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(54) **Drivable cover layer for a flat roof or the like.**

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Description

The invention relates to a drivable cover layer for a flat roof or the like, comprising an insulating layer and/or a water-tight layer and a drivable top layer positioned there above, said top layer comprising a sheet-like upper layer and a lower layer which is supported by the insulating layer and/or the water-tight layer.

A cover layer of this type is known from US-A-4.530.193 and is used for insulating and protecting relatively flat roofs. The insulating layer comprises insulation panels made, for example, of expanded foamed polystyrene whereas the water-tight layer comprises a water impermeable membrane. The lower layer and the upper layer of the top layer consist of extruded, foamed polystyrene panel members and a cementatious coating, respectively. These polystyrene panel members are bonded to the coating. This known cover layer however is not meant to be driven on.

Another known cover layer is used in a parking roof. The top layer of this cover layer has to withstand the loads of vehicles on top of said parking roof without the insulating layer and/or the water-tight layer being damaged. For this purpose the top layer of this known cover layer comprises for example a lower layer of concrete plates positioned on supports and extending at some distance above the insulating layer and/or water-tight layer, and an upper layer of melted asphalt positioned on said concrete plates. Loads occurring are led into the roof construction through the supports and thus do not lead to unacceptable stresses in the insulating layer and/or water-tight layer.

A disadvantage of this known cover layer is the high weight, amounting about 150 to 200 kg/m^2. In comparison: the average load induced by vehicles on top of the cover layer amounts about 50 to 150 kg/m^2. The high cover layer weight sets high demands to the roof construction and often obstructs the application of this cover layer when adapting existing roofs to parking roofs.

It is an object of the invention to provide a cover layer of the type referred to above eliminating said disadvantage and being well-fit to be driven on.

Therefore the cover layer according to the invention is characterized in that the upper layer comprises a metal sheet, such as an aluminum sheet, whereas the lower layer is elastic and comprises a rubber material adhered to the upper layer by vulcanisation or glueing along the entire surface thereof and wherein the top layer is connected to the insulating layer and/or water-tight layer by means of an adhesive.

The sheet-like upper layer is extremely suitable for carrying concentrated loads, for example the wheel pressure of vehicles. Through the elastic lower layer these concentrated loads are regularly divided over the entire surface of the insulating and/or water-tight layer that as a result nowhere experiences an unacceptable high pressure. Further the load dividing action of the elastic lower layer is influenced positively through the fact that this lower layer is connected to said upper layer along its entire surface. As a result a transverse motion of the elastic lower layer (transverse contraction), when being compressed, is avoided and a large transversal coherence is provided in this layer with the said positive effect, further limiting the vertical compression. A reduction of the transverse contraction of the elastic lower layer is of essential importance with respect to the quality and the applicability of the cover layer according to the invention.

Because the top layer is connected to the insulating layer and/or water-tight layer by means of an adhesive, there is provided a further improvement of the behaviour of the elastic lower layer.

Hereafter the invention will be elucidated further with reference to the drawing showing a perspective view of an embodiment of a cover layer according to the invention.

The drawing illustrates a flat roof construction 1 known per se, that either is specially constructed to be provided with a drivable top layer or will be adapted for this reason. In the first case the flat roof construction 1 can be constructed more lightweighted than when using a conventional top layer, whereas in the second case the already more lightweighted construction will be of no problem when applying the drivable top layer.

On the roof construction 1 are provided an insulating layer 2 and a water-tight layer 3 of a known type. It is possible to interchange these two layers 2, 3 so that the insulating layer 2 will be on top of the water-tight layer 3.

The top layer comprises a sheet-like upper layer 4 and an elastic lower layer 5. The upper layer 4, that comprises a metal sheet, is connected to said upper layer 5 along its entire surface. When the lower layer 5 comprises a rubber material, such as a granular rubber bound with polyurethan, the connection between the lower layer 5 and the upper layer 4 will be obtained by vulcanisation. Between the lower layer 5 and the water-tight layer 3 an adhesive layer 6 is provided. Said adhesive layer 6 comprises for example a cold adhesive.

The metal sheet 4 is provided with a profile 7 and defines a so-called tears-sheet. The profile 7, that can have every suitable shape, enlarges the roughness or the coefficient of friction of the outer surface of the metal sheet 4, offering a suitable drivable surface.

For obtaining a surface large enough it is possible to position a number of metal sheets 4 one beside of the other.

The invention is not limited to the embodiment illustrated before, but can be varied widely within the scope of the invention.

Claims

1. A cover layer for driving on for a flat roof or the like, comprising an insulating layer (2) and/or a water-tight layer (3) and a drivable top layer

positioned there above, said top layer comprising a sheet-like upper layer (4) and a lower layer (5) which is supported by the insulating layer (2) and/or the water-tight layer (3), characterized, in that the upper layer (4) comprises a metal sheet, such as an aluminum sheet, whereas the lower layer (5) is elastic and comprises a rubber material adhered to the upper layer by vulcanisation or glueing along the entire surface thereof and wherein the top layer is connected to the insulating layer and/or water-tight layer by means of an adhesive.

2. Cover layer according to claim 1, characterized in that the adhesive comprises a cold adhesive.

3. Cover layer according to claim 1 or 2, characterized in that the rubber material consists of a granular rubber bound with polyurethan.

4. Cover layer according to one of the claims 1-3, characterized in that the metal sheet is profiled (7).

5. Cover layer according to claim 4, characterized in that the metal sheet consists of a so-called tears-sheet.

Patentansprüche

1. Befahrbarer Belag für ein Flachdach o. dgl., mit einer Isolierschicht (2) und/oder einer wasserfesten Schicht (3) und einer darüber angeordneten befahrbaren Deckschicht, welche eine blechartige obere Schicht (4) und eine untere Schicht (5) aufweist, welche durch die Isolierschicht (2) und/oder die wasserfeste Schicht (3) abgestützt ist, dadurch gekennzeichnet, daß die obere Schicht (4) ein Metallblech, wie etwa ein Aluminiumblech, aufweist und die untere Schicht (5) elastisch ausgebildet ist und ein mit der oberen Schicht durch Vulkanisieren oder Verkleben längs der gesamten Fläche verbundenes Gummimaterial aufweist und daß die Deckschicht mit der Isolierschicht und/oder wasserdichten Schicht mittels eines Klebemittels verbunden ist.

2. Belag nach Anspruch 1, dadurch gekennzeichnet, daß das Klebemittel ein Kaltklebemittel aufweist.

3. Belag nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß das Gummimaterial aus einem granularen Gummi besteht, der mit Polyurethan gebunden ist.

4. Belag nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß das Metallblech eine Profilierung (7) aufweist.

5. Belag nach Anspruch 4, dadurch gekennzeichnet, daß das Metallblech aus einem sogenannten Tropfenblech besteht.

Revendications

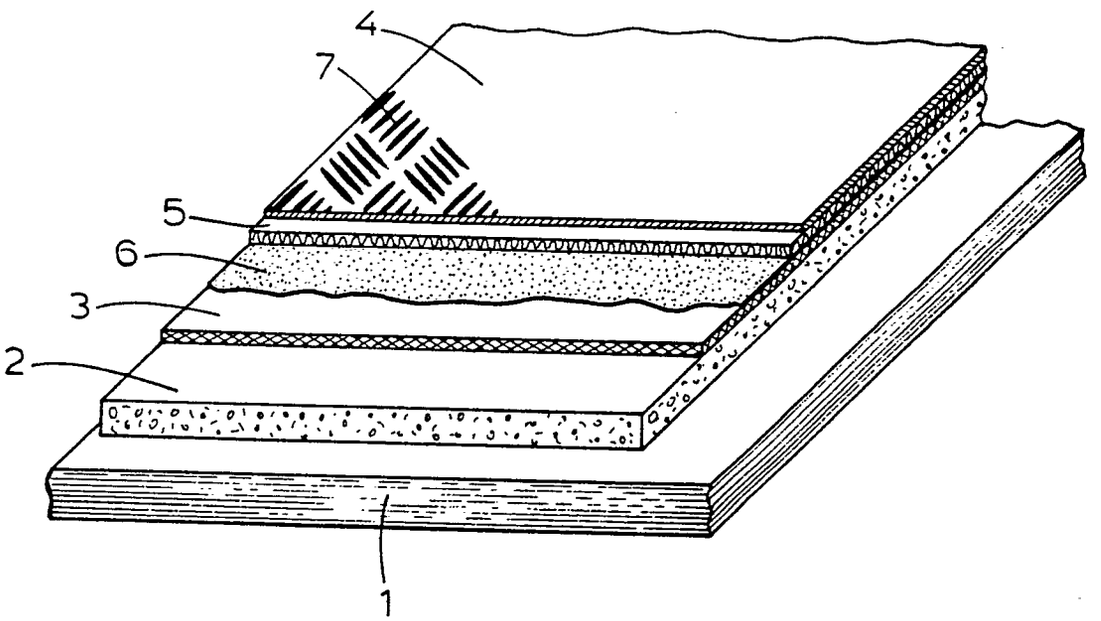
1. Couche de couverture prévue pour le déplacement d'un véhicule, destinée à un toit plat ou analogue, comprenant une couche isolante (2) et/ou une couche étanche à l'eau (3) et une couche de dessus permettant le déplacement de véhicules située au-dessus de celle-ci, ladite couche de dessus comprenant une couche supérieure (4) en forme de feuille et une couche inférieure (5) qui est supportée par la couche isolante (2) et/ou la couche étanche à l'eau (3), caractérisée en ce que la couche supérieure (4) est constituée d'une feuille métallique, telle qu'une feuille d'aluminium, tandis que la couche inférieure (5) est élastique et comporte un matériau caoutchouteux qui adhère à la couche supérieure par vulcanisation ou collage sur toute la surface de celle-ci et en ce que la couche de dessus est reliée à la couche isolante et/ou la couche étanche à l'eau à l'aide d'un adhésif.

2. Couche de couverture selon la revendication 1, caractérisée en ce que l'adhésif consiste en un adhésif à froid.

3. Couche de couverture selon la revendication 1 ou 2, caractérisée en ce que le matériau caoutchouteux est constitué d'un caoutchouc granuleux lié à du polyuréthane.

4. Couche de couverture selon l'une quelconque des revendications 1 à 3, caractérisée en ce que la feuille métallique est profilée (7).

5. Couche de couverture selon la revendication 4, caractérisée en ce que la feuille métallique est constituée d'une feuille du type appelé feuille "à larmes".


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