

xGnP® Graphene Nanoplatelets – Grade M

xGnP® 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.

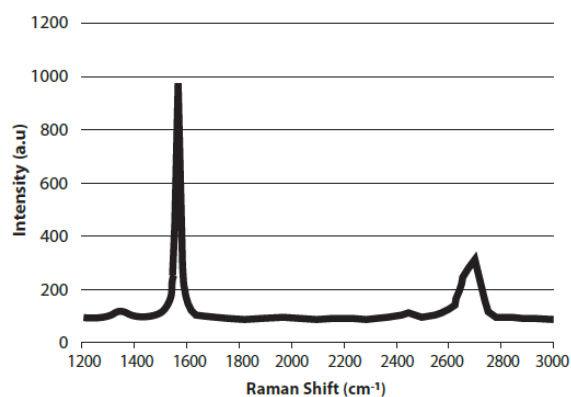
Grade M particles have an average thickness of approximately 6 to 8 nanometers and a typical surface area of 120 to 150 m²/g. Grade M is available with average particle diameters of **5**, **15**, or **25** microns.

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



| | Parallel To Surface | Perpendicular To Surface |
|-------------------------------|--------------------------|------------------------------|
| Density (g/c ³) | 2.2 | 2.2 |
| LOI – Loss on Ignition (wt %) | ≥ 99.0 | ≥ 99.0 |
| Thermal Conductivity (W/m.K) | 3,000 | 6 |
| Thermal Expansion (m/m/K) | 4 - 6 x 10 ⁻⁶ | 0.5 - 1.0 x 10 ⁻⁶ |
| Tensile Modulus (MPa) | 1,000 | NA |
| Tensile Strength (MPa) | 5 | NA |
| Electrical Conductivity (S/m) | 10 ⁷ | 10 ² |

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