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Method of Manufacturing Carbon Nanotubes (CNTs)

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DESCRIPTION

This manufacturing of carbon nanotubes is useful in the making of reinforced composites and nano-electromechanical system. The method involves providing a carbon anode and a carbon cathode which is larger than the anode; partially immersing the cathode in a water bath and inducing electrical current through the anode and cathode, e.g. by arc welding. One or both of the anode and cathode are graphite.

FEATURES AND BENEFITS

- The key innovation in the process is its ability to produce bundles of CNTs without using a metal catalyst.
- The application of electrical current to the anode and cathode effectively produces single-walled carbon nanotubes.
- . The nanotubes decompose at relatively high temperatures, e.g. 650°C.
- The method does not require a complex cooling system; and a closed or pressurized chamber as it is common with other methods including the electric-arc method, the HiPco process, the microwave method and chemical vapor deposition (CVD) process.
- The method is cost-effective and much less dangerous.

APPLICATIONS

- Material Manufacturing
- Nano-electrochemical Systems
- Nano-Devices
- Nanostructures
- Nanotechnology

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-14435-1, please contact:

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