

# Technical Data Sheet

## Graphene Nanoplatelets - Grade H

**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.

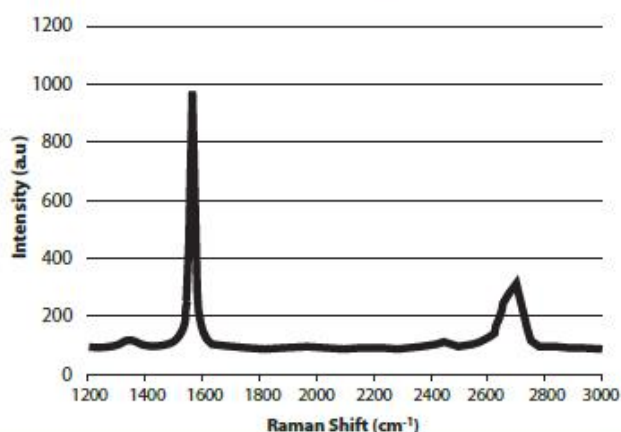
**Grade H** particles have an average thickness of approximately **15 nanometers** and a typical surface area of **50 to 80 m<sup>2</sup>/g**. Grade H is available with average particle diameters of **5, 15 or 25 microns**.

### 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.*

Raman Spectroscopy of xGNP® Graphene Nanoplatelets



### Typical Properties of xGNP® Graphene Nanoplatelets

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/deg-K
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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