We ETABLISSEMENTS LOUIS DE POORTERE S.A.,
of Rue de la Royenne, 7700 Mouscron,
Belgium,

hereby apply for the grant of a Patent for an invention entitled

"METHOD FOR LAYING A FOAM-BACKED COVERING PRODUCT ON
A SUPPORT AND COVERINGS THUS OBTAINED"

which is described in the accompanying complete specification.

The application is a Convention application and is based on the application(s) for patent or similar protection made

in Belgium

on 19th February, 1979 under No. 0/193554

in

on

under No.

The address for service is care of DAVIES & COLLISON, Patent Attorneys, of
1 Little Collins Street, Melbourne, in the State of Victoria, Commonwealth of Australia.

Dated this 18th day of February 19 80.

(a member of the firm of DAVIES & COLLISON for and on behalf of the Applicant)

To: THE COMMISSIONER OF PATENTS
Davies & Collison, Melbourne and Canberra.
DECLARATION IN SUPPORT OF A CONVENTION OR NON-CONVENTION APPLICATION FOR A PATENT OR PATENT OF ADDITION

In support of the application made by "Etablissements Louis de Poortere S.A." for a patent for an invention entitled "Method for laying a foam-backed covering product on a support and coverings thus obtained"

L/We, JEAN DE POORTERE and CARLO DE POORTERE, both of Rue de la Rovenne, 7700 Mouscron, Belgium

do solemnly and sincerely declare as follows:-

1. I/we are the applicant(s) for the patent, or am/are authorised by the abovementioned applicant to make this declaration on its behalf.

2. The basic application(s) as defined by Section 141 of the Act was/were made in the following country or countries on the following date(s) by the following applicant(s) namely:

   in Belgium on 19th February 1979 by Etablissements Louis de Poortere S.A.

3. The said basic application(s) was/were the first application(s) made in a Convention country in respect of the invention the subject of the application.

4. The actual inventor(s) of the said invention is/are IGNACE EDOUARD VICTOR MADDENS, of Rue de la Barrière Leclercq 40, 7760 Mouscron-Dottignies, Belgium

5. The facts upon which the applicant(s) is/are entitled to make this application are as follows:- The applicant is the assignee of the said actual inventor.

DECLARED at Mouscron this 28th day of January 1980

Jean DE POORTERE

Carlo DE POORTERE

This form may be completed and filed after the filing of a patent application but the form must not be signed until after it has been completely filled in as indicated by the marginal notes. The place and date of signing must be filled in. Company stamps or
9. Support covering comprising a foam-backed covering product, a layer from adhesive material and an intermediate layer provided with meshes, arranged between said support and foam backing of the covering product, in which said intermediate layer contacts directly with one side thereof, the support and an adhesive material layer which is arranged between the other intermediate layer side and the covering product foam backing and which contacts the support through the intermediate layer meshes.

1. Method for laying a foam-backed covering product on a support, comprising arranging between the covering product foam backing and the support, an intermediate layer provided with meshes and using an adhesive material to glue said elements to the support, which method comprises the steps of spreading the intermediate mesh layer directly over the support surface, gluing the intermediate layer top
surface in such a way as to let the adhesive material pass through the intermediate layer meshes down to the support, and laying the foam-backed covering product over the adhesive material layer.
Complete specification for the invention entitled:

"METHOD FOR LAYING A FOAM-BACKED COVERING PRODUCT
ON A SUPPORT AND COVERINGS THUS OBTAINED"

The following statement is a full description of this invention, including the best method of performing it known to us :-
This invention relates to a method for laying a foam-backed covering product on a support, which comprises arranging between the covering product foam backing and the support, an intermediate layer provided with meshes and using an adhesive material to glue said elements to the support. The invention also pertains to the coverings obtained with such a method.

Presently the laying of foam-backed carpeting is performed by direct gluing of the floor which has to be dry, plane, stable, crack-less and clean according to the rules of the art. The carpetting is then laid over this glue coating. This method causes many problems when the worn carpetting has to be replaced and when consequently said carpetting is removed by stripping. Indeed during such stripping, the carpetting back foam remains partly or completely anchored to the floor. It is then necessary to remove the foam remains, to use either costly scraping apparatus, or solvents which are dangerous to use and difficult to eliminate from the floor before laying the new covering.

There is also known a method for laying foam-backed carpeting as defined above, in which the intermediate layer is first prepared as a netting permeated on both sides thereof with a contact adhesive and then covered on both adhesive-coated sides with a polyethylene sheet. Said method comprises removing one polyethylene sheet from the netting and laying the uncovered surface on the carpetting foam-backing, then removing the other polyethylene sheet from the netting and laying the netting-carpetting unit on the floor. This method does actually allow avoiding
some of the drawbacks encountered when removing the carpeting with the above-described method. However this method is intricate and costly as it requires preparing an intermediate product, namely the two-sided self-adhesive netting, and using protecting sheets from polyethylene.

This invention has for object to provide a method for laying a foam-backed covering product on a support, which both allows to avoid the above-defined drawbacks encountered during the removing, and is more simple and less costly than the method comprising using an intermediate netting as described above.

According to the invention, said problems are solved in a method as described above which comprises spreading the intermediate mesh layer directly over the support surface, gluing the intermediate layer top surface in such a way as to let the adhesive material pass through the intermediate layer meshes down to the support, and laying the foam-backed covering product over the adhesive material layer.

In an embodiment of the invention, the intermediate layer has threads bound in the interlacing points which form meshes with a size large enough to let said adhesive material pass through during said gluing.

In a particular embodiment of the invention, the intermediate layer has a tensile strength high enough to withstand the pulling force required when stripping the covering material to remove same from said support.

In an advantageous embodiment of the invention, during the gluing, there is laid per surface area unit
but that adhesive material amount which is required to obtain a good adhesive strength of the covering product on the support when said covering product is not intended to be subjected to the passage of rolling devices such as castor chairs.

The invention object further comprises any support covering which comprises an intermediate mesh layer which contacts directly with one side thereof, the support and an adhesive material layer which is arranged between the other intermediate layer side and the covering product foam backing and which contacts the support through the intermediate layer meshes.

Other detail and features of the invention will stand out from the following description of the invention given by way of non-limitative example and with reference to the accompanying drawing the single figure of which is a perspective view with part cross-section, of a covering obtained according to the invention and thus with an intermediate mesh layer which is suitable for the working of the invention.

Over a floor 1 prepared according to the rules of the art, that is which is dry, plane, stable, crackless and clean, there is directly spread a fabric 2 formed by threads 3 from synthetic material or metal, bound in the interlacing points 4 and having meshes with a size large enough to let an adhesive material 5 pass through said meshes during the fabric gluing. A mesh opening in the range from 2 x 2 mm to 3 x 4 mm has been proved as advantageous. Said fabric has also to have a high enough strength to
withstand the pulling force required for stripping the worn covering product, during the removal thereof from the ground. Such strength is preferably in the range from 63 to 77 kg for the warp and in the range from 59 to 71 kg for the weft.

As suitable fabric use can be made of a fabric known under the Trade-Mark Traliglas 96 sold by Synco-glas. Said glass-fiber fabric has the following technical characteristics:

fabric width: 115 cm
weight: 60 gr/m²
warp tensile strength: 70 kg
weft tensile strength: 65 kg
warp thread number: 380 x 2/m
weft thread number: 385/m
mesh opening: 2 x 2mm
mesh number: 146,300/m².

It is of course required when laying the fabric pieces on the floor, to have the adjacent pieces overlapping over 2 to 3 cm in the jointing locations. When the floor 1 to be covered has been completely covered with said mesh fabric 2, the gluing of the top surface thereof is performed. Use is made as adhesive material 5 of any suitable glue available in the trade for such purpose. When selling such glues, the manufacturers simultaneously give the amounts of glue to be used. They usually give two values, the one corresponding to the amount of glue required to obtain a good adhesive strength for the covering product on the support, when said covering product is not intended to
be subjected to the passage of rolling devices such as castor chairs, and the other one corresponding to the amount of glue required when the covering product is intended to be subjected to the passage of such castor chairs. Said amounts vary according to the nature of the glue and generally for one and the same glue, they are equal in said second case to twice the amount required for said first case. For instance in the case of the glue sold by the firm Rousselot under the Trade Mark Cirodor-Novafix, 300 g/m² of the glue are required in the first case and 660 g/m² of the glue in the second case.

With the laying method according to the invention, during the gluing is only applied that adhesive material amount which is required, depending on the nature of said adhesive material, to obtain a good adhesive strength for the covering product on the floor when said covering product does not have to undergo the passage of rolling devices, such as castor chairs. There will thus be applied from 270 to 330 g/m², preferably 300 g/m² from said glue to the mesh fabric.

Over said glue layer 5 is then laid the covering product 6 with foam backing 7, for example foam-backed carpeting.

Said floor-covering thus comprises a mesh fabric 2 contacting directly with the one side thereof, the floor 1 and a glue layer 5 arranged between the other side of said mesh fabric 2 and the foam backing of the carpetting 6, said glue layer also contacting the floor 1 through the meshes from fabric 2.
Said floor-covering thus comprises a mesh fabric 2 contacting directly with the one side thereof, the floor 1 and a glue layer 5 arranged between the other side of said mesh fabric 2 and the foam backing of the carpetting 6, said glue layer also contacting the floor 1 through the meshes from fabric 2.

Said floor-covering has been subjected to two tests.

Ageing test:

A carpetting according to the invention has been laid on a floor and by way of comparison, there have been laid carpettings with an intermediate mesh fabric but with amounts from said glue larger than the ones provided according to the invention (450 and 600 g/m²) and a carpetting without mesh fabric, but with a glue amount identical to the amount used with the method according to the invention.

<table>
<thead>
<tr>
<th>Glue Amount</th>
<th>Pulling Force Required for the Stripping</th>
<th>After 72h Drying</th>
<th>After 21 Days Drying at 75-80°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Mesh Fabric</td>
<td>300 g/m²</td>
<td>4.0 kg</td>
<td>6.0 kg</td>
</tr>
<tr>
<td></td>
<td>450 g/m²</td>
<td>5.5 kg</td>
<td>12.0 kg</td>
</tr>
<tr>
<td></td>
<td>600 g/m²</td>
<td>7.5 kg</td>
<td>too-strong adhesion</td>
</tr>
<tr>
<td>Without Mesh Fabric</td>
<td>300 g/m²</td>
<td>4.5 kg</td>
<td>3.0 kg</td>
</tr>
</tbody>
</table>

As it appears from the above Table, the adhesion with 450 g/m² from the glue becomes too strong after the ageing test which comprises subjecting artificially the carpettings to temperatures from 75 to 80°C for 21 days. In-
deed by the stripping part of the foam backing remains glued to the floor. Said adhesion is already too strong after 72 h drying with 600 g/m² from the glue and it is insufficient in the test without mesh fabric after the ageing test, and the carpetting does not adhere enough any more.

Test with castor chair:

The carpetting according to the invention has been subjected to the rolling of a castor device during 25,000 revolutions, said device reproducing the stress the carpettings are subjected to by castor chairs for example. A carpetting with mesh fabric but with an amount from said glue larger than 330 g/m² is subjected to the same test. While in the latter case, the backing foam remains glued to the floor during the stripping, the carpetting according to the invention is easily stripped without leaving any remains and it does withstand well said test, which is not the case for a carpetting laid without mesh fabric with a similar amount from said glue.

There results from the above tests that with the laying method according to the invention and thus by using 300 g/m² from said glue, there is obtained a good adhesive strength, even under strong mechanical stresses, and simultaneously a possibility of stripping without any foam remains during the removal.

It must be understood that the invention is in no way limited to the above embodiments and that many changes could be brought thereto without departing from the scope of the invention as defined by the appended claims.

It is clear that it is possible to use other
adhesive materials than the one given by way of example and that the amounts used will be varied according to the nature of said adhesive material.

The intermediate fabric may also have another nature than the one given by way of example as long as it does have the described features.
THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. Method for laying a foam-backed covering product on a support, comprising arranging between the covering product foam backing and the support, an intermediate layer provided with meshes and using an adhesive material to glue said elements to the support, which method comprises the steps of spreading the intermediate mesh layer directly over the support surface, gluing the intermediate layer top surface in such a way as to let the adhesive material pass through the intermediate layer meshes down to the support, and laying the foam-backed covering product over the adhesive material layer.

2. Method as defined in claim 1, in which the intermediate layer has threads bound in the interlacing points which form meshes with a size large enough to let said adhesive material pass through during said gluing.

3. Method as defined in claim 2, in which the meshes in the intermediate layer have an opening in the range from 2 x 2 mm to 3 x 4 mm.

4. Method as defined in any one of claims 1 to 3, in which the intermediate layer has a tensile strength high enough to withstand the pulling force required when stripping the covering material to remove same from said support.

5. Method as defined in claim 4, in which the tensile strength of the intermediate layer is preferably in the range from 63 to 77 kg for the warp and in the range from 59 to 71 kg for the weft.

6. Method as defined in any one of claims 1
12. Support covering as defined in any one of claims 9 to 11, in which the intermediate layer has a tensile strength high enough to withstand the pulling force required when stripping the covering material to remove same from said support.

13. Support covering as defined in claim 12, in which the tensile strength of the intermediate layer is preferably in the range from 63 to 77 kg for the warp and in the range from 59 to 71 kg for the weft.

14. Support covering as defined in any one of claims 9 to 13 in which the intermediate layer has a weight in the range from 54 to 66 g/m².

15. Support covering as defined in any one of claims 9 to 14, in which the intermediate layer is comprised of a netti-g from synthetic material, preferably from glass fibers.

16. Support covering as defined in any one of claims 9 to 15, in which said intermediate layer contacts directly with one side thereof, the support and an adhesive material layer which is arranged between the other intermediate layer side and the covering product foam backing and which contacts the support through the intermediate layer meshes.

17. Method for laying a foam-backed covering product on a support, as described above with reference to the accompanying example.

18. Support covering as described above with reference to the accompanying drawing.
19. The steps or features disclosed herein or any combination thereof.

Dated this 18th day of February, 1980.

ETABLISSEMENTS LOUIS DE POORTERE S.A.
By its Patent Attorneys
DAVIES & COLLISON.