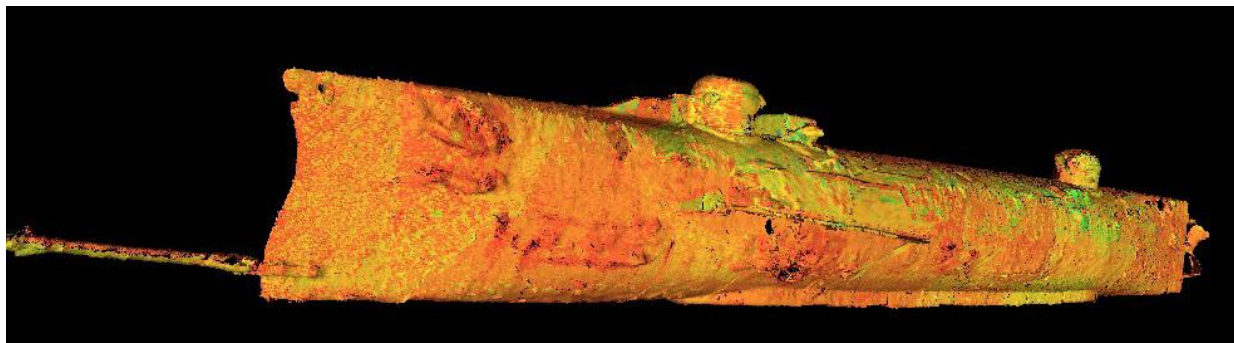


Hybrid Plastics Develops POSS® Enhanced Epoxy for Use in Conservation of Confederate Submarine *Hunley*

Hattiesburg, MS: Hybrid Plastics has developed a unique POSS® enhanced Epoxy to assist in the conservation of the *H.L. Hunley*, a 40 ft. Confederate submarine sunk during the Civil War and retrieved off the coast of Charleston, South Carolina in 2000. On February 17, 1864, *Hunley* attacked and sank the 1800-ton, steam-powered sloop-of-war USS *Housatonic* in Charleston harbor. This represented the first ever successful attack by a submarine. Soon after, the *Hunley* also sank, drowning all 8 crewmen. The submarine is currently under treatment for long term conservation in a tank at the Warren Lasch Conservation Center in Charleston, South Carolina. The Center is now part of Clemson University.

The POSS® enhanced Epoxy has been specially formulated to provide superior adhesion while providing a quick cure at ambient room temperature under high humidity and moist conditions. The epoxy is used to attach strain gauges to assess structural integrity and strength as well as measure any local deformations. The previous adhesive had proved unsuitable since the submarine cannot be exposed to the air for more than a few hours.



Laser Scan of the Exterior of the H. L. Hunley.

*Courtesy George W. Penington (www.thehunley.com)

POSS® [Polyhedral Oligomeric Silsesquioxanes] is a revolutionary new Nanotechnology based on silicon-derived building blocks that provide nanometer-scale control to dramatically improve the thermal and mechanical properties of traditional polymers while offering easy incorporation using existing manufacturing protocols. These compounds have an average diameter of just 1.5 nanometers, or billionth of a meter. POSS® nanomaterials can be used both as direct replacements for hydrocarbon based materials or as low-density performance additives to traditional plastics. 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 one of the 100 most technologically significant new products globally for the year 2000. Hybrid Plastics was one of five finalists for the Small Times Magazine's *2002 Best of Small Tech Award* for its POSS[®] Nanostructured[®] materials. The Small Times Magazine Best of Small Tech Awards recognize globally the best people, products and companies in nanotechnology, MEMS and microsystems.

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