

Integran Technologies Inc.



Integran develops nano-metal coating to improve durability of composite tooling

Toronto, Ontario, Canada – Feb 12th, 2007, Integran Technologies Inc. today announced that it has developed Nanovar™, a low thermal expansion, hard metal coating to improve the durability and extend the lifespan of composite tooling.

Tooling made from carbon fiber composites is used extensively in pre-production manufacturing, but has had limited use in production environments because of surface durability issues. Hard metal surface coatings have been attempted in the past, but they tended to be porous, brittle and of poor thickness uniformity.

Applying a hard, ductile surface coating is now possible with Nanovar™. Integran's material is nano-structured, meaning the metal grains are 1000x smaller than conventional metals, resulting in hardness similar to a tool steel. In contrast to other solutions which rely upon brittle metal oxides to achieve hardness, Integran's nano-structuring process results in a ductile material, which further enhances robustness. Adhesion through repeated thermal cycling is achieved by closely matching the thermal expansion of Nanovar™ to the carbon composite substrate.

“The composites manufacturing industry has waited a long time for a product like this.” says Rich Emrich, Program Manager at Integran Technologies. “Nanovar™ enables companies to take full advantage of lightweight, low thermal mass composite tooling in a volume manufacturing environment”.

Outside of tooling, development programs are underway on many other applications of Integran's nano-structured metals where thermal expansion, wear, weight or strength limitations keep traditional metals from meeting customer needs.

About Integran

Integran Technologies Inc. is a world leader in advanced metallurgical nano-technologies, providing a broad international base of customers with advanced process and product design solutions through R&D, material sales, contract manufacturing and technology licensing. Integran's affiliated companies include: Morph Technologies (Toronto, Canada) which is focused on advanced materials solutions for the automotive sector; Powermetal Technologies (Carlsbad, CA) which develops and manufactures products for the sports equipment and consumer product sectors; and Integran Defense Systems (Pittsburgh, PA) which develops leading-edge technologies for defense and homeland security. www.integran.com.