

PureGRAPH® PRODUCTS

Featured PureGRAPH® graphene products

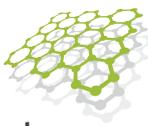
MB-LDPE graphene enhanced masterbatch

MB-EVA Bitumen graphene masterbatch

MB-EVA graphene enhanced masterbatch

AQUA pre-dispersed graphene additives

Nanoplatelet additives



first graphene

The world's leading graphene company



PureGRAPH® graphene products are high performing additives for use across many consumer and industrial sectors. With its well-known reputation as the lightest and strongest material on earth, graphene's versatility allows it to be used in a vast range of applications.

First Graphene, the world's leading graphene company, has developed exceptional quality graphene products that provide significant benefits and performance improvement, from light weighting and fire retardancy, to compressive and flexural strength improvements, to exceptional electrical and thermal conductivity.

The PureGRAPH® range is designed to enable easy dispersion in a broad range of materials, including plastics, composites, rubbers and elastomers, cement and concrete, and inks and coatings.

The product range includes a growing list of masterbatch additives, designed for even easier incorporation into standard manufacturing processes. Custom PureGRAPH® MB grades are also available upon request in a range of polymer options that can be tailored to specific materials or applications.

PureGRAPH® MB-LDPE

GRAPHENE ENHANCED MASTERBATCH

PureGRAPH® MB-LDPE masterbatch is a graphene-enhanced, pelletised additive designed for use in polyolefin systems including polyethylene and polypropylene.

It can be used in polyamide and acetal polymers, enhancing tensile strength and fatigue resistance. These enhancements lend themselves to precision engineering products requiring dimensional stability and excellent flexural memory.

With thermoplastic polymers among the most widely produced plastics in the world, this product has valuable application across the major global plastics market sectors.

Application	Compatible with a wide range of materials and easily added into thermoplastic production processes such as, injection moulding, blow moulding and extrusion
Sectors	Mining services, leisure equipment, textiles, automotive, construction, coatings
Benefits	Enhances mechanical and thermal properties, tensile strength, fatigue resistance
Form	Pellet
Ordering	Samples from 50g to 500g in screw cap containers. Bulk orders supplied in foil-sealed bags, tonnage quantities available



PureGRAPH® MB-EVA GRAPHENE ENHANCED MASTERBATCH

PureGRAPH® MB-EVA formulation extends the masterbatch product range, increasing applications for blending in elastomers such as rubber systems and plastics, as well as thermoplastics.

The vinyl acetate content of the base polymer brings softness, flexibility and polarity and can potentially be compatible with resins, waxes and adhesives, oil and bitumen.

Application	Blended to thermoplastics and elastomers such as rubber systems and plastics; potentially compatible with resins, waxes, adhesives
Sectors	Mining services, leisure equipment, textiles, automotive, construction, coatings
Benefits	Softness, flexibility, polarity
Form	Pellet
Ordering	Samples from 50g to 500g in screw cap containers. Bulk orders supplied in foil-sealed bags, tonnage quantities available

PureGRAPH® MB-EVA BITUMEN GRAPHENE ENHANCED MASTERBATCH

PureGRAPH® MB-EVA Bitumen is a graphene-loaded carrier masterbatch, designed for blending into asphalt mixtures to improve mechanical properties and stability.

It can also be added to bitumen storage tanks to create a graphene-enhanced polymer modified binder without the need for a high shear mixing.

Application	Binder for bitumen used in asphalt systems; the Vinyl Acetate content has been selected for compatibility with typical penetration-grade bitumen used in the road construction industry
Sectors	Construction of roads and other asphalt surfaces
Benefits	Easy to incorporate using standard processing techniques, supplied in pellet form as a masterbatch for ease of dosing and handling
Form	Pellet
Ordering	Samples from 50g to 500g in screw cap containers. Bulk orders supplied in foil-sealed bags, tonnage quantities available

PureGRAPH® AQUA

PRE-DISPERSED GRAPHENE ADDITIVES

PureGRAPH® AQUA is an easy-to-use graphene paste for formulation into water and polar solvent-based formulations.

For cement and concrete applications, PureGRAPH® AQUA can be easily dispersed into admixture and additive formulations or water prior to mixing with cement, sand and aggregates, similar to any typical reagent or additive.

With dosage rates as low as 0.01% of total concrete mix, a small amount of PureGRAPH® Aqua goes a long way when it comes to enhancing strength, durability and multifunctionality.

This enables thinner, lighter concrete products with improved tensile and compressive strength, reducing the carbon footprint of construction.

PureGRAPH® AQUA can also be used across many other applications.

Application	Paints, inks, latex, polymer and cement composites
Sectors	Construction, automotive, leisure products, textiles, coatings
Benefits	Improves mechanical performance, abrasion resistance, anti-corrosion, fire-retardancy and thermal and electrical conductivity
Form	Predispersed in water, additive paste
Ordering	Samples from 50g to 500g in screw cap containers. Bulk orders supplied in foil-sealed bags, tonnage available



PureGRAPH®

NANOPLATELET ADDITIVES

PureGRAPH® Powder additives are characterised by their large platelet size, high aspect ratio and low defect levels – perfect for dispersing across a range of solvents, polymer resins, elastomers and water-based formulations.

PureGRAPH® is typically applied to fibre reinforced plastic composites, elastomers, plastics, coatings, textile materials, energy storage and concrete. An added benefit is enhanced fire retardancy of polymer composites.

Batch to batch consistency is ensured through leading edge quality control testing and various product grades are available in lateral sizes, with tightly controlled geometries.

Application	Fibre-reinforced plastic composites, elastomers, plastics, coatings, textile materials, energy storage and concrete
Sectors	Mining services, leisure equipment, textiles, automotive components and construction
Benefits	Increased flexural and compressive strength, reduced water and chemical permeability, anti-corrosion, fire retardancy
Form	Powder
Ordering	Samples from 50g to 500g in screw cap containers. Bulk orders supplied in foil-sealed bags, tonnage quantities available



PureGRAPH®

PRODUCTS OVERVIEW

	NPA	AQUA	MB-LDPE	MB-EVA	MB-EVA-B
Form	Powder	Paste	Pellet	Pellet	Pellet
Mining	✓		✓	✓	
Leisure	✓	✓	✓	✓	
Textile	✓		✓	✓	
Transport	✓		✓	✓	
Construction	✓	✓	✓	✓	
Road surfaces					✓
Coating / Inks	✓	✓	✓		
Energy	✓				
Renewables	✓				

MB-LDPE graphene enhanced masterbatch [MB-LDPE]

MB-EVA Bitumen graphene enhanced masterbatch [MB-EVA-B]

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AQUA pre-dispersed graphene additives [AQUA]

Nanoplatelet additives [NPA]



About First Graphene Ltd (ASX: FGR)

First Graphene Ltd is the leading supplier of high-performing graphene products and product solutions. The company has a robust manufacturing platform based on captive supply of high-purity raw materials and an established 100 tonne per annum production capacity. In addition to multiple commercial applications, the company is a world leader in graphene research and development.

First Graphene is publicly listed in Australia and has a primary manufacturing base in Henderson, WA. The company is incorporated in the UK as First Graphene (UK) Ltd and is a Tier 1 partner at the Graphene Engineering and Innovation Centre (GEIC), Manchester, UK.

FOR MORE INFORMATION OR TO PLACE ORDERS

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