

15. The product formed by the process of claim 14.

16. The process of claim 14 wherein the porous body is infiltrated with a material selected from the group consisting of monomers, oligomers, polymers, and mixtures thereof, which material is cured in situ.

17. A composite material comprising a skeleton of ceramic particles bound together by ceramic bonds formed by decomposition of an inorganic or organic material, said ceramic particles being selected from the group consisting of alumina, calcium hydroxyapatites, feldspathic ceramic, titanium dioxide, zirconia, biologically active glasses and spinels, said skeleton containing an interpenetrating phase of a cured organic resin.

18. The product of claim 17 wherein the organic resin is formed by polymerizing a monomer or oligomer selected from the group consisting of monomers and oligomers having acrylate or methacrylate moieties.

19. A dental restoration produced by the process of claim 3.

20. A prosthesis or cosmetic product for humans or animals produced by the process of claim 1.

21. A near net shape composite material comprising a sintered ceramic skeleton which contains an interpenetrating phase of cured organic resin, said near net shape composite material possessing a mean tensile strength of at least 50 MPa.

22. The process of claim 2 wherein the pre-ceramic precursor further contains additives.

23. The process of claim 22 wherein the additives are cations selected from the group consisting of lithium, potassium, calcium, aluminum, and mixtures thereof.

24. The process of claim 1 wherein the heating is in nitrogen.

25. A dental restoration produced by the process of claim 14.

26. The process of claim 2 where the pre-ceramic precursor is selected from the group consisting of polycarbosilanes, polyborosilanes, and mixtures thereof.

27. The process of claim 22 wherein the additives are cations selected for the group consisting of alkali or alkaline earth metals and mixtures thereof.

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