

Improved Materials for Lightweight Armor

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TECHNOLOGY DESCRIPTION

Lightweight armor materials have been developed that are damage tolerant and capable of defeating rifle-fired, armor-piercing rounds of ammunition. These materials are ideal for use as aircraft, watercraft and vehicle armor and have applications in both military and civilian arenas. In addition to being lightweight, the materials have a unique combination of hardness and toughness while being inherently damage-tolerant due to their novel structure. The process for creating the materials is inexpensive, simple to perform and control, and uses readily available components. The microstructure and mechanical properties of the materials have been characterized and preliminary prototype testing has been performed. Due to the low cost of the processing technique and the properties that can be created, the range of additional applications for this technology is large, including missile nose cones, aircraft components, vehicle structural components, gas turbine engine components and engine afterburner nozzles.

CONTACT

University of California, San Diego
Office of Innovation and
Commercialization
innovation@ucsd.edu
tel: 858.534.5815.



OTHER INFORMATION

CATEGORIZED AS

- ▶ **Materials & Chemicals**
- ▶ Other
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