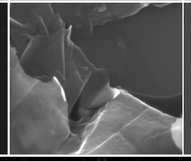
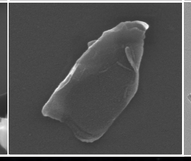
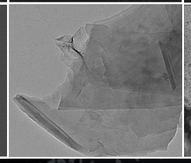
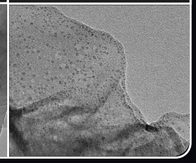
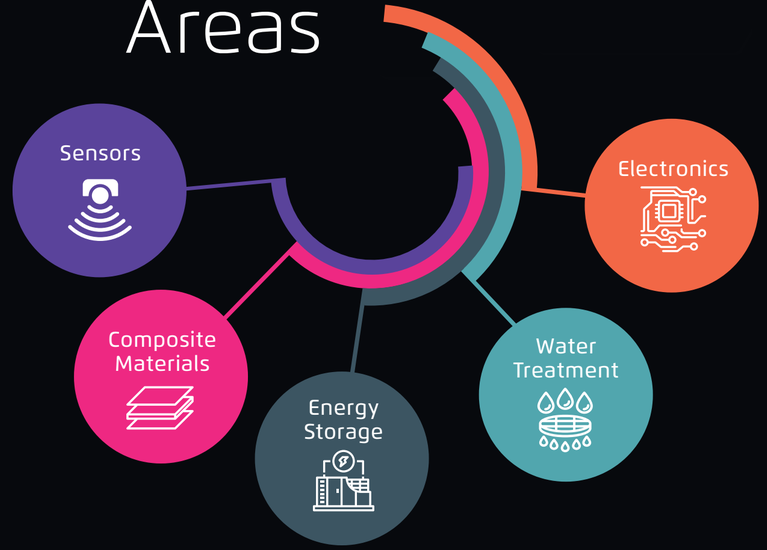
Graphene

Nanografi's graphene products, available in powder, flake, sheet and dispersion forms and in customized configurations, with a production capacity of 100 tons per year, offer **unique mechanical, electrical and thermal properties,** ensuring high-quality standards for leading global technology and industrial corporations, universities and research institutes worldwide.

Properties	Graphene Nanoplatelet (GNP)	Graphene Oxide (GO)	Reduced Graphene Oxide (rGO)	Holey Super Graphene (HG)
Chemical composition / O-content (wt%)	< 5 %	20 – 35 % epoxide, hydroxyl, carboxyl groups	5–10% residual O after reduction	<5% (similar to rGO) plus in plane vacancies/pores
Electrical conductivity (Sm-1, order)	10^4 – 10^5	10^8–10^0 (insulating)	10^2–10^4 (depends on reduction extent)	10^2–10^4 in plane; cross plane paths enhanced by pores
Thermal conductivity in plane (W m-1 K-1)	1000 – 3000	5–10	200–1000	100–500 (pores scatter phonons)
Specific surface area (m^2 g-1)	100 – 700	700–1500	500–1000	1200–2500 (porous architecture)
Porosity / defects	Low vacancy density, intact lattice	Dense functional defects, no intrinsic pores	Partially healed lattice; some vacancies	Nanoscale in plane holes (2–50 nm) give high porosity
Key advantages	Highest mechanical strength, thermal & electrical conductivity; scalable cost	Easy chemical modification; stable aqueous inks; large interlayer spacing	Good conductivity while retaining some chemistry; printable; lower cost than pristine graphene	Fast ion/e transport, huge surface; rapid mass transfer; tunable pore size
Typical applications	Polymer/metal composites, TIM pads, EMI shielding, lubricants	Membranes, sensors, fire retardants, biomedical carriers, polymer compatibiliser	Supercapacitor & battery electrodes, conductive inks, printable electronics, catalysts	Li S & Li ion cathodes/hosts, electrocatalysis, filtration, high flux membranes, high rate supercapacitors
TEM / SEM Images				

Application Areas



nanografi

nanografi

nanografi

BEYOND THE FUTURE

shop.**nanografi**.com

+90 312
285 85 09

METU Technopolis
Çankaya / Ankara TÜRKİYE

advancedmaterials@nanografi.com

AHLATCI HOLDING

Innovate with *Nanografi*

Nanografi, as a subsidiary of **Ahlatcı Holding**, redefines standards over 40+ years of experience in its international operations with an approach **focused on scientific and technological development, through transparency, accountability, expert teams, high scientific adaptability and technological capabilities** that support sustainable development.

Nanografi leads the global competition with its teams of experts and innovative approach in R&D, energy, smart tech, chemicals, mechanics, advanced engineering projects and plant installation, especially with **Nanografi Advanced Materials' high-quality products & solutions.**

nanografi

Nanografi Advanced Materials department, operating under Nanografi, develops advanced materials products, offering **integrated solutions from innovation through research and development, customization and high-volume production** for projects including scientific applications, industrial applications and high-tech solutions, grounded in Nanografi's approved engineering and quality standards.

Nanografi Advanced Materials is one of the pioneers in the mass production of graphene worldwide. With Türkiye's first and the world's largest and highest-performing graphene mass production facility, it identifies critical raw material needs globally and develops innovative solutions, primarily focusing on graphene and its derivative materials.

Nanografi
Advanced Materials

nanografi

Graphene

Graphene Oxide, Reduced,Graphene Oxide

Nanografi
Advanced Materials