

PRODUCT BRIEF

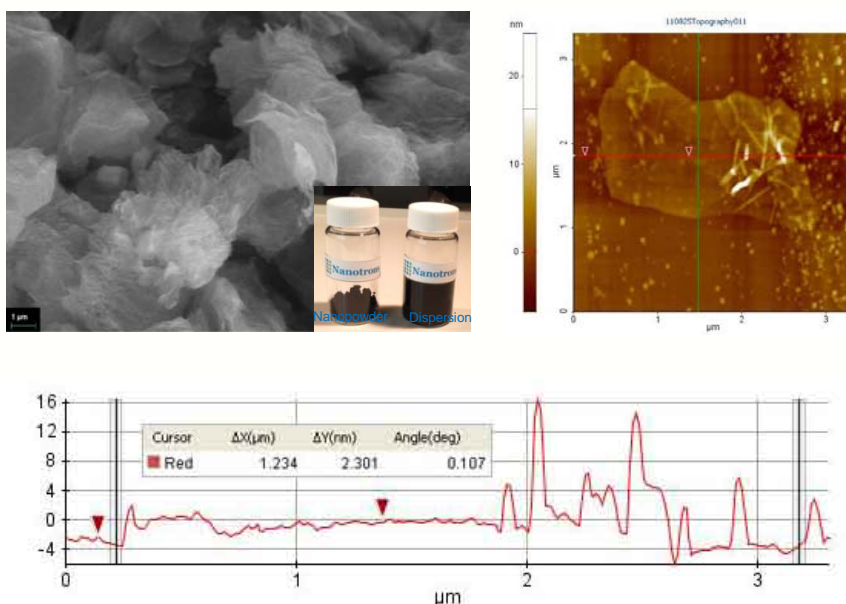
Functionalized Graphene Sheets with High Surface Area (> 820 m²/g)

Advantages

- High surface areas
- High aspect ratio
- Ease of dispersion
- High purity
- Proven performance enhancement

Attributes

The functionalized graphene sheets (FGS) produced by Nanotrons Corporation have high BET surface areas of over 820 m²/g, among the highest on the market. The functional groups (COH, CO, COOH) allow good dispersion of the graphene sheets in most of solvents through simple sonication. Nanotrons' high performance FGS have many great commercial, military, and aerospace applications.



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Technical Data

Thickness	Typically 1-2 nm
Dimension	Typically 1-100 microns
Functional Group	COH, CO, COOH
Format	Nanopowder and liquid dispersion
Dispersing Liquids	IPA, Ethanol , or other organic Solvents
Typical Concentration	1 wt%, 2 wt%, 5 wt% and higher

Case Study: FGS-Epoxy Nanocomposites

The FGS nano-fillers can improve the resin strength and fracture toughness by 80 to 100% and 300 to 700% at room and -130°C , respectively, increase the T_g of the epoxy resin about 8°C at low loading of 0.4 wt% FGS, and reduce the CTE at both below and above T_g about 25% at loading of 1.6 wt% FGS. Please contact us to discuss your applications and acquire further information.

Applications

- **Protective Structural Materials (as Nanofillers and Nanocomposites)**
 - Fuel (Cryogenic) Tanks
 - EM Shielding
 - Blast mitigation
 - Ballistic/fragment protection
 - Engine and turbine components
 - Protective Elastomer components
- **Transparent Conductive Film**
 - Organic Photovoltaic cells
 - Organic light emitting diodes
 - Sensors & Catalysts
 - Liquid Crystal Displays
 - Touchscreens
 - Conductive films
- **Energy Storage and Electric Devices**
 - Supercapacitors
 - Li-ion batteries
 - Integrated circuits
 - Electrochromic devices
 - Field-effect transistors
 - E-papers & Conductive inks
- **Anti-microbial, Chemical, & Thermal**
 - Anti-bacterial paper
 - Air & water purification
 - Chemical and explosive detecting sensors
 - Thermal management and interfacial materials
 - Microbial detection and diagnosis devices

About Nanotrons Corp

Nanotrons Corporation (NTC), based in Woburn MA, was formed in 2009 as a subsidiary of Agiltron Inc. to focus on nanomaterials business. NTC's vision is to leverage its proprietary advanced nano-engineering technologies to develop solutions to various challenges in the fields of energy, water, environment, and security. Nanotrons' products include silver nanowires, graphene nanosheets, the SPALASTM spray assisted layer-by-layer self assembly coating system, and NanoPaintTM Conformal Transparent Conductive Coating and Antifog Coating services.