

碳酸钙粉

标准编号：TDHX-CC-2023-07

发布日期：2023 年 7 月 1 日

适用范围：适用于本公司生产的大部分碳酸钙粉产品

1. 总则

1.1 目的

本标准旨在确保生产的碳酸钙粉产品符合客户要求和国家质量标准, 保证产品的稳定性、可靠性与一致性。

1.2 适用范围

本标准适用于本公司所生产的大部分类型碳酸钙粉产品。

1.3 引用标准

GB/T 15693-2009: 无机化学品 - 碳酸钙粉

GB/T 32800-2016: 工业粉末粒度分布测试方法

GB/T 17495-1998: 粉状物料包装储运技术要求

其他相关国家、行业标准

2. 产品要求

2.1 化学成分要求

指标	要求值
碳酸钙含量 (CaCO ₃)	88-98%
水分含量	≤1%
白度	75-97%

2.2 物理性能要求

指标	要求值
平均粒径	7.5-2.9 (按客户要求调整)
堆积密度	0.7 g/cm ³ 到 1.1 g/cm ³
比重	约 2.7-2.9 g/cm ³
颜色	白色

2.3 包装要求

- 每袋包装重量：25kg/袋、50kg/袋、吨包袋（或客户指定）
- 包装材料：按客户要求订制样式（编织袋、牛皮纸袋、吨包袋、纸塑复合等）
- 包装上应有清晰的标签，注明产品名称、工厂名称、产品型号等信息。

3. 生产过程控制

3.1 原料采购要求

- 所有原料应通过严格的供应商审核，并提供相关的产品质量合格证明。
- 原料的检验标准应符合本标准中所列的化学成分和物理性能要求。

3.2 生产工艺要求

- 生产过程中，所有工艺流程应符合设备操作规程，确保产品的一致性和稳定性。
- 定期检查生产设备，确保设备的正常运转，避免出现物料污染或损失。
- 确保生产环境的干净、干燥，避免产品受潮、污染或杂质混入。

3.3 质量控制

- 每批次产品生产完成后，必须进行必要的质量检测，确保其符合本标准的要求。
- 定期对生产环境进行检查，包括温湿度监控，避免影响产品质量的外部因素。

4. 检测方法

4.1 化学成分检测

采用滴定法与烧矢法对产品中的主要元素进行定量分析，确保产品的碳酸钙含量及杂质含量符合要求。

4.2 粒度分布检测

使用激光粒度仪测试碳酸钙粉的粒度分布，确保其符合所要求的 d50 值。

4.3 水分含量检测

采用水分仪对产品样品的水分含量进行检测。

4.4 比重检测

使用气体比重计或颗粒比重瓶测试碳酸钙粉的比重。

5. 存储和运输

5.1 存储要求

- 产品应存放在干燥、通风的地方，避免受潮和污染。
- 储存温度应保持在-5°C 至 35°C 之间，湿度越低越适宜。
- 防止产品受外界环境污染，特别是避免与酸性物质接触。

5.2 运输要求

- 运输过程中应避免剧烈震动、暴露于潮湿环境以及与有害物质接触。
- 使用适合的运输工具进行运输，确保包装完好、无破损。

6. 产品保质期

- 碳酸钙粉有较长的保质期，通常为 **2-3 年**，但保质期会受存储条件的影响。如果储存条件良好且包装完好，保质期可延长
- 超过保质期的产品应进行质量检查，并且不得销售使用，必要时应进行销毁。

7. 附则

7.1 解释权

本标准由海城市泰鼎华信矿产品加工有限公司负责解释和修订，若有疑问请联系质量控制部门。

7.2 生效日期

本标准自发布之日起生效，所有生产与检验活动均按本标准执行。

Calcium Carbonate Powder

Standard No.: TDHX-CC-2023-07

Release Date: July 1, 2023

Scope of Application: Applicable to most of the calcium carbonate powder products produced by our company

1. General Provisions

1.1 Purpose

This standard aims to ensure that the produced calcium carbonate powder products meet customer requirements and national quality standards, ensuring product stability, reliability, and consistency.

1.2 Scope

This standard applies to most types of calcium carbonate powder products produced by our company.

1.3 Reference Standards

GB/T 15693-2009: Inorganic Chemicals - Calcium Carbonate Powder

GB/T 32800-2016: Industrial Powder Particle Size Distribution Test Methods

GB/T 17495-1998: Technical Requirements for Packaging, Storage, and

Transportation of Powdered Materials

Other relevant national and industry standards

2. Product Requirements

2.1 Chemical Composition Requirements

Indicator	Required Value
Calcium Carbonate Content (CaCO_3)	88-98%
Moisture Content	$\leq 1\%$
Whiteness	75-97%

2.2 Physical Properties Requirements

Indicator	Required Value
Average Particle Size	7.5-2.9 (adjusted as per customer requirements)
Bulk Density	0.7 g/cm ³ to 1.1 g/cm ³
Specific Gravity	Approximately 2.7-2.9 g/cm ³
Color	White

2.3 Packaging Requirements

- **Packaging Weight:** 25/50kg/bag, or ton bags (or as per customer specifications)
- **Packaging Material:** Customized as per customer requirements (woven bags, kraft paper bags, ton bags, paper-plastic composite, etc.)
- **Labeling:** Each package should have a clear label indicating the product name, factory name, product model, and other relevant information.

3. Production Process Control

3.1 Raw Material Procurement Requirements

- All raw materials should undergo strict supplier audits and provide relevant quality certificates.
- The inspection standards for raw materials should meet the chemical composition and physical performance requirements listed in this standard.

3.2 Production Process Requirements

- All process flows during production should comply with equipment operation procedures to ensure product consistency and stability.
- Regular inspection of production equipment should be conducted to ensure normal operation and avoid material contamination or loss.
- The production environment should be kept clean and dry to prevent the products from absorbing moisture, contamination, or foreign impurities.

3.3 Quality Control

- After each batch of products is produced, necessary quality inspections must be conducted to ensure that the products meet the requirements of this standard.
- Regular checks of the production environment should be performed, including temperature and humidity monitoring, to prevent external factors that may affect product quality.

4. Testing Methods

4.1 Chemical Composition Testing

Titration and ignition methods are used to quantitatively analyze the main elements in the product to ensure that the calcium carbonate content and impurity levels meet the requirements.

4.2 Particle Size Distribution Testing

A laser particle size analyzer is used to test the particle size distribution of the calcium carbonate powder to ensure that it meets the required d50 value.

4.3 Moisture Content Testing

A moisture analyzer is used to determine the moisture content in the product sample.

4.4 Specific Gravity Testing

A gas pycnometer or a particle density bottle is used to test the specific gravity of the calcium carbonate powder.

5. Storage and Transportation

5.1 Storage Requirements

- The product should be stored in a dry and well-ventilated place to avoid moisture absorption and contamination.
- The storage temperature should be maintained between -5°C and 35°C , with lower humidity being more ideal.
- Prevent the product from being contaminated by external environmental factors, especially avoid contact with acidic substances.

5.2 Transportation Requirements

- During transportation, the product should be protected from severe vibration, exposure to damp environments, and contact with harmful substances.
- Suitable transportation tools should be used to ensure that the packaging remains intact and undamaged.

6. Product Shelf Life

- Calcium carbonate powder has a long shelf life, typically 2-3 years, but shelf life can be affected by storage conditions. If stored in optimal conditions with intact packaging, the shelf life can be extended.
- Products that have exceeded their shelf life should undergo quality inspection and must not be sold or used. If necessary, the product should be disposed of.

7. Additional Provisions

7.1 Interpretation Rights

This standard is interpreted and revised by Haichengtaidinghuaxin Mineral Products Processing Co., Ltd. For any questions, please contact the Quality Control Department.

7.2 Effective Date

This standard takes effect from the release date, and all production and inspection activities will be conducted according to this standard.