arranged in an aligned end to end spaced apart order to form a continuous vehicle path. Each module has a magnetic core and power windings which generate a magnetic field extending above the road surface. The modules are embedded in the ground so as to be flush with the roadway surface over which a vehicle can travel. Each module is an elongated structure of uniform width and thickness so that they can be easily fabricated in quantity and readily installed in a roadbed with a minimum of labor and equipment. Each module comprises an iron core around which is wrapped a power winding comprising a series of coils.

In GB 2485616 A, a route for vehicles driving on a surface of the route is disclosed, wherein the route comprises a plurality of shaped blocks adapted to position and/or to hold a plurality of line sections of one or more electric lines. Each shaped block comprises recesses forming spaces and/or projections delimiting spaces for receiving at least one of the line sections, the electric line or lines extend(s) through the spaces, the electric line or lines extend(s) along the surface of the route in and/or about the travelling direction of vehicles which are driving on the route. The shaped blocks and the electric line or lines are supported by a base layer of the route and the shaped blocks and the electric line or lines are covered by a cover layer of the route. The material of the cover layer is also located in regions of the route sideways of the shaped blocks so that the shaped blocks and the cover layer form an integrated layer on top of the base layer. The document describes a layered composition of the route which is built on site.

WO 2011/046414 A2 discloses a power supply apparatus for supplying power to an electric vehicle by a magnetic induction mechanism.

WO 2011/062452 A2 discloses a cable protection structure buried within a recessed portion defined below a surface of a road along a longitudinal direction of the road.

WO 2012/069495 A2 discloses a system for transferring electric energy to a vehicle, in particular to a road automobile or to a track bound vehicle such as a light rail vehicle, wherein the system comprises an electric conductor arrangement for producing a magnetic field and for thereby transferring the energy to the vehicle.

US 5,207,304A discloses a power pickup system for an electrically powered vehicle.

It is an object of the present invention to provide a pavement slab assembly for building a route for vehicles, including at least one electric line for inductively transferring energy to the vehicles travelling or standing on the route, wherein the route shall be robust, durable and it shall be possible to install the route with low effort, in particular with a reduced installation time. In particular, it shall be possible for vehicles to drive across the region of the route where the electric line or electric lines are laid.

US 4,836,344 and WO 2010/031596 A2 disclose that modules for the electric line(s) can be pre-fabricated. These pre-fabricated modules, however, have to be installed on site which requires modifying an existing composition of the route. After placing the pre-fabricated modules at a desired position, elements for (re-)building the route, e.g. a driving surface or driving way of the route, however, have to be installed on site.

It does also not exclude the case wherein an end of an element attached to or connected to a main body of the cable bearing element, e.g. a spacing leg and/or a connecting element, is not disposed or positioned at a distance to the corresponding surface.

Furthermore, a filling element can be arranged in between two adjacent pavement slab assemblies, in particular in between a front surface of a first pavement slab assembly and a rear surface of another pavement slab assembly. In this case, said filling element can cover a front and/or a rear outer surface of the cable bearing element. The filling element can be a sealant. For example, the filling element can be a hot or cold mixture material or a preformed joint element.

With regard to a cross-section perpendicular to the longitudinal direction, e.g. a direction of travel of a vehicle driving on the driving surface of the pavement slab assembly, the term "enclosed" can be understood as that the cable bearing element is completely surrounded by the pavement material.

The cable bearing element is an integral part of the pavement slab assembly. It is positioned at a predetermined position within the pavement slab assembly such that an optimal transfer of electric energy to a vehicle travelling or standing on the surface formed by the pavement slab assembly is provided.

The cable bearing element can e.g. be positioned within a casting mould of the pavement slab assembly before casting of the pavement material. The casting mould can have a shape which corresponds to a shape of the cable bearing element, in particular to tapered- or frustumed-shaped end sections of the cable bearing element. This will be explained later. During the casting, the pavement material fills the space around the cable bearing element and voids around the electric line(s) within the cable bearing element. This results in a pavement slab assembly providing a one-piece pavement slab.

The pavement slab assembly ~~can~~ comprises one or more armouring element(s). These armouring element(s) is/are used to reinforce the pavement slab assembly. ~~Preferably,~~ tThe armouring element(s) is/are non-metallic armouring elements.

The proposed pavement slab assembly advantageously allows prefabricating the pavement slab assembly with elements allowing the transfer of electric energy to a vehicle

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),

   ~~characterized in that~~

   - 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 pavement slab assembly (1) comprises one or more armouring element(s), wherein the armouring element/s is/are non-metallic armouring elements.~~,~~

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.

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 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).

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,

    ~~characterized in that~~

    - 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) comprises one or more armouring element(s), wherein the armouring element/s is/are non-metallic armouring elements.

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: