Patent claims

1. A process for the production of top layers of roads, tracks, and other areas used by traffic, by producing a mixture comprising mineral material and a polyurethane reaction mixture, and also, if appropriate, further additions, applying it to a substrate material, and compacting and hardening it by applying a pressure of at least 5 N/cm2, where operations are substantially carried out without use of solvents and the polyurethane reaction mixture is obtainable by mixing of

   a) isocyanates with
   b) relatively high molecular weight compounds having at least two hydrogen atoms reactive toward isocyanate, selected from the group comprising hydroxy and amino groups, and also, if appropriate,
   c) chain extenders and/or crosslinking agents,
   d) catalysts, and
   e) other additives

2. The process according to claim 1, wherein the substrate material is obtainable by application and hardening of a mixture composed of mineral material and of a polyurethane reaction mixture.

3. The process according to claim 1 or 2, wherein aromatic isocyanates are used as isocyanates a).

4. The process according to any of claims 1 to 3, wherein aliphatic isocyanates or a mixture composed of aliphatic and aromatic isocyanates is/are used as isocyanates a).

5. The process according to any of claims 1 to 4, wherein the average functionality of the compound b) having at least two hydrogen atoms reactive toward isocyanate is greater than 2.

6. The process according to any of claims 1 to 5, wherein the proportion of the polyurethane reaction mixture in the top layer is from 1 to 20% by weight, based on the total weight of the mixture for the production of top layers.

7. The process according to any of claims 1 to 6, wherein the mineral material mainly comprises broken material.

8. The process according to any of claims 1 to 7, wherein the mixture for the production of the top layer comprises additions.

9. The process according to claim 7, wherein the mixture for the production of the top layer comprises fibers as additions.

10. The process according to any of claims 1 to 9 , wherein the thickness of the top layer is from 0.5 to 15 cm.

11. A top layer for roads, tracks, and other areas used by traffic, obtainable by a process according to any of claims 1 to 10 .

Claims

1. A process for the production of top layer, the process comprising applying a top layer mixture, to a substrate material, and compacting and hardening the top layer mixture by applying a pressure of at least 5 N/cm^2, wherein operations are substantially carried out in the absence of solvents, the top layer mixture comprises a mineral material and a polyurethane reaction mixture, and the polyurethane reaction mixture is obtained by mixing

a) an isocyanate with
b) a compounds having at least two hydrogen atoms reactive toward isocyanate, which comprise a hydroxyl-functional compound having hydrophobic groups, and optionally
c) a chain extender and/or crosslinking agent,
d) a catalyst, and
e) at least one additive.

2. The process according to claim 1, wherein the substrate material is obtained by application and hardening of a mixture composed of mineral material and of a polyurethane reaction mixture.

3. The process according to claim 1 or 2, wherein aromatic isocyanates are used as isocyanates a).

4. The process according to any one of claims 1 to 3, wherein aliphatic isocyanates or a mixture composed of aliphatic and aromatic isocyanates is/are used as isocyanates a).

5. The process according to any one of claims 1 to 4, wherein the hydroxyl-functional compound having hydrophobic groups is known comprises a hydroxyl-functional compound known in oleochemistry.

6. The process according to any one of claims 1 to 5, wherein the compound b) having at least two hydrogen atoms reactive toward isocyanate comprises a hydroxyl-functional compound known in oleochemistry and a phenol-modified aromatic hydrocarbon resin.

7. The process according to any one of claims 1 to 6, wherein the average functionality of the compound b) having at least two hydrogen atoms reactive toward isocyanate is greater than 2.

8. The process according to any of claims 1 to 7, wherein the proportion of the polyurethane reaction mixture in the top layer is from 1 to 20% by weight, based on the total weight of the mixture for the production of top layers.

9. The process according to any of claims 1 to 8, wherein the mineral material mainly comprises broken material.

10. The process according to any of claims 1 to 9, wherein the mixture for the production of the top layer comprises additions.

11. The process according to claim 9, wherein the mixture for the production of the top layer comprises fibers as additions.

12. The process according to any of claims 1 to 11, wherein the thickness of the top layer is from 0.5 to 15 cm,

13. A top layer for roads, tracks, and other areas used by traffic, obtainable by a process according to any of claims 1 to 12.