive free.

10. The flooring product of claim 1, wherein the protective grouting film comprises polyester or a removable spray booth protective coating material.

11. The flooring product of claim 1, further comprising a lifting tab for removing the protective grouting film from the flooring product.

12. The flooring product of claim 1, wherein the protective grouting film is applied to the flooring product during fabrication of the flooring product in a factory.

13. (canceled)

14. (canceled)

15. (canceled)

16. A flooring product of claim wherein the protective grouting film conforms to the topography of the substrate.

17. The flooring product of claim 1, wherein the wear layer has an embossed surface.

18. (canceled)

19. (canceled)

20. The flooring product of claim 1, wherein the flooring product is laminated luxury vinyl tile.

21. The flooring product of claim 1, wherein the substrate is comprised of a non-vinyl polymer.

22. A synthetic flooring product comprising:
   a polymeric base layer;
   a transparent polymeric wear layer bonded to substrate;
   the polymeric base and wear layers collectively forming a synthetic flooring product having a top major surface and opposing bottom major surface, the top surface defining a plurality of lateral edges and peripheral top surfaces lying adjacent the lateral edges and extending around a perimeter of the substrate; and
   a hydrophobic protective grouting film releasably adhered on the peripheral top surfaces of the flooring product, the protective grouting film having a flexible structure which conforms to contours of the peripheral top surface of the flooring product; wherein the protective growing film is impervious to moisture from grout and removable from the peripheral top surface by peeling and bending the

23. The synthetic flooring product of claim 22, wherein the protective grouting film is formed of polymer.

24. The synthetic flooring product of claims 22, wherein the wear layer has an embossed surface.

25. The synthetic flooring product of claim 22, wherein the protective grouting film has an open frame shape defining an open central area in which a top major surface of the flooring product is exposed.

26. The synthetic flooring product of claim 22, wherein the protective grouting film forms a single contiguous structure extending around the perimeter of the flooring product on the top major surface.

27. The synthetic flooring product of claim 22, wherein, the protective grouting film is peelable from the flooring product as a single intact unit.

28-40. (canceled)

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