
Nanocomp claims first ready-to-use nanotube textile

May 14, 2007 -- [Nanocomp Technologies, Inc.](#) says it has successfully produced a new textile material from long carbon nanotubes. The company says that the material, available in nonwoven sheet and yarn formats, could be the key to realizing significant performance benefits in defense and aerospace applications ranging from body armor to structural composites, as well as commercial energy storage and electronics thermal management.

"We believe we are on the cusp of delivering the promise of carbon nanotube materials," said Peter Antoinette, Nanocomp president and CEO. "Like our predecessors in performance products who developed Gore-Tex® and Tyvek®, we have a product platform with vast real-world functionality and, together with the system integrators that will ultimately incorporate it into end-use products, we aim to determine just how broad the benefits can extend."

Antoinette said commercial manufacturing processes to date have mostly produced only short carbon nanotubes -- usually tens of microns long -- that resemble a powder in final form. These nanotubes can be difficult to incorporate into manufactured goods, Nanocomp says, and products incorporating them have not yet demonstrated the attractive structural and conductive properties of nanotubes.

But the company reports that it has overcome these limitations by producing extremely long (hundreds of microns to millimeters) and highly pure nanotubes. These long nanotubes are a key to producing the ultimate functional materials, nanotube yarns and nonwoven sheets, for in end-use applications.

Nanocomp is also developing prototype equipment to automate production of the nanotube yarns and nonwoven materials leading to commercial scale.

In the near term, Nanocomp expects its materials to be 1) used in conjunction with carbon fibers and aramids to reduce weight and improve performance of body armor; 2) incorporated into land, air and marine vehicle structures to improve fuel economy; 3) used for next-generation wiring systems and antennas; and, 4) due to their ability to take an electrical charge much faster and many more times than batteries, used to create ultra capacitors to store large amounts of energy from intermittent energy sources such as wind and solar energy, as well as to smooth out demand spikes in the power network.

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