

Graf-X™ Graphene Precursors

TECHNICAL DATA SHEET 616

Graphene Precursors

Graf-X™ graphene precursors (GP's) are raw material sources for graphene products including natural graphite flake, intercalated natural graphite flake, expanded natural graphite flake, and synthetic graphite. Available grades are summarized below.

Intercalated Natural Graphite (ING)

Intercalated natural graphite flakes are designed for use by graphene manufacturers who are producing graphene nanoplatelet materials involving exfoliation methods such as high temperature or microwave processing. Available grades are summarized below and vary according to the expansion volume, lateral dimensions, and purity of the starting graphite flake. These variables impact the lateral dimensions and number of graphene layers produced in ultrasonic, high shear mixing or other dispersion processes. The purity selected depends on the end use application, with typically, lower purity grades used in industrial applications and higher purity in battery applications.

GRADE	Typical Expansion Volume at 800°C (cm ³ /g)*	Average Flake Lateral Dimensions (µm)	Purity of Starting Flake (% C)
GP -ING-1-A	650	300	99.9+
GP-ING-1-C			95+
GP-ING-2-A	380	175	99.9+
GP-ING-2-C			95+
GP-ING-3-C	350	75	95+



Intercalated Natural Graphite

Expanded Natural Graphite (ENG)

Expanded natural graphite precursors are designed for use by graphene manufacturers who are producing graphene nanoplatelet materials involving mechanical milling or liquid phase exfoliation. Available grades are summarized below and vary according to the lateral dimensions and purity of the starting graphite flake. Additional or customized grades are available upon request.

GRADE	Average Flake Lateral Dimensions * (µm)	Purity of Starting Flake (% C)**
GP-ENG-550-A	550	99.9+
GP-ENG-550-B		98+
GP-ENG-550-C		95+
GP-ENG-400-A	400	99.9+
GP-ENG-400-B		98+
GP-ENG-400-C		95+
GP-ENG-20-A	20	99.9+
GP-ENG-20-B		98+
GP-ENG-20-C		95+



Expanded Natural Graphite

NeoGraf Solutions application engineers work with graphene producers to select the appropriate grade of GP depending on their specific graphene manufacturing processes and intended use applications. GP's can be customized according to specific customer requirements. All grades are available in sample and metric ton (MT) quantities.

*Per laser diffraction particle size analysis

**Per loss on ignition (LOI)

LEAD. CREATE. CONNECT.

+1 (800) 253.8003 (Toll-Free in USA) | +1 (216) 529.3777 (International)
www.neograf.com | info@neograf.com

©2021 NeoGraf Solutions, LLC (NGS). This information is based on data believed to be reliable, but NGS makes no warranties, express or implied, as to its accuracy and assumes no liability arising out of its use. The data listed falls within the normal range of product properties, but should not be used to establish specification limits or used alone as the basis of design. NGS's liability to purchasers is expressly limited to the terms and conditions of sale. eGRAF®, NeoNxGen™, SPREADERSHIELD™, HITHERM™, GRAFGUARD®, GRAFOIL®, GRAF+® and GrafHX® are registered trademarks of NeoGraf Solutions, LLC. eGRAF®, NeoNxGen™, SPREADERSHIELD™, HITHERM™, GRAFGUARD®, GRAFOIL®, GRAF+® and GrafHX® products, materials, and processes are covered by several US and foreign patents. For patent information visit www.neograf.com.