Claims

1. Process for producing coated metal bodies, comprising the following steps:

   (a) applying a metal powder composition to a metal body so as to obtain a coated metal body 1, the coating of which contains one or more wax components,

   (b) heating the coated metal body 1 up to the melting temperature of at least one of the wax components and then cooling it down to room temperature so as to obtain a coated metal body 2,

   (c) treating the coated metal body 2 thermally in order to achieve alloy formation between metallic components of metal body and metal powder composition, so as to obtain metal body 3,

   wherein the metal body used in step (a) comprises a metal component selected from the following group: nickel, cobalt, copper, iron,
   wherein the metal powder composition used in step (a) comprises a pulverulent metal component containing aluminium, silicon or magnesium in elemental or alloyed form, and
   wherein the metal body is in the form of a foam, a mesh, a weave, a loop-drawn knit or a loop-formed knit.

2. Process according to Claim 1, wherein the metal body used in step (a) is a metal foam body.

3. Process according to either of Claims 1 and 2, wherein the metal body used in step (a) consists of one of the following:

   - metallic nickel,
   - metallic cobalt,
   - metallic copper,
   - alloy of nickel and cobalt,
   - alloy of nickel and copper,
   - arrangements of two superposed layers of two individual metallic components, in which case one of the metallic components forms an inner layer of the metal body and the other metallic component the outer layer of the metal body, wherein the metallic components are selected from the list of the following combinations: nickel on the inside and cobalt on the outside, iron on the inside and nickel on the outside.

4. Process according to any of Claims 1 to 3, wherein the metal body used in step (a) consists of a metal selected from the following group: Ni, Fe, Co, Cu.

5. Process according to any of Claims 1 to 4, wherein the metal powder composition used in step (a) of the process comprises one or more pulverulent metal components selected from the following group: aluminium, silicon, magnesium, alloys of aluminium and chromium, alloys of aluminium and molybdenum, alloys of aluminium and copper, alloys of aluminium and iron, alloys of aluminium and iron and chromium, alloys of aluminium and titanium, alloys of aluminium and molybdenum and titanium, alloys of silicon and chromium, alloys of silicon and molybdenum, alloys of silicon and copper, alloys of silicon and iron, alloys of silicon and iron and chromium, alloys of silicon and titanium, alloys of silicon and molybdenum and titanium, alloys of magnesium and chromium, alloys of magnesium and molybdenum, alloys of magnesium and copper, alloys of magnesium and iron, alloys of magnesium and iron and chromium, alloys of magnesium and titanium, alloys of magnesium and molybdenum and titanium.

6. Process according to any of Claims 1 to 5, wherein the metal powder composition used in step (a) consists of pulverulent aluminium and one or more pulverulent wax components.

7. Process according to any of Claims 1 to 6, wherein at least one of the wax components in the coating of the coated metal body 1 obtained in step (a) has a solidification temperature in the range from 45 to 160°C.

8. Process according to any of Claims 1 to 7, wherein one or more wax components are added to the metal powder composition used in step (a).

9. Process according to any of Claims 1 to 8, further comprising the following step:

   (d) treating the metal body 3 with a basic solution.

10. Process according to Claim 9, wherein the treatment of the metal body 3 with a basic solution is performed for a period in the range from 5 minutes to 8 hours at a temperature in the range from 20 to 120°C, and wherein the basic solution is an aqueous NaOH solution having an NaOH concentration between 2% and 30% by weight.

11. Coated metal body obtainable by a process according to any of Claims 1 to 8.

12. Coated metal body obtainable by a process according to either of Claims 9 and 10.