

About xGnP®

xGnP® Graphene Nanoplatelets

A unique carbon nanomaterial with multifunctional properties

Our xGnP® brand Graphene Nanoplatelets are ultrathin particles of graphite that can also be thought of as short stacks of graphene sheets made through a proprietary manufacturing process. We produce several grades and sizes with thickness ranging from 1 to 20 nanometers and width ranging from 1 to 50 microns.

The unique size and platelet morphology of xGnP® nanoplatelets makes these particles especially effective at providing **barrier properties**, while their pure graphitic composition makes them **excellent electrical and thermal conductors**. Unlike many other additives, xGnP® Graphene Nanoplatelets can improve **mechanical properties** such as stiffness, strength, and surface hardness of the matrix material.

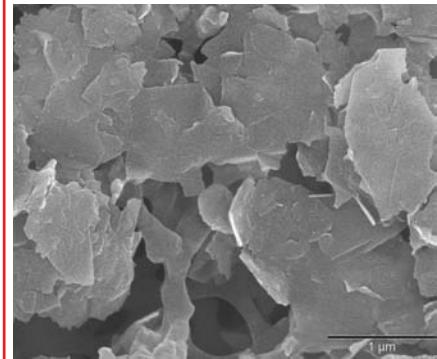
xGnP® nanoplatelets are compatible with almost all polymers, and can be an active ingredient in inks or coatings as well as an excellent additive to plastics of all types.

Our unique manufacturing processes are **non-oxidizing**, so our material has a pristine graphitic surface of sp^2 carbon molecules that makes it especially suitable for applications requiring high electrical or thermal conductivity.

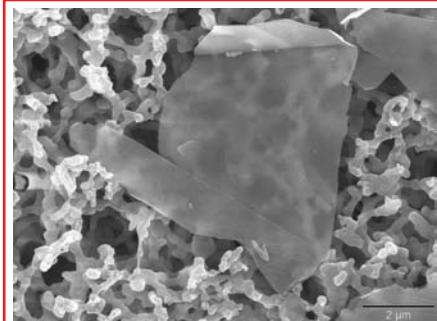
Promising applications include:

- * Ultracapacitor electrodes
- * Anode materials for lithium-ion batteries
- * Conductive additive for battery electrodes
- * Electrically-conductive inks
- * Thermally-conductive films and coatings
- * Additive for light-weighting composites
- * Films or coatings for EMI shielding
- * Substrate for chemical or biochemical sensors
- * Barrier material for packaging
- * Additive for super-strong concrete
- * Additive for metal-matrix composites

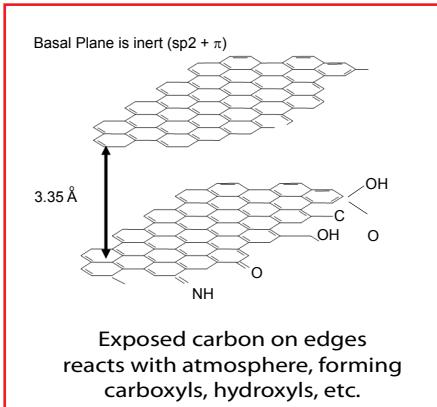
Please contact us for details or for technical assistance.



In a matrix, xGnP® nanoplatelets form a conductive network at relatively low loadings



xGnP® nanoplatelets are nano-thin but can be over 50 microns wide





xGnP® Graphene Nanoplatelets

Available as a bulk powder or in dispersions, sheets, or electrode formulations

1. xGnP® Graphene Nanoplatelets (bulk dry powder)

- Grade H – 15 nm thick, surface area of 50 – 80 m²/g
- Grade M – 6 nm thick, surface area of 120 – 150 m²/g
- Grade C - < 2 microns, surface area of 300, 500 or 750 m²/g

2. Dispersions of xGnP® Graphene Nanoplatelets

- Aqueous
- IPA
- Organic solvents
- Resins and custom

3. XG Leaf – sheet products formulated for specific applications

- Electrical resistivity as low as .1 ohms/sq.
- Thermal properties tailored for heat dissipation or conductive heating
- Barrier properties

4. Electrode formulations

- Anode for li-ion
- Supercapacitor



*Our manufacturing facility has the capacity to produce
80 tons of xGnP® Graphene Nanoplatelets annually*