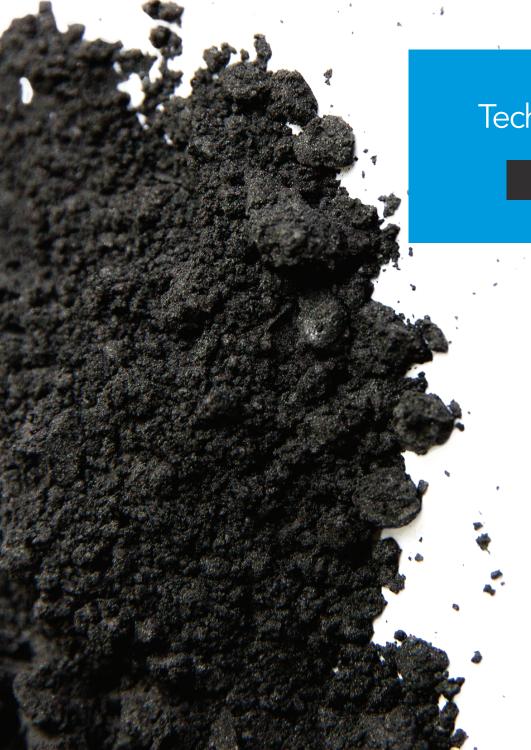


Performance Through Carbon Chemistry



Technical Data Sheet







GrapheneBlack™ 0X

A versatile and low-cost graphene powder available in industrial volumes.

GrapheneBlack™ 0X is a multifunctional carbon additive formulated for across-the-board performance improvements in thermoplastics and rubbers and is particularly well suited for use in thermosets, inks, paints and coatings. It provides a unique opportunity to enable manufacturers to reach the next level of long term performance and cost reduction with virgin and recycled resins. Performance improvements include:







Electrical Conductivity & Shielding



Thermal Properties



Oxidation Resistance



UV Protection



Barrier Properties

Physical and chemical properties

Physical properties

Property	Value
Primary particle size*	predominantly 0.5 – 1 μm
Agglomerate size**	D10 = 4 µm D50 = 12 µm D90 = 27 µm
Number of layers***	6 –10
Bulk density	0.2-0.3 g/cm ³
Appearance	Black fluffy powder
Solubility	Insoluble
Moisture (TGA)	< 0.5 wt%
Ash content (TGA)	< 3 wt%

^{*} Average primary particle size measured by statistical TEM analysis.

^{**} Loose agglomerate size measured by laser diffraction.

^{***} Up to 90% of flakes within this range.





Chemical composition

Element	Value
Carbon	>97 wt%
Oxygen	< 1 wt%

Elemental content measured by CHNOS.

Electron microscopy

Few-layer GrapheneBlack™ 0X flakes under TEM.



Electron micrograph (TEM) shows various few-layer thick flakes with thicknesses mainly ranging from 6 to 10 layers.

 $\begin{array}{c} \textbf{GrapheneBlack 0X} \text{ is available in:} \\ \textbf{500kg} \text{ big bag.} \end{array}$

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