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(54) **LINING MATERIAL FOR COVERING FLOORS, WALLS, CEILINGS AND COLUMNS.**

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Description

The invention relates to a lining material for covering a floor, wall or similar supporting structure, comprising a wooden board of which the side to face the supporting structure is provided with a contact adhesive and the opposite side has its four edges bevelled, wherein a bottom layer of a non-woven fibrous material is provided, the side of which to face the board is also provided with a contact adhesive.

The invention also relates to a method of lining a floor, wall or similar structure.

In a known panel construction wooden strips are adhered to a very thin and open fabric. Here the fabric serves to keep the strips together in order to facilitate glueing the same to a floor; the fabric however is too thin to function as a bottom layer.

In another known panel construction wooden boards are fixed to a bottom layer of fabric and veneer which panel is too stiff and expensive in manufacture and has to be adhered integrally to the floor to prevent bulging by moisture. Other known floor coverings and wall linings of wood have the drawback of too thick a structure in general. In floorings this causes problems with respect to the height of threshold and adjoining floors of a different type. In the case of wall covering fastening requires laths which causes so high a total thickness that additional provisions have to be made at doors and window frames.

In prefabricated floors and wall covering panels the number of possible patterns per type is limited. Prefabricated panels laid floating have the drawbacks of loud treading noise, the necessity of very smooth floors and the risk of set bulging and permanent deformations in case of leakages and abnormally high moisture content of the air. Furthermore it is difficult to replace damage floor panels or boards fitted together by groove and tongue connections in an easy way and impossible to simply exchange panels or boards as is possible for example in the case of carpet tiles.

The bottom layer may be stored in reeled condition and the boards may be stored in stacks. An advantage of the bottom layer acting as an independent support is that this bottom layer may be unwound onto the floor or may be fastened to a wall and the boards may be pressed onto the same without the use of an additional adhesive, heat, hammer or other means. As far as the floor is concerned the non-woven bottom layer does not have to be adhered to the floor but may be kept unfastened. An important advantage is also that the bottom layer may accommodate deformations or dimensional changes of the boards without detachment of the boards.

An important feature of the invention is that the boards before being attached to the bottom layer have a high relative moisture content. Hereby one means a moisture content close to the moisture content of the wood if the moisture content of the surrounding air is at a maximum. The moisture content of the wood is then between 12 and 15% by weight (dry). By this the boards are not able to swell so much anymore that difficulties might arise after applying the covering.

The invention is characterized in that the wooden board has been moistened to a relative moisture content of at least 12% by weight (dry) prior to its being attached to the bottom layer.

In a preferred embodiment the relative moisture content of the wooden board prior to its attachment to the bottom layer amounts to between 12 and 15% by weight (dry).

In another preferred embodiment the contact adhesive covering one side of the board and the side of the bottom layer to face the board is a modified natural latex without a curing agent. In this embodiment damaged boards may be removed and substituted easily by new ones without the risk of damaging the bottom layer. The latex from the boards removed will then remain on the bottom layer presenting the contact adhesive layer for the new board without requiring reapplication of the adhesive onto the bottom layer.

It is remarked that from British Patent Specification 960 006 a panel for block floors is known comprising wooden blocks secured to a fibreglass net as a backing sheet preferably by means of a neoprene latex adhesive. This adhesive has been found unsuitable for securing the wet boards to the bottom layer and for storing the boards and bottom layer both provided with the adhesive in advance. Surprisingly it has been found that the modified natural latex without curing agent satisfies these requirements.

It is also possible to have the boards and the bottom layer already joined together in the factory. Here one has a broader choice of the type of adhesive. In the factory the small boards may be arranged in patterns or an "endless" belt of the small boards in the same direction may be produced which, on the conveyor belt and in fact along the contour of the top layer, are cut to panels having a width of two, three small boards or more, thus present panels that may be laid onto the subfloor in a loose manner like carpet tiles or may be glued to the wall or ceiling without requiring laths underneath.

On the side not provided with contact adhesive the bottom layer may be provided with a backing, like bitumen, an anti-skid layer, respectively, e.g. honeycomb rubber, or a sound proofing or resilient layer, respectively, e.g. polyurethane foam which constitutes a preferred embodiment of the invention. The contact adhesive is then applied to the bottom layer such that is has an embossed surface. The adhesion is thus improved upon pressing the small boards onto the bottom layer.

An interesting form of appliction of the invention consists in providing a square panel having a width of for example six strips in case the length of the strips is six times the width thereof which panel may be cut into two or three identical portions by the user himself with the aid of a Stanley® knife for example. When using this panel

only one may already form at least twelve different patterns.

The method of the invention of lining a floor, wall or similar structure comprises the steps of applying to the structure a bottom layer of non-woven fibrous material, the side of which turned away from the structure being provided with a contact adhesive and then applying to the layer a plurality of wooden boards each of which has its surface facing the bottom layer provided with a contact adhesive and its opposite surface bevelled at its four edges and is characterized in that the boards have been moistened to a relative moisture content of at least 12% by weight prior to their application to the layer.

The invention is further elucidated with reference to the embodiments represented in the drawing.

Fig. 1 is a plan view of an element of the lining material according to the invention;

Fig. 2 is a front elevation of this element;

Figs. 3 to 5, inclusive, show three patterns which may be formed by means of these elements;

Fig. 6 is a plan view of the bottom layer onto which a small board is applied;

Fig. 7 is front elevation of this small board; and

Fig. 8 is a cross section of the bottom layer.

The lining material consists of a top layer of small boards 1 adhered to a non-woven bottom layer 2. The small boards are provided round about with a bevelled edge at the top thereof and may be of a different shape and of different dimensions.

The embodiments shown by way of example use small boards the length of which is four times the width thereof. By arranging four of these small boards side by side the producer then manufactures square panels (Fig. 1) which may be laid as tiles by the user (Fig. 3) or by means of which different patterns may be formed after separation (Figs. 4 and 5).

When laying a parquet floor one winds off the bottom layer 2 onto the subfloor first and then presses the small boards 1 onto the side of the bottom layer provided with adhesive (Fig. 6). The bottom layer consists of a sheeting of non-woven polyester the top side of which is provided with a layer of latex 4 having an embossed surface. The small boards which may have a thickness of 3—6 mm for instance are likewise provided with a layer of latex 5 at the bottom thereof.

For lining walls, ceilings and columns the bottom layer may be glued thereto whereupon the same method may be practised as described above for laying a parquet floor.

Claims

1. Lining material for covering a floor, wall or similar supporting structure, comprising a wooden board (1) of which the side to face the supporting structure is provided with a contact adhesive and the opposite side has its four edges bevelled, wherein a bottom layer (2) of a non-woven fibrous material is provided, the side of which to face the board is also provided with a contact adhesive, characterised in that the board (1) has been moistened to a relative moisture content of at least 12% by weight prior to its being attached to the bottom layer (2).

2. Lining material as claimed in claim 1, wherein the relative moisture content of the board (1) prior to its attachment to the bottom layer (2) amounts to between 12 and 15% by weight.

3. Lining material as claimed in claim 1 or 2, wherein the contact adhesive covering one side of the board (1) and the side of the bottom layer (2) to face the board (1) is a modified natural latex without a curing agent.

4. Lining material as claimed in anyone of claims 1 to 3, wherein the side of the bottom layer (2) to face the supporting structure is provided with a backing of a polyurethane foam.

5. Method of lining a floor, wall or similar structure with the lining material according to claim 1 to 4 comprising the steps of applying to the structure a bottom layer (2) of a non-woven fibrous material, the side of which turned away from the structure being provided with a contact adhesive (4) and then applying to the layer a plurality of wooden boards (1) each of which has its surface facing the bottom layer provided with a contact adhesive (5) and its opposite surface bevelled at its four edges, characterised in that the boards have been moistened to a relative moisture content of at least 12% by weight prior to their application to the layer.

Patentansprüche

1. Verkleidungsmaterial zur Verkleidung eines Fußbodens, einer Wand oder einer ähnlichen tragenden Struktur, ein Holzbrett (1) umfassend, dessen an der tragenden Struktur anliegende Seite mit einem Kontaktkleber versehen ist und dessen gegenüber gelegene Seite vier schräge Seiten hat, in der eine Unterschicht (2) aus einem nicht-gewebten, faserartigen Material vorgesehen ist, wobei die an dem Brett anliegende Seite ebenfalls mit einem Kontaktkleber versehen ist, dadurch gekennzeichnet, daß das Brett (1), bevor dieses an der Unterschicht (2) befestigt wird, auf einen relativen Feuchtigkeitsinhalt von wenigstens 12 Gewichtsprozenten angefeuchtet worden ist.

2. Verkleidungsmaterial nach Anspruch 1, worin die relative Feuchtigkeit des Bretts (1) vor der Befestigung an der Unterschicht (2) zwischen 12 und 15 Gewichtsprozenten beträgt.

3. Verkleidungsmaterial nach Anspruch 1 oder 2, worin der Kontaktkleber, der eine Seite des Bretts (1) bedeckt, und die Seite der Unterschicht (2), die an dem Brett (1) anliegt, ein modifizierter Naturlatex ohne Behandlungsmittel ist.

4. Verkleidungsmaterial nach einem der Ansprüche 1 bis 3, worin die an der tragenden Struktur anliegende Seite der Unterschicht (2) mit einer Deckschicht aus Polyurethanschaum versehen ist.

5. Verfahren zum Verkleiden eines Fußbodens, einer Wand oder einer ähnlichen tragenden Struktur mit dem Verkleidungsmaterial nach einem der Ansprüche 1 bis 4, welches Verfahren die Schritte umfaßt, bei denen auf der Struktur eine Unterschicht (2) aus einem nicht-gewebten, faserartigen Material angebracht wird, wobei die der Struktur abgewandten Seite mit einem Konktaktkleber (4) versehen wird und wobei dann auf der Schicht mehrere Holzbretter (1) angebracht werden, wobei die Oberfläche jeder Seite, die an der Unterschicht anliegt, mit einem Kontaktkleber (5) versehen ist und die gegenüber gelegene Fläche an vier Seiten abgeschrägt ist, dadurch gekennzeichnet, daß die Bretter auf einen relativen Feuchtigkeitsgehalt von wenigstens 12 Gewichtsprozenten angefeuchtet worden sind, bevor sie auf der Schicht angebracht werden.

Revendications

1. Matériau de revêtement pour sol, mur ou substrat similaire, comportant une planche en bois (1) dont la face située contre le substrat est pourvue d'un adhésif de contact, et dont la face située à l'opposé comporte quatre côtés obliques, matériau dans lequel une couche de fond (2) est munie d'un materiau fibreux non-tissé dont la face située contre la planche est également pourvue d'un adhésif de contact, avec la caractéristique que la planche (1) est humidifiée à une teneur en eau relative d'au moins 12 pour cent en poids avant d'être appliquée sur la couche de fond (2).

2. Matériau de revêtement selon la revendication 1 dans lequel la teneur en eau relative de la planche (1) avant l'application de la couche de fond (2) représente entre 12 et 15 pour cent en poids.

3. Matériau de revêtement selon la revendication 1 ou 2 dans lequel l'adhésif qui recouvre une face de la planche (1) et la face de la couche de fond (2) adjacente à la planche, est un latex naturel modifiéé sand adjuvant.

4. Matériau de revêtement selon une des revendications 1 à 3, dans lequel la face de la couche de fond (2) située contre le substrat est pourvue d'un recouvrement en mousse de polyuréthane.

5. Procédé pour le revêtement d'un sol, mur ou substrat similaire avec un matériau selon une des revendications 1 à 4 comportant des étapes dans lesquelles on applique sur le substrat une couche de fond (2) en matériau fibreux non-tissé, on munit la face opposée au substrat d'un adhésif de contact (4), et on place ensuite sur cette couche plusieurs planches en bois (1) dont la surface de chaque face adjacente à la couche de fond est pourvue d'un adhésif de contact (5) et dont la surface opposée a les quatre côtés obliques, avec la caractéristique que les planches sont humidifiées à une teneur en eau relative d'au moins 12 pour cente en poids avant qu'on ne les applique sur la couche.

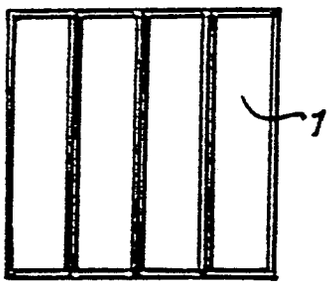

FIG. 1

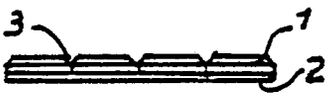

FIG. 2

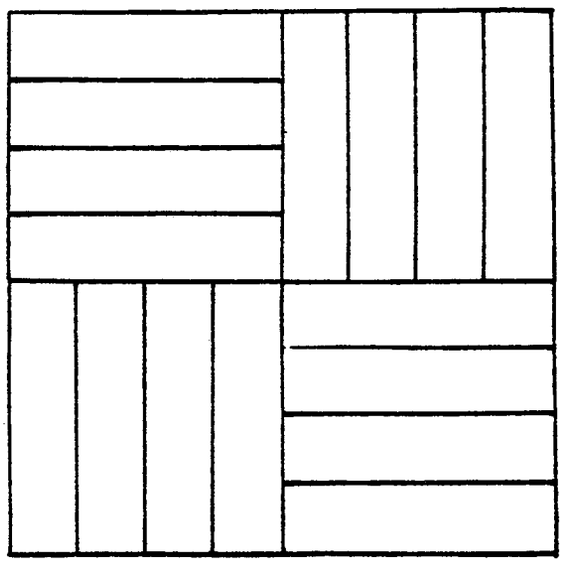

FIG. 3

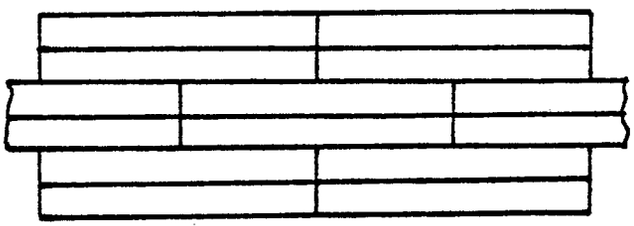

FIG. 4

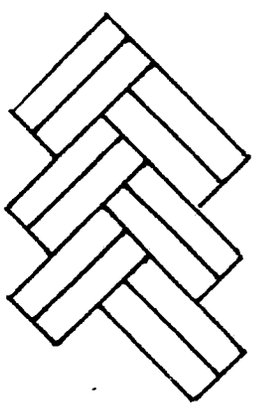

FIG. 5

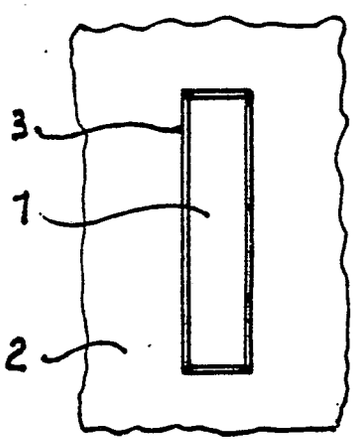

FIG. 6

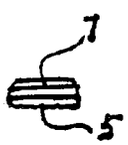

FIG. 7

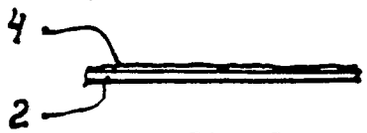

FIG. 8