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(54) **Protection profile for double glazing**

Schutzrahmen für Doppelfenster

Profilé protection pour double fenêtre

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(56) References cited:  
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**DE-A1- 10 210 558 DE-C1- 3 843 187**  
**GB-A- 1 243 889 US-A- 5 823 732**

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## Description

### PURPOSE OF THE INVENTION

**[0001]** The purpose of this invention is to present a perimeter coating and protection system for double glazing glass. This kind of glass has specific features, as it is made up of two separate panes of the same or different thickness hold apart by an aluminium bar known as spacer bar. Its function is to create a hermetically sealed air space between both panes, which will provide thermal and acoustic insulation.

**[0002]** The special features of this kind of glass have led to a progressive increase in its demand, which accounts for the appearance of innovations that aim to improve any of the stages ranging from orders for manufacture to on-site installation.

### BACKGROUND OF THE INVENTION

**[0003]** The background of this invention is virtually nonexistent, as we can see from the current state of technology, see, e.g. GB/243 889 A, WO 86/05541 A, CH 348 803 A, DE 102 10 558 A1, US 5 823 732 A, DE 3 843 187 C1. Specific protection products can only be found in the field of protections for transport. These protections are formed of a series of adhesive cork pads - or a material with similar characteristics - that are stuck to the glass surface preventing the panes from getting in contact with each other when piled up for transportation. This way vibrations can be absorbed and rubbing, which may be the cause of breakages, can be prevented.

**[0004]** The perimeter coating proposed offers improvements in many other aspects for which no similar products are currently available.

### DESCRIPTION OF THE INVENTION

**[0005]** The perimeter coating proposed in this invention consists of a profile made of extruded PVC or any other material with similar characteristics. The profile is U-shaped so that it fits around the whole perimeter of the glass and completely coats the edges of the two panes that make up the double glazing. The edges of both panes are thus protected and the sharp edges of the doubled glazing unit are eliminated, which will benefit the handling and installation processes. Therefore the benefits of this invention can be enjoyed from the moment the double glazing unit leaves the production line until the on-site installation is completed. We would like to draw particular attention to the fact that this invention does not refer to the size or particular shape of the perimeter coating but to the glass protection system which consists in covering the edges of the panes.

**[0006]** The above mentioned benefits are the following:

- The double glazing has an outer sealing that ensures

that the two panes do not slide over each other. This sealing can be made using different materials, all of them having a silicone-like texture and needing a specific drying time. Therefore, it is necessary to wait some time before a double glazing unit can be handled after it has been manufactured. Otherwise the highly adhesive materials used for the outer sealing would stain the operator or the tool used to hold the pane, and eventually stain the pane itself. To minimize this effect, suction pads and tools that help to avoid contact with the double glazing borders are used. In no case, however, are these solutions global; they try to minimize the problem without eliminating it. With the coating we propose, the operator will have no problem handling the pane from the moment it leaves the production line, since the profile is fixed on the pane immediately after the outer sealing. The abovementioned texture of the materials used for the sealing is the one that fixes the profile temporarily while it is still wet and permanently once it is dry. This way we have managed to turn an initial disadvantage of the product, which is characteristic of the production process, into a means of sticking the perimeter coating permanently as the profile and the two panes are sealed at the same time.

- Once it has been manufactured, the double glazing unit has to be transported to the customer. The distribution process is carried out with the panes leaning against each other on a tool and resting on their sides. The panes should not come into direct contact with each other since any movement that makes them rub against each other might cause a break. Presently adhesive cork pads of approximately 1 sq cm surface area and 2-3 mm thickness are placed between them. These cork pads would not be necessary with the perimeter coating proposed since the thickness of the profile acts as a separating element, with the subsequent saving in costs and installation time.
- In the handling process of any double glazing in which an operator intervenes, the operator needs to be provided with protective elements against potential injuries caused by the sharp edges of the two panes that form the double glazing unit. The system proposed solves this problem since the edges along the whole perimeter are hidden.
- During the transport and following on-site installation of a double glazing unit, the panes break at some points due to the extreme weakness of glass against chipping caused by light to moderate impacts on their edges. Since these edges are protected by a kind of cover, the percentage of cracks due to this reason would be virtually nonexistent. The only unavoidable breakages would be those caused by serious impacts.

## DESCRIPTION OF THE DRAWINGS

**[0007]** In order to complete the description given and to facilitate the understanding of the product or system claimed, a number of explanatory drawings have been included at the end of this report. The drawings consist of two figures with the following description:

Figure 1.- It shows a double glazing unit to which the claimed coating system has been applied. The figure includes a series of numbers of which number 1 corresponds to the double glazing and numbers 2.1, 2.2, 2.3 and 2.4 to the coating. The four parts forming the coating have the same design but different lengths, two of them matching the other two in length. The points where two sides meet have been lowered to 45° so that they form right angles. A section called AA' has been marked in this figure.

Figure 2.- It shows a drawing of section AA', in which number 1 corresponds to the double glazing unit, numbers 2.2 and 2.3 to the opposite sides of the profile that forms the coating, number 3 to the spacer bar that generates the inner air space when the two panes are joined together over it, and number 4 to the product that makes up the outer sealing and will keep the two panes and the perimeter coating sealed as mentioned above.

## Claims

1. Perimeter coating and protection system for double glazing glass (1) during transport and following on-site installation, comprising four profiles (2.1-2.4) each having U-shaped cross section, so that they fit around the whole perimeter of the glass and completely coat the edges of the two panes that make up the double glazing and so that the thickness of each profile acts as a separating element, and where the points where two profiles meet have been lowered to 45° so that they form right angles.
2. Perimeter coating and protection system for double glazing glass (1) during transport and following on-site installation according to claim 1, where the profiles (2.1-2.4) are made of extruded PVC or any other material with similar characteristics.
3. Perimeter coating and protection system for double glazing glass (1) during transport and following on-site installation according to claim 1 or 2, further comprising an outer sealing for the double glazing glass (1) that ensures that the two panes do not slide over each other.
4. Perimeter coating and protection system for double glazing glass (1) during transport and following on-site installation according to claim 3, where the outer

sealing has a silicone-like texture and needs a specific drying time.

5. Perimeter coating and protection system for double glazing glass (1) during transport and following on-site installation according to claim 4, where the silicone-like texture of the of the materials used for the sealing is the one that fixes the profile temporarily while it is still wet and permanently once it is dry.

## Patentansprüche

1. Umfanganstrich und Schutzsystem für Doppelfenster-Glas (1) für den Transport und die nachfolgende Vor-Ort-Montage, beinhaltend vier Profile (2.1-2.4) jeweils mit U-förmigem Querschnitt, damit sie über den ganzen Umfang die Kanten der zwei Scheiben des Doppelfensters komplett abdecken und so dass die Dicke jedes Rahmens als separierendes Element agiert. Die Enden der vier Profile sind im 45-Winkel abgeschrägt, so das 2 Profile eine 90°-Winkel formen.
2. Umfanganstrich und Schutzsystem für Doppelfenster-Glas (1) für den Transport und die nachfolgende Vor-Ort-Montage gemäß Anspruch 1, wobei die Profile (2.1-2.4) aus extrudiertem PVC gemacht sind oder aus einem Material mit ähnlichen Charakteristiken.
3. Umfanganstrich und Schutzsystem für Doppelfenster-Glas (1) für den Transport und die nachfolgende Vor-Ort-Montage gemäß Anspruch 1 und 2, wobei eine Außenversiegelung für das Doppelfenster-Glas (1) ein Abgleiten der Scheiben aufeinander verhindert.
4. Umfanganstrich und Schutzsystem für Doppelfenster-Glas (1) für den Transport und die nachfolgende Vor-Ort-Montage gemäß Anspruch 3, wo die Außenversiegelung eine Silikon-ähnliche Zusammensetzung hat und eine bestimmte Zeit zum Trocknen braucht.
5. Umfanganstrich und Schutzsystem für Doppelfenster-Glas (1) für den Transport und die nachfolgende Vor-Ort-Montage gemäß Anspruch 4, wobei die Silikon-ähnliche Substanz zur Außenversiegelung die Profile temporär fixiert solange sie noch nicht vollkommen getrocknet ist und permanent, sobald sie vollkommen getrocknet ist.

## Revendications

1. Système de revêtement perimetral et protection pour double vitrage (1) pendant le transport et après l'ins-

tallation in situ, composé de quatre profile (2.1-2.4) chacun avec section en forme de U, afin de ajuster tout le périmètre du vitrage et revêtir les bords des deux vitres qui assemblent le double vitrage et donc l'épaisseur de chaque profil sert d'element séparateur et donc les points de rencontre de deux profil ont été réduit à 45° afin de former angles droits.

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2. Système de revêtement périmétral et protection pour double vitrage (1) pendant le transport et suivant installation in situ selon revendication 1, donc les profiles (2.1-2.4) sont fabriqué en PVC extrudé ou n'emporte quel matériel avec semblables caractéristiques. 10
3. Système de revêtement périmétral et protection pour double vitrage (1) pendant le transport et suivant installation in situ selon revendication 1 et 2, qui est en plus composé de extérieur scellage pour le double vitrage (1) donc c'est assuré que les deux vitres ne glissent pas l'un sur l'autre. 15  
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4. Système de revêtement périmétral et protection pour double vitrage (1) pendant le transport et après l'installation in situ selon revendication 3, où le scellage extérieur a une texture semblable à la silicone et a besoin du temp spécifique pour sécher. 25
5. Système de revêtement périmétral et protection pour double vitrage (1) pendant transport et suivant installation in situ selon revendication 4, où la texture semblable a la silicone du materiel utilisé pour le scellage est la quelle fixe le profil temporellement pendant est fraîche et définitivement une fois qu'est séché. 30  
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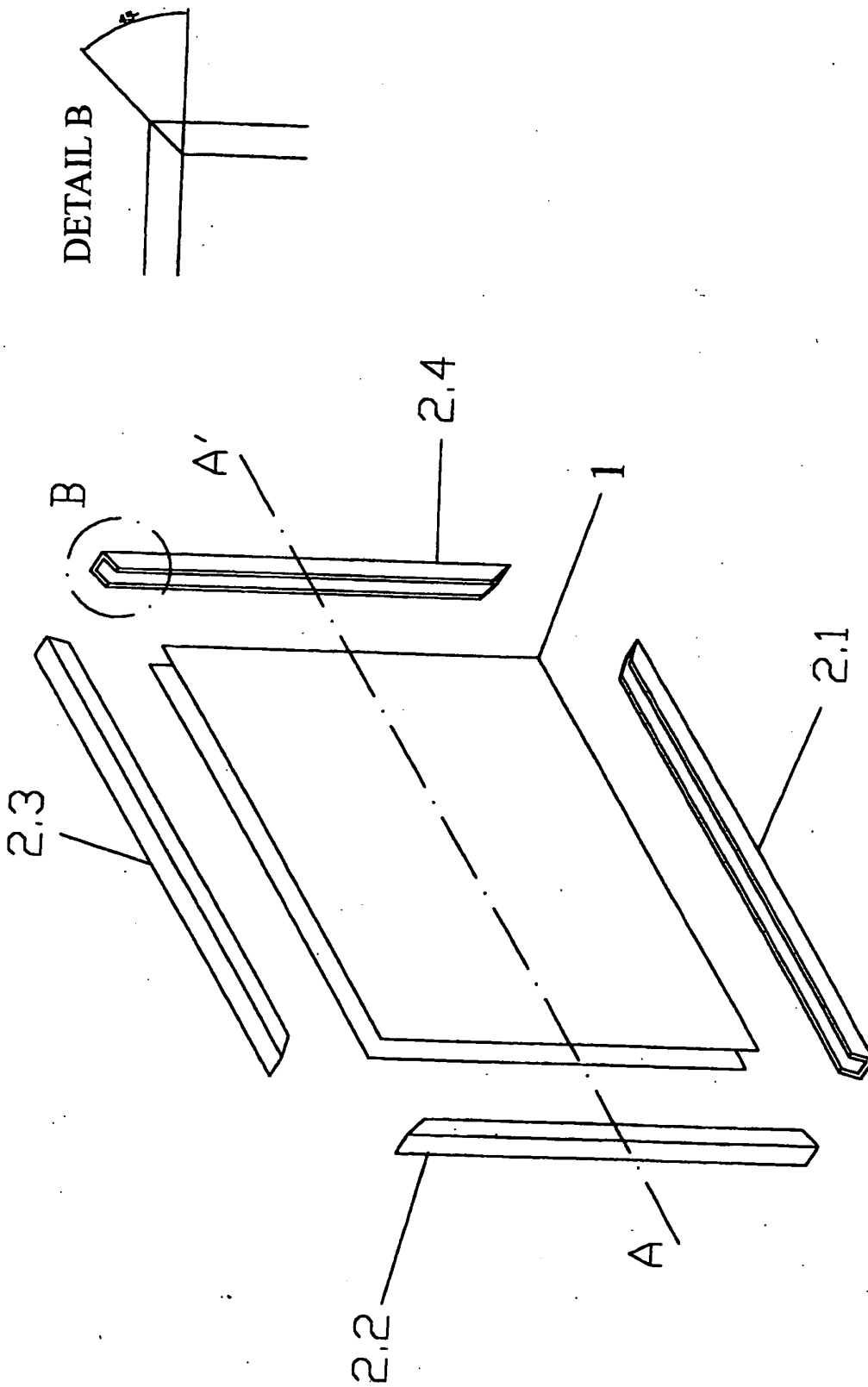


FIGURE 1

SECTION A-A'

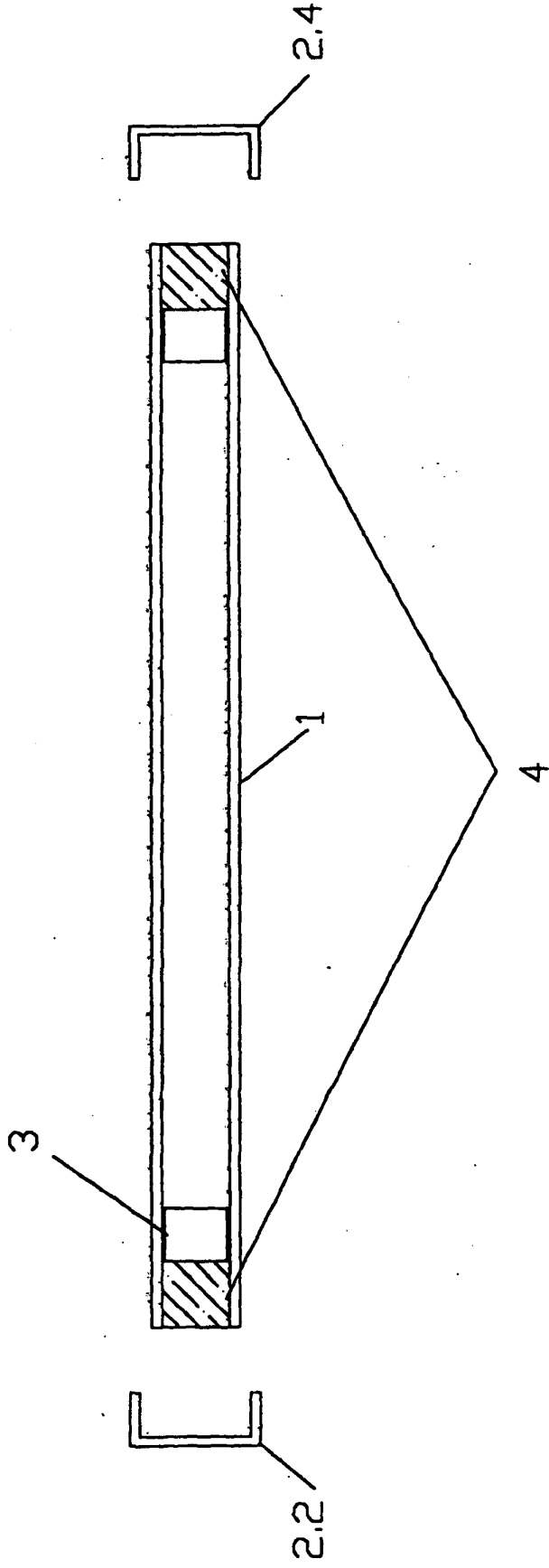


FIGURE 2

**REFERENCES CITED IN THE DESCRIPTION**

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- US 5823732 A [0003]
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