

**Pentron Corporation Introduces New POSS® Nanocomposites In
Fillings and Dental Bonding Systems**

Hattiesburg, MS: Pentron Clinical Technologies announced the introduction of a new class of dental bonding agents based on Hybrid Plastics' Polyhedral Oligomeric Silsesquioxane (POSS®) Nanotechnology. This represents the first commercialization of POSS® nanocomposites in dental applications. These hybrid nanochemicals had been hailed by R&D magazine as one of the 100 most technologically significant new products for the year 2000.

The adhesive will be marketed under the name Nano-Bond Universal Bonding System. Pentron reports that POSS® technology results in strengthened resin while it infiltrates the etched surface and provides a strong interface between the tooth and the restorative material. The system consists of a uniquely formulated self-etch primer and adhesive system that are said to work together for great bonding to dentin and cut enamel. The kit also contains a dual cure activator that promotes reliable bonding to self and dual-cured materials. The Nano-Bond System greatly alleviates the problem of post-bonding sensitivity by keeping tubules occluded during the self-etching step.

POSS® [Polyhedral Oligomeric Silsesquioxanes] is a revolutionary new Nanotechnology based on silicon-derived building blocks that provide nanometer-scale control to existing manufacturing protocols. These compounds have an average diameter of just 1.5 nanometers, or billionth of a meter. They release no VOCs, and, thereby, produce no odor or air pollution. They are biocompatible, recyclable, non-flammable, and competitively priced with traditional polymer feedstocks. POSS® Nanostructured® materials can be readily incorporated into virtually any existing polymer system through blending, grafting or copolymerization.

These POSS® nanobuilding-blocks were hailed by R&D magazine as globally one of the 100 most technologically significant new products for the year 2000. More recently, Hybrid Plastics was one of five finalists for the Small Times Magazine's *2002 Best of Small Tech Award* for its POSS® Nanostructured® materials. Hybrid Plastics is regarded as one of the top 10 nanotechnology companies in the United States. It operates a 20,000 square foot facility in Mississippi which is scheduled to double in size next year. Moreover, Hybrid Plastics also maintains its original California facility for ongoing research and development.

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