Claims

1. Power supply unit and plasma applicator with an electrotechnical core for generating a cold atmospheric pressure or low-pressure plasma for the treatment of human and/or animal and/or technical surfaces, wherein the electrotechnical core has a side facing the surface to be treated and a side facing away from the surface to be treated and comprises the following layers, arranged above one another, starting from the side facing the surface to be treated:

   - a first insulation layer,
   - a first electrode structure which is provided with a first contact for establishing electrical contact between the first electrode structure and a power supply unit and which is grounded during operation,
   - a second insulation layer, which is embodied to galvanically isolate the first electrode structure and a second electrode structure from one another,
   - a second electrode structure which is provided with a second contact for establishing electrical contact between the second electrode structure and a power supply unit and which is driven during operation by a voltage signal that is supplied by a power supply unit and that is sufficient to ignite a plasma,
   - a third insulation layer, which is embodied to galvanically isolate the second electrode structure and a third electrode structure from one another, and
   - a third electrode structure which is provided with a third contact in order to ground the third electrode structure during operation,

   characterized in that

   the plasma applicator comprises at least one means for ensuring that a plasma applicator is used only once, wherein the plasma applicator comprises an readable storage which is embodied to store a special code or hash value and wherein the power supply unit is embodied to check whether a read plasma applicator has already been used or whether it is suitable for a certain plasma treatment.

2. The electrotechnical core as claimed in claim 1, comprising a plug-in apparatus, wherein the first and second contact accordingly form a first and second conductor track of the plug-in apparatus, which each protrude at the same longitudinal side of

the electrotechnical core from the longitudinal side of the respective corresponding electrode structure, and wherein the plug-in apparatus further comprises an insulating tab, which is accordingly connected to the second insulation layer, wherein the first and the second conductor track are galvanically isolated from one another by the insulating tab.

3. The electrotechnical core as claimed in claim 1 or 2, wherein the electrotechnical core furthermore comprises a spacer structure which is arranged adjacent to the first insulation layer on the side of the electrotechnical core facing the surface to be

treated such that the spacer structure is situated between a surface to be treated and the first insulation layer during a plasma treatment.

4. The electrotechnical core as claimed in at least one of claims 1 to 3, wherein a contact or an electrode structure has at least one feature that changes in such a way as a consequence of use that it is no longer possible to transmit a voltage signal sufficient to ignite a plasma to the second electrode structure.

5. The electrotechnical core as claimed in claim 4, wherein the feature is formed by a taper of a contact or of an electrode section of the second electrode structure, which is destroyed shortly before the end of the first use by a high current pulse to be provided at that point.

6. A plasma applicator comprising an electrotechnical core as claimed in at least one of claims 1 to 5, wherein the plasma applicator furthermore comprises an enclosure with a pocket which is embodied such that an electrotechnical core can be inserted into the pocket and then be at least partly enclosed by the enclosure.

7. The plasma applicator as claimed in claim 6, wherein the enclosure is formed by a biocompatible material, such as medical silicone, a lacquer, an adhesive, a film, a textile, a compression textile or organic material such as gauze, cellulose or cotton.

8. The plasma applicator as claimed in claim 6 or 7, wherein the enclosure comprises at least one layer with liquid-absorbing and/or liquid-removing and/or liquid-distributing materials.

9. The plasma applicator as claimed in at least one of claims 6 to 8, wherein the enclosure comprises insertion slots which are arranged on the side of the plasma applicator facing away from the surface to be treated and which are embodied such that a power supply unit or an insertion apparatus, complementary to the insertion slots, can be inserted into the insertion slots in order then to be electrically connected to the contacts of the electrotechnical core.

10. The plasma applicator as claimed in at least one of claims 6 to 9, wherein the plasma applicator comprises an access port, which is arranged and embodied in such a way that, during a plasma treatment, a fluid medium can be supplied to or removed from a sealed gas space formed by the enclosure between the electrotechnical core and a surface to be treated.

11. The plasma applicator as claimed in at least one of claims 6 to 10, wherein the plasma applicator comprises a barbed hook-occupied part of a hook-and-loop closure on a side of the plasma applicator facing a surface to be treated.

12. The plasma applicator as claimed in at least one of claims 6 to 11, wherein the plasma applicator comprises an integrated power supply unit comprising a power store electrically connected to the contacts of the electrotechnical core in order to transmit a voltage signal sufficient to ignite a plasma to at least one of the electrode structures during operation.

13. The plasma applicator as claimed in claim 12, wherein the integrated power supply unit comprises an electrical circuit which is embodied to convert a voltage provided by the energy store into a voltage signal sufficient to ignite a plasma and to transmit said voltage signal to the contact of at least one of the electrode structures.

14. The plasma applicator as claimed in claim 12 or 13, wherein the plasma applicator comprises a power receiving apparatus electrically connected to at least the contact of the second electrode structure, said power receiving apparatus respectively containing one or more receiver coil arrangements, and wherein electrical energy can be transferred from a transmitter coil arrangement of a power dispensing apparatus to the receiver coil arrangements in the plasma applicator by means of electromagnetic induction.