

Floor and wallcoverings

This month’s selection in brief

This monthly patent alert highlights recent innovations in floor and wallcovering technologies. It features a curated selection of patents focused on sustainability, enhanced performance, and aesthetic improvements. Key topics include digitally embossed surfaces, bio-based carpet compositions, and recyclable backing materials. Several patents also address specialized applications, such as sports facility carpets with integrated lighting and ecological wallpapers.

Contents

Digitally embossed decorative surface coverings.....	2
A wall covering element.....	3
Bio-based carpet precoating composition	4
Carpet, especially for indoor sports facilities	5
Recycling floor covering materials	6
Binding Strength Improvement in Laminated Carpet Tiles	7
Carpet backing based on carded technology.....	8
Process for producing ecological and biocompatible wallpaper based on PLA, and corresponding wallpaper produced by this process and plant for the production of wallpaper from ecological and biocompatible	9

Digitally embossed decorative surface coverings

Patent number: LU504655B1

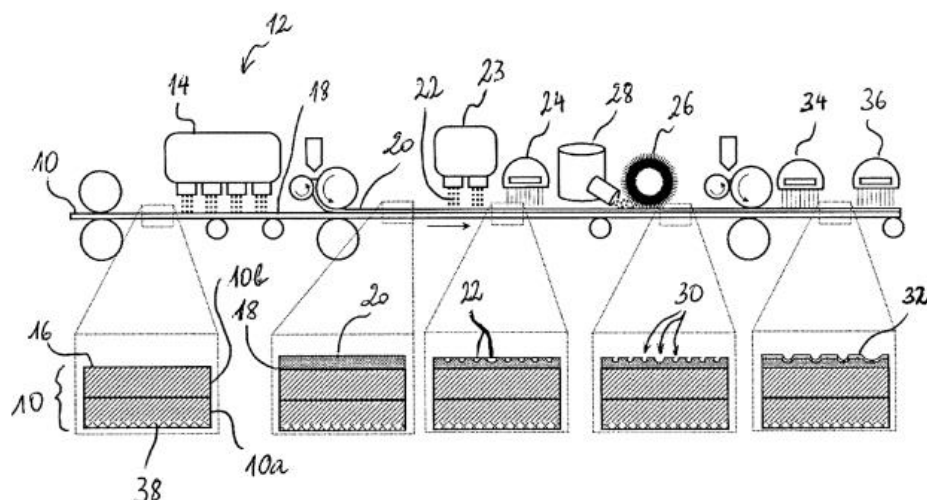
Publication date: 2025-01-03

Applicant(s): TARKETT GDL

Inventor(s): BODY JEAN-FRANÇOIS

The invention generally relates to the field of finishing materials for constructions, in particular to decorative surface coverings such as, for instance, floorings, wallcoverings or ceiling coverings. Decorative surface coverings such as flooring, wallcovering or ceiling covering, may be of the so-called homogeneous or heterogeneous types. A homogeneous surface covering has essentially the same composition throughout its thickness (except, maybe, for a topcoat and/or a textile backing), whereas a heterogeneous surface covering comprises a stack of layers which differ in their functions and compositions. A typical layer structure of a heterogeneous surface covering comprises a backing layer, one or more core layers, a decor layer, a protective wear layer and a topcoat.

This invention presents a method for producing a decorative surface covering, e.g., a floor covering or a wallcovering, is proposed. The method comprises forming an embossed layer by the following steps: applying a crosslinkable resin composition in a continuous layer (20) on a face of a surface covering substructure (10) comprising one or more core layers (10a, 10b), the one or more core layers comprising one or more linoleum layers, the face of the surface covering substructure having a printed decorative motif (18), the crosslinkable resin composition being applied on the printed decorative motif, and generating a three-dimensional surface relief (30) by digitally embossing the crosslinkable resin composition, the digitally embossing comprising at least partially curing the crosslinkable resin composition. The digital embossing is preferably executed in register with the printed decorative motif.



A wall covering element

Patent number: BE1030657 B1

Publication date: 2024-05-14

Applicant(s): ORAC NV

Inventor(s): KNOCKAERT MIGUEL

This invention relates to a wall covering element that provides enhanced protection and aesthetic appeal for walls and structural elements. The wall covering element (10) for contacting at least one wall (1) features a rigid, foamed body (100) composed of polystyrene, polyurethane, or polyurea, designed to withstand impact and scratches. The innovative design includes a first contact side (101) with multiple contact zones and recessed zones, which allow for elastic deformation during impacts, thereby preventing permanent damage. An acrylic coating on the front side (102) not only adds a decorative finish but also significantly improves scratch resistance. The wall covering element can be used in various applications, including baseboards, cornices, and wall panels, making it a versatile solution for both residential and commercial spaces.

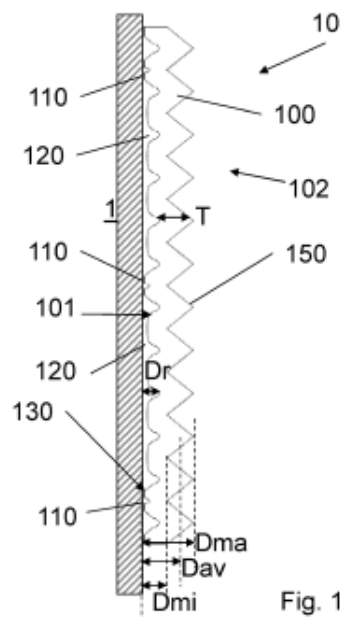


Fig. 1

Bio-based carpet precoating composition

Patent number: NL2036611B1

Publication date: 2025-07-07

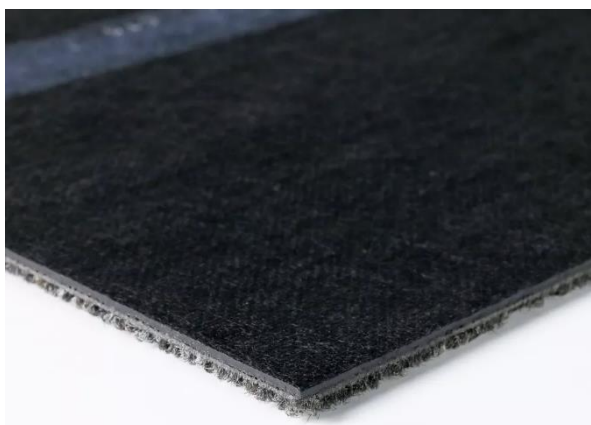
Applicant(s): INTERFACE EUROPEAN MANUFACTURING B.V.

Inventor(s): JOHANNES LIEUWE WEVER; ALI WAJID; HENDRIK JACOBUS VAN DE BOVENKAMP

This invention relates to a bio-based carpet or carpet tile comprising a textile top cloth, a precoating layer, and a backing layer. The precoating layer consists of a composition that includes esterified rosin, thermoplastic elastomer, and filler, with specific requirements for the filler particle size to enhance performance. The invention aims to reduce the environmental impact associated with traditional carpet manufacturing by minimizing fossil fuel use and VOC emissions while ensuring good mechanical properties like tuft lock. This approach not only addresses ecological concerns but also promotes the use of renewable resources, making the carpets more sustainable and economically viable.

Table 1. Precoating compositions

Ingredient (w%)	A	B
Limestone	75.3	75.3
Ethylene/vinyl acetate copolymer(VAE)	21.5	0
Rosin ester	0	21.5
Dispersant / Foaming agent	0.3	0.3
Additives (emulsion stability, color, antimicrobial)	0.5	0.5
Antistatic additive	2.4	2.4
Total	100	100



<https://www.interface.com/GB/en-GB/carpet-tile/backings.html>

Carpet, especially for indoor sports facilities

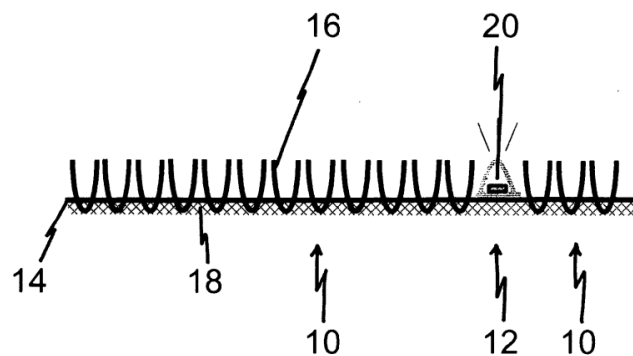
Patent number: DE102023001374B3

Publication date: 2024-07-25

Applicant(s): FIOR Familie GmbH

Inventor(s): SAUTER TILMAN [DE]; MÜLLER RALF

This invention relates to an innovative carpet designed for indoor sports facilities, integrating electrical lighting elements within its structure to provide customizable markings for various sports activities. The carpet features a dual area design: a first area with traditional carpet fibers and an adhesive layer, and a second area equipped with lighting elements, such as LEDs, that can be controlled for intensity, color, and patterns. This design allows for easy adaptation to different sports requirements, enhancing visibility and safety. The use of energy-efficient lighting technologies and a robust adhesive layer ensures durability and ease of installation, making it suitable for diverse applications in fitness and sports environments.



<https://www.fiorgrass.com/gymturf/>

Recycling floor covering materials

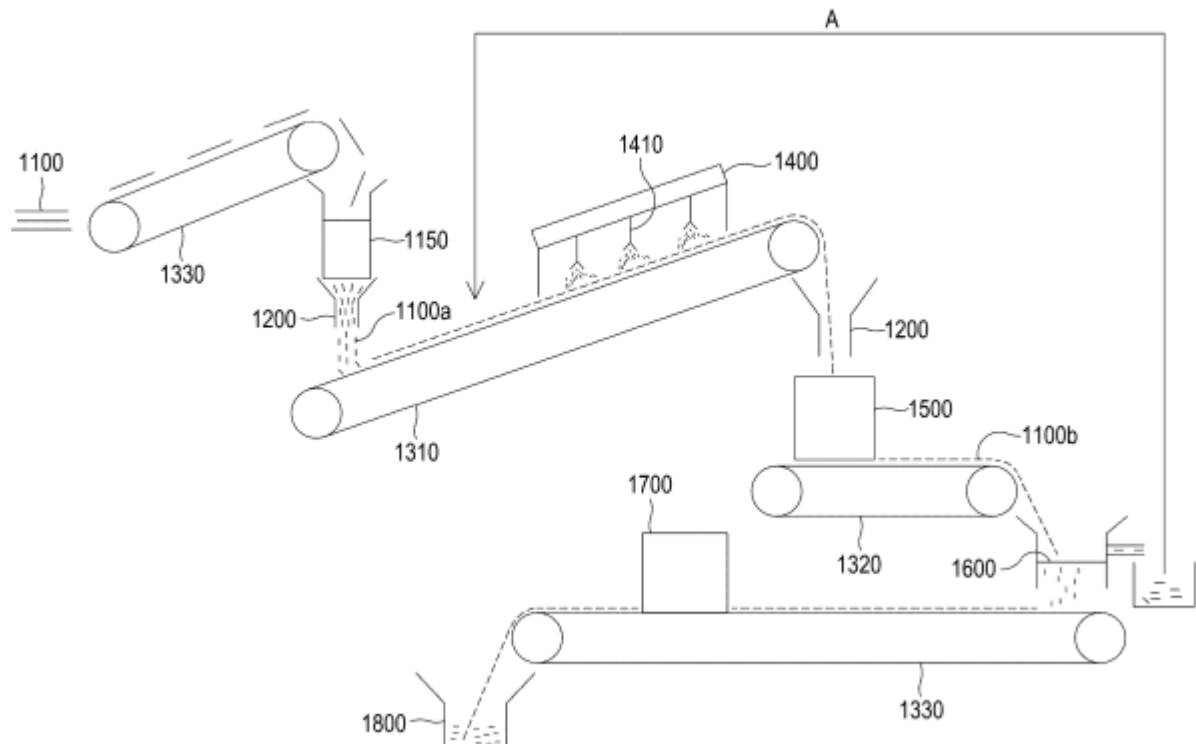
Patent number: WO2025172716A1

Publication date: 2025-08-21

Applicant(s): AIREA PLC

Inventor(s): PAYNE MEDERIC; WILSON KATIE; LOCKE SIMON

This invention presents a novel method and apparatus for recycling floor covering materials, particularly those with bitumen backing, which addresses the environmental challenges associated with their disposal. The method involves a cooling step to significantly lower the temperature of the material, followed by a size reduction process that mechanically fragments the material into smaller particles. This size-reduced material is then combined with new backing material to create a new backing layer for fresh floor covering products. The process is designed to be efficient and scalable, minimizing the risk of clogging in machinery and allowing for the recycling of materials that would otherwise contribute to landfill waste or incineration. By utilizing this method, the invention promotes sustainable practices in the flooring industry, reducing harmful environmental impacts.



Binding Strength Improvement in Laminated Carpet Tiles

Patent number: US2024424525A1

Publication date: 2024-12-26

Applicant(s): ALADDIN MANUFACTURING CORPORATION

Inventor(s): MORRIS HARLAN; CASCIO ANTHONY; LONVICK CHRISTOPHER M.

The invention discloses a method for producing laminated textile products, particularly carpets, that enhances adhesion between a primary backing and a secondary backing using a hot melt adhesive. The method involves applying the adhesive through various applicators while controlling the viscosity and flexibility of the adhesive strands to ensure optimal bonding. By preventing cob-webbing through gas application, the adhesive penetrates the backstitching and yarn of the primary backing, improving the overall strength against delamination and tuft pull. This results in a laminated textile product that is not only effective in performance but also recyclable, contributing to sustainability in textile manufacturing.

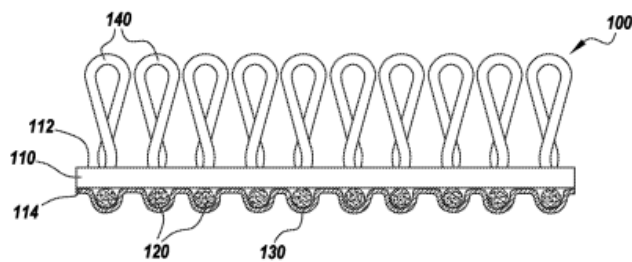


Fig. 1A

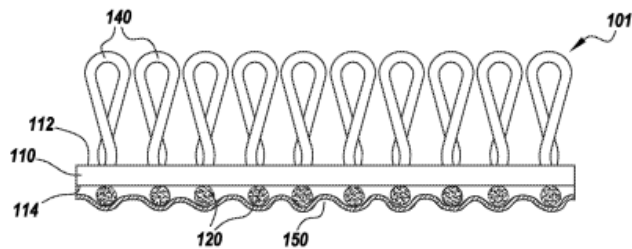


Fig. 1B

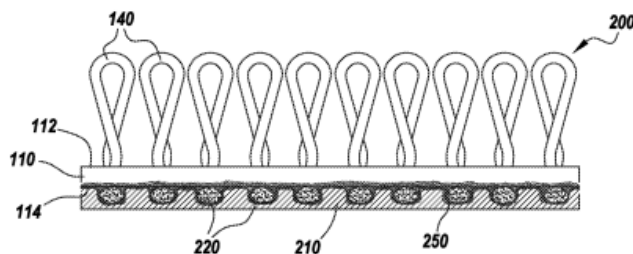
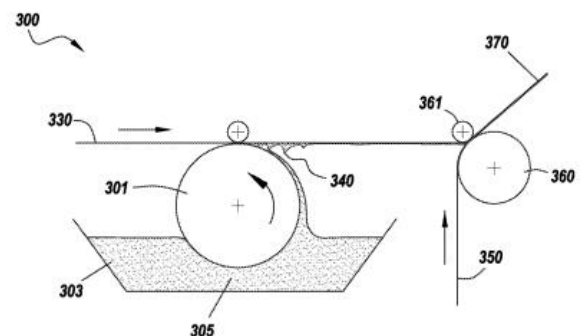


Fig. 2



Carpet backing based on carded technology

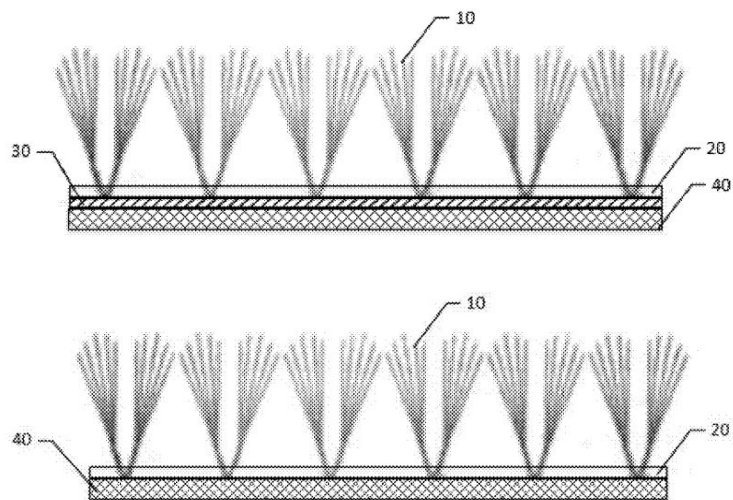
Patent number: US2024279860A1

Publication date: 2024-08-22

Applicant(s): Berry Global, Inc.

Inventor(s): WORMALD PAUL STUART

This invention provides a carpet that incorporates a fibrous backing material made from thermally bonded carded nonwoven layers, where all carded staple fibers share a uniform polymer constituent. This design enhances the recyclability of the carpet, as both the primary and secondary backing materials can be made from the same polymer type, reducing processing complexity and environmental impact. The invention addresses the shortcomings of traditional carpet manufacturing, which often involves adhesives that hinder recycling efforts. By utilizing a single polymer system, the carpet not only maintains structural integrity but also simplifies the recycling process, making it a more sustainable option in the carpet industry.



Process for producing ecological and biocompatible wallpaper based on PLA, and corresponding wallpaper produced by this process and plant for the production of wallpaper from ecological and biocompatible

Patent number: EP4565744A1

Publication date: 2025-06-11

Applicant(s): Zambaiti Parati S.r.l.

Inventor(s): PEZZOTTA MATTEO

This invention presents a novel process for producing ecological and biocompatible wallpaper utilizing PLA as a base material. The process involves preparing a biodegradable resin through solubilization, plasticization, and incorporation of organic and inorganic fillers. The resulting wallpaper not only meets the growing demand for sustainable products but also retains the aesthetic and functional qualities of traditional wallpapers. Its production method is designed to be efficient and cost-effective, allowing for easy integration into existing manufacturing systems. The wallpaper is fully biodegradable, ensuring minimal environmental impact upon disposal, and is adaptable for various decorative applications, making it a viable alternative in the market.

