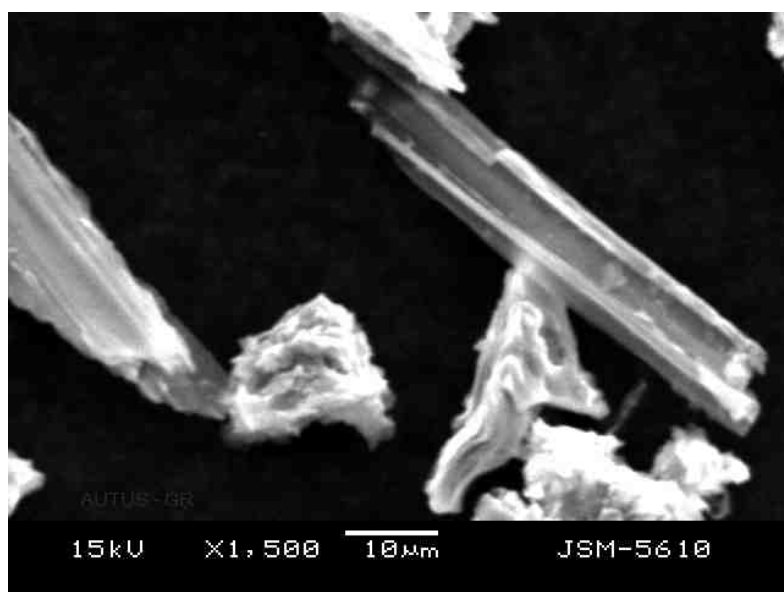


AUTUS-GR is produced by combined effort of modified chemical & CVD methods with multiple points of quality checks. The proprietary methods and customized equipment are leading ideal grade of the graphene sheet and is of multifunctional properties imparting outstanding results. We are producing on a large scale with best quality for industrial purpose at competitive price.

## TECHNICAL PARAMETERS OF AUTUS-GR

Available form	Black powder	visual
Bulk density	0.19 g/cm <sup>3</sup>	Pycnometer
Dimension (X Y Z)	10 x 20 x 5 μm	-
Specific Surface Area	300 – 600 m <sup>2</sup> /g	BET
Graphene purity	>95%	EDX
Metal particles	<2%	TGA

### SEM IMAGE



### Advantage of AUTUS-GR

- \* The thinnest material
- \* A superconductor material
- \* Transparent
- \* One of the strongest materials

DENSITY	PARALLEL TO SURFACE
Thermal	Conductivity 3,000 watts/m-K
Tensile Modulus	>1,000 GPa
Tensile Strength	>5 GPa
Electrical Conductivity	107 siemens/m

**AUTUS-GR** is so unique because it combines a set of properties unseen in any previously known material. These are: mechanical strength, elasticity, thermal properties (high conductivity), transparency for the whole spectrum of electromagnetic waves, impermeability for practically all substances, biological properties, sensory capabilities, electronic properties (mainly very high electron mobility), high thermal and electrical conductivity.

## Advance Application of AUTUS-GR

High electron mobility at room temperature levels ( 130 × higher than for silicon, 25 × higher than for GaAs) and high electrical conductivity:

- High-frequency transistors, spintronics, semiconductor memory, Micro Electro-Mechanical Systems (MEMS), high-frequency electronics
- ESD, EMI and RFI coatings
- VHF antennas

High mechanical strength (Young modulus 100 GPa):

- Composite materials
- Very high rigidity enables pressure sensor applications

High durability for high current densities:

- Cable materials

### Elasticity:

- Flexible electronics
- RFID tags

### High active surface per weight unit (limit 2630 m<sup>2</sup>/g):

- Energy storage (supercapacitors, new generation cells)
- Fuel cells

### High transmittance (98%) for electromagnetic radiation with flat characteristics:

- Transparent electrodes, photovoltaics, materials for laser production

### High sensitivity to chemical compounds (chemical "control" of physical properties):

- Biosensors, chemical sensors
- Hydrogen storage

### High thermal conductivity combined with anisotropic properties ( 300 W/(m×K) along the surface, 2 W/(m×K) in perpendicular direction):

- Heat/energy storage
- Heat flow management – cooling

### Impermeability (if without defects):

- Coatings and paints
- Food wraps
- Layered composites

