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Improved Ceramics And Ceramic Composites

Tech ID: 10295 / UC Case 2005-510-0

DESCRIPTION

The University of California has a number of inventions in the field of ceramics and ceramics composites that are available for commercial licensing. These technologies include:

- ▶ *Porosity*—A combustion synthesis method that produces low-porosity, high-density ceramics (1995-263), a synthesis method that produces high-density ceramics with extremely fine crystallite sizes (2005-510), a one-step synthesis and consolidation of nanoparticles in ceramics, etc. (1999-355), and methods for producing high-porosity oxide ceramics (1997-186);
- ▶ *Ductility*—A method for making high-strength nanocrystalline materials with improved ductility (2003-539), an inexpensive, easy-to-fabricate ceramics matrix composite (1995-109), an improved method for making metal matrix composites using spray atomization (1994-134), a practical method for microalloying magnesium in molybdenum silicide (2002-237), and strong, flaw-tolerant ceramics laminate composites (1991-243 and 1999-385);
- ▶ *Hardness*—A thermal barrier coating with increased hardness and wear resistance (2002-164), a direct, one-step synthesis of titanium carbonitride cermets (1992-018), bulk metallic glasses with nanoscale crystallites (2003-334), and diamond-containing ceramic composites (1986-070);
- ▶ *Functionally-Gradient Materials (FGMs)*—A method for making layered FGMs with superior interlayer bonding (2005-223) and a simple, inexpensive one-step synthesis of metalloceramic FGMs that display a smooth transition in their compositional profiles (1992-027); and
- ▶ *General Synthesis & Fabrication Methods*—A system for post-machining inspection of manufactured ceramic parts ([Ceramic Candling Inspection System](#)), a method for preparing nanocrystalline coatings (1996-370), an improved method of combustion synthesis (1992-020), and a method for fabricating complex-shaped ceramics with a more uniform phase distribution (1990-317).

SLIDESHOW PRESENTATION: More information about this invention portfolio is available in a slideshow presentation that can be downloaded from <http://patron.ucop.edu/ncd/docs/ceramics.pps> (4.1 MB). This file includes an audio narration and web links to non-confidential descriptions, issued patents, related publications, and inventor profiles.



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OTHER INFORMATION

CATEGORIZED AS

- ▶ **Energy**
 - ▶ Other
 - ▶ Storage/Battery
- ▶ **Optics and Photonics**
 - ▶ All Optics and Photonics

RELATED CASES

2005-510-0

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,609,565	12/17/2013	2005-510
United States Of America	Issued Patent	7,601,403	10/13/2009	2005-510

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Fuel Cells Using Low-Temperature Conducting Materials](#)

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