

## **Technical Data Sheet**

## **Graphene Nanoplatelets - Grade M**

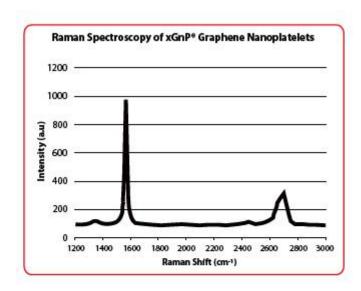
*Graphene Nanoplatelets* are unique nanoparticles consisting of short stacks of graphene sheets having a platelet shape. Each grade contains particles with a similar average thickness and surface area.

Grade M particles have an average thickness of approximately 6-8 nanometers and a typical surface area of 120 to 1500  $m^2/g$ . Grade H is available with average particle diameters of 5, 15 or 25 microns.

## Characteristics of Bulk Powder

Property Typical Value
Appearance Black granules
Bulk Density 0.03 to 0.1 g/cc
Oxygen Content\* < 1 percent
Residual Acid Content\* < 0.5 wt%

\*Note: nanoplatelets have naturally occurring functional groups like ethers, carboxyls, or hydroxyls that can react with atmospheric humidity to form acids or other compounds.



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Property	Typical Value - Parallel to Surface	Typical Value - Perpendicular to Surface	Unit of Measure
Density	2.2	2.2	grams/cc
Carbon Content	>99.5	>99.5	percent
Thermal Conductivity	3,000	6	watts/meter-K
Thermal Expansion (CTE)	4-6 x 10 <sup>6</sup>	0.5 - 1.0 x 10 <sup>-6</sup>	m/m/degK
Tensile Modulus	1,000	na	GPa
Tensile Strength	5	na	GPa
Electrical Conductivity	10 <sup>7</sup>	10 <sup>2</sup>	siemens/meter

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