Claims

1. A pavement slab assembly (1) for a route for vehicles driving or standing on a surface of the route, in particular for road automobiles, wherein:
   - the pavement slab assembly (1) consists at least partially of pavement material (3),
   - the pavement slab assembly (1) comprises a cable bearing element (20, 30) adapted to position and/or to hold a plurality of line sections of one or more electric lines (2, 2a, 2b, 2c),
   - the electric line or lines (2, 2a, 2b, 2c) extend(s) along and/or under the surface of the pavement slab assembly (1),
   - wherein the cable bearing element (20, 30) is embedded in the pavement material (3) of the pavement slab assembly (1),
   - the cable bearing element (20, 30) is arranged within the pavement slab assembly (1) such that the cable bearing element (20, 30) is enclosed by the pavement material (3),
   characterized in that
   - the cable bearing element (20) or at least one subelement (20d, 20e, 20f, 20g, 20h, 20i) of the cable bearing element (20) has at least one void (28).

2. The assembly of claim 1, wherein at least one end section (20a, 20c) of the cable bearing element (20) has a tapered or frustumed shape.

3. The assembly of claim 1 or 2, wherein the cable bearing element (20) is a one-piece element or comprises at least two subelements (20d, 20e, 20f, 20g, 20h, 20i).

4. The assembly of one of the claims 1 to 3, wherein the pavement slab assembly (1) further comprises a non-metallic positioning element, wherein the cable bearing element (20, 30) and the positioning element are arranged such that the cable bearing element (20, 30) is positioned at a predetermined position within the pavement slab assembly (1).

5. The assembly of one of the claims 1 to 4, wherein the cable bearing element (20, 30) consists of a polymer.

6. The assembly of claim 4, wherein the positioning element is designed as an armouring element.

7. The assembly of one of the claims 1 to 6, wherein the pavement slab assembly (1) comprises at least one shielding element (4a, 4b, 4c) and/or one magnetic core element (5a, 5b, 5c).

8. The assembly of claim 7, wherein the pavement slab assembly (1) comprises at least one shielding element (4a, 4b, 4c) and one magnetic core element (5a, 5b, 5c), wherein the shielding element (4a, 4b, 4c) and the magnetic core element (5a, 5b, 5c) form a one-piece magnetic shielding element.

9. The assembly of claim 8, wherein the magnetic shielding element is covered by a protective material.

10. The assembly of one of the claims 8 to 9, wherein the shielding element (4a, 4b) and/or the magnetic core element (5a, 5b), which are part of a first magnetic shielding element, is/are C-shaped or I-shaped.

11. The assembly of one of the claims 8 to 10, wherein the shielding element (4c) and/or the magnetic core element (5c), which are part of another magnetic shielding element, are designed such that the magnetic shielding element is formed as layer.

12. The assembly of one of the claims 8 to 11, wherein the magnetic shielding element comprises at least one non-metallic anchorage element.

13. The assembly of one of the claims 1 to 12, wherein the pavement slab assembly (1) further comprises a detection assembly for detecting a vehicle to be charged.

14. The assembly of one of the claims 1 to 13, wherein the pavement slab assembly (1) comprises at least one feeder line (16) for providing electric energy to at least one electric line (2), wherein the feeder line (16) is at least partially shielded by a shielding conduit (17).

15. The assembly of one of the claims 1 to 14, wherein the pavement slab assembly (1) comprises a lifting element for lifting the assembly.

16. The assembly of claim 15, wherein the lifting element is designed as a non-metallic carrier element which protrudes from a surface (8, 9, 10, 11, 12) of the pavement slab assembly (1).

17. The assembly of one of the claims 1 to 16, wherein the pavement slab assembly (1) comprises one or more armouring element(s), wherein the armouring element/s is/are non-metallic armouring elements.

18. A route for vehicles driving or standing on a surface of the route, in particular for road automobiles, wherein the route comprises a plurality of pavement slab assemblies (1) according to one of the claims 1 to 17, wherein the pavement slab assemblies (1) are arranged with respect to another such that a driving surface is provided.

19. A method of building a pavement slab assembly (1), wherein the following steps are performed:
    - providing a casting mould,
    - providing a cable bearing element (20, 30) for positioning and/or holding a plurality of line sections of one or more electric lines (2, 2a, 2b, 2c),
    - laying the electric line or lines (2, 2a, 2b, 2c) so that it/they extend(s) along or under the surface of the pavement slab assembly (1),
    - arranging the cable bearing element (20, 30) within the casting mould,
    - casting pavement material (3) into the casting mould,
    - the cable bearing element (20, 30) is arranged such that the cable bearing element (20, 30) is enclosed by the pavement material (3) after casting,
    characterized in that
    - the cable bearing element (20) or at least one subelement (20d, 20e, 20f, 20g, 20h, 20i) of the cable bearing element (20) has at least one void (28).

20. The method of claim 19, wherein the following step is additionally performed:
    - providing a non-metallic positioning element,
    - arranging the cable bearing element (20, 30) and the positioning element such that the cable bearing element (20, 30) is enclosed by the pavement material after

casting.

21. A method for building a route for vehicles driving or standing on a surface of the route, in particular for road automobiles, wherein the following steps are performed:
    - providing a plurality of pavement slab assemblies (1) according to one of the methods claimed in the claims 19 or 20,
    - installing the pavement slab assemblies (1) on a prepared base or foundation such that a driving surface or standing surface for vehicles which are driving or standing on the route is provided.

Claims

1. A precast pavement slab assembly (1) for a route for vehicles driving or standing on a surface of the route, in particular for road automobiles, wherein:
- the pavement slab assembly (1) consists at least partially of pavement material (3),
- the pavement slab assembly (1) comprises a cable bearing element (20, 30) adapted to position and/or to hold a plurality of line sections of one or more electric lines (2, 2a, 2b, 2c),
- the electric line or lines (2, 2a, 2b, 2c) extend(s) along and/or under the surface of the pavement slab assembly (1),
- wherein the cable bearing element (20, 30) is embedded in the pavement material (3) of the pavement slab assembly (1),
- the cable bearing element (20, 30) is arranged within the pavement slab assembly (1) such that the cable bearing element (20, 30) is enclosed by the pavement material (3),
characterized in that
- the cable bearing element (20) or at least one subelement (20d, 20e, 20f, 20g, 20h, 20i) of the cable bearing element (20) has at least one void (28).

2. The assembly of claim 1, wherein at least one end section (20a, 20c) of the cable bearing element (20) has a tapered or frustumed shape.

3. The assembly of claim 1 or 2, wherein the cable bearing element (20) is a one-piece element or comprises at least two subelements (20d, 20e, 20f, 20g, 20h, 20i).

4. The assembly of one of the claims 1 to 3, wherein the pavement slab assembly (1) further comprises a non-metallic positioning element, wherein the cable bearing element (20, 30) and the positioning element are arranged such that the cable bearing element (20, 30) is positioned at a predetermined position within the pavement slab assembly (1).

5. The assembly of one of the claims 1 to 4, wherein the cable bearing element (20, 30) consists of a polymer.

6. The assembly of one of the claims 1 to 5, wherein the positioning element is designed as an armouring element.

7. The assembly of one of the claims 1 to 6, wherein the pavement slab assembly (1) comprises at least one shielding element (4a, 4b, 4c) and/or one magnetic core element (5a,

5b, 5c).

8. The assembly of claim 7, wherein the pavement slab assembly (1) comprises at least one shielding element (4a, 4b, 4c) and one magnetic core element (5a, 5b, 5c), wherein the shielding element (4a, 4b, 4c) and the magnetic core element (5a, 5b, 5c) form a one-piece magnetic shielding element.

9. The assembly of claim 8, wherein the shielding element (4a, 4b) and/or the magnetic core element (5a, 5b), which are part of a first magnetic shielding element, is/are C-shaped or I-shaped.

10. The assembly of one of the claims 1 to 9, wherein the pavement slab assembly (1) further comprises a detection assembly for detecting a vehicle to be charged.

11. The assembly of one of the claims 1 to 10, wherein the pavement slab assembly (1) comprises at least one feeder line (16) for providing electric energy to at least one electric line (2), wherein the feeder line (16) is at least partially shielded by a shielding conduit (17).

12. The assembly of one of the claims 1 to 11, wherein the pavement slab assembly (1) comprises one or more armouring element(s), wherein the armouring element/s is/are non-metallic armouring elements.

13. A route for vehicles driving or standing on a surface of the route, in particular for road automobiles, wherein the route comprises a plurality of precast pavement slab assemblies (1) according to one of the claims 1 to 12, wherein the pavement slab assemblies (1) are arranged with respect to another such that a driving surface is provided.

14. A method of building a pavement slab assembly (1), wherein the following steps are performed:
- providing a casting mould,
- providing a cable bearing element (20, 30) for positioning and/or holding a plurality of line sections of one or more electric lines (2, 2a, 2b, 2c),
- laying the electric line or lines (2, 2a, 2b, 2c) so that it/they extend(s) along or under the surface of the pavement slab assembly (1),
- arranging the cable bearing element (20, 30) within the casting mould,
- casting pavement material (3) into the casting mould,

- the cable bearing element (20, 30) is arranged such that the cable bearing element (20, 30) is enclosed by the pavement material (3) after casting,
characterized in that
the pavement slab assembly (1) is fabricated off site providing a precast pavement slab assembly (1).

15. A method for building a route for vehicles driving or standing on a surface of the route, in particular for road automobiles, wherein the following steps are performed:
- providing a plurality of pavement slab assemblies (1) according to the method claimed in the claim 14,
- installing the pavement slab assemblies (1) on a prepared base or foundation such that a driving surface or standing surface for vehicles which are driving or standing on the route is provided.