



SINOYQX® YQX-A Hydrophobic Aerogel Powder

Technical Data Sheet / 技术数据表

Product model 产品型号	Document type 文件类型	Version 版本	Issued by 发布方
YQX-A10 / YQX-A15 / YQX-A50	Technical Data Sheet / 技术数据表	Rev. 2026-07	YDN SINOYQX (Pinghu) Technology LLC

1. Product Description / 产品描述

YQX-A is a hydrophobic nano silica aerogel powder with a three-dimensional nanoporous structure. It provides ultra-low thermal conductivity, lightweight characteristics, high porosity and excellent moisture resistance.

YQX-A 是一种具有三维纳米多孔结构的疏水型二氧化硅气凝胶粉体，具备超低导热、轻量化、高孔隙率以及优异耐湿性能。

The product is designed for advanced thermal insulation applications requiring high insulation efficiency, lightweight design, moisture resistance and long-term thermal performance.

该产品面向需要高效隔热、轻量化设计、防潮性能以及长期稳定隔热性能的应用场景。

Item / 项目	Value / Guidance 数值 / 建议
Material base / 材料基础	Hydrophobic nano silica aerogel / 疏水型纳米二氧化硅气凝胶
Appearance / 外观	White loose powder / 白色松散粉末
Product form / 产品形态	Powder / 粉体
Main positioning / 主要定位	Ultra-low thermal conductivity insulation filler / 超低导热隔热功能填料
Particle size range / 粒径范围	Customized from 10–50 µm / 可根据需求定制 10–50µm
Typical use environment / 典型使用环境	Thermal coatings, composites, battery insulation, industrial insulation / 隔热涂料、复合材料、电池隔热、工业保温

2. Key Features / 主要特点

- Ultra-low thermal conductivity for high-performance thermal insulation applications. / 超低导热性能，适用于高性能隔热应用。
- Three-dimensional nanoporous structure effectively reduces solid conduction, gas convection and radiation heat transfer. / 三维纳米多孔结构，有效降低固体传导、气体对流及辐射热传递。
- Hydrophobic surface modification provides excellent moisture resistance. / 疏水表面处理，提高材料耐湿性能。

- Extremely low density supports lightweight thermal insulation design. / 超低密度特性，有助于实现轻量化隔热设计。
- High specific surface area and nano-scale pore structure improve insulation efficiency. / 高比表面积及纳米孔结构，提高隔热效率。
- Customizable particle size and surface treatment according to customer requirements. / 可根据客户需求定制粒径及表面处理。

3. Product Grade Selection / 产品型号选择

Product Model 产品型号	Particle Size D50 平均粒径	Typical Application 典型应用
YQX-A10	10 μm	Precision thermal coatings, thin insulation layers, advanced composites / 精密隔热涂层、薄型隔热层、高性能复合材料
YQX-A15	15 μm	General thermal coatings, polymer composites, functional fillers / 通用隔热涂料、聚合物复合材料、功能填料
YQX-A50	50 μm	Thick coatings, thermal mortar, bulk insulation composites / 厚膜隔热涂层、保温砂浆、隔热复合材料

4. Typical Physical Properties / 典型物理性能

Property 性能项目	Unit 单位	Test Method 测试方法	Typical / Limit 典型值 / 限值
Thermal conductivity / 导热系数	W/(m·K)	ISO 22007-2:2022	≤0.020 @25°C
Specific surface area / 比表面积	m²/g	GB/T 19587-2017	> 600
Pore diameter / 孔径	nm	GB/T 19587-2017	2–50
Bulk density / 堆积密度	kg/m³	GB/T 5211.4-1985	< 80
Porosity / 孔隙率	%	GB/T 10799-2008	> 90
Moisture absorption / 吸湿率	%	GB/T 16913-2008	≤ 5.0
Contact angle / 接触角	°	GB/T 30693-2014	> 140

5. Particle Size Selection / 粒径选择说明

YQX-A10 Fine Grade Aerogel Powder / YQX-A10 超细型气凝胶粉
D50 ≈ 10 μm



Features: Excellent dispersion performance, suitable for thin coating systems, smooth surface finish.

典型应用：隔热涂料、功能涂层、精密复合材料。

YQX-A15 Standard Grade Aerogel Powder / YQX-A15 标准型气凝胶粉

D50 $\approx$ 15 μ m

Features: Balanced thermal insulation and processing performance.

典型应用：聚合物复合材料、工业隔热涂层、电池热管理材料。

YQX-A50 Large Particle Grade Aerogel Powder / YQX-A50 大粒径气凝胶粉

D50 $\approx$ 50 μ m

Features: High filling efficiency, suitable for thick insulation structures.

典型应用：保温砂浆、厚膜隔热涂层、大体积隔热复合材料。

6. Thermal Insulation Performance / 隔热性能

YQX-A aerogel powder achieves excellent insulation performance through its nano porous structure.

YQX-A 气凝胶粉通过纳米多孔结构实现优异隔热性能。

Typical thermal conductivity:

≤ 0.020 W/(m·K)

7. Application Areas / 应用领域

Application Area 应用领域	Typical Use 典型用途
Thermal insulation coatings / 隔热涂料	Functional insulation coatings, energy-saving coatings / 功能隔热涂层、节能涂料
Battery thermal management / 电池热管理	Battery insulation layers and thermal protection / 电池隔热层及热保护材料
Energy storage systems / 储能系统	Thermal insulation components and thermal barriers / 隔热部件及热阻隔材料
Polymer composites / 聚合物复合材料	Lightweight insulation composites / 轻量化隔热复合材料
Industrial equipment insulation / 工业设备保温	Pipe, tank and equipment insulation / 管道、储罐及设备保温
Aerospace insulation / 航空航天隔热	Lightweight thermal protection materials / 轻量化热防护材料

8. Processing Recommendation / 加工建议

Due to the high specific surface area and nanoporous structure, proper dispersion is recommended during processing.



推荐加工方式:

- Gradual addition into the system.
- Low to medium shear mixing.
- Avoid excessive mechanical force that may damage the porous structure.

9. Storage, Handling and Packaging / 存储、操作与包装

Item 项目	Guidance 建议
Storage / 储存	Store in a dry, clean and sealed environment. / 储存在干燥、清洁、密封环境
Handling / 操作	Avoid moisture contamination and mechanical damage. / 避免受潮及机械损伤
Packaging / 包装	5 kg, 10 kg, 20 kg bags or customized packaging / 5kg、10kg、20kg 袋装或定制包装
Transportation / 运输	Moisture-proof packaging recommended. / 建议防潮运输包装

10. Safety, Environmental and Compliance Notes / 安全、环保与合规声明

- This TDS does not replace Safety Data Sheet (SDS) or project-specific qualification documents.

本技术数据表不替代安全数据表 (SDS) 或项目验证文件。

- Typical values are provided for engineering reference only.

典型数据仅作为工程参考。

- Customers should verify suitability according to their processing conditions, installation structure and end-use requirements.

客户应根据自身加工条件、安装结构及最终用途要求验证产品适用性。

11. Ordering and Technical Support / 订购与技术支持

Company / 公司

YDN SINOYQX (Pinghu) Technology LLC

Email / 邮箱

sales@sinoyqx.com

Website / 网站

www.sinoyqx.com

Available support / 可提供支持

TDS, SDS, sample evaluation, technical consultation and customized aerogel solutions.

可提供 TDS、SDS、样品评估、技术咨询及定制化气凝胶解决方案。