

YQX-Z Low-Emission Melamine Foam / YQX-Z 低释放三聚氰胺泡沫

TECHNICAL DATA SHEET (TDS) / 技术数据表

1. Product Overview / 产品概述

Model / 型号: YQX-Z (Low-Emission Melamine Foam)

Internal grade code / 内部型号: 6671

Form / 形态:

Sheet / roll / block / bun; open-cell melamine foam with lightweight microcellular structure.

片材 / 卷材 / 块料 / 发泡坯料; 开孔结构三聚氰胺泡沫, 具有轻量化微孔结构。

Material positioning / 材料定位:

YQX-Z is a low-emission melamine foam platform developed using a **zero-added-formaldehyde formulation** designed to minimize potential formaldehyde emission and migration.

YQX-Z 为低释放三聚氰胺泡沫材料平台, 采用 **无添加甲醛配方体系**, 用于降低材料中的甲醛释放与迁移风险。

Independent laboratory testing indicates **no detectable formaldehyde migration** under specified migration test conditions.

独立实验室检测表明, 在规定测试条件下 **未检测到甲醛迁移**。

2. Typical Properties / 典型性能参数

Values are typical and provided for reference only. Actual values may vary depending on batch, thickness and test conditions.

以下数据为典型参考值, 实际性能可能因生产批次、厚度及测试条件不同而有所变化。

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Property 性能项目	Unit 单位	Test Method 测试方法	Typical Value 典型值
Apparent density 表观密度	kg/m ³	GB/T 6343	9 ± 1
Rebound resilience 回弹率	%	ISO 2439	≥ 50
Tensile strength 拉伸强度	kPa	ASTM D3574	≥ 110
Elongation at break 断裂伸长率	%	ASTM D3574	≥ 45
Thermal conductivity 导热系数	W/(m·K)	GB/T 10295	≤ 0.034
Noise Reduction Coefficient 降噪系数	—	GB/T11887	≥ 0.95
Oxygen Index 极限氧指数	%	GB/T 2406	≥ 32
Flammability 阻燃性能	—	UL94	V-0 / HF-1
Operating temperature 使用温度	°C	Internal	−196 to +200

3. Material Capability & Structural Characteristics

材料结构与功能特性

3.1 Foam Structure & Porosity / 泡沫结构与孔隙特性

Open-cell melamine foam with homogeneous microcellular structure suitable for acoustic, insulation and functional material applications.

开孔结构三聚氰胺泡沫，具有均匀微孔结构，适用于吸声、隔热及功能材料应用。

Typical pore size / 典型孔径

50 – 100 μm

Porosity / 孔隙率

97 – 99 %

3.2 Mechanical Behavior / 力学行为特性

The material provides stable mechanical performance and maintains structural integrity under compression and deformation.

材料在压缩及变形条件下保持稳定的力学性能与结构完整性。

Suitable for cushioning, acoustic and insulation applications.

适用于缓冲、吸声及隔热应用。

3.3 Surface Chemistry Compatibility

表面化学兼容性

The melamine resin structure provides a polar surface suitable for further functional treatments.

三聚氰胺树脂结构提供极性表面，可兼容多种表面功能化处理。

Possible processes include:

可能的处理方式包括：

- Plasma surface activation / 等离子表面活化
- Surface chemical grafting / 表面化学接枝
- Functional coating processes / 功能涂层处理

4. Formaldehyde Migration Performance

甲醛迁移性能

To evaluate the potential migration of formaldehyde, representative samples were tested by an independent third-party laboratory.

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为评估材料中甲醛的潜在迁移风险，样品由第三方独立实验室进行检测。

Testing organization / 检测机构

Intertek Testing Services Ltd.

Intertek 天祥检测

Test standards / 检测标准

The testing was conducted according to the following standards for food-contact material migration testing:

检测依据以下食品接触材料迁移测试标准进行：

- GB 31604.1-2023
- GB 5009.156-2016
- GB 31604.48-2016

Test conditions / 测试条件

Food simulant / 食品模拟物

10% ethanol solution / 10% 乙醇溶液

Temperature / 温度

40 °C

Duration / 时间

24 hours

Test results / 测试结果

Formaldehyde migration / 甲醛迁移量

Not Detected (ND) / 未检出

Detection limit / 检测限

5 mg/kg

Regulatory limit / 法规限值

15 mg/kg

Test report reference / 检测报告编号

Intertek Report No.: SHAH01918564

甲醛迁移 SHAH01918564

Technical interpretation / 技术说明

The test results indicate that under the specified migration test conditions, **no detectable formaldehyde migration** was observed.

测试结果表明，在上述测试条件下 **未检测到甲醛迁移**。

This supports the material design concept of a **zero-added-formaldehyde formulation** intended to minimize potential formaldehyde emission.

该结果支持材料 **无添加甲醛配方设计** 的技术目标，即降低潜在甲醛释放风险。

5. Dimensions & Service Temperature

尺寸与使用温度

Operating temperature / 使用温度范围

-196 °C to +200 °C

Standard block size / 标准块料尺寸

2500 × 1250 × 300 mm

Standard bun size / 标准发泡坯尺寸

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2550 × 1300 × 400 mm

6. Application Areas

应用领域

YQX-Z melamine foam is designed for applications where **low emission, low odor and material cleanliness** are important.

YQX-Z 三聚氰胺泡沫适用于对 **低释放、低气味及材料洁净度** 有要求的应用场景。

6.1 Cleaning Materials

清洁材料

- Magic sponge cleaning products

魔术擦清洁材料

- Household cleaning tools

家用清洁工具

- Industrial precision cleaning pads

工业精密清洁擦拭材料

- Surface cleaning materials for sensitive equipment

敏感设备表面清洁材料

6.2 Hygiene & Consumer Products

卫生与消费产品

- Hygiene-sensitive cleaning products

卫生敏感清洁产品

- Household cleaning accessories

家居清洁配件

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- Low-odor cleaning materials

低气味清洁材料

- Consumer cleaning products for kitchen and household applications

厨房及家用清洁产品

6.3 Medical & Healthcare Related Packaging

医疗及健康相关包装

- Protective packaging for medical devices

医疗器械防护包装

- Cushioning materials for healthcare equipment

医疗设备缓冲材料

- Clean packaging materials for sensitive components

洁净包装材料

(Final application suitability must be validated by the customer.)

(具体应用需由客户进行验证。)

6.4 Electronics & Precision Equipment Protection

电子及精密设备防护

- Cushioning materials for electronics packaging

电子产品缓冲包装

- Protection materials for precision components

精密器件防护材料

- Clean packaging materials for sensitive devices

敏感设备洁净包装材料

6.5 Functional Material Substrate

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功能材料基材

- Substrate for functional coatings

功能涂层基材

- Surface-modified materials

表面改性材料

- Carrier materials for specialized applications

特种功能载体材料

7. Storage, Handling & Transportation

存储、操作与运输

Storage: store in a dry, clean and ventilated environment.

存储：应存放于干燥、清洁、通风环境。

Handling: avoid excessive compression and contamination.

操作：避免过度压缩及污染。

Transportation: temporary compression during logistics is acceptable.

运输：物流过程中允许短时间压缩。

8. Compliance & Important Notes

合规与重要说明

Typical values are provided for reference only and do not constitute guaranteed specifications.

典型值仅供参考，不构成保证指标。

Customers should verify the suitability of the material for their specific applications.

客户应根据实际应用验证材料适用性。

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This document does not replace the Safety Data Sheet (SDS).

本文件不替代安全数据表 (SDS) 。

9. Regulatory & Environmental Statement

法规与环境声明

SINOYQX melamine foam materials are developed considering major global regulatory and environmental requirements.

SINOYQX 三聚氰胺泡沫材料在设计和生产过程中充分考虑全球法规及环境要求。

Chemical compliance / 化学合规

The material is designed to comply with major global chemical regulations including:

材料设计符合以下主要国际化学法规要求：

- EU REACH Regulation (EC) No.1907/2006
- RoHS Directive 2011/65/EU
- SVHC monitoring under REACH

Restricted substances / 限制物质

The material is manufactured without intentional addition of:

材料生产过程中未主动添加以下物质：

- PFAS substances
- Heavy metals (Pb, Cd, Hg, Cr VI)
- Ozone-depleting substances

Environmental & Material Sustainability Considerations

环境与材料可持续性考虑

YQX-Z melamine foam is developed with consideration for material cleanliness, low emission characteristics and efficient material utilization.

YQX-Z 三聚氰胺泡沫在设计与生产过程中充分考虑 **材料洁净度、低释放特性以及材料利用效率**。

The material is based on a **zero-added-formaldehyde formulation platform**, designed to minimize potential formaldehyde emission and migration.

该材料采用 **无添加甲醛配方体系**，旨在降低潜在甲醛释放与迁移风险。

Independent laboratory testing indicates **no detectable formaldehyde migration** under specified migration test conditions.

独立实验室测试表明，在规定测试条件下 **未检测到甲醛迁移**。

Key environmental and material considerations include:

主要环境与材料特性包括：

- **Low-emission material formulation** designed to reduce potential formaldehyde migration
- **低释放材料配方设计**，用于降低甲醛迁移风险
- **Lightweight open-cell structure** supporting efficient material utilization
- **轻量化开孔结构**，提高材料利用效率
- **Low-odor material characteristics** suitable for hygiene-sensitive applications
- **低气味材料特性**，适用于卫生敏感应用
- **Clean material platform** for cleaning products and protective packaging
- **洁净材料平台**，适用于清洁产品及防护包装
- **Long service durability** supporting extended product life in consumer applications
- **良好的使用耐久性**，有助于延长消费产品使用寿命

Sustainability note

可持续性说明

Material sustainability performance depends on product design, application conditions and disposal practices.

材料的可持续性表现与产品设计、应用环境及最终处置方式相关。

Customers should evaluate sustainability aspects according to their specific product systems and regulatory requirements.

客户应根据自身产品系统及相关法规要求评估材料的可持续性表现。

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