

复合型石墨烯

产品说明



专注研发，只为更高品质

一、产品概述

1. 复合型石墨烯 (Composite Type Graphene, 简称 COTG) 采用昂星研发的特殊工艺制备, 其结构完整, 机械性能和导电性能优异。
2. 本品表面接枝了部分极性官能团, 易与高分子等极性材料均匀复合。具有片层薄、比表面积大等特点, 添加至复合材料中, 能明显提升基体材料性能。
3. 本品可作为复合材料添加剂使用, 提高复合材料机械性能、导电性能等, 可应用于复合材料、涂料等领域。

二、产品参数

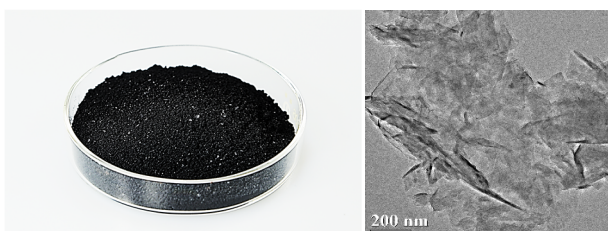


图1. 昂星COTG产品图和TEM图谱

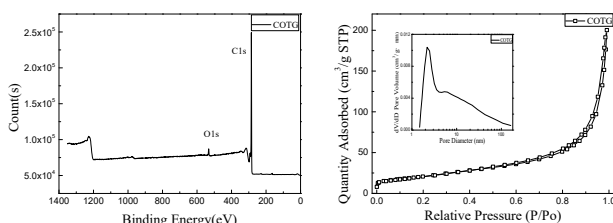


图2. 昂星COTG产品XPS分析和BET分析

技术参数	参数值
形貌	黑色粉体
厚度 (nm)	~10
片径 (μm)	0.1~0.8
碳含量 (wt.%)	~95
氧含量 (wt.%)	~3
灰分 (wt.%)	<1.0
比表面积 (m ² /g)	~100
电导率 (S/m)	~15000

三、产品性质说明

1. 分散性能: 本品在许多极性溶剂 (水、乙醇、NMP等) 中具有优异的分散性, 且具有较好的稳定性。若加入适量的分散剂, 可进一步提高产品的分散稳定性, 减少产品在溶剂中的沉降。
2. 机械性能: 本品片层结构缺陷小, 发挥出的机械性能优异, 与高分子复合后, 强度、耐磨性能等提升明显。
3. 电学性能: 复合型石墨烯本征电导率为15000 S/m, 能有效提升复合材料的电学性能。

四、应用情景举例



图3. 昂星石墨烯导电塑料导电测试

复合型石墨烯具有优异的分散性和导电性, 能均匀地分散于塑料中, 形成导电通路。添加少量的复合型石墨烯, 能使塑料具有优良的导电性能。此外还能改善塑料的力学性能, 如强度、柔韧性等。

五、注意事项

使用安全: 本产品为黑色粉末, 易飘散, 对人体的肺及呼吸道有害, 使用过程中请做好相应的粉尘防护。

贮存运输: 本品室温下密封保存。包装瓶为PS材质, 请远离热源。请勿与有机溶剂接触。

本说明书为简要产品说明, 具体产品说明请登录公司网站 www.ashinecarbon.com 查看及下载。

如果对上述内容存在任何疑问或需要相关文献, 欢迎联系我们: Sales@ashinecarbon.com

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Composite Type Graphene

Product Information



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I. Product Overview

1. The Composite Type Graphene prepared with a special process by Ashine is referred to as 'COTG' for short. It has a complete structure and excellent mechanical and electric properties.
2. The surface of the product is grafted with some polar functional groups, allowing it to be easily compounded with other polar materials such as polymers. It has a thick flakes and high specific surface area. The performance of matrix materials can be greatly improved when it is added to composite materials.
3. This product can be used as a composite material additive to improve the mechanical properties and electric conductivity of composite materials. It can also be used in composite materials, coatings and other fields.

II. Product Parameters

Technical Parameter	Parameter Value
Form	Black powder
Thickness (nm)	~10
Diameter(μm)	0.1~0.8
Carbon content (wt.%)	~95
Oxygen content (wt.%)	~3
Ash content (wt.%)	<1.0
BET (m ² /g)	~100
Electric conductivity (S/m)	~15,000

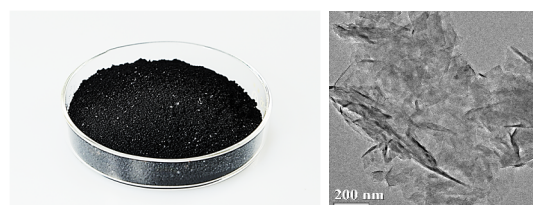


Fig. 1. Ashine COTG Product and TEM Images

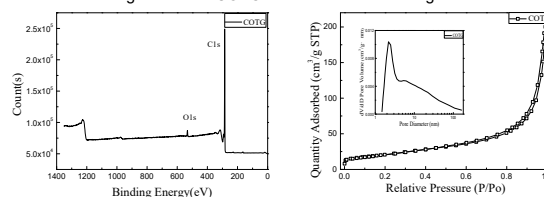


Fig. 2. Ashine COTG Product XPS Spectra and BET Diagram

III. Description of Product Properties

1. **Dispersion:** The product has excellent dispersibility and stability in many polar solvents (water, ethanol, NMP, etc.). If a proper amount of dispersant is added, the dispersion stability of the product can be further improved and the settlement of the product in the solvent can be reduced.
2. **Mechanical properties:** The lamellar structure of the product has few defects and excellent mechanical properties, and it can greatly improved the strength and wear-resistance of its compounded polymer materials.
3. **Electric conductivity:** The intrinsic electric conductivity of COTG is 15,000 S/m, which can effectively improve the electric property of composites.

IV. Application Example

Composite type graphene has an excellent dispersibility and electric conductivity, and can be evenly dispersed in a plastic to form a conductive path. The addition of a small amount of COTG makes the electric conductivity of a plastic excellent. In addition, it can improve such mechanical properties of plastics as strength, flexibility and so on.



Fig. 3. Ashine electric Conductive Testing of Graphene Conductive Plastics

V. Notice

Safe use: This product consists of a black powder which is prone to float. As it can be harmful to the lungs and respiratory tract, please ensure appropriate dust protection when it is used.

Storage and transportation: This product is stored at room temperature. The packing bottle is PS material. Please keep away from heat sources and any organic solvents.

This manual is a brief product description. Please visit the company's website at www.ashinecarbon.com to view and download a detailed product description. If you have any questions about the above or require the relevant literature, please contact us at Sales@ashinecarbon.com.

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