

4. The method of claim 3 wherein the ceramic powder is selected from the group consisting of titanate, electrical porcelain, zirconate, cordierite, steatite, ferrite, spodumene, aluminum oxide, aluminum phosphate and calcium phosphates.

5. The method of claim 4 wherein said ceramic powder is aluminum oxide.

6. The method of claim 5 wherein the composition comprises 45 to 65 percent by weight of said ceramic powder, 4 to 8 percent by weight polymeric binder, and 35 to 55 percent by weight solvent.

7. The method of claim 6 wherein step (B) is carried out by placing said coated substrate in an oil bath at from 80° to 180° C.

8. The method of claim 7 wherein the polymeric binder is selected from a group consisting of acrylic polymer, styrene-butadiene copolymer, polyethylene glycol, polycarbodiimide, and polyvinylpyrrolidone.

9. The method of claim 8 wherein step (B) comprises contacting said coated substrate with a bath comprising a member selected from the group consisting of fluorocarbon oil, mineral oil, silicone oil and vegetable oil.

10. The method of claim 9 wherein the composition includes 1 to 4 percent by weight of a salt of a long-chain fatty acid having from 16 to 22 carbon atoms.

11. The method of claim 10 wherein the salt of the long-chain fatty acid is selected from the group consisting of magnesium stearate, calcium stearate, aluminum stearate, magnesium behenate, calcium behenate and aluminum behenate.

12. A prosthetic device comprising a device prepared according to the method of claim 3.

13. The device of claim 12 wherein said device is a percutaneous device and wherein at least a portion of said substrate which is adapted to be placed under the skin is coated with said composition.

14. A method for preparing a perforated article comprising:

(A) preparing a composition comprising:

(1) 25 to 80 percent by weight of a material selected from the class consisting of ceramic powder and powdered metal wherein the number average of the longest dimension of the particles of said material is from about 0.1 to about 300 microns;

(2) 2 to 12 percent by weight of a binder capable of adhering said material particles; and

(3) 18 to 73 percent by weight solvent;

(B) rapidly volatilizing at least a portion of said solvent of said composition to form volatilized solvent bubbles within said composition which escape from said composition and form a porous unfired article, said article containing at least one pore having a diameter from about 20 to about 350 microns in diameter; and

(C) sintering said article.

15. The method of claim 14 which includes the step of separating the composition in droplets prior to step (B).

16. A catalyst support comprising a perforated article prepared according to claim 15.

17. A prosthetic device comprising a perforated article prepared according to claim 15.

18. the prosthetic device of claim 17 which includes the step of coating at least a portion of a substrate which is pyrolyzable under the conditions of step (C) with the composition prior to step (B).

19. A percutaneous device prepared by:

(A) attaching porous absorbent sheet material to a ceramic or metallic substrate, said sheet material being pyrolyzable under the conditions of step (D);

(B) contacting said sheet material and substrate with a composition to provide a coating of a composition on at least a portion of said sheet material and said substrate, said composition comprising:

(1) 25 to 80 percent by weight of a material selected from the class consisting of ceramic powder and powdered metal wherein the number average of the longest dimension of the particles of the material is from about 0.1 to about 300 microns;

(2) 2 to 12 percent by weight of a polymeric binder capable of adhering said material particles and pyrolyzable under the conditions of step (D); and

(3) 18 to 73 percent by weight solvent;

(C) rapidly volatilizing at least a portion of said solvent of said composition on said sheet material and said substrate to form volatilized solvent bubbles within said composition which escape from said composition and thereby form porosity within said composition; and

(D) sintering said coated substrate and the composition on said sheet material to remove said sheet material and to form a percutaneous prosthetic device comprising said substrate with a porous coating and a porous portion attached thereto, said porous coating being of a sufficient thickness and having pores of a sufficient size to permit tissue ingrowth and said porous portion having pores of a sufficient size to permit tissue ingrowth.

20. A prosthetic device comprising a perforated article prepared by:

(A) preparing a composition comprising:

(1) 25 to 80 percent by weight of a material selected from the class consisting of ceramic powder and powdered metal wherein the number average of the longest dimension of the particles of said material is from about 0.1 to about 300 microns;

(2) 2 to 12 percent by weight of a binder capable of adhering said material particles; and

(3) 18 to 73 percent by weight solvent;

(B) rapidly volatilizing at least a portion of said solvent of said composition to form volatilized solvent bubbles within said composition which escape from said composition and form a porous unfired article, said article containing at least one pore being of a sufficient size to permit tissue ingrowth; and

(C) sintering said article.

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