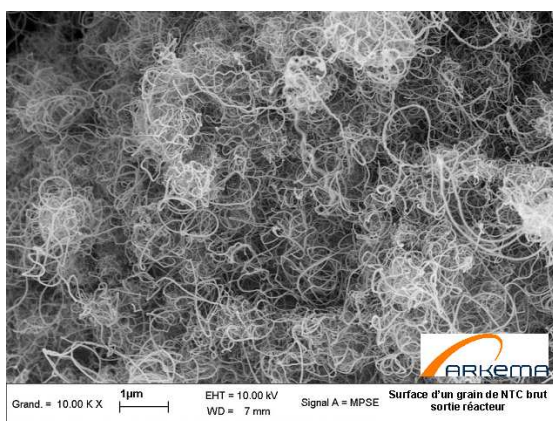
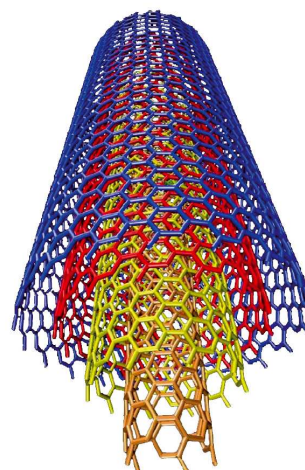


Arkema Presents Graphistrength® Carbon Nanotube Products

A global chemical player and acknowledged leader in nanostructured materials, Arkema confirms its ongoing commitment with carbon nanotubes trademarked *Graphistrength*.



**Arkema Microscope Image -
Surface of Raw Carbon Nanotubes at
Reactor Outlet**



**Depiction of Arkema Multi-Walled
Carbon Nanotube**

Arkema, a chemical manufacturer, emerges in the global race for the carbon nanotube market with *Graphistrength*®

Two years ago, Arkema inaugurated a 10 tons/year carbon nanotube pilot plant in Lacq, France – the first stage of what was poised to become a full-scale industrial project. Concurrently, Arkema established an ambitious internal development program in nanomaterials. The result ranks Arkema as a major world player - with extensive intellectual property and top-flight industrial processes.

Arkema is now completely committed to manufacturing on the industrial scale a wide variety of products based on carbon nanotubes, and offering a comprehensive product range. In addition, Arkema partners with established leaders world-wide – universities, institutes, and manufacturers. Throughout all Arkema operations, environmental responsibility is the priority.

Development Prospects in Many Applications

Carbon nanotubes are used as additives in materials such as thermoset composites, thermoplastics, and rubbers. They offer remarkable opportunities in a large number of applications, due to outstanding mechanical properties, and excellent electrical and thermal conductivity. Benefits range from improving existing materials, to creating new materials for automotive, aerospace and sporting goods applications.

Studies in new fields are ongoing; in particular energy applications – supercapacitors, fuel cells, and lithium ion batteries – with the development of more efficient energy storage systems.

Arkema's Carbon Nanotubes, an Ever-Growing Product Range

Arkema is developing high- and consistent-quality multi-walled carbon nanotubes under the trademark **Graphistrength**[®]. Thanks to their excellent inherent properties, **Graphistrength**[®] products can be used successfully in very small quantities and still impart outstanding properties in terms of mechanical properties and electrical conductivity.

For the last two years, Arkema has continually enhanced its carbon nanotube product range to fulfill the requirements and demands of customers and research partners. The **Graphistrength**[®] product range now consists of:

- **Graphistrength**[®] **C100 and U100**: high purity (> 90 and > 97% respectively) powder multi-walled carbon nanotubes for a wide range of applications in thermoplastics, thermoset composites, elastomers, coatings, and electrode materials for batteries.
- **Masterbatches formulated** from **Graphistrength**[®] multi-walled carbon nanotubes dispersed in thermoplastic or thermoset matrices. These products afford optimum dispersion of the carbon nanotubes and a particularly safe application form for users. Several grades are now available commercially, with the range constantly expanding.

A Strategic Partnership with Zyvex Performance Materials in Thermoset Composites

Zyvex Performance Materials has developed the Kentera[™] technology in its laboratories to optimize the performance of carbon nanotubes in composite materials – with outstanding results in terms of superior mechanical properties.

Arkema and Zyvex Performance Materials have collaborated for a number of years in this application area: products incorporating **Graphistrength**[®] carbon nanotubes, based on the Kentera[™] technology, are already being developed for the American market by Zyvex Performance Materials under the brand Epovex[™].

Arkema and Zyvex Performance Materials are currently strengthening their partnership with a view to distributing these products world-wide within a few months.

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